



  
**HCC**  
HOUSTON COMMUNITY COLLEGE

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1-2013

# Catalog

Houston Community College



[hccs.edu](http://hccs.edu)

# Welcome to Houston Community College

## History of HCC

The Houston Community College District (HCCD) was created under the governance of the Houston Independent School District (HISD) as the result of a public referendum on May 18, 1971. In August of that year, more than 5,700 students enrolled.

By 1977, HCC had an enrollment of more than 24,000 students and had earned full accreditation by the Southern Association of Colleges and Schools (SACS). In 1989, HCC established its own Board of Trustees. Also in 1989, the Stafford Municipal School District was annexed. State legislation in 1995 designated the “service area” of HCC to include the Houston, Alief, Katy, Spring Branch and North Forest school districts, as well as the Stafford Municipal School District. HCC also serves parts of the Fort Bend Independent School District.

HCC passed a successful bond election in 2003 that resulted in the expansion, renovation, and expansion of multiple facilities. Currently, HCC consists of six colleges with 22 campuses with its primary Administrative Center located at 3100 Main Street, Houston, TX 77002.

In November 2008, voters in the Alief ISD approved annexation to the HCC taxing district. In the following November of 2009, voters in the North Forest ISD did the same. Today, HCC serves over 70,000 students each semester.



**Mary S. Spangler, Ed.D.**  
**Chancellor**

Houston Community College is committed to helping all students who enter our doors pursue their fullest potential. Whether you choose to transfer to a four-year university or decide to enter the workforce, a degree or certificate from HCC will provide you with the knowledge and skills to compete in today's technological and global economy. Our vision is to become the nation's most relevant community college because we provide unlimited opportunity to the communities and students we serve. To us, that means our faculty and staff are here to help each student obtain the knowledge and skills essential for success. We believe that what is good for you is also good for our community and the region. My personal commitment is to make your educational experience at HCC meaningful and rewarding. We are determined to serve our community by being the best, most affordable, highest quality institution in the region we can be. Congratulations on choosing Houston Community College and taking the next step in your educational journey with us.

Welcome to Houston Community College!

Mary Spangler

A handwritten signature in black ink that reads 'Mary Spangler'. The signature is written in a cursive style and is positioned below the printed name.

# HCC Mission, Vision, and Values

## Mission

Houston Community College is an open-admission, public institution of higher education offering a high-quality, affordable education for academic advancement, workforce training, career development, and lifelong learning to prepare individuals in our diverse communities for life and work in a global and technological society.

## Values

- Freedom - The essence of education is the cultivation of an open environment that promotes a rigorous, untiring life-long pursuit and expression of truth, and free exchange of ideas.
- Accountability - A responsible individual is committed to doing one's duty and taking the right actions.
- Community-Mindedness - The bonds of our community are care, open communication, cooperation, and shared governance.
- Integrity - Personal and community well being demands a commitment to honesty, mutual respect, fairness, and empathy in all situations. It means doing the right thing at all times.
- Excellence - Our will and spirit is to achieve the best in teaching, learning, community building, and stewardship.

## Vision

Houston Community College will be the most **relevant** community college in the country. We will be the **opportunity** institution for every student we serve – **essential** to our community's success.

## Goals

Our goals are those things that we must execute at a consistently high level to accomplish our vision. Our goals are associated with:

- Effective Leadership
- Student Success
- Resource Development and Enhancement
- Global Perspective
- Effective Communication
- Accountability and Strategic Decision-Making

*Board approved, September 2007*

## Accreditation

The Houston Community College is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools to award the associate degree.

Persons interested in reviewing the official accreditation documents may do so by accessing this url: <http://www.hccs.edu/hccs/faculty-staff/sacs> . For further information, you may call the HCC Accreditation Compliance Director's office by dialing 713.718.8605.

To review individual program accreditation, approval, and licensing documents, the department chairperson's office for the particular program may be contacted. (See catalog or class schedule for telephone numbers.)

## Approvals

The Texas Higher Education Coordinating Board has approved college/university parallel offerings and programs in technical education. The Texas Workforce Commission has approved programs for veteran education benefits. Senior colleges and universities in Texas and surrounding regional states accept credits earned at Houston Community College System.

## Regulations Policy

The regulations and provisions in this Catalog are based upon present conditions and are subject to changes necessitated by College or legislative actions. The provisions of this Catalog are subject to change without notice and do not constitute an irrevocable contract, expressed or implied, between any applicant, student, or faculty member and HCC. The College reserves the right to cancel classes when necessary.

## Equal Educational/ Employment Opportunity

The information contained in this publication is intended as a guide for students and prospective students. Based on Board approval. Houston Community College reserves the right to change or modify its rules and regulations, the schedule of classes, fees, tuition and other charges without notice.

HCC is committed to a workplace and educational environment free of discrimination and harassment based upon race, color, religion, age, sex, gender, national origin, disability, status as a veteran, or sexual orientation.

# Meet the HCC Board of Trustees



Mary Ann Perez  
Chair, District III



Bruce Austin  
Vice Chair, District II



Neeta Sane  
Secretary, District VII



Yolanda Navarro Flores  
District I



Carroll G. Robinson  
District IV



Richard Schechter  
District V



Sandie Mullins  
District VI



Eva L. Loredó  
District VIII



Christopher W. Oliver  
District IX

The Board of Trustees is the official governing body of the Houston Community College District. The Board is composed of nine members who are elected from single-member districts and who serve without pay. Board members are elected to staggered six-year terms. The Board has final authority to determine and interpret the policies that govern the District.

As part of their duties, the Trustees maintain a full schedule of community service, public appearances, speaking engagements, and legislative affairs on behalf of the District. Board members represent an impressive mix of individual talents and professional backgrounds enabling them to provide governance of the highest quality.

## District Administration



Charles M. Cook, Ed.D., Vice Chancellor, Instruction; Arthur Tyler, D.M., Chief Operating Officer and Deputy Chancellor; Diana Pino, Ph.D., Vice Chancellor, Student Services; Mary S. Spangler, Ed.D., Chancellor; William Carter, M.B.A., Vice Chancellor, Information Technology.

## College Presidents



Betty Young, Ph.D., Coleman College for Health Sciences; Fena Garza, Ph.D., Southwest; Margaret Ford-Fisher, Ed.D., Northeast; Zachary Hodges, Ed.D., Northwest; William Harmon, Ph.D., Central; Irene Porcarello, Ed.D., Southeast



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# Academic Calendars

Please see [hccs.edu](http://hccs.edu) for the most current academic calendar

## 2011-2012

### Fall 2011- RT (16 wks)

Classes begin .....August 27  
Finals .....December 12-18  
Classes end .....December 18  
Holiday break .....December 19-Jan 1

### Fall 2011- SS (12 wks)

Classes begin .....September 24  
Finals .....December 12-18  
Classes end .....December 18

### Fall 2011- Mini Term (3 wks)

Classes begin .....December 19  
(classes meet M-F- 3 hrs. 15 mins. each)  
Classes end .....January 6  
(No Holiday)

### Spring 2012- RT (16 wks)

Classes begin .....January 17  
Finals .....May 7-13  
Classes end .....May 13  
Spring Break .....March 12-18

### Spring 2012- SS (12 wks)

Classes begin .....February 11  
Finals .....May 7-13  
Classes end .....May 13

### Spring 2012- Mini Term (3 wks)

Classes begin .....May 14  
Classes end .....June 1  
(classes meet M-F- 3.5 hours ea.)  
(Holiday on Monday 5/28 )

### Summer 2012- 1st 5wks

Classes begin .....June 4  
Finals ...(note only 1 day for finals).....July 5  
Semester ends .....July 6  
(Holiday on July 4)

### Summer 2012- 2nd 5wks

Classes begin .....July 9  
Finals .....August 8-9  
Semester ends .....August 10

### Summer 2012- 10 week

Classes begin .....June 4  
Finals .....August 6-12  
Semester ends .....August 12  
(Holiday on July 4)

## 2012-2013

### Fall 2012- RT (16 wks)

Classes begin .....August 27  
Finals .....December 10-16  
Classes end .....December 16  
Holiday break .....December 19- Jan 1

### Fall 2012- SS (12 wks)

Classes begin .....September 22  
Finals .....December 10-16  
Classes end .....December 16

### Fall 2012- Mini Term (4 wks)

Classes begin .....December 17  
(classes meet M-F- 3 hrs. ea)  
Classes end .....January 9  
(Holiday on Tuesday 12/25 & Tuesday 1/1)

### Spring 2013- RT (16 wks)

Classes begin .....January 14  
Finals .....May 6-12  
Classes end .....May 12  
Spring Break .....March 11-17

### Spring 2013- SS (12 wks)

Classes begin .....February 9  
Finals .....May 6-12  
Classes end .....May 12

### Spring 2013- Mini Term (3 wks)

Classes begin .....May 13  
Classes end .....May 31  
(classes meet M-F- 3.5 hrs. ea)  
(Holiday on Monday 5/27)

### Summer 2013- 1st 5wks

Classes begin .....June 3  
Finals.....July 2-3  
Semester ends .....July 5  
(Holiday on July 4)

### Summer 2013- 2nd 5wks

Classes begin .....July 8  
Finals .....August 7-8  
Semester ends .....August 11

### Summer 2013- 10 week

Classes begin .....June 3  
Finals .....August 5-11  
Semester ends .....August 11  
(Holiday on July 4)



# Instructional Locations

## Central

### Central Campus

1300 Holman 77004 ..... 713.718.6000  
Open: 8:00 a.m.-10:00 p.m. Monday-Thursday  
8:00 a.m.-4:30 p.m., Friday  
9:00 a.m.-1:00 p.m., Saturday

### South Campus

1990 Airport Blvd. 77051 ..... 713.718.6634  
Open: 8:00 a.m.-10:00 p.m., Monday-Thursday  
Closed Friday; 9:00 a.m.-1:00 p.m., Saturday

## Coleman College for Health Sciences

### Health Science Center

1900 Pressler Drive 77030 ..... 713.718.7373  
Open: 7:00 a.m.-10:00 p.m., Monday-Thursday  
7:00 a.m.- 6:00 p.m., Friday  
7:00 a.m.-4:00 p.m., Saturday 8:00 a.m. - 4:00 p.m.

### John P. McGovern Campus

Texas Medical Center  
2450 Holcombe Boulevard, 77021 ..... 713.718.7400  
Open: 7:00 a.m.-10:00 p.m., Monday-Thursday

## Northeast

### Automotive Technology Training Center

4638 Airline 77022 ..... 713.718.8100  
Open: 7:00 a.m.-10:00 p.m., Monday-Friday

### Northeast Campus

555 Community College Drive 77013 ..... 713.718.8300  
Open: 8:00 a.m.-8:30 p.m., Monday-Friday  
8:00 a.m.-4:30 p.m., Saturday and Sunday

### North Forest (NE)

7525 Tidwell 77028 ..... 713.635.0427  
Open: 8:00 a.m.-8:30 p.m., Monday-Friday

### Northline Campus

8001 Fulton 77022 ..... 713.718.8000  
Open: 8:00 a.m.-10:00 p.m., Monday-Friday  
8:00 a.m.-4:30 p.m., Saturday and Sunday

## Pinemont Center

1265 Pinemont 77018 ..... 713.718.8400  
Open: 8:00 a.m.-10:00 p.m., Monday-Friday  
8:00 a.m.-5:00 p.m., Saturday and Sunday

## Northwest

### Alief Campus

2811 Hayes Road 77082-2642 ..... 713.718.6870  
Open: 8:00 a.m.-10:00 p.m., Monday-Thursday  
8:00 a.m.-4:30 p.m., Friday

### Alief Continuing Education Center

13803 Bissonnet 77083-5916 ..... 713.718.5450  
Open: 8:00 a.m.-10:00 p.m., Monday-Thursday  
8:00 a.m.-4:30 p.m., Friday

### Spring Branch Campus

1010 W. Sam Houston Pkwy N. 77043 ..... 713.718.5700  
Open: 7:00 a.m.-10:00 p.m., Monday-Thursday  
7:00 a.m.-5:00 p.m., Friday;  
8:00 a.m.-3:00 p.m., Saturday

### Katy Campus

1550 Foxlake Drive 77084 ..... 713.718.5757  
Open: 7:30 a.m.-10:00 p.m., Monday-Thursday  
7:00 a.m.-4:30 p.m., Friday;  
8:00 a.m.-5:00 p.m., Saturday

### UH-Cinco Ranch Center

4242 South Mason Road. 77050 ..... 713.718.5700  
Open: 7:00 a.m.-10:00 p.m., Monday-Thursday

# Instructional Locations

## Southeast

### Eastside Campus

6815 Rustic 77087 ..... 713.718.7000/7100  
Open: 8:00 a.m.-10:00 p.m., Monday-Friday  
8:00 a.m.-5:00 p.m., Saturday  
8:00 a.m.-5:00 p.m., Sunday

### Eastside Annex

2524 Garland 77087..... 713.718.7000/7100  
Open: 8:00 a.m.-10:00 p.m., Monday-Friday  
8:00 a.m.-5:00 p.m., Saturday  
8:00 a.m.-5:00 p.m., Sunday

### Felix Fraga Academic Campus

301 N. Drennan 77003 ..... 713.718.2800  
Open: 8:00 a.m.-10:00 p.m., Monday-Friday  
8:00 a.m.-5:00 p.m. Saturday

### Office City Plaza 2

7015 Gulf Freeway, Suite 200, 77087 ..... 713.718.7501  
Open: 8:00 a.m.-10:00 p.m., Monday-Friday

## Southwest

### Gulfton Center

5407 Gulfton 77081 ..... 713.718.7760  
Open: 8:00 a.m.-10:00 p.m., Monday-Thursday  
8:00 a.m.-4:30 p.m., Friday

### Missouri City Campus

5855 Sienna Springs Way 77459 ..... 713.718.2900  
Open: 8:00 a.m.-10:00 p.m., Monday-Thursday  
8:00 a.m.-4:30 p.m., Friday, Saturday and Sunday

### Stafford Campus

9910 Cash Road, Stafford 77477 ..... 713.718.7800  
Open: 8:00 a.m.-10:00 p.m., Monday-Thursday  
8:00 a.m.-4:30 p.m., Friday and Saturday

### West Loop Center

5601 West Loop South 77081 ..... 713.718.7930  
Open: 7:00 a.m.-10:00 p.m., Monday-Friday  
7:00 a.m.-5:00 p.m., Saturday

## Adult Education Program

For information about free ASE, ABE and ESL classes, call the HCC Literacy Hotline at 713.718.5400; Adult High School class offerings, call 713.718.7611.

# Student Services Contact Information

## District Offices

International Students .....	713.718.8521
Student Records/Admissions .....	713.718.8500
Transcripts .....	713.718.8518
GED Testing .....	713.718.8540
Transfer .....	713.718.8534
Veterans Affairs .....	713.718.8520

## Central College

Admissions-Central Campus.....	713.718.6111
Admissions-South Campus .....	713.718.6509
Bookstore-Central Campus .....	713.523.2825
Business Office-Central Campus .....	713.718.6010
Business Office-South Campus .....	713.718.6640
Career Planning & Job Placement- Central Campus.....	713.718.6174
Child Care Information-Central Campus .....	713.718.KIDS
Counseling-Central Campus .....	713.718.6120
Counseling-South Campus .....	713.718.6737
Deaf and Hard of Hearing Support Services-Interpreter Services-Central Campus .....	713.718.6333
Deaf and Hard of Hearing Videophone .....	832.413.6941
Disability Support Services-Central.....	713.718.6164
Financial Aid Office-Central Campus .....	713.718.6100
Financial Aid Office-South Campus.....	713.718.6699
Fine Arts Box Office.....	713.718.6570
Job Placement.....	713.718.2535
Learning Assistance Center-Central .....	713.718.6070
Library-Central Campus .....	713.718.6133
Library-Whiteley Building.....	713.718.6819
Library-South Campus ERC.....	713.718.6693
New Student Orientation .....	713.718.6321
Registration-Central Campus .....	713.718.6111
Registration-South Campus .....	713.718.6509
Student Activities-Central Campus.....	713.718.6401
Student Support Services-Central Campus.....	713.718.6330
Testing-Central Campus.....	713.718.6011
Testing-South Campus .....	713.718.6471
Upward Bound-Central Campus .....	713.718.6388
Recruitment-Central Campus.....	713.718.6401

Refugees, Asylees.....	713.718.6951
Welcome Center-Central Campus .....	713.718.6210

## Coleman College for Health Sciences

Admissions .....	713.718.7400
Cashier .....	713.718.7375
Counseling .....	713.718.7400
Financial Aid .....	713.718.7400
Library .....	713.718.7399
Registration Office .....	713.718.7179

## Northeast College

Admissions-Northeast Campus.....	713.718.8325
Admissions-Northline Campus .....	713.718.8088
Adult Education- ASE, ABE, ESL .....	713.718.5400
Adult High School.....	713.718.7611
Bookstore-Northeast Campus .....	713.670.0930
Bookstore-Northline Campus .....	713.692.1472
Cashier-Northeast Campus.....	713.718.8357
Cashier-Northline Campus .....	713.718.8031
Cashier-Pinemont Center.....	713.718.8425
Counseling-Northeast Campus .....	713.718.8139
Counseling-Northline Campus .....	713.718.8148
Counseling-Pinemont Campus.....	713.718.8447
Disability Support Services.....	713.718.8420
Financial Aid-Northeast Campus.....	713.718.8304
Financial Aid-Northline Campus .....	713.718.8080
Job Placement.....	713.718.5291
Learning Center-Pinemont Center .....	713.718.8033
Library-Codwell .....	713.718.8354
Library-Northline Campus .....	713.718.8045
Library-Pinemont ERC .....	713.718.8443
Recruitment-Northeast Campus.....	713.718.8305
Registration-Northeast Campus .....	713.718.8323
Registration-Northline Mall Center .....	713.718.8088
Registration-Pinemont Center .....	713.718.8447
Testing-Northeast Campus.....	713.718.8303
Testing-Northline Mall Center .....	713.718.8073
Testing-Pinemont Center.....	713.718.8073
Welcome Center-Northline Campus.....	713.718.8154

# Student Services Contact Information

## Northwest College

Admissions-Alief.....	713.718.6918
Admissions-Spring Branch Campus.....	713.718.5710
Admissions-Katy Campus .....	713.718.5808
Bookstore-Alief Campus.....	713.218.6657
Bookstore-Katy Campus .....	281.492.7198
Bookstore-Spring Branch Campus.....	713.468.5300
Business Office-Spring Branch Campus....	713.718.5418
Business Office-Katy Campus.....	713.718.5773
Counseling-Spring Branch Campus .....	713.718.5669
Counseling-Katy Campus.....	713.718.5751
Disability Support Services.....	713.718.5708
Financial Aid-Spring Branch Campus.....	713.718.5713
Financial Aid-Katy Campus .....	713.718.5901
Job Placement-Spring Branch Campus .....	713.718.5423
Library-Alief ERC .....	713.718.6941
Library-Spring Branch Campus .....	713.718.5655
Library-Katy Campus.....	713.718.5747
Testing-Spring Branch Campus.....	713.718.5671
Testing-Katy Campus .....	713.718.5960
Teaching & Learning Center-Katy Campus	713.718.5774
Technical Learning Center-Katy Campus...	713.718.5770

## Southeast College

Admissions-Eastside Campus.....	713.718.7044
Adult High School-Eastside Campus .....	713.718.7611
Bookstore-Eastside Campus.....	713.640.1441
Career Planning & Job Placement- Eastside Campus .....	713.718.7100
Cashier-Eastside Campus.....	713.718.7051
Career & Technology Education Programs	713.718.7079
Childcare Drop in center.....	713.718.7045
Community Outreach .....	713.718.7114
Counseling-Eastside Campus .....	713.718.7215
Disability Support Services.....	713.718.7218
ESL (English as a Second Language) .....	713.718.7204
Financial Aid-Eastside Campus.....	713.718.7011/7030
Library-Eastside .....	713.718.7050
Recruiter-Eastside Campus .....	713.718.7217
Registration Office-Eastside Campus .....	713.718.7044
Student Activities-Eastside Campus.....	713.718.5861

Testing-Eastside Campus.....	713.718.7041
Tutoring Assistance Center-Eastside Campus .....	713.718.7202
Upward Bound-Eastside Campus .....	713.718.7004
Weekend College-Eastside Campus.....	713.718.7045
Writing Center-Eastside Campus .....	713.718.7023
Felix Fraga Academic Campus .....	713.718.2800

## Southwest College

Admissions-Missouri City Campus.....	713.718.2904
Admissions-Stafford Campus.....	713.718.7844
Admissions-West Loop Center.....	713.718.8920
Bookstore-West Loop Center.....	713.218.0391
Bookstore- Missouri City .....	713.718.2907
Bookstore-Stafford Campus .....	281.499.6413
Cashier-Gulfton Center .....	713.718.7753
Child Care-Stafford Campus .....	713.718.7889
Counseling-Stafford Campus.....	713.718.7795
Counseling-West Loop Center .....	713.718.7889
Disability Support Services .....	713.718.7910
Financial Aid-Stafford Campus.....	713.718.7785
Financial Aid-West Loop Center.....	713.718.7722
Job Placement .....	713.718.7718
Library-Stafford .....	713.718.7824
Library-West Loop .....	713.718.7880
Testing/Placement-West Loop Center.....	713.718.7717
Recruiter-West Loop Center .....	713.718.7716
Student Life-Stafford Campus .....	713.718.7791
Testing-Stafford Campus.....	713.718.7993

# HCC Student Organizations

## Central College

<b>Student Life Office</b> .....	713.718.6401
<b>Anthropology Club</b>	
Marian McWhorter .....	713.718.2333
<b>Association of Latin American Students</b>	
Carlos Villacis .....	713.718.6678
<b>Eagles Club</b>	
Sue Moraska .....	713.718.6833
<b>Future Teachers Association</b>	
Pamela Norwood .....	713.718.6236
<b>Health &amp; Fitness Club</b>	
Caprice Dodson .....	713.718.6086
<b>Math Club</b>	
Tim Sever .....	713.718.6543
<b>The Egalitarian Newspaper</b>	
Tony Diaz & Alan Ainsworth .....	713.718.6252
<b>Student Government Association</b>	
Denny Smith .....	713.718.6402
<b>TRIO Student Leadership Association</b>	
Jose Salazar .....	713.718.6330
<b>Vietnamese Student Association</b>	
Tina Do .....	713.718.6107

## Coleman College

<b>Student Life Office</b> .....	713.718.7438
<b>Histotechnology Student Association</b>	
Lawrence Wall .....	713.718.7642
<b>HCC Student Diagnostic Medical Sonographers</b>	
Elizabeth Ho .....	713.718.7345
<b>Human Services Technology Student Association</b>	
Anthony Pascarella .....	713.718.5550
<b>Medical Assistant Student Association</b>	
Cynthia Lundgren .....	713.718.7361
<b>Medical Laboratory Student Association</b>	
Robbe Hallmark .....	713.718.7637
<b>Pharmacy Technician Student Association</b>	
Liz Johnson Wilroy .....	713.718.7352
<b>Physical Therapist Assistant Student Association</b>	
Jan Myers .....	713.718.7386
<b>Respiratory Therapy Student Association</b>	
Teddy Tovar .....	713.718.7385
<b>Radiography Student Association</b>	
Roger Bumgardner .....	713.718.7649

## Student Government Association

Cameron Cox ..... 713.718.7438

## CVT Student Organization

Mary Oliver ..... 713.718.7438

## Surgical Technologist Student

**Association** ..... 713.718.7438

## Nuclear Medicine Technologist Student Association

Vikki K. Davis-Littleton ..... 713.718.7438

## Undergraduate Nurses in Training (U.N.I.T.)

Bobby Greenwood ..... 713.718.7492

## Vocational Nursing Student Association

Deborah Johnson ..... 713.718.7438

## Northeast College

**Student Life Office** ..... 713.718.8373

**Student Government Association** ..... 713.718.8373

## Petroleum Engineering Technology Student Association

John Galotos ..... 713.718.5534

## Northwest College

**Student Life Office** ..... 713.718.5702

## Anthropology Club

Ann Bragdon ..... 713.718.5642

## Emerging Leaders

Gisela Ables ..... 713.718.5779

Mary Alice Wills ..... 713.718.5716

## Face Forward Drama Club

Debbie Shine ..... 713.718.5606

## Music & Entertainment Industry Student Association

Aubrey Tucker ..... 713.718.5622

## Global Business Club

Steven Woodland ..... 713.718.5832

## Political Science Club

Mark Tiller ..... 713.718.5776

## Psi Beta (Psychology Honor Society)

Joanne Hsu ..... 713.718.5625

Linda Whitney ..... 713.718.5687

## Rotoract Club

Melba Martin ..... 713.718.5656

## Sociology Club

Michael Fonge ..... 713.718.5827

## Students Reaching for Christ

Helen Jones ..... 713.718.5521

# HCC Student Organizations

## HCC Jazz Club

Joe LoCascio .....713.718.5651

## Underground Films and Events Club

Michael Ronan .....713.718.5750

## Creative Writing Club

Michael Sofranko/Deanne Schlanger .....713.718.5680

## Vietnamese Student Association

Francis Ha .....713.718.5544

## Southeast College

**Student Life Office** .....713.718.7293

**Student Government Association** .....713.718.7293

## Mexican American Latino Student Association (MALSA)

Grisel Cano .....713.718.7207

James Ross-Nazzal .....713.718.7131

## History Club

James Ross-Nazzal .....713.718.7131

## e+ Math Club

Jackie Gascon .....713.718.7149

## Chess Club

Cheng Ting .....713.718.7299

## Phi Beta Lambda

Cheyl Pleasant .....713.718.7079

## Gender Studies Organization

Antrece Baggett .....713.718.7253

## Southwest College

**Student Life Office** .....713.718.7791

**Student Government Association** .....713.718.7791

## Broadcast Technology Student Association

.....713.718.6725

## Campus Crusade for Christ

Augie Sanchez/Linda Leauvano .....713.718.7802

## Delta Psi Omega Honor Society

John Corley .....713.718.6361

## Digital Arts Club

Reginald Leathers .....713.718.7891

## Math Club

Eunice Kallarackal .....713.718.7800

## Developers Revolution Gaming Unit

Reni Abraham .....713.718.5728

## Gender Studies Club

Marie Dybala/Amy Tan .....713.718.7814

## Pakistan Student Association

Larry Gonzalez .....713.718.7780

## Psychology Club

Barbara Lachar/Elaine Adams .....713.718.8206

## Fine Arts Student Association

Cynthia Mills .....713.718.7700

## Forensic Society

Bill Ferreira .....713.718.5478

## Writers Club

Helen Jackson .....713.718.2223

## District

### United Student Council

Shantay Grays .....713.718.5043

### Organization of Latin American Students (OLA)

.....713.718.5409

### Phi Theta Kappa

Gisela Ables .....713.718.5779

### Turkish American Student Association

Rigoberto Garcia .....713.718.7991

# Program Contact Information

## Academic Departments

<b>Accounting</b> .....	713.718.7905
(CE) .....	713.718.6481
(NW) .....	713.718.5701
(SE) .....	713.718.7079
(SW) .....	713.718.7911
(NE) .....	713.718.8316
<b>Agricultural Sciences</b> .....	713.718.5591
<b>American Sign Language</b> .....	713.718.6846
<b>Anthropology</b>	
(CE) .....	713.718.6860
(NE) .....	713.718.8054
(NW) .....	713.718.5625
(SE) .....	713.718.7508
(SW) .....	713.718.7778
<b>Art</b>	
(CE) .....	713.718.6600
(NE) .....	713.718.8328
(NW) .....	713.718.5620
(SE) .....	713.718.7204
(SW) .....	713.718.7700
<b>Biology</b>	
(CE) .....	713.718.6050
(NE) .....	713.718.8049
(NW) .....	713.718.5435
(SE) .....	713.718.7056
(SW) .....	713.718.7775
<b>Chemistry</b>	
(CE) .....	713.718.6052
(NE) .....	713.718.8049
(NW) .....	713.718.5435
(SE) .....	713.718.7056
(SW) .....	713.718.7773
<b>Communication</b>	
(CE) .....	713.718.6600
(NW) .....	713.718.5785
(SW) .....	713.718.7820

<b>Computer Science</b> .....	713.718.5294
(CE) .....	713.718.6457
(NE) .....	713.718.2449
(NW) .....	713.718.5731
(SE) .....	713.718.5224
(SW) .....	713.718.6776
<b>Criminal Justice</b> .....	713.718.8319
(SE) .....	713.718.7508
(NW) .....	713.718.8319
(SW) .....	713.718.7846
<b>Dance</b>	
(CE) .....	713.718.6600
(NW) .....	713.718.5620
<b>Developmental English</b>	
(CE) .....	713.718.6678
(NE) .....	713.718.8328
(NW) .....	713.718.5410
(SE) .....	713.718.7109
(SW) .....	713.718.6362
<b>Developmental Math</b>	
(CE) .....	713.718.6441
(NE) .....	713.718.8049
(NW) .....	713.718.5511
(SE) .....	713.718.7056
(SW) .....	713.718.7770
(DE) .....	713.718.5275
<b>Drama</b>	
(CE) .....	713.718.6600
(NW) .....	713.718.5620
(SE) .....	713.718.7204
(SW) .....	713.718.6361
<b>Economics</b>	
(CE) .....	713.718.6860
(NE) .....	713.718.8501
(NW) .....	713.718.5776
(SE) .....	713.718.7508
(SW) .....	713.718.7776



# Program Contact Information

<b>Education</b>	(SE).....	713.718.7508	
(CE).....	713.718.6303	(SW).....	713.718.7846
(NE).....	713.718.8051	(SW).....	713.718.7776
(SE).....	713.718.7508	<b>Guided Studies</b>	
(SW).....	713.718.7810	(CE).....	713.718.6070
<b>English</b>		(NE).....	713.718.8051
(CE).....	713.718.6671	(NW).....	713.718.5410
(NE).....	713.718.8328	(SE).....	713.718.7109
(NW).....	713.718.5785	(SW).....	713.718.6362
(SE).....	713.718.7109	<b>History</b>	
(SW).....	713.718.7814	(CE).....	713.718.6063
<b>English for Foreign Speakers (Academic ESL)</b>		(NE).....	713.718.8501
(CE).....	713.718.6678	(NW).....	713.718.5781
(NE).....	713.718.8181	(SE).....	713.718.7068
(NW).....	713.718.5410	(SW).....	713.718.7777
(SE).....	713.718.7204	<b>Humanities</b>	
(SW).....	713.718.6362	(CE).....	713.718.6671
<b>Foreign Languages</b>		(NE).....	713.718.8328
(CE).....	713.718.6678	(NW).....	713.718.5785
(NE).....	713.718.8181	(SE).....	713.718.77508
(NW).....	713.718.5410	(SW).....	713.718.7814
(SE).....	713.718.7204	<b>Intensive English</b>	
(SW).....	713.718.7815	(NE).....	713.718.8181
<b>Geography</b>		(NW).....	713.718.5410
(CE).....	713.718.6063	(SE).....	713.718.7204
(NE).....	713.718.8501	(SW).....	713.718.7750
(NW).....	713.718.5781	<b>Mathematics</b>	
(SE).....	713.718.7068	(CE).....	713.718.6441
(SW).....	713.718.7777	(NE).....	713.718.8049
<b>Geology</b>		(NW).....	713.718.5511
(CE).....	713.718.6052	(SE).....	713.718.7056
(NE).....	713.718.8049	(SW).....	713.718.7770
(NW).....	713.718.5435	<b>Music</b>	
(SE).....	713.718.7508	(CE).....	713.718.6600
(SW).....	713.718.7771	(NW).....	713.718.5620
<b>Government</b>		(SE).....	713.718.7204
(CE).....	713.718.6063	(SW).....	713.718.6372
(NE).....	713.718.8501	<b>Nutrition</b>	
(NW).....	713.718.5776	(CE).....	713.718.6050

# Program Contact Information

(NE).....713.718.8049  
(SE).....713.718.7056  
(SW).....713.718.7775

## **Philosophy**

(CE).....713.718.6063  
(NE).....713.718.8328  
(NW).....713.718.5785  
(SE).....713.718.7508  
(SW).....713.718.8777

## **Physical Education**

(CE).....713.718.6084  
(NE).....713.718.8049  
(NW).....713.718.5435  
(SW).....713.718.7776

## **Physics**

(CE).....713.718.6052  
(NE).....713.718.8049  
(NW).....713.718.5435  
(SE).....713.718.7056  
(SW).....713.718.7773

## **Psychology**

(CE).....713.718.6860  
(NE).....713.718.8054  
(NW).....713.718.5625  
(SE).....713.718.7508  
(SW).....713.718.7777

## **Sociology**

(CE).....713.718.6860  
(NE).....713.718.8055  
(NW).....713.718.5625  
(SE).....713.718.7068  
(SW).....713.718.7776

## **Speech**

(CE).....713.718.6600  
(NE).....713.718.8328  
(NW).....713.718.5620  
(SE).....713.718.7204  
(SW).....713.718.6360



# Career and Technology Education Programs

*Accounting .....	713.718.7905	Instrumentation and Controls	
Air Conditioning/Refrigeration .....	713.718.6856	Engineering Technology .....	713.718.5534
*Audio Recording and Filmmaking .....	713.718.5602	*Interior Design.....	713.718.6038
*Automotive Technology.....	713.718.8100	International Business .....	713.718.5873
Biotechnology.....	713.718.5534	Interpreting/Sign Language .....	713.718.6845
*Business Management .....	713.718.6478	Logistics and Global Supply Chain	
*Business Technology .....	713.718.7808	Management .....	713.718.5832
Chemical Engineering Technology .....	713.718.5534	Machining Technology.....	713.718.6822
Chemical Laboratory Technology .....	713.718.5534	Manufacturing Engineering Technology .....	713.718.6805
*Child Development.....	713.718.6303	*Marketing Management and Research.....	713.718.6478
Cisco Academy.....	281.491.9358	*Medical Assistant.....	713.718.7361
*Computer Science Technology .....	713.718.5294	Medical Laboratory Technician.....	713.718.5518
Computed Tomography .....	713.718.7650	Music Arranging, Composition and	
Construction Technology .....	713.718.6898	Production .....	713.718.5620
Cosmetology .....	713.718.7501	Music Business .....	713.718.5620
*Criminal Justice.....	713.718.8361	Music in Performance .....	713.718.5620
Culinary Arts and Pastry Arts.....	713.718.6152	*Nuclear Medicine Technology .....	713.718.7356
Dental Assisting.....	713.718.7356	Nursing (RN) .....	713.718.7230
Dental Hygiene.....	713.718.7356	Occupational Therapy Assistant.....	713.718.7392
Diagnostic Medical Sonography.....	713.718.7356	Paralegal Technology .....	713.718.5404
Digital Communication .....	713.718.7895	Petroleum Engineering Technology.....	713.718.5534
Digital Gaming and Simulation.....	713.718.6743	*Pharmacy Technician.....	713.718.7356
*Drafting and Design Engineering		*Physical Therapist Assistant .....	713.718.7391
Technology .....	713.718.5219	Process Technology .....	713.718.5534
Electronics Engineering Technology .....	713.718.5251	Radiography .....	713.718.7650
*Emergency Medical Services.....	713.718.7694	*Real Estate .....	713.718.5229
*Fashion Design.....	713.718.6158	*Respiratory Therapist.....	713.718.7381
*Fashion Merchandising.....	713.718.6158	Surgical Technology .....	713.718.7362
*Finance (Banking).....	713.718.5404	Travel and Tourism.....	713.718.6072
Filmmaking.....	713.718.5602	Veterinary Paramedic.....	713.718.5519
*Fire Protection Technology .....	713.718.5236	Vocational Nursing .....	713.718.7331
Geographic Information Science (GIS) .....	713.718.5294	Welding Technology .....	713.718.6899
Health and Physical Education/Fitness .....	713.718.6084		
Health Information Technology.....	713.718.7347		
Heating, Air Conditioning, Refrigeration .....	713.718.6856		
Heavy Vehicle and Truck Repair .....	713.718.8100		
Histologic Technician.....	713.718.7642		
Horticulture .....	713.718.5853		
Hotel/Restaurant Management .....	713.718.6072		
Human Service Technology .....	713.718.5539		
Industrial Electricity .....	713.718.6898		

\* Named Exemplary Programs by the Texas Higher Education Coordinating Board

# Admissions

## General Criteria

A comprehensive community college system, HCC offers many programs designed to meet the needs of students according to their backgrounds and interests. As an open admissions two-year, lower-division undergraduate institution, HCC has an "open door" admissions policy; all individuals who have at least one of the following qualifications are welcome to enroll:

- Accredited High School diploma, or
- General Education Development (GED) certificate, or
- College-level hours earned at other accredited colleges or universities, or
- International students who meet college and state requirements.

Admission to HCC does not guarantee admission to all programs. HCC utilizes the ACT COMPASS test to assess the level of students' reading, writing, and math skills. Based upon their assessment results and program objectives, students may be required to take developmental and/or prerequisite courses. In addition, special admission requirements have been established for programs that require students to possess previously learned skills and knowledge. Applicants may obtain additional admission information from the Office of Admissions and Records, counselors, and campus offices.

## Individual Approval

Students who have not graduated, but are at least 18 years old, may be admitted to HCC with appropriate assessment scores.

## High School Students

### Admissions

Currently enrolled high school or home-schooled students who have completed their sophomore year may enroll for a maximum of two HCC courses each semester. In general, students must have a 'B' average, satisfy the Texas Success Initiative (TSI) requirements, and not require remediation in the subject area in which they are enrolling. Students must furnish a high school transcript, TSI scores (or documentation of exemption from TSI requirements), and approval from their high school. Students must maintain a "C" average to continue taking courses at HCC while still attending high school.

HCC credits earned prior to high school graduation may not transfer to some senior colleges. High school students may take HCC courses for college credit only or for dual (high school and college) credit.

### Special Admissions

Students who have not completed their sophomore year in high school may petition for admission. Students must present evidence of their ability to benefit from college classes. Requirements include an application, a letter of interest from the student, a letter of approval from the high school principal, high school transcripts, three letters of recommendation, test scores from an approved assessment, and an interview. Interested students should contact the appropriate instructional dean at the college one month prior to start of classes.

## Dual Credit Course Admissions

### Dual Credit Course

To be eligible for any dual credit course, the student must at least be in 11th grade; complete an HCC admission application and submit an official high school transcript indicating TAKS, SAT, and/or ACT test scores (or bring the official test score report if test scores do not appear on the high school transcript).

### Academic Dual Credit Course

To be eligible for academic dual credit courses, high school students must pass the applicable areas of a Texas Success Initiative test (TSI) such as THEA, ASSET, or COMPASS. The student may be exempt from state-mandated TSI testing if he/she meets the qualifying standards on applicable areas of the SAT, ACT, or the 11th Grade TAKS tests. The student may be waived from state-mandated TSI testing while in high school if he/she meets the qualifying standards on applicable areas of the 10th Grade TAKS test. Students may take college-level courses related to the area(s) of the test they pass. The student must also meet institutional course prerequisites.

### Workforce Dual Credit Courses

To be eligible for workforce dual credit courses, high school students must achieve at least the minimum high school passing standard on the Mathematics section and/or the English Language Arts with writing sample section on the Grade 10 or Grade 11 TAKS test. High school students who do not meet the high school passing standard of the Grade 10 or Grade 11 TAKS test will be limited to appropriate

# Admissions

workforce Tech Prep program courses. Students may only enroll in those workforce education dual credit courses for which they have demonstrated eligibility related to the area(s) of the test they pass. However, students must also meet institutional course prerequisites. Further assessment of college-level skills will be conducted, if relevant, during the first semester of enrollment.

- The class load of a high school student shall not exceed two dual credit courses per semester (fall, spring, and summer). However, under special circumstances that indicate a student with exceptional academic abilities is capable of additional college-level work, HCC academic deans may grant exceptions to this requirement.
- All dual credit students are responsible for purchasing their own textbooks and other required course materials.
- All dual credit course instruction and materials, including HCC-approved textbooks, must be at the equivalent level of the instruction and materials used for the identical courses taught on HCC campuses.
- If taught in the high school, the dual credit class must be composed solely of dual credit, advanced placement (AP), and/or college credit students, not regular high school students.
- For dual credit courses, grading criteria must allow faculty the opportunity to award high school only or high school and college credit depending upon student performance.

For further information, contact any HCC counselor/advisor at any of the college locations.

## Tech-Prep Students

HCC provides an educational and training structure that is sensitive to the transition of high school students to college. The process that facilitates an orderly progression through programs of instruction is commonly referred to as “articulation.” Articulation agreements have been developed between HCC and school districts within the service area. These articulation agreements allow students successfully completing certain Career and Technical Education (CTE) courses in high school to receive college credits, contingent upon enrollment in a similar Career and Technical Education program at HCC and successful completion of nine semester credit hours. For further information, go to: <http://www.hccs.edu/hccs/business-community/instructional-initiatives>. Students can also obtain additional

information by visiting [www.techpreptexas.org](http://www.techpreptexas.org). HCC also participates in the Advanced Technical Credit (ATC) program (commonly known as statewide articulation). Students who successfully complete certain Career and Technical Education course designated as ATC while in high school may be eligible for college credit at HCC and many other community and technical colleges in Texas. Students can obtain further information by visiting [www.atctexas.org](http://www.atctexas.org). Students interested in majoring in Career and Technical Education programs who want to know if they qualify for articulated credit under a Tech Prep or Advanced Technical Credit agreement should contact an HCC counselor/advisor, the appropriate program department chair, or the Director of Career and Technology Education Program Initiatives, Dr. Freddie Wade at 713.718.7596 or e-mail [freddie.wade@hccs.edu](mailto:freddie.wade@hccs.edu). Students may apply for additional placement credit for no more than 18 semester credit hours. Credit for more than four courses in any one subject area requires special approval.

## Early College High School Students

Early college high school provides high school-age students with a “seamless” pathway from high school to college. Housed on HCC campuses, with articulated sharing of space and staff, ECHS allows the high school student to gradually integrate into college course work through his or her traditional high school degree plan. This integration requires dual enrollment, with an additional year for concentrated college coursework and with the student having to show mastery of the knowledge and skills necessary for success. After tackling this rigorous course of study, students graduate high school and many earn an associate’s degree or up to 61 college credits, transferable to the post-secondary institution of their choice. ECHS provides strong support to each student and the family in obtaining entrance to, and success in, higher education. HCC partners with the Houston Independent School District (HISD) in the operation of the Challenge Early College High School on the West Loop Campus of Southwest College, North Houston Early College High School located at HCC Northeast Northline campus, East Early College High School on Southeast College’s Felix Fraga Campus and the Houston Academy for International Studies High School (HAIS) near Central College. The Alief Early College High School, located on the Alief Campus of HCC Northwest, is the product of a partnership between HCC and Alief ISD.

# Admissions

## Health Sciences Students

All applicants to the Health Sciences Programs must contact the Health Sciences Department Admissions Office (1900 Pressler Dr., Houston, TX 77030, 713.718.7400) directly for formal application procedures, pre-entrance examination schedules, and general admission information. Also, see the Health Sciences section or go to [coleman.hccs.edu](http://coleman.hccs.edu)

## Transfer students

Transfer students are students who have previous college work and plan to pursue a certificate or degree at HCC. Transfer students are required to send official transcripts from each previously attended college or university. Transfer work is evaluated within the first semester of attendance. Students are encouraged to meet with an HCC counselor prior to registration but no later than their first semester of enrollment to complete their degree plan. Transfer students should follow the basic procedures for admission.

## Non-Degree Seeking Students

A non-degree-seeking student is one who is taking course work for personal enrichment and is not seeking a degree or certificate. In many cases, these students might be referred to continuing education. These students are limited to an accumulation of 15 semester credit hours before they must visit with a counselor or advisor to confirm their status as non-degree seeking. These students are not eligible for state or federal financial aid. Non-degree-seeking students may still need assessment testing in order to meet institutional course prerequisites.

Another example of a non-degree-seeking student is the student who is regularly enrolled in another college or university but wishes to attend HCC summer or mini-terms and then return to his/her home school. The students must provide documentation (unofficial transcripts are acceptable in this instance) verifying enrollment during the preceding semester. If an unofficial transcript is accepted for advising and enrollment, the student should be informed that a hold will be put on his/her record until an official transcript is sent or presented. However, non-degree-seeking students may still need assessment testing in order to meet institutional course prerequisites.

## International Students

HCC considers a student on any kind of visa other than a U.S. permanent resident (I-551) to be an international student. Prospective students maintaining any other type of visa status, except a B-1/B-2 tourist visa, may enroll at HCC as permitted by U.S. federal law. The student should call the college of choice for admission instructions and meet the published application deadline.

International students who want to study in the U.S. with an F-1 status must obtain a Student and Exchange Visitor Information System (SEVIS) Certificate of Eligibility, or SEVIS I-20 Form, from Houston Community College (HCC). HCC has been approved by the U.S. Department of Homeland Security (DHS) to issue SEVIS I-20 Forms required to obtain F-1 student visa status. The individual must then use the SEVIS I-20 Form to apply for an F-1 student visa (if outside of the United States) or a change of non-immigrant classification to F-1 (if inside the United States). U.S. federal regulations require all applicants to provide certain documentation and information to the college issuing the SEVIS I-20 Form before it can be issued to a student. To apply for a SEVIS I-20 Form, please go to the HCC website at [www.hccs.edu](http://www.hccs.edu), click on "International Students," and follow the outlined application guidelines.

An international student under the age of 18 who wishes to gain admission to HCC must provide documentation to prove that he/she has achieved the equivalency of a U.S. high school diploma in his/her country by completing a transcript evaluation.

Designated School officials report all changes pertaining to F-1 internationals (both students and alumni) to DHS as required by U.S. federal law.

F-1 international students must adhere to the U.S. federal regulations governing their non-immigrant status while studying inside the United States. Non-compliance could jeopardize an F-1 student's ability to remain in the United States and complete his/her studies at HCC. F-1 international students who have violated the U.S. federal regulations governing their non-immigrant status are encouraged to schedule an appointment with the Office of International Student Services (OISS) to discuss their options.

# Admissions

## **B (visiting) Visa Holders**

A prospective student holding B-visa (visiting) status is not eligible to attend HCC. The student must provide proof that he/she has been reclassified to a status eligible for study by DHS before being able to attend school.

The Office of International Student Services (OISS) can provide guidance if the student is interested in applying with DHS for a change of non-immigrant status to F-1 status. International students wanting more information about changing status to an F-1 visa are encouraged to schedule an appointment with a Designated School Official (DSO)/ International Student Advisor by calling (713) 718-8521.

## **Concurrent Enrollment for F-1 International Students**

An F-1 student maintaining his/her F-1 status at another educational institution and wishing to be concurrently enrolled with HCC must obtain a letter from the Designated School Official (DSO)/ International Student Advisor at his/her parent institution confirming permission to take classes at HCC under the F-1 status. F-1 students maintaining status at other educational institutions are not eligible to work on the HCC campus until transferring their SEVIS I-20 Form to HCC.

## **Summer International Transient Students**

Students who are attending another college or university and wish to take summer classes at HCC must provide a letter from their parent institution that indicates they are maintaining their F-1 status and have been given permission to enroll at HCC.

## **English Proficiency and Course Placement**

International students planning to enroll in academic programs must demonstrate English language proficiency. This can be accomplished by taking one of the following exams: TOEFL, CELSA, IELTS, SAT, ACT, or an approved Texas success Initiative (TSI) test. Scores on the exams must meet state and institutional requirements for placement into college-level classes. Students who do not meet these requirements will be required to enroll in the Academic English-as-a-Second-Language Programs.

## **Transfer Students**

A transfer student is any student who has previous college work and plans to pursue a certificate or degree at HCC. Houston Community College admits transfer students who already have established F-1 status while attending other colleges and universities. A transfer student may be

admitted to either the academic program or the Intensive English program. Students planning to transfer to HCC must submit a complete application to the Office of International Student Services. For more information visit the OISS website: from the HCC home page ([www.hccs.edu](http://www.hccs.edu)), click on "International Students" then "Transfer Students."

## **Transfer Credit from Foreign Institutions**

Students petitioning to receive transfer credit from foreign institutions must first have their transcripts evaluated by an approved evaluation service. For a list of approved evaluation agencies, students can refer to the OISS website. From the HCC home page ([www.hccs.edu](http://www.hccs.edu)), click on "International Students" then "New Students," then click the link "Transcripts and Foreign Credentials Evaluations." Students can also call OISS 713.718.8521 for the list of approved evaluation services.

## **HCC Students Studying Abroad**

Credits from unaccredited foreign institutions may be transferred to HCC for credit toward an HCC degree, as detailed in the above paragraph. HCC has a partnership relationship with two unaccredited colleges abroad: Saigon Institute of Technology (Saigon Tech) in Ho Chi Minh City, Vietnam and the Community College of Qatar (CCQ) in Doha, Qatar. HCC has contracted with a third-party evaluation service to have the entire curriculum at Saigon Tech and CCQ studied and approved, so that students transferring credits from these two institutions will not be required to choose an approved evaluation service and pay for their credits to be approved or disapproved. The transcripts of students transferring credits from Saigon Tech and CCQ are annotated with the information that the credits were accepted for transfer from these institutions and that the coursework was not done in Houston

*NOTE: ANY STUDENT WHO FALSIFIES RECORDS OF ANY KIND MAY BE DENIED ADMISSION OR DISMISSED FROM HCC.*

## **Application Deadline**

International students intending to enroll in HCC should contact OISS at 713.718.8521 or visit the OISS website by going to [www.hccs.edu](http://www.hccs.edu) and clicking on "International Students."



# Admissions

## Special Program Admissions

### Upward Bound

Upward Bound is a federally-funded program intended to help students transition from high school to college. It is a culturally diverse enrichment program conducted at HCC Central and HCC-Southeast. The program consists of Saturday activities throughout the academic year and a six-week summer session. High school students at both colleges participate in a variety of educational learning experiences, through advising, academic instruction, and tutoring in basic high school subjects. Field trips, seminars and cultural enrichment activities also are a part of the program. Students in Upward Bound broaden their own horizons. With the help of individuals working in various careers, the students learn about jobs that may offer new opportunities in today's workforce. Visits to colleges and universities, museums, and cultural events also contribute to new experiences for the students. These activities are balanced by personal experiences to help students think and feel better about themselves. Through role models, leadership training, interviewing skills and a wide range of group experiences, students not only improve their self-images but also become more confident and knowledgeable.

### The Student Support Services Program (TRIO)

This Central College program is designed to provide support and enrichment activities to low-income, first-generation college students. The program aims to assist students in retention, graduation, and transferring to 4-year universities. Thus, declared majors should be working toward the AA or AS degree plan. TRIO is a federal program funded by the U.S. Department of Education. It provides one-on-one tutoring, individualized advising, university field trips, student leadership, workshops/seminars on a variety of pertinent topics, a supplemental grant to Pell-eligible students, and much more. There is a 200 - student limit, so qualified students are selected on a first-come, first-served basis. Early fall semester application is recommended. Jose C. Salazar, Director. 713.718.6330.

### VAST Academy (Vocational Advancement and Skills Training )

The VAST Academy offers comprehensive transition programs and services which provide workforce certificates, meaningful credentials, pre-college courses and support services to individuals with intellectual and/or learning disabilities from 2nd through the 8th grade level and

beyond. VAST offers certificates in Occupational Life Skills, Career Readiness and Office Skills Training. Pre-college and freshman success bridge courses for "credit" and "non-credit," give students a chance to enhance their basic academic, computer and independent living skills, assist with successful transition into college credit certificate programs and/or learn to live more independently in the community. The Office Skills Training Certificate offers 8 courses and a 200 hour internship preparing students for entry level positions in Office Occupation fields such as: Office Assistants, data entry, administrative/clerical, filing and mail-center clerks. Plans are underway to develop more "marketable skills" certificates in various career areas to better prepare our students for the workforce. A new residential option is now available in partnership with "The Center."

VAST Academy is part of the Career & Technology Education Division of Central College, with a satellite program at Northwest College, Spring Branch Campus. VAST was awarded a \$2.5 million TPSID Grant from the U.S. Dept. of Education, one of 27 Grantees across the nation to expand its existing programs and services. For more information on the TPSID grants go to [www.thinkcollege.net](http://www.thinkcollege.net) the national coordinating center of the TPSID Grants and for all the latest information on post-secondary education for students with intellectual disabilities.

For more information contact Sue Moraska, Director, 713.718.6833, [sue.moraska@hccs.edu](mailto:sue.moraska@hccs.edu) or Ms. Sammy Leaston, NW VAST Program Manager , 713.718.5034, [sammy.leaston@hccs.edu](mailto:sammy.leaston@hccs.edu) or view our website at [central.hccs.edu/vast](http://central.hccs.edu/vast).

## Procedures for Admission

### Basic Procedures for Admission

- Submit an application at any HCC Admissions Center or apply online at <http://www.hccs.edu>. Students may also complete the Texas Common Application for 2 year Institutions, however will need to allow extra processing time before registration. [www.applytexas.org](http://www.applytexas.org).
- Calculate tuition based on residency. (See Residency section and Tuition and Fees)
- Participate in a college success course, required for all new students with fewer than 15 semester credit hours. (See current Class Schedule for additional details.)

# Admissions

- Provide official transcripts from ALL previously attended colleges and/or universities. (Unofficial copies may be used for advisement.) It is highly recommended that transcripts be sent electronically from the transferring institution to expedite processing. Transcripts may also be mailed to the following address if electronic submission is not available: Office of Student Records, P.O. Box 667517 Houston, TX 77266-7517
- Complete an HCC assessment exam (COMPASS) or other approved TSI instrument, or provide documentation supporting a TSI Exemption or Waiver. (See current Class Schedule for TSI requirements.)
- Provide ACT, SAT, or TAKS scores to claim TSI exemption. (Unofficial copies may be used for advising and placement purposes, but official copies are needed for a TSI exemption.)
- Participate in further assessment if necessary for course placement.
- Meet with a counselor/advisor for course guidance.
- Declare a certificate or degree plan.

## Procedures for Readmission

### After Absence

Students who have not enrolled for two or more consecutive regular semesters (fall, spring) must complete the core residency questions and satisfy all applicable requirements for residency again prior to registration.

### After Suspension/Academic Withdrawal

Students seeking readmission after being placed on enforced Academic Withdrawal or Suspension at HCC must petition the appropriate academic or workforce dean at the college they attend. Students may be required to enroll in courses specified by the dean and/or have their course load limited.

### Academic Fresh Start

State law (Educ. Code, Sec. 51.931) allows students with academic credits earned 10 or more years prior to the starting date of the semester, in which they seek admission to any public institution of higher education, to have those credits or grades not considered in the admission decision. If admitted under this Academic Fresh Start provision, the students may not receive any course credit for courses undertaken 10 or more years prior to enrollment. Students must complete a Fresh Start petition prior to admission to HCC.

## Residency Requirements

### Basic Residency Requirements

For tuition purposes, according to Texas Education Code 54.075 and Texas Higher Educational Coordinating Board Rules 21.727, all students must answer a complete set of core residency questions within the admissions application. These questions will be used by the institution to determine if the person is a resident. The following persons shall be classified as Texas Residents and entitled to pay resident tuition at all institutions of higher education:

- A person who was enrolled at a Texas public institution during a fall or spring semester within the previous twelve months and was classified as a Texas resident for tuition purposes.
- A person who (a) graduated from a public or accredited private high school in this state or as an alternative to high school graduation received the equivalent of a high school diploma in this state, AND (b) maintained a residence continuously in this state for the 36 months immediately preceding the date of graduation or receipt of the diploma equivalent as applicable and the 12 months preceding the census date of the academic semester in which the person enrolls.
- A person or a dependent whose parent established a domicile in this state not less than 12 months before the census date of the academic semester in which the student enrolls in an institution AND maintained a residence continuously in the state for the 12 months immediately preceding the census date of the academic semester in which the person enrolls in an institution.

### Establishing Residency

HCC is required by state law to determine the residency status of all students for tuition purposes. All new students must provide the institution with answers to a set of core residency questions and provide substantiating documentation to affirm their residence. Students who have not enrolled for two or more consecutive regular semesters (Fall & Spring) must complete the residency core questions and satisfy all applicable requirements to establish residency. Additional documentation may be requested at any time following registration.

Residency is determined at the time of registration, either by a student's current address or by the address of a

# Admissions

parent or legal guardian, if the student is being claimed or is eligible to be claimed as a dependent for federal income tax purposes. A post office box can be used for a mailing address but cannot be used to establish residency. It is the responsibility of the student to register under the correct residency classification. A complete set of rules and regulations for determining residency is available at each Admissions Office.

For tuition purposes, a student will be classified according to the following guidelines. The Registrar is the final authority on all questions of residency.

## **In-District Residency**

- Students who have met the basic Texas residency requirements and live in the HCC district (Alief, Houston ISD, North Forest ISD, Stafford MSD, and part of Missouri City).
- Students who have a street address in the district. Post office boxes and dormitory addresses cannot be used.

## **Out-of-District Residency**

- Students who have met the basic Texas residency requirements and live outside the HCC district (Alief, Houston ISD, North Forest ISD, Stafford MSD, and part of Missouri City).

## **Out-of-State Residency**

- A student who has not resided in Texas for 12 months immediately preceding registration.
- A non-resident student classification is presumed to be correct as long as the residence in the state is primarily used for the purpose of attending school. To be reclassified as a resident (after one or more years of residency), the student must show proof of intent to establish Texas as his/her permanent legal residence.

*A non-resident who marries a Texas resident must establish his/her own residency.*

## **Undocumented Students**

Undocumented students who do not qualify for resident tuition under the Basic Residency Requirements are eligible for admission to HCC according to the following guidelines. All other undocumented students may be admitted but will be charged out-of-state tuition.

- Those who have resided within part of a taxing district (school district of Alief, Houston, North Forest or Stafford, and part of the city of Missouri City) for one

year immediately preceding registration and who attended or graduated from an in-state middle school or high school qualify for in-district tuition and fees..

- Those who have resided within the state of Texas for one year immediately preceding registration and who attended or graduated from an in-state middle school or high school qualify for out-of-district tuition and fees.

*Documentation of residency and proof of school attendance must be submitted.*

## **Change of Residency**

Change from out-of-district residency to in-district residency must be made at the time of registration. Any address change which results in a change to in-district status must be accompanied by adequate documentation. Changes to in-district status made after registration will be effective the following semester.

A student who qualifies for a change from out-of-state to in-state residency status for tuition purposes may file a petition for change of residency. The petition must be filed by the Official Day of Record for the regular term in order to receive any refund of tuition paid for that term.

## **Penalties**

Any student who provides false information or withholds information for proper determination of residency is subject to any or all of the following penalties:

- Withdrawal from all classes with no refund.
- Dismissal from the institution.
- Payment of the difference in fees within 30 days.
- Loss of credit earned while under incorrect residency status.

## **Additional Requirements for Non U.S. Citizen Students**

A non U.S. citizen who is living in the U.S. under permanent resident status, an appropriate visa, or who has filed an I-485 application for permanent residency and has been issued a notice of action from USCIS showing the I-485 has been approved has the same privilege of qualifying for resident status, for tuition purposes, as a U.S. citizen. Anyone permitted by Congress to adopt the United States as their domicile while living in this country is afforded the same privilege as citizens and permanent residents to establish Texas residency for tuition purposes. A list of visas eligible for establishing domicile is available at each college center.

# Admissions

## New Student Information

### New Student Orientation

Every first-time college or transfer student with less than 15 semester hours who is enrolling in HCC credit courses should complete an orientation session at one of the HCC campuses. This will explain degree programs, how to enroll, apply for financial aid and other useful procedures. Students should contact the Student Success Center at any of the colleges to find dates and times.

### Student Success Courses

Through research and experience, Houston Community College has determined that many life and career management skills are necessary for students to make the most of their college investment. The Student Success courses are designed to prepare students for the demands of college and for success in the world of work.

The courses emphasize the theories and strategies for effective learning, including setting priorities, time management, listening, note-taking, concentration techniques and test taking skills. This course also incorporates modules that are designed to facilitate the use of library databases in conducting research, planning and setting educational objectives, lifelong career assessment, decision-making, financial aid, tutoring and student support services, enabling the student to maximize the use of college resources.

All first time HCC students, who have achieved less than 12 college level hours, will be required to take a Student Success course their first term.

We have four career-focused Student Success courses. ENGR 1201, Introduction to Engineering is a Student Success course which focuses on careers in the engineering and the engineering technology fields. HPRS 1201, Introduction to Health Professions focuses on the health profession fields as well as student success. EDUC 1200, Careers in Education focuses on occupations in the public and private settings and LEAD 1200, Workforce Development with Critical Thinking is designed for Career and Technology students..

### The Texas Success Initiative

During the 2003 session, the Texas Legislature created the Texas Success Initiative (TSI). The TSI requires assessment of all new students, individualized success plans for those students whose skills are not at college level, and minimum state standards indicating students' college readiness for pursuit of certain certificate and all degree programs. Each college is required to report on the academic success of its students and the effectiveness of its developmental education programs.

A major emphasis of TSI is to ensure that all students be tested to determine if they are college ready in reading, writing, and mathematics. Testing is mandatory and must be completed prior to one's first enrollment at HCC (or no later than the end of the first semester for some workforce students) unless it is determined that the student has been waived or exempted from TSI requirements.

A student will be considered as college ready when all institutional and state requirements have been met. Students still need to meet any course prerequisites as determined by an institution. Students who are not considered to be college ready are encouraged to work closely with a counselor/advisor. New students who are not college ready must meet with an HCC counselor or advisor prior to or during registration to initiate an individualized HCC Student Success Plan. The Plan will record student scores, educational objectives, and declaration of major, direct students to support services, provide benchmarks for tracking success, including the developmental education course sequence and retesting as necessary, and specify the requirements for achieving a degree or certificate. For a complete description of the HCC Texas Success Initiative plan, please refer to the HCC TSI Plan online.

### General TSI Information

- Official verification of TSI test scores, exempt or waived status, must be provided prior to enrollment.
- Students are responsible for payment of all test fees associated with assessment testing.
- Students waived from TSI requirements will be monitored to determine continued eligibility. (This includes all Workforce Level 1 certificate programs and non-degree-seeking students.)
- Students with disabilities may apply for special testing accommodations.

# Admissions

For a detailed explanation of policies governing TSI, see your counselor/advisor prior to enrollment. Note: All policies associated with the TSI are subject to change by the Texas Legislature.

## Placement Testing

A variety of assessment instruments are used to determine placement into programs and courses at HCC. Meeting minimum passing standards as required by TSI does not preclude HCC from using a local assessment to determine placement in programs or courses. In addition, diagnostic assessment may be administered within the classroom. Students with disabilities who need to request special testing accommodations should contact their college testing office prior to testing.

## Developmental Education

HCC offers courses in basic skills. Students who have deficiencies in reading, writing and mathematics are required to enroll in these designated courses. In addition, HCC offers courses designed to improve study habits and enhance the ability to succeed in college. Students should explore these opportunities with advisors and counselors during registration.

The Learning Assistance Center at each of the six colleges offers a variety of services during the regular semester, including courses in writing, reading, and math. Some courses are offered through flexible entry. Students should obtain specific information from counselors/advisors.

## Continuous Remediation

All HCC programs and courses have set pre-requisite levels for reading, math, and writing skills. Students not testing at pre-requisite levels will be required to enroll continuously and complete the sequence of developmental education courses providing them the required skills. The order of developmental education courses, as needed, will be Developmental Reading first, Developmental Math second, and Developmental English (writing) third

## Directory Information

The following is considered directory information by HCC:

- Name
- Address
- Telephone
- Date of birth
- Degrees earned and dates
- Major field of study
- Dates of attendance
- Enrollment status
- Number of hours completed and in progress
- Student classification
- Name of most recent previous institution attended

HCC directory information is managed in compliance with the Texas Open Records Law. If you do not want this information released, you must complete a confidentiality request form at the college campus and submit to the Registrar's Office.

## Registration Information

### Schedule of Classes

HCC publishes online and in print an HCC Schedule of Classes for Fall, Spring, and Summer semesters. The Class Schedule contains the most up-to-date information about the costs of registration for HCC courses. Students should always check the on-line Class Schedule for the most up-to-date information about the availability of class days, times, locations, formats for instruction, etc. Students should go online to the following web address: <http://www.hccs.edu/hccs/future-students>

### Academic Calendar

The Academic Calendar can be found on the website ([hccs.edu](http://www.hccs.edu)) along with Traditional, Second Start, and Mini-Term semesters. The calendar also includes class start dates, holidays, and final examinations. Finally, the academic calendars contain the schedule by which students qualify for refunds and the deadline for dropping/withdrawing classes without penalties.

# Cost/Refund Information

## 2011-2012 Semester credit hour (SCH) tuition and fees

### In-District

Tuition	\$31 per hour (\$50 minimum)
General Fee	\$25.50 per hour
Technology Fee	\$9.70 per hour
Student Activity/Services Fee	\$1.00 per hour (\$12.00 maximum)
<b>Total</b>	<b>\$67.20 per hour</b>
Athletics Fee	\$6.00 per semester

### Out-of-District

Tuition	\$31 per hour (\$50 minimum)
Out-of-District Fee	\$64 per hour
General Fee	\$25.50 per hour
General Fee Out Of District	\$8.00 per hour
Technology Fee	\$9.70 per hour
Student Activity/Services Fee	\$1.00 per hour (\$12.00 maximum)
<b>Total</b>	<b>\$139.20 per hour</b>
Athletics Fee	\$6.00 per semester

### Out-of-State

Tuition*	\$31 per hour (\$50 minimum)
Tuition Out of State	\$64 per hour(\$190 minimum)
General Fee	\$25.50 per hour
General Fee Out of State	\$24.50 per hour
Technology Fee	\$9.70 per hour
Student Activity/Services Fee	\$1.00 per hour (\$12.00 maximum)
<b>Total</b>	<b>\$155.70 per hour</b>
Athletics Fee	\$6.00 per semester

General fees include all registration, student services matriculation, and other administrative fees to cover general classroom use, library and student services facilities, etc. The fee is charged to all students, on or off campus.

HCC charges a higher tuition rate to students registering for the third or subsequent time for certain courses.

Students who enroll for most credit and CEU classes for a third or more time will be charged an additional \$50 per semester credit hour and \$3.00 per contact hour, except for courses exempted by The Texas Higher Education Coordinating Board..

Parking Fees are not part of the published standard Tuition & Fee rates. Therefore, the Parking Fees will be billed separately from these established rates.

Tuition, fees, and the refund policy listed in this catalog are accurate at the time of printing. HCC reserves the right to change its tuition and fees and refund policy structure wholly or in part during the year covered by this catalog.

### Distance Education Course Fees

In addition to tuition, there is a \$32 fee for each distance education course.

### Dual Credit Course Tuition Waivers

HCC waives tuition on several academic and workforce dual credit courses in participating area high school districts. Students residing in the districts of Alief, Houston, North Forest, Stafford, and parts of Missouri City ISDs pay nothing. Students residing out-of-district, including those within the HCC service area of Fort Bend, Katy, and Spring Branch Independent School Districts, pay the out-of-district fee. The dual credit courses count toward both a student's high school graduation requirements and a college-level certificate or degree.

### Flexible-Entry Course Fees

The cost of courses taken in the flex-entry term is the same as for regular semester-hour courses.

### Laboratory/Supply Fees

Laboratory supply fees, which help defray the cost of materials used in lab classes, vary. Certain programs have program-specific fees. Check course listings for additional fees in some classes.

### Continuing Education Unit Course Tuition and Fees

Continuing Education Unit (CEU) course tuition and fees are based on the expenses unique to each course. Therefore, each course is priced individually. For a schedule of classes and for more information on tuition and fees and refunds, contact the School of Continuing Education. For more information 713.718.5303.

# Cost/Refund Information

## **Adult and Community Service Programs Tuition and Fees**

### **Community Service (Non-State Funded)**

Community Service course fees are based on total hours of instruction and maximum class size. Courses which require limits to class size in order to provide additional individual attention have larger fees. Students are expected to furnish materials necessary for the course.

### **Adult Education**

No tuition or fees are charged for Adult Basic Education or Adult ESL Education classes. These classes are funded by the Texas Education Agency. A \$25 fee is charged for ASE courses.

### **Adult High School**

A non-refundable tuition of \$140 is charged for each half credit course. Forms of payment are cash, check, money order or credit card.

### **Senior Citizen Waiver**

HCC waives \$10 per semester hour or \$10 per CEU course for adults 55 years and older.

## **Tuition Rebate Program**

Students who graduate with a baccalaureate degree from a Texas public university may qualify to receive \$1,000 from the baccalaureate-granting institution if they meet the following criteria:

- Must have enrolled in a Texas public institution of higher education in fall 1997 or thereafter;
- Must have been a resident of Texas and entitled to pay in-state tuition at all times while pursuing the degree;
- Must have received a baccalaureate degree from a Texas public university;
- Must have attempted no more than three hours in excess of the minimum number of semester hours required to complete the degree in the catalog under which one graduated. Hours attempted include transfer credits, course credits earned exclusively by examination, courses that are dropped after the official census date. Hours attempted shall not include: Course credit that is earned to satisfy requirements for a ROTC program but that is not required to complete the degree program; course credit, other than course credit earned exclusively by examination, that is earned before graduating

from high school; and courses dropped for reasons that are determined by the institution to be totally beyond the control of the student.

Students are encouraged to consult advisors to plan their course of study at the community college to maximize their chances of qualifying for this rebate when they transfer and graduate from a university with a baccalaureate degree.

## **Tuition and Fees Payment**

All HCC students are expected to pay or make payment arrangements at the time of registration. To avoid losing your place in class, be sure to pay based on the time lines allowed under the registration procedures either at a designated registration site or online.

Students who fail to make payments according to the registration process guidelines may be dropped from some or all classes and will be required to register again. Section availability cannot be guaranteed.

Students with delinquent accounts at the end of the term will be referred to a collection agency and will be responsible for any collection fee.

### **Pay Online**

HCC uses Secure Sockets Layer (SSL) encryption to protect your personal information when using the Internet.

### **Have ready**

- Your Web User ID and Password or your Social Security number and birth date to obtain your Web User ID and Password.
- Master Card, Visa, Discover, American Express number, expiration date and cardholder's billing address or Checking account and routing numbers.
- Student e-mail address.



# Cost/Refund Information

## Go to: [hccs.edu](http://hccs.edu)

- On the home page, go to "Student System Sign In".
- Enter your Web User ID and Password or follow the instructions to obtain your Web User ID and Password.
- When you sign on, verify your address and phone data. If no changes are necessary, click on "continue".
- On the Student's Center, click "Make a Payment or Set up a Payment Plan".
- Select "Click here to make a payment" or "Enroll in Payment Plan". Complete the payment plan enrollment as directed.
- Enter credit card/checking account information. Enter student e-mail address.
- Review information.
- Submit payment.
- Receive confirmation that payment has been accepted.

If credit card/check payment is declined, you may repeat the process using a different credit card or checking account or pay in person on campus.

## Pay in Person

Pay in person when you register by check, cash, or money order. Students who are receiving tuition waivers or students whose tuition is billed to a company or agency must pay in person. The remaining balance should be paid in full or a Payment Plan must be set up.

## Installment Payment Plan

Tuition installment payment plans are available for all terms. Details, including due dates and percentage of required payments, are available online. Students must accept Terms & Conditions online when setting up a payment plan.

## Tuition and Fee Payment Dates

### Tuition Bills are Not Mailed

All HCC students are expected to make arrangements to initiate payment at the time of registration. This includes all classes: 16-Week, Second Start, Mini Term and Flex Entry classes. To avoid losing your place in class, be sure to make a payment either at a designated registration site or online of the day you register.

Students not paying according to above guidelines will be dropped and be required to register again.

Section availability cannot be guaranteed.

Students who are dropped from a course for nonpayment and request reinstatement after the official day of record for that class will be charged an additional \$75.00 per course reinstatement fee.

## Refunds and Credit Balance

### Refund of Financial Aid Residual

The Financial Aid Office determines the schedule of refunds in accordance with the requirements of the Department of Education.

### HCC Eagle Card

Houston Community College has partners with Higher One Inc. To issue an HCC Eagle Card to all credit hour students except those who have paid by credit card only.

Students are issued HCC Eagle Card free of charge initially. Any replacement due to failure of delivery because of wrong or incomplete address shall be the responsibility of the student. Card replacement fee is \$20.00.

Through HCC Eagle Card, students may choose their refund method preferences through One Account tied in with the card or through ACH to a bank account with another bank (Direct Deposit).

### Credit Balances & Refunds

Credits generated as a result of withdrawal shall be refunded after the official date of record or earlier upon student request. Credits resulting from credit card payments shall be refunded to the same credit card used for initial payment.

Amount of refunds for withdrawals are determined in accordance with the Drop and Withdrawal Refund Schedule based on total semester fees. If the student has established a payment plan, any remaining installment payments due

# Cost/Refund Information

are deducted from the refund amount. Any reduction in the balance due to a withdrawal will be adjusted on the remaining installments.

Course withdrawal does not release the student from the obligation to pay any balance owed to the College. One hundred percent (100%) refund before class begins of ALL tuition and fees will be made ONLY when a class does not make or a college error is involved.

### Delinquent Student Account Balances

Students are responsible for payment of all outstanding account balances. Holds will be placed on the student record preventing registration, grades, transcripts and other college services as the account balance becomes delinquent. Balances not resolved may be forwarded to a collection agency. The collection fee will be the responsibility of the student.

Notification of the outstanding student account balance is delivered by email to the student's college email address and/or by mail to the current mailing address on record. Students can always view the balance and details online. It is the responsibility of the students to update their email and mailing addresses each time there is a change. Notifications sent by the college thru any of these addresses are considered delivered.

There may be other costs incurred by students with delinquent balances as defined in their payment plans or indicated in services used.

### Schedule for Drop and Withdrawal Refunds Schedule:

100% Refund Dates on Drops/Withdrawals are listed on the schedule.\*

Class Length	Last Day for 70% Refund *	Last Day for 25% Refund*
2 or less wks.	2nd day	n/a
3 wks.	3rd day	4th day
4 wks.	4th day	5th day
5 wks.	5th day	6th day
6 wks.	5th day	7th day
7 wks.	7th day	9th day
8 wks.	8th day	10th day
9 wks.	9th day	11th day
10 wks.	9th day	12th day
11 wks.	10th day	14th day
12 wks.	12th day	15th day
13 wks.	13th day	16th day
14 wks.	13th day	17th day
15 wks.	14th day	19th day
16 wks. or more	15th day	20th day

\*A \$15.00 Change of Schedule Fee is deducted after computing the percentage refund. All non-refundable fees (see catalog) will be deducted before the percentage for refund is applied.

### Returned Checks

Returned check payments shall be immediately reflected/ recorded in the student account and the student shall be withdrawn from classes. A \$25 returned check fee shall be assessed.

# Cost/Refund Information

## Non-Refundable Fees

NOTE: HCC will not refund the following fees for any reason other than that the class fails to make.

Drop/Add Fee .....	\$15
Returned Check Fee .....	\$25
Stop Payment Fee .....	\$25
Payment Plan Enrollment Fee.....	\$30
Payment Plan Late Fee.....	\$10
International Student Service Fee.....	\$75

(one-time charge for F, M, or J Visas only)

### Graduation Fees:

Diploma or Certificate.....	\$10
Back-Dated Diploma .....	\$15
Transcript Fee .....	\$5*
Transcript Fee for Overnight Express or Fax .....	\$15
Fee for Advanced Standing Examination for College Credit (per course).....	\$25
Fee for Advanced Standing Credit (per evaluation) ...	\$25

A student is not registered for any course until the full amount is paid or an installment contract is executed. For students enrolling in a Health Sciences program, see the Health Sciences section.

*\*An additional service provider fee is required if transcript is requested by phone or Web.*

## Change of Schedule: Drop/Add/ Swap

After classes begin, students can make a class change online through the drop/add/swap period listed in the academic calendar (see page 2). Approval of requests for changes will be based on the availability of space in the class to which you wish to transfer. A fee of \$15.00 per transaction will be assessed for each request for change.

Deadline for changing schedule or adding courses is as follows:

- Fall and Spring regular term - first two days of class
- 5 and 6-week summer terms - first day of class.
- 10 and 12-week summer terms - first two days of class.

Any fee amounts quoted above are subject to change

## Adding/Swapping Courses

Students may add classes but only through the drop/add/ swap period. Payment of course fees must be made at the time of the change. If a class is full, consider taking the course at a different time, location, via Distance Education, or in the second start session.

## Dropping Courses

Students should make sure they are aware of penalties regarding financial aid, additional tuition costs, etc. before withdrawing from course.

It is the responsibility of the student to officially drop or withdraw from a course. Failure to officially withdraw may result in the student receiving a grade of "F" in the course. A student may officially withdraw in any of the following ways:

- Drop online.
- Send a letter requesting withdrawal to:  
**Registrar**  
**Houston Community College**  
**P. O. Box 667517**  
**Houston, TX 77266-7517**  
The withdrawal will be effective the date of postmark.
- Fax a letter of withdrawal to 713.718.2111.

A student who officially withdraws from a course before the Official Date of Record will not receive a grade and the course will not appear on the student's permanent record. A student withdrawing from a course after this period and prior to the deadline designated in the HCC calendar will receive a grade of "W."

# Cost/Refund Information

## Limitation/Costs of Course Withdrawals

Under Section 51.907 of the Texas Education Code “an institution of higher education may not permit a student to drop more than six courses, including any course a transfer student has dropped at another institution of higher education.” This statute was enacted by the State of Texas in the Spring 2007 and applies to students who enroll in a public institution of higher education as a first - time freshman in fall 2007 or later. Any course that a student drops is counted toward the six - course limit if “(1) the student was able to drop the course without receiving a grade or incurring an academic penalty; (2) the student’s transcript indicates or will indicate that the student was enrolled in the course; and (3) the student is not dropping the course in order to withdraw from the institution.” High school students enrolled in HCC Dual Credit and Early College are waived from this requirement until they graduate from high school. All college-level courses dropped after the official day of record are included in the six-course limit unless the student demonstrates to an appropriate college official that one of the following events occurred to the student during the semester or summer session:

- A severe illness or other debilitating condition that affects the student’s ability to satisfactorily complete the course.
- The student’s responsibility for the care of a sick, injured, or needy person if the provision of that care affects the student’s ability to satisfactorily complete the course.
- The death of a person who is considered to be a member of the student’s family or who is otherwise considered to have a sufficiently close relationship to the student that the person’s death is considered to be a showing of good cause.
- The active duty service as a member of the Texas National Guard or the armed forces of the United States of either the student or a person who is considered to be a member of the student’s family and such active duty interferes with the student’s ability to satisfactorily complete the course.

- The change of the student’s work schedule that is beyond the control of the student and that affects the student’s ability to satisfactorily complete the course.
- Other personal or family reason that is considered catastrophic or beyond the control of the student and interferes with the student’s ability to satisfactorily complete the course (as determined by the college official).
- Total withdrawal of all courses for the whole semester (i.e. fall, spring, summer). HCC students affected by this statute that have attended or plan to attend another institution of higher education should become familiar with that institution’s policies on dropping courses.

# Financial Aid

## Types of Financial Aid

Houston Community College provides a comprehensive student financial aid program to eligible students seeking financial assistance to enroll in college. Financial aid is a secondary source of funding when family resources are insufficient to meet educational costs. Most of these programs are available to anyone who demonstrates financial need and qualifies academically.

### Grants

Grants are gift aid, which do not need to be repaid, from the federal and state government. They are awarded to students on the basis of need. The Federal PELL Grant is the primary grant program. Other grant programs include the Texas Grant, Texas Educational Opportunity Grant (formerly Texas Grant II) (TEOG), Texas Public Educational Grant (TPEG), and Federal Supplemental Educational Opportunity Grant (FSEOG). For additional information on the state aid available at HCC, please view the College for Texans web site at: [www.collegefortexans.com](http://www.collegefortexans.com).

### Loans

Loans must be repaid. Repayment begins after you complete your educational program or once you are no longer enrolled at least half-time, whichever occurs first. The Federal Stafford Loans (Subsidized and Un-subsidized) are two of the major loan programs at HCC.

### Emergency Loans

A limited amount of money is available as Emergency Loans to those who need help to pay for tuition, mandatory fees, and textbooks. These loans are available on a first-come, first-served basis and must be repaid within 30 days. You must show financial need to receive an Emergency Loan and provide proof of your ability to repay the loan.

### College Work/Study Programs

The College Work-Study Programs (CWS) provide jobs for undergraduate and graduate students with financial need, allowing them to earn money to help pay education expenses. The program encourages community service work and work related to the course of study. The College offers the Federal College Work-Study (FCWS) and Texas Work-Study (TXCWS) Programs.

## Eligibility and Application Information

### Am I Eligible?

Generally, to be eligible you must:

- Have a financial need, except for some loan programs.
- Have a high school diploma or a General Education Development (GED) Certificate, or meet other standards the state establishes that are approved by the U.S. Department of Education, or complete a high school education in a home school setting approved under state law. Be enrolled or accepted for enrollment as a regular student working toward a degree or certificate in an eligible program.
- Be a U.S. citizen or eligible non-citizen.
- Have a valid Social Security Number.
- Meet satisfactory academic progress standards set by the postsecondary school you are or will be attending.
- Sign a statement on the Free Application for Federal Student Aid (FAFSA) certifying that you will use federal student aid for educational purposes
- Sign a statement on the FAFSA certifying that you are not in default on a federal student loan and that you do not owe money back on a federal student grant.
- You must comply with Selective Service registration, if required.
- Not have eligibility suspended or terminated due to a drug-related conviction.

# Financial Aid

## How Do I Apply?

- First, obtain your Personal Identification Number (PIN) to sign your Free Application for Federal Student Aid (FAFSA) and to make corrections to your Student Aid Report (SAR). You can apply for a PIN at [www.pin.ed.gov](http://www.pin.ed.gov).
- Submit the Free Application for Federal Student Aid (FAFSA) – either through the Internet (using FAFSA on the Web at [www.fafsa.ed.gov](http://www.fafsa.ed.gov)) or by completing a paper FAFSA or Renewal FAFSA. There are advantages to using FAFSA on the Web: (1) it identifies potential errors right away and prompts you to make on-the-spot corrections, (2) you get online instructions for each question, and you can “chat” live online with a customer service representative if you have further questions (There’s no charge for this help.), (3) the Department’s Central Processing System will process your application quickly, in three to five days, provided you (and your parents, if applicable) have provided electronic signatures.
- When you receive your Student Aid Report (SAR), review the information to make certain it is correct. Use your PIN to make corrections to your SAR (using FAFSA on the Web at [www.fafsa.ed.gov](http://www.fafsa.ed.gov)).
- Submit any required documents to the financial aid office.
- Check your Student Self-Service account on the HCC web site for the status of your financial aid.
- When you receive the Electronic Financial Aid Notification (EFAN), log on to your Student Self-Service account to “Accept” or “Decline” your financial aid offer(s).

## When Should I Apply?

Students should apply for financial aid each year on or after January 1. At HCC, April 15th is the Priority Deadline date for student aid applications. Students, who meet the deadline date and qualify, may be awarded aid in time to register and purchase books. Any balance remaining from the student’s award will be disbursed after the official date of record for the last session in which a student is enrolled to the student’s Higher One Eagle Card or to the student’s bank account via direct deposit. The deadline for submitting an application for a federal student loan for the fall only semester is November 15th. The deadline for submitting an application for a federal student loan for the fall and spring semesters and the spring only semester is March 4th. Financial aid applications are accepted after the Priority

Deadline, however, financial aid awards may not be available to pay for tuition, fees and books at the time of registration. Students who submit a financial aid application after the Priority Deadline must be prepared to make other arrangements to pay for books, tuition and fees. The Installment Payment Plan is available through the college cashier’s office.

## Return of Title IV Funds

The Financial Aid Office is required by federal statute to recalculate federal financial aid eligibility for students who withdraw, drop out, are dismissed, or take a leave of absence prior to completing 60% of a payment period or term. The Federal Title IV financial aid programs must be recalculated in these situations. Refunds are allocated in the following order: Direct Un-Subsidized Stafford Loans, Direct Subsidized Stafford Loans, and Direct PLUS Loans, Federal Pell Grants, Federal Supplemental Educational Opportunity Grant, and other aid.

All financial aid recipients who withdraw after the 60% point in their enrollment period must have their financial aid award reviewed and revised, if necessary, according to HCC or the Federal Return of Title IV Funds Calculation. All financial aid recipients should contact their College Financial Aid Office prior to withdrawing from any or all courses. This notification is mandatory because all financial aid awards have certain enrollment requirements that must be met to maintain eligibility for these funds. For additional information on the financial aid program, visit your College Financial Aid Office or the HCC Financial Aid web site at [www.hccs.edu/financialaid](http://www.hccs.edu/financialaid).

# Financial Aid

## Financial Aid Calendar

The staff of the Financial Aid Office is pleased to provide this calendar to assist you with the financial aid process. The calendar has been designed to help you keep track of your progress as you go through the application process, so please feel free to print it for future reference.

## Financial Aid Priority Deadline for HCC is April 15th for all students.

If you submit your FAFSA after the priority deadlines, your financial aid funds may not be available to pay for the classes at the time of registration. You will be required to make other arrangements to pay for your classes.

### Application/Process

Free Application for Federal Students Aid (FAFSA) - **June 30**

Federal Stafford Loan Fall Semester - **Nov. 15**

Federal Stafford Loan Spring Semester - **April 15**

Federal Stafford Loan Fall and Spring Semester **April 15**

**Student Aid Report (SAR)** - *Aug. 15 or the last date of student's enrollment period.*

**Accept Financial Aid Offer** - *Within 30 days of receiving the Financial Aid Notification.*

**Verification** - *Within 30 days of being notified your SAR was selected for verification.*

## Scholarship Information

### Scholarships

Scholarships are gift funds, based on high academic achievement or special talents that do not have to be repaid. HCC coordinates a variety of institutional, foundation, and private scholarships. You should apply as early as possible, since awarding scholarships involves deadlines.

### HOPE Scholarship

The passage of the Taxpayer Relief Act of 1997 provides HOPE Scholarship tax credit for certain eligible students. Students with little income or tax liability may benefit more from increases in Pell Grant awards than from HOPE Scholarship tax credits. Please consult your tax advisor to determine how the HOPE Scholarship tax credit may benefit you.

## About the HCC Foundation

The Houston Community College System Foundation supports Houston Community College in its efforts to attract and educate Houston-area students with the desire and the dedication to learn—including many non-traditional students and those facing barriers to higher education. The Foundation's mission is to enhance the quality of life of our community and of our fellow citizens through fundraising efforts that improve access to higher education, support workforce training, and advance student learning at Houston Community College. In addition to raising money for scholarships, the HCCS Foundation provides financial assistance to selected Houston Community College capital projects and provides grants to faculty projects that have the potential to advance student learning at Houston Community College. For information about donating to the HCCS Foundation, please visit our Web site at [www.hccsfoundation.org](http://www.hccsfoundation.org)

## HCC Foundation Scholarships

Some people think that only students with perfect academic success can receive a scholarship. In fact, HCC offers hundreds of scholarships for students from all kinds of academic and personal backgrounds pursuing a variety of career goals; many of these scholarships require enrollment in HCC and a minimum 2.0 GPA. Below are just a few examples of the scholarships available to HCC students:

- Scholarships for students of Hispanic, African-American, and Asian heritage
- Scholarships for those pursuing degrees or certification in specific fields, such as the fine arts, nursing, technology, or photography
- Scholarships for students attending a specific HCC college or who live in a designated community
- Scholarships for students who have overcome adversity or who can show economic hardship. These scholarships have been established by generous donors who support Houston Community College and its students. For a full list of scholarships available to HCC students, please visit [www.hccsfoundation.org](http://www.hccsfoundation.org).



# Financial Aid

## Applying for a Scholarship is Easy

HCC students can apply for all available HCC scholarships through ONE online application at [www.hccsfoundation.org](http://www.hccsfoundation.org). Applicants will be considered for every scholarship for which they appear eligible. To complete the application, you will need to provide information in the following areas:

- Personal information (name, social security number, citizenship, etc.)
- Financial aid (Pell grants, other information)
- Personal references
- Job experience
- High school or college grade point average
- Awards and honors

You will also be asked to share your academic and career goals and discuss any financial needs you may have. Scholarships are awarded once a year in the spring for the following fall and spring semesters.

*For more information about HCC scholarships, please visit [www.hccsfoundation.org](http://www.hccsfoundation.org) or call the HCCS Foundation scholarship specialist at 713.718.8595*

## Opportunity 14

Opportunity 14 is a bold program that will change our community's expectations about higher education and remove the financial barriers that prevent so many of Houston's children from going to college. Kindergarten through 12th grade—plus a minimum two years of college: This is the Opportunity 14 expectation. The Opportunity 14 Scholarship also makes a promise to Houston's high school seniors. If you can't pay for your tuition, your community will help you attend a college founded to meet your needs: Houston Community College.

## More Information

For additional information on HCC loans, grants and scholarships, see a financial aid associate at any HCC campus or visit our Web site, [www.hccs.edu/financialaid](http://www.hccs.edu/financialaid)

Financial Aid-System .....	713.718.8490
Financial Aid-Central Campus .....	713.718.6100
Financial Aid-South Campus .....	713.718.6699
Financial Aid-Coleman .....	713.718.7400
Financial Aid-Northeast Campus .....	713.718.8304
Financial Aid-Northline Campus .....	713.718.8080
Financial Aid-Spring Branch Campus .....	713.718.5713
Financial Aid-Katy Campus .....	713.718.5901
Financial Aid-Eastside Campus .....	713.718.7011/7030
Financial Aid-Stafford Campus .....	713.718.7785
Financial Aid-West Loop Center .....	713.718.7722

## Tax Credit Information

### Tuition Tax Credits

Through the Taxpayer Relief Act of 1997, HCC students may claim tax credits to help them pay for tuition and fees. Under the Hope Scholarship tax credit, students may claim credit for 100 percent of the first \$1,000 in tuition and fees and 50 percent of the second \$1,000 (or \$1,500) for enrollment during the first two years of college.

Students must be enrolled for at least half-time in a degree or certificate program and have no felony convictions that are drug related. The Taxpayer Relief Act also establishes a Lifetime Learning Tax Credit equal to 20 percent of the first \$5,000 (increasing to \$10,000 in 2003) for tuition and related expenses. The credit can be used for undergraduate and graduate education as well as education to acquire or improve job skills. Students should consult with a qualified professional for detailed information concerning the Tax Relief Act of 1997.

*For further information, consult the Hope Scholarship website. [www.ed.gov/offices/OPE/PPI/HOPE/](http://www.ed.gov/offices/OPE/PPI/HOPE/)*

*NOTE: Students with little income or tax liability may benefit more from Pell Grant awards than from the Hope Scholarship tax credits.*

# Transfer Information and Credit

## HCC Policy on Transfer

Transfer of academic credit is a public policy issue for several reasons:

- an increase in student mobility,
- the proliferation of distance learning programs and common acceptance of their legitimacy,
- the economics of expending public money twice for the same course, and
- consumer protection from expending private money twice for the same course

HCC analyzes credit accepted for transfer in terms of level, content, quality, comparability, and degree program relevance. Transfer of credit from one institution to another involves at least three considerations:

- the educational quality of the learning experience which the student transfers;
- the comparability of the nature, content, and level of the learning experience to that offered by the receiving institution; and
- the appropriateness and applicability of the learning experience to the programs offered by the receiving institution, in light of the student's educational goals.

## Accreditations Accepted in Transfer

HCC accepts college level credit in transfer from colleges and universities accredited by any of the six regional accreditation bodies: Middle States Association of Colleges and Schools, New England Association of Colleges and Schools, North Central Association of Colleges and Schools, Northwest Commission on Colleges and Universities, Southern Association of Colleges and Schools, and the Western Association of Colleges and Schools.

In addition, HCC accepts college level credit in transfer from colleges and universities by any of the following national accreditation bodies: Association of Biblical Higher Education, Association of Theological Schools in the US and Canada, Accrediting Bureau of Health Education Schools, Accrediting Commission of Career Schools and Colleges of Technology, Accrediting Council for Independent Colleges and Schools, Council on Occupational Education, and Distance Education and Training Council.

## Students Transferring to HCC from other colleges/universities

Transfer students are students who have previous college work and plan to pursue a certificate or degree at HCC. HCC evaluates, accepts, and awards credit for transfer course work, experiential learning, advanced placement, and professional certificates that is consistent with the HCC mission and for which we can ensure that the course work and learning outcomes are at the collegiate level and comparable to HCC certificate and degree programs. Transfer students are required to send official transcripts from each previously attended college or university. Transfer work is evaluated within the first semester of attendance.

## Advanced Standing/Placement Credit

Instructional programs may award credit for specialized educational training or experience. Each program will supply information on the types of supporting documents required to demonstrate how the training and experience meets the program learning outcomes. The appropriate department will evaluate the training or experience. The dean may approve a maximum of 21 semester hours in specific courses related to the training or experience. The student must complete at least 12 semester hours at HCC and must be currently enrolled in the technical program for which the courses are applicable. Advanced-standing credit will become an official part of the student's permanent record once the student has completed HCC coursework. The fee per evaluation is \$25.

## Credit for Military Course Work/Training

Advanced standing credit is awarded for military course work equivalent to courses at HCC. Official military transcripts with ACE evaluations (i.e., AARTS or SMART transcript) should be submitted to the Registrar. These will be forwarded to the appropriate instructional department for final evaluation and recommendations. The fee per evaluation is \$25.

# Transfer Information and Credit

## **Credit by Examination**

HCC awards credit for qualified scores on nationally standardized examinations for the following instruments:

College Board Advanced Placement (AP) Examinations, the College Level Examination Program (CLEP), International Baccalaureate (IB) higher level exams, and the Defense Activity for Non-Traditional Education Support (DANTES) subject exams. A maximum of 24 semester hours credit may be earned through Credit by Exam. Credit earned through these examinations will be recorded by the Registrar only after the student has completed six semester hours at HCC. Official test scores must be sent from the testing agency to the HCC Office of Admissions and Records. Contact the Testing Office for examination schedules and availability of the CLEP. Questions regarding credit received for the above national exams should be directed to the Transfer Office website (<http://sites.hccs.edu/transfers>).

## **Credit by Examination**

Credit by departmental examination may be allowed in career and technology courses for which examinations have been developed and approved by the appropriate career and technology dean. The examinee must have completed six semester hours at HCC and must be currently enrolled in the career and technology program for which the courses are applicable. Students desiring to take examinations for credit should speak to the program chair or the Career and Technology Dean for information, schedules, and arrangements. The fee per examination is \$25.

## **Students Transferring from HCC to other colleges/universities**

- Meet with a counselor/advisor at your community college campus to discuss your academic goals, plans, and questions. Consider completing an associate degree before transferring. Some universities give preferential treatment in admission decisions, if a student transfers after completing his/her associates degree. Research indicates that students who have completed the associate degree perform better after transfer than those who did not complete the associate degree.

- If you need to transfer to another institution before the completion of your HCC associate degree, you may be able to “transfer back” to HCC your college credits from another institution in order to fulfill your associate degree requirements. In most cases, a student can “transfer back” up to 42 college-level semester hours of credit within three years of leaving HCC to complete his/her associate degree requirements. (Note: all graduation requirements must be fulfilled. See HCC catalog for more information.)
- Obtain a transfer plan from your HCC counselor/advisor. A transfer plan lists the university-required courses which can be taken at HCC toward your university bachelor degree major. If you are undecided about your choice of university or your choice of major, see a HCC career counselor for more help.
- Apply for university admission and financial aid early before the university's deadlines. Most universities have application fees. An admission application is not considered complete until all official documents are in and all fees are paid. (Note: applying early for financial aid can have a big impact on the aid you receive.) If housing is needed, application must also be made to the university's Housing Office.
- All academic transcripts and TSI scores/status must be sent to your university of choice by the university's admission deadline. To have your HCC transcript sent to your university, see the HCC Office of Student Records web page on ordering information. Transcripts can be sent electronically or by mail. It is highly recommended that transcripts be sent electronically to expedite processing. (Note: Universities require an academic transcript from every institution attended. HCC cannot send copies of transcripts from other schools. We can only send an academic transcript of HCC course work.)
- Financial Aid transcripts are also required to be sent to your university of choice. Stop by your HCC Financial Aid office to fill out a Financial Aid Transcript Request Form.

# Transfer Information and Credit

## Transfer Dispute Resolution

If a student is informed by a Texas public college or university that it will not accept the transfer of any HCC academic course credit, the student may have a case for a transfer dispute which will ultimately be resolved by the Texas Higher Education Coordinating Board (THECB). Students should be cautioned that workforce course credits may or may not be transferable, depending upon the program and articulation agreements between HCC and the college or university involved. In addition, no institution of higher education shall be required to accept in transfer, or apply toward a degree program, more than sixty-six (66) semester credit hours of lower-division academic credit. Institutions of higher education, however, may choose to accept additional credit hours by agreement. If the student wishes to transfer credit later to work on a bachelor's degree, the student should consult with an HCC program advisor or counselor. Rules and procedures for the resolution of transfer disputes regarding lower-division courses have been formulated by the THECB as follows:

- If an institution of higher education refuses to accept course credit earned by a student at another institution of higher education, the receiving institution shall provide written notice to the student and to the sending institution that transfer of course credit has been denied, along with the reasons for denial. Students may dispute the denial of transfer credit by contacting a designated official at either the sending or receiving institution.
- The two institutions and the student shall attempt to resolve the dispute in accordance with THECB rules and guidelines.
- If the transfer dispute is not resolved to the satisfaction of the student or the sending institution within 45 days of the date the student received written notice of denial, the institution denying the course credit transfer shall notify the Commissioner of Higher Education of the unresolved dispute and the reasons for the continued denial of course credit transfer.
- The Commissioner or a designee shall make the final determination in an unresolved dispute concerning the transfer of course credit and provide written notice of the determination to the involved student and institutions.

## Transfer Limitation

Students who intend to transfer to baccalaureate degree programs should be aware of possible limitations on lower division course work. Universities will generally not accept in transfer more than 66 semester credit hours of lower division academic credit.

# General Academic Information

## Numbering of Courses

A course number has four digits. The first digit identifies the level of the course: “0” indicates a developmental level, “1” indicates freshman level, and “2” indicates sophomore level. The second digit indicates the semester credit hour (SCH) value of the course. The third and fourth digits distinguish the courses within a program area. For example: English 1301 is a freshman level (01), three semester-hour course (3), part one (1). HCC numbering course coincides, with the Texas Common Course Numbering System (TCCNS) for academic transfer courses. All public colleges and universities in Texas either use the TCCNS or crosswalk courses to the TCCNS. For workforce education courses, higher education institutions in Texas utilize the Workforce Education Course Manual (WECM). These common numbering systems help colleges articulate courses and provide students with greater ease of course credit transfer.

## Course Load

A semester credit hour (SCH) student is full-time if the student is enrolled in 12 or more semester hours and part time if enrolled in fewer than 12 hours. Half-time is six hours. To be considered full-time during the summer, a student must enroll in both summer terms or the ten-week session for a total of nine or more semester hours. A student is considered part-time if enrolled in only one summer session or for less than nine hours. During the fall and spring terms, students wishing to enroll in more than 18 credit hours must have special approval by a counselor. During each short summer session, students may schedule a maximum of seven semester hours or two academic courses. Students taking a long summer session only (10 or 11 weeks) or a combined long session and a six- or five-week session may schedule no more than 13 semester hours or four academic courses for the summer. During mini sessions, students are limited to one course. Academic and Workforce Deans may approve an override for those students who have demonstrated exceptional academic ability. The Physical Education (PHED) Department limits enrollment in the number of physical activity classes per semester to two classes. Generally, a student in academic courses needs two hours of preparation outside of class for each hour of classroom instruction. Consequently, a student who is employed while attending college should consider the total demands on time from work, classes, and activities when deciding on a course load. Students who overload themselves may have scholastic difficulties.

## Instructional Formats at HCC

### Traditional

All instruction is carried out in the classroom or lab as appropriate, via face-to-face instruction.

### Learning Communities

Research has demonstrated that students learn more and persist at greater rates when they participate in Learning Communities. A Learning Community is one in which two or more classes are offered in combination, with the same students enrolling in the same courses and the faculty working together to align learning outcomes and activities. For a current list of Learning Communities at your campus, please ask at the Counseling/Advising Office or consult the HCC Class Schedule.

### Service Learning

Service learning combines community service with academic instruction to provide students an opportunity to apply what they have learned while positively impacting the community. Students participate in a service learning experience within a participating community agency. Following completion of the service learning component of the course, students reflect upon their experience. There will be a service learning notation on the transcript for the course in which a student has completed a minimum of fifteen (15) hours of service.

### Hybrid

Hybrid courses meet half the time in a traditional face-to-face classroom environment and deliver the remainder of the course presentation, interaction, activities, and exercises through various electronic means (online, Eagle Online, podcasts, online video and audio formats, and new technologies as they become available). Instructors and students should be prepared to spend as much time engaged in course activities as in a traditional class, even though they will not be physically present in the classroom for all of it. In addition, the electronic and face-to-face portions of hybrid classes will be apportioned weekly so that every week during the semester the students will have 50% face-to-face instruction and 50% electronic instruction.

### Distance Education

#### HCC Distance Education Department

Houston Community College offers a variety of degrees and certificates via distance education as well as individual online courses. HCC Distance Education (DE) has removed

# General Academic Information

the barriers of location and time, making a college education accessible and affordable for every student at any age.

## What is Distance Education (DE)?

Distance Education courses offer one to four semester hours of credit and are equivalent to on-campus courses in terms of transferability (no distinction is made on college transcripts). Courses take place via the Internet, through a learning management system called Eagle Online. Although there are no special requirements for these courses, an extra amount of motivation, self-discipline, and computer access and proficiency are required. For more information about DE offerings and services, visit [de.hccs.edu](http://de.hccs.edu).

## Who are the DE Instructors?

HCC faculty develop and teach each course. They communicate on a regular basis with students online, providing personalized attention.

## How is Testing Managed?

Testing is conducted either online or on campus, depending on the course. Convenient times and locations are provided. Testing services are also provided for students out of the HCC service area.

## What Degrees are Available Through HCC Distance Education?

- Associate in Arts (AA) Degree
- Associate in Science (AS) Degree
- Core Curriculum Certificate
- Associate in Applied Science (AAS) Degree and Certificates with specializations in:
  - Real Estate
  - Accounting

New DE courses are continually being developed. Cooperative education courses contain special requirements. Contact the Distance Education counselors/advisors for information regarding specific program availability and degree planning.

## Class Meetings and Attendance

Prior to class beginning, all DE students are required to complete an orientation session, nearly all which are online. In the orientation, you'll receive a course syllabus with information on textbooks and other important course information. Exam reviews are also held by many DE faculty. Students are expected to log in to DE course(s) and participate on a frequent and continual basis..

## How Much Do Distance Education Courses Cost?

They cost the same as on-campus courses, with the addition of a \$32 fee.

## How Do I Get Started?

DE counselors/advisors are on staff to assist students. Fill out the AskDECounseling Online Help Form for assistance with any DE advisement and counseling related questions or concerns.

## Departments currently providing Distance Education Courses include:

Accounting	Geology
Anthropology	Government
Art	Guided Studies
Biology	History
Biotechnology	Human Services
Business Administration	Humanities
Business Technology	Interior Design
Chemical Laboratory Tech.	Marketing
Chemistry	Mathematics
Child Development	Mathematics, Developmental
Computer Science Tech.	Music
Criminal Justice	Philosophy
Dance	Physical Ed. and Health
Digital Communication	Physics
Economics	Process Technology
English	Psychology
English, Developmental	Real Estate
Environmental Pollution	Safety and Environmental
Fashion Design	Technology
Fashion Merchandising	Sociology
Fire Protection Technology	Spanish
French	Teacher Education
Geography	

*HCC Distance Education Department*

*[de.hccs.edu](http://de.hccs.edu) 713-718-5275*

*AskDECounseling Online Help Form:*

*<http://de-counseling.hccs.edu/StudentSignIn/>*

# General Academic Information

## Flex - Entry Courses

Flex-entry courses are semester hour courses offered at dates other than the regular term. They begin after the Official Date of Record for the term and may be held for varying numbers of weeks, but total instructional hours are the same as those in regular terms. Grades earned in flex-entry courses become part of the cumulative GPA.

## Class Attendance

Students are expected to attend classes regularly. Students are responsible for material covered during their absences, and it is the student's responsibility to consult with instructors for makeup assignments. Class attendance is checked daily by instructors. Although it is the responsibility of the student to drop a course for non-attendance, the instructor has the authority to drop a student for excessive absences. A student may be dropped from a course for absenteeism after the student has accumulated absences in excess of 12.5 percent of the hours of instruction (including lecture and laboratory time). For example:

- For a three credit-hour lecture class meeting three hours per week (48 hours of instruction), a student may be dropped after six hours of absences.
- For a four credit-hour lecture/lab course meeting six hours per week (96 hours of instruction), a student may be dropped after 12 hours of absences. Certain departments or programs may be governed by accrediting or certification standards that require more stringent attendance policies.

*NOTE: IT IS THE RESPONSIBILITY OF THE STUDENT TO WITHDRAW OFFICIALLY FROM A COURSE.*

Administrative drops are at the discretion of the instructor. Failure of a student to withdraw officially could result in the student receiving a grade of "F" in the course. For the deadline for course withdrawal, check the current course Schedule.

## Religious Holidays

A student who is absent from classes for the observance of a religious holiday may take an examination or complete an assignment scheduled for that day within a reasonable amount of time after the absence. The student must notify the instructor in writing at least two weeks prior to the anticipated absence. A "religious holiday" is a holiday observed by a religion whose place of worship is exempt from property taxation under Section 11.20, Tax Code.

## Requirement of English Competence

Any student who, in the determination of the instructor and counselor/advisor, cannot be expected to benefit from a class because of the student's limited command of the English language will be advised to withdraw from the class. The student will be advised to enroll in Academic English-as-a- Second-Language (AESL) courses (ENGL 0340-0349), Intensive English, Developmental English, or the free Adult Basic Education ESL Program.

## Semester Credit Hours (SCH)

Academic credit is expressed in semester credit hours (SCH). Generally, one class lecture hour per week for the semester earns one SCH. A class meeting three lecture hours a week, therefore, has three SCH. Two to four hours of laboratory work per week for a 16-week semester are equivalent to one SCH.

## Continuing Education Unit Credit (CEU)

Continuing Education Units (CEU) measure completion of segments in non-credit programs. One CEU represents 10 contact hours of participation. These units are not substitutes for college credits but a means of reporting continuing education activities. HCC, as an institution accredited by the Southern Association of Colleges and Schools, will award and note on a student's transcript CEUs for all workforce-related Continuing Education courses. Many professional associations and industries require and recognize CEUs as an indication of an individual's professional growth and development. CEU courses completed at HCC may be eligible to have those courses applied as semester hour credit upon approval of the Career and Technical Education Dean. The student must complete at least 12 semester hours at HCC and must be currently enrolled in the workforce program for which the courses are applicable. Applied credit will become a part of the student's permanent record only after the student meets all other institutional and program requirements. The fee for CEU conversion is \$25.

# General Academic Information

## HCC Grading System

HCC uses the following grading system:

A (90-100/Excellent).....	4 points per semester hour
B (80-89/Good).....	3 points per semester hour
C (70-79/Fair).....	2 points per semester hour
D (60-69/Passing*).....	1 point per semester hour
F (Failing).....	0 points per semester hour
FX (Failure due to non-attendance)	0 points per semester hour
IP (In Progress).....	0 points per semester hour
W (Withdrawn).....	0 points per semester hour
I (Incomplete).....	0 points per semester hour
AUD (Audit).....	0 points per semester hour

IP (In Progress) is given only in certain developmental courses. The student must re-enroll to receive credit.  
COM (Completed) is given in non-credit and continuing education courses.

To compute grade point average (GPA), divide the total grade points by the total number of semester hours attempted. The grades "IP," "COM," and "I" do not affect the GPA.

*\*A grade of "D" is not a passing grade in developmental courses.*

### Incompletes

The grade of "I" (Incomplete) is conditional. A student receiving an "I" must arrange with the instructor to complete the course work within six months of the end of the incomplete term. After the deadline, the "I" becomes an "F." Upon completion of the coursework, the grade will be entered as I/grade on the student transcript. All "I"s must be changed to grades prior to graduation.

### Health Sciences Grading System

See the Health Sciences section for those programs' grading system.

### Non - Credit Audit

During the first week of classes, an individual may register to audit most academic courses in the Humanities, Mathematics/Natural Sciences or Social Sciences program areas. The audit provides the usual learning opportunities without the course requirements such as attendance, written work, and tests. An audit cannot be changed to credit or credit to audit after the close of the Add/Drop period. Audit courses will be noted on the student's permanent record

as "Audit". Students receiving financial aid, Social Security, or veterans benefits may not be eligible for benefits for audit courses. Computer Science Technology courses, Commercial Music, Physical Education, private instruction, and all other workforce courses may not be audited.

### Grade Changes/Student Appeals

Questions regarding errors in grades should be directed to the Admissions and Records Office. Clerical errors will be corrected immediately by the Admissions and Records Office. Other grade changes must be initiated by the instructor through the appropriate academic dean. A change of grade request must be received within one year after the grade was issued to ensure any necessary corrections. (See [www.hccs.edu/students](http://www.hccs.edu/students), Student Course Grade Appeal Procedure.) A \$20 research fee will be charged for any request made after one year.

### General Instructional Complaints

Whenever a student has a complaint about an instructor or instructional issues, the students should first seek to resolve the issue by making an appointment with the instructor. If the student feels that the issue has still not be addressed, the student should make an appointment to talk with the Department Chair who serves as the Instructor's direct supervisor. For more information, please consult the HCC Student Handbook, available online at: [www.hccs.edu](http://www.hccs.edu).

### General Continuing Education Complaints

When a student wishes to file a complaint related to a continuing education matter, the student should first discuss concerns with the faculty member. If the student is still dissatisfied he/she may appeal to the Program Director of the content area.

### General Student Services Complaints

When a student wishes to file a complaint related to a student services matter, the student should bring the issue to the attention of the department manager. If after having spoken with the department manager a resolution is not reached to the student's satisfaction, the student may present the issue to the dean of student services. The dean's decision is final. Complaints must be made within the semester in which the issue arose.

*For more information, please consult the HCC Student Handbook, available online at: [www.hccs.edu](http://www.hccs.edu)*



# General Academic Information

## Repetition of Courses

If a student repeats a course in which a grade (A-F) has been received, the highest grade received is the permanent grade for the course and will be used in computing the grade point average. All grades earned in a given course will be entered on the transcript. Other colleges may compute the GPA differently than HCC.

## Honors

Each fall and spring semester, full-time students who complete 12 or more semester hours with a grade point average of 3.5 or better are named to the Dean's List. Students with 12 or more semester hours with a grade point average of 3.0 to 3.49 will be included on the Honor List. A student eligible for a Dean's List certificate should contact the Dean of Student Development Office.

Students who complete 12 or more semester hours with a GPA of 3.5 or better are eligible to join Phi Theta Kappa, the national honor society of American two-year colleges. Initiation into the society is held each October and March. Further information regarding Phi Theta Kappa may be obtained through the office of the Dean of Student Development.

HCC also operates an Honors Program at each of the HCC colleges. Students may choose to join the HCC Honors Program or may elect to take individual course sections for Honors credit. For more information, see your college Honors Director listed in the HCC Course Schedule or refer to the Honors Program Web site.

The HCC Honors College is located at Central College. It offers high achieving students the opportunity for enriched instruction, leadership development, and the opportunity for study/travel abroad. The program is designed for full-time students beginning their college experience or with limited HCC credit hours (under 15). Qualified students can receive scholarships and textbook assistance. Students must have a 3.7 high school GPA or 3.5 HCC GPA and college-ready scores on TAKS, SAT or COMPASS. For more information, contact the Honors College Dean at 713.718.6081

## Requirements for Academic Progress

A student's academic progress will be evaluated for the first time after a minimum of nine attempted semester hours. Each status is defined with the required action.

Status	Definition	Action Required
Good Standing	Cumulative GPA of 2.0 or above	None
Probation	Cumulative GPA below 2.0	Must see counselor to register
Continued Probation	Cumulative GPA below 2.0 and term 2.0 or above	Must see counselor to register
Suspension	Previous term status of probation or continued probation and term GPA falls below 2.0	Must have academic dean's approval to enroll. Dean may stipulate conditions for enrollment including, but not limited to, maximum hours and/or specific courses

Students enrolled in multiple summer sessions will have their entire summer's work evaluated for determination of their academic status.

Students in certain Health Sciences programs are required to maintain a grade of "C" in all courses in order to continue in the program. Students not meeting these standards may continue to enroll at HCC in other programs as long as they maintain minimum HCC requirements.

Students are responsible for knowing whether they have passed the minimum standards for continuation in college. Ineligible students who register will be subject to dismissal with forfeiture of all tuition and fees.

# General Academic Information

## Requirements of Satisfactory Progress For Veterans

In order to be eligible for continued veterans benefits, a veteran who is placed on academic probation must attain a cumulative GPA of 2.0 for two consecutive semesters (full time) or 24 semester hours (part-time). The student may continue to enroll at HCC while on academic probation, if all other conditions for enrollment are met; however, the Veterans Administration will be notified that the student is not meeting satisfactory progress requirements.

## Requirements of Satisfactory Progress for Financial Aid Students

Financial aid students must meet the following satisfactory progress requirements:

- Must maintain a term GPA of 2.0
- Must complete at least 67% percent of attempted courses for the academic year
- Must enroll in courses leading to an HCC degree or certificate

Students who do not maintain the standards listed above will be ineligible to receive financial aid. A student may appeal a suspension of financial aid by submitting a written request to the college Financial Aid Office. A detailed description of the financial aid standards of progress requirement is available in the college Financial Aid Office.

## Grade Reports

Grades are available online within one week of the end of the course.

## Transcripts of College Work

A transcript of college credits is an official copy of the student's permanent record bearing the HCC seal and the signature of the Registrar. Students may request a transcript at [www.hccs.edu/transcript](http://www.hccs.edu/transcript). Requests may also be made at any HCC campus. It is highly recommended that transcripts be sent electronically to colleges and universities to expedite processing. There is a charge for transcript processing. All admissions information must be on file and all holds cleared before a student's record will be released. A student should allow a week for delivery following the transcript request. Additional time should be allowed at the close of a semester. Students should request transcripts of work completed at another institution from that institution.

## Graduation Information

### Application for Graduation

Prior to graduation, students must have official transcripts of credits transferred from other institutions sent to the Office of Admissions and Records. A candidate for any degree or certificate must meet the graduation requirements in the catalog for the year of initial enrollment unless the student elects to graduate under the requirements of a more recent catalog. The candidate must indicate the catalog of choice when filing for graduation. A student who does not enroll at HCC for a period of more than one calendar year is required to graduate under the catalog requirement for the year of readmission.

To be considered as a candidate for the AA degree, AS degree, AAT degree, AAS degree, or Certificate of Completion, a student must submit a formal application for graduation at the time of registration for the final semester or not later than the graduation application deadline. There is a \$10 fee for those students requesting a printed diploma. If the student is not approved for graduation during the semester or instructional period in which the application is filed, HCC will retain the diploma fee for one year and apply it when approval for graduation is granted.

Students who are unable to complete their degree plan on file at HCC may transfer up to 42 semester hours of equivalent courses from an accredited institution. These courses must be completed within three years of their last semester of enrollment at HCC. However, all other graduation requirements must be satisfied, including the residency requirement that 18 semester hours of a student's degree must be completed at HCC.

### Priority Application Deadlines:

- Fall - October 15
- Spring - February 15
- Summer - June 15

A candidate for a degree or certificate is not required to purchase a diploma. A student may request their records be reviewed at the conclusion of their course work so the appropriate degree or certificate will be recorded on the student's transcript.

# General Academic Information

## Graduation Honors

Graduation honors will be awarded to students pursuing an associates with superior cumulative GPAs. The following classifications of honors will be recognized on the student's transcript and diploma:

<b>Highest Honors</b>	<b>GPA 3.80 or above</b>
<b>High Honors</b>	<b>GPA 3.60 to 3.79</b>
<b>Honors</b>	<b>GPA 3.35 to 3.59</b>

HCC will use the following guidelines to compute honors eligibility:

- The student must complete at least 18 semester credit hours at HCC.
- The student must complete requirements for the AA, AS, AAT or AAS degree.
- The grades in all HCC courses will figure in the cumulative GPA (developmental courses are excluded from the degree GPA).
- Courses taken through the preceding fall semester will be used in computing the GPA for the ceremony. The student must have completed 75 percent of the course work for the degree at that time.

## Participation in the Graduation Exercises

HCC holds one student graduation ceremony each year in May. Candidates for degrees and certificates are encouraged to attend the graduation ceremonies. Students who completed course requirements the previous December, or who plan to complete course requirements the following August, may participate in the May ceremony.

# Library and Learning Resources

## HCC Libraries

The library system consists of 11 libraries and 2 electronic resource centers (ERCs). Librarians are available to show you how to use the library and help you locate the resources you need. The HCC Library System maintains a large database of electronic resources as well as collections of books, magazines, newspapers, and audiovisual materials covering a wide variety of subjects. A complete description of the resources and library services is found in the online and print versions of the HCC Student Handbook. The portal to the libraries' online resources and services is the HCCS library web page at <http://library.hccs.edu>.

### How Do I Find What I Want?

The library system's online catalog is available in all campus libraries and ERCs and is accessible from many remote sites, including your home computers. This offers an easy to use, up-to-date source for finding books at HCC and other libraries as well as access to HCC's extensive list of full-text electronic resources and to the Internet.

### What If It Isn't At My Campus?

Books at every HCC Campus library can be requested by students and will be delivered to any other campus library. When you find a book you want, simply click on the "Request" button and follow the easy to read instructions. Periodical and newspaper articles are available through the extensive list of electronic subscriptions maintained by HCC. You can access these databases from any HCC Computer or from your home or work computer, if you have Internet access. You will need an HCC Library card number to access the databases from non-HCC Computers. If you don't have an I.D. card or library card, go to the libraries' catalog and click on "Get My Barcode" at <http://librus.hccs.edu>.

### How Do I Check Out What I Need?

Use your HCC I.D. or get an HCC library card to checkout materials from any HCC library or to access electronic resources from your home computer. Your HCC I.D. will allow you to check out materials at any HCC Library. If you don't have an HCC I.D., you can request an HCC library card at any library or go to <http://library.hccs.edu> and click on "Get My Barcode." You will need to present a picture I.D. and proof of registration. Either card will allow you to check out materials and give you access to all of the libraries' electronic resources. Present your student I.D. card with the books you wish to borrow at the check-out desk. A book

can be checked out for two weeks. You can renew it twice by telephone or the library website. Use of periodicals and audiovisual materials is limited to your college library.

### Overdue Books

The card inside your books shows when it is to be returned. If you fail to return it, a "hold" status is reported and reflected on your student record and will affect your ability to register for additional courses or obtain a transcript. Also, you will be blocked from further borrowing until the materials due are returned to the library.

### What About Other Libraries?

Your HCC library card, along with a TexShare library card that you can obtain from any HCC library site, enables you to check out materials from any other TexShare member library. This TexShare list includes most state-supported libraries, including all campuses of the University of Houston System and other community colleges in the Gulf Coast area. If you have questions, your campus librarian can direct you to other TexShare Libraries in the area. Remember, you will be subject to the loan rules of each individual institution—both as to the number of items you may check out and how long you may keep them out. You will also be responsible for returning the books to the lending library and for any overdue fines or lost book fees that particular library may charge.

## Tutorial Assistance

All HCC Colleges provide free tutorial assistance to students, particularly in regard to reading, writing, and math assistance. Please check in the Counseling Office or check the information on the HCC Web site under Current Students for current information about live as well as on-line tutoring opportunities.

# Student Services

## Academic Advising

Academic advising entails assisting students with their academic planning from a prospective student through graduation. Advisors assist students with the interpretation of policies and procedures and teach students how to take ownership of their education by accessing college resources and support services. For general information, you may visit your College Counseling/Advising Office. HCC requires that new students take a Student Success Course in their first semester to help them determine their major and plan their degree path. Once you have selected your “major,” instructors who teach the courses in that field (e.g., accounting, computer science, history, etc.) will be your best academic advisors. If you plan to transfer to complete a baccalaureate degree, it is important to determine your major and your transfer institution as soon as possible, because different universities may have different requirements. For more specific information, visit the Transfer Office web site on [www.hccs.edu](http://www.hccs.edu).

## Student Information Services

Student Information Services provides online information and service to future, current and returning Houston Community College students. Students may email inquiries online to [student.info@hccs.edu](mailto:student.info@hccs.edu) or chat live with knowledgeable associates regarding registration, admissions, academic and student services. Information, answers to frequently asked questions, and a video library can be found 24 hours a day, 7 days a week at <http://www.hccs.edu/hccs/current-students/student-information-services>.

## Alumni Association

The HCC Alumni Association was organized to advance the growth and development of the college; promote the personal, educational, and professional development of alumni; and establish and maintain a scholarship fund for individuals who would not otherwise be able to pursue a college education. Membership is offered to all who have successfully completed any course at HCC as well as to outstanding persons who possess the principles and ideals of the Association.

## Child Care

HCC-Central offers childcare for all HCC full- and part-time students at the HCC Child and Family Center. The center serves children 6 weeks - 5 years of age, Monday thru Friday, 7:00 am - 5:30 pm. Childcare staff follow the guidelines of developmentally appropriate practice. This Texas licensed center is accredited by the National Association of the Education for Young Children. Call 713.718.KIDS or visit 3214 Austin Street for enrollment.

Childcare assistance information is also available from the Counseling/Advising Dept. at each college or call:

Coleman College for Health Sciences.....	713.718.7348
Northeast.....	713.718.8066
Northwest.....	713.718.5698
Southeast.....	713.718.7079
Southwest.....	713.718.8618

## Cooperative Education

Cooperative Education gives students the opportunity to integrate their classroom study with practical experience by working full- or part-time in a field related to their career goals.

*For more information, please contact the Counseling/Advising Office.*

## Counseling

HCC maintains a staff of professional counselors to assist students. Specific counseling services are detailed in the HCC Student Handbook.

## Disability Support Services

Houston Community College does not discriminate on the basis of disability in the recruitment and admission of students or the operation of any of its programs and activities. The designated officer for compliance with the Americans with Disabilities Act (ADA) and Section 504 of the Rehabilitation Act of 1973 is the System's Affirmative Action/ Compliance officer, 713.718.8606. The college System will make its campuses and programs, when viewed in their entirety, accessible to individuals with disabilities. Where it is impractical to modify a specific area to make it accessible, the College System will provide an accessible alternative.

# Student Services

The Disabilities Support Services (DSS) Offices assist students with documented physical, learning or emotional disabilities in developing independence and self-reliance. Services include adaptive equipment and reasonable accommodation for admissions assistance, testing, academic advising and registration, and classroom instruction. All services are determined on a case-by case basis.

Contact a DSS counselor at the college you plan to attend. DSS counselors for each of the six colleges may be reached at the following numbers:

Central College.....	713.718.6164
Video Phone .....	832.413.6941
Coleman College for Health Sciences.....	713.718.7631
Northeast College.....	713.718.8420
Northwest College.....	713.718.5422
Southeast College.....	713.718.7218
Southwest College.....	713.718.7910
Interpreter Services.....	713.718.6333

## **Admissions Assistance for Students with Disabilities**

The Disability Support Services Office assists students with documented physical, learning, or emotional disabilities in developing independence and self-reliance. Services include adaptive equipment and reasonable accommodations for admissions assistance, testing, academic advising, registration, and classroom instruction. Interpreting service is provided for students who are deaf/ hard of hearing, and assisting technology devices are provided on a case-by-case basis. Students should request interpreting services as soon as possible or no less than 30 days prior to each academic semester they plan to attend HCC. The Disability Services Office cannot guarantee that services will be in place if insufficient student notice is provided.

Houston Community College is committed to compliance with the Americans with Disabilities Act (ADA) and the Rehabilitation Act of 1973 (Section 504). Students with special needs or disabilities, which may affect their ability to succeed in college classes or participate in college programs/activities, should contact the Disabilities Support Services (DSS) Counselor located at each college.

## **Testing Accommodations for Students with Disabilities**

Testing accommodations are available to students who are unable to take a placement test under standard conditions because of a verified disability. The student must request the accommodations by contacting a DSS counselor and providing documentation supporting a qualifying disability. Academic accommodations are provided only after a student has properly registered for services through a DSS counselor. The counselor must be contacted a minimum of 10 working days prior to testing. It is recommended that the student start this process at least 30 days in advance of registration dates. If the student is requesting special accommodations for the regular THEA test, he/she must contact the test company Pearson Education Inc. Refer to the THEA registration bulletin. The following guidelines must be followed to receive testing and academic accommodations:

- The student contacts the DSS counselor at his/her college and makes an appointment.
- The DSS counselor informs the student what documentation to bring to the intake meeting on the appointment date.
- The DSS counselor advises the student whether the disability is a qualifying disability under the ADA.
- If it is, the DSS counselor reviews the documented information the student has presented and makes an evaluation as to the proper accommodations.
- The DSS counselor gives the individualized Request for Reasonable Accommodations letter to the student. It is the student's responsibility to present the letter to the Testing Officer; however, the DSS counselor will notify the Testing Office in advance if the student requires specialized equipment, and/or additional personnel are needed to administer the test.
- The student contacts the Testing Office, arrangements are made, and the test is scheduled.
- The student has the option to accept or reject the approved accommodations.
- Once the student has tested, he/she may continue through the registration process.
- The DSS Office will retain a copy of the accommodations letter in the student's folder; the Testing Office also will retain a copy of the letter.

# Student Services

## Health Services

As a commuter institution, HCC does not operate a Student Health Center; however, HCC is concerned about the health and welfare of its students and provides important health information to students. The Student Handbook provides a description of health services.

### Health Insurance

For information about purchase of student health insurance, <http://www.hccs.edu/hccs/current-students/student-health-insurance>

### Important Information About Bacterial Meningitis

This information is being provided to all new college students in the state of Texas. Bacterial meningitis is a serious, potentially deadly disease that can progress extremely fast – so take utmost caution. It is an inflammation of the membranes that surround the brain and spinal cord. The bacteria that cause meningitis can also infect the blood. This disease strikes about 3,000 Americans each year, including 100-125 on college campuses, leading to 5-15 deaths among college students every year. There is a treatment, but those who survive may develop severe health problems or disabilities.

### Meningococcal (Bacterial Meningitis) Vaccine Requirement for All HCC Students Entering in January 2012 and Thereafter

Texas Senate Bill 1107, passed in May 2011, requires all students entering a public, private, or independent institution of higher education in Texas as of January 2012 and thereafter to provide documentation that they have had a meningococcal (bacterial meningitis) vaccine or "booster" dose - within five years of the first class day of the semester they will enter that institution and no later than 10 days before the first day of classes in that same semester.

Unless exempted as noted below, entering students must comply with this requirement.

- All first-time students of an institution of higher education or private or independent institution of higher education. This includes dual enrollment students regardless of where or how they are taking classes for credit from HCC.

- All students who are transferring from any institution of higher education to HCC.
- All students who previously attended an institution of higher education, including HCC, and who are enrolling or re-enrolling in HCC following a break in enrollment of at least one fall or spring semester.

### You are EXEMPT from this requirement if:

- You will be age 30 or older on the first day of classes of the semester in which you are enrolling at HCC.
- You will be enrolled only in online or distance education courses. This exemption does not apply to dual enrollment students regardless of where or how they are taking classes for credit from HCC.
- You cannot take the vaccine because of medical reasons. - To prevent your registration for classes from being affected, you must submit specific, acceptable documentation, to substantiate this reason.
- You decline the vaccine due to reasons of conscience, including a religious belief. - To prevent your registration from classes being affected, you must submit a completed, notarized Texas Department of State Health Services (TDSHS) Vaccine Exemption Affidavit Form. BE AWARE: This process takes a significant amount of time, so begin well in advance of your intended registration date.

### What are the symptoms?

High fever, rash or purple patches on skin, light sensitivity, confusion and sleepiness, lethargy, severe headache, vomiting, stiff neck, nausea, and seizures. There may be a rash of tiny, red-purple spots caused by bleeding under the skin, which can appear anywhere on the body. The more symptoms, the higher the risk. If these symptoms appear, seek immediate medical attention.

### How is bacterial meningitis diagnosed?

Diagnosis is made by a medical provider and is usually based on a combination of clinical symptoms and laboratory results from spinal fluid and blood tests. Early diagnosis and treatment can greatly improve the likelihood of recovery.

### How is the disease transmitted?

The disease is transmitted when people exchange saliva (by kissing or sharing drinking containers, utensils, cigarettes, toothbrushes, etc.) or come in contact with respiratory or throat secretions.

# Student Services

## **How do you increase your risk of getting bacterial meningitis?**

- Exposure to saliva by sharing cigarettes, water bottles, eating utensils, food, kissing, etc.
- Living in close conditions such as a room/suite, dorm or group home.

## **What are the possible consequences of the disease?**

Death (in 8 to 24 hours from perfectly well to dead), permanent brain damage, kidney failure, learning disability, hearing loss, blindness, limb damage (fingers, toes, arms, legs) that requires amputation, gangrene, coma, and convulsions.

## **Can the disease be treated?**

- Antibiotic treatment, if received early, can save lives and chances of recovery are increased. However, permanent disability or death can still occur.
- Vaccinations are available and should be considered for those living in close quarters and college students 25 years of age or younger.
- Vaccinations are effective against 4 of the 5 most common bacterial types that cause 70% of the disease in the U.S. (but does not protect against all types of meningitis).
- Vaccinations take 7-10 days to become effective, with protection lasting 3-5 years.
- The cost of the vaccine varies, so check with your health care provider.
- Vaccination is very safe; the most common side effects are redness and minor pain at injection site for up to two days.
- Vaccination is available at City of Houston health clinics.

*For more information, contact your own health care provider or your local or regional Texas Department of Health Office at 713.767.3000, or go to the following Web sites.  
<http://www.cdc.gov/ncidod/dbmd/diseaseinfo>; [www.acha.org](http://www.acha.org)*

## **Student Identification Card**

Student identification (ID) cards are available once a student has registered and paid for classes. The card will be needed for library and computer lab usage, admission to college activities, and voting in campus elections. ID cards are nontransferable and are to be held only by the students to whom they were issued. Students are required to be in possession of their ID card at all times. All ID cards are the property of HCC and must be shown when requested by a representative of the College District. If students lose their ID cards, they should report it to the police by calling 713.718.8888 as soon as it is discovered as missing. To obtain a replacement initiate the process at the college campus you attend. A nominal fee will be charged for the replacement of lost ID cards.

## **International Initiatives**

Modern global communication, transportation, and commerce have shaped a new interdependent world-wide economy. Education and training institutions must develop students capable of competing in an international workforce. The Office of International Initiatives coordinates and supports a variety of international programs for students and faculty and collaborates with foreign institutions abroad through partnerships.

### **Training Programs:**

- Training courses developed by college instructional programs teach participants specific occupational skills. They may be taught in a participant's first language or in conjunction with the English-as-a-Second-Language program.
- Language Programs: Second-language programs developed for concentrated total immersion in a foreign language.

### **Career Area:**

- Overview of business/industry and education serving that profession in the host country.
- Study Abroad Programs: Traditional higher education in regular school classes abroad.
- Cooperative Education Exchange: Students are placed in paying jobs related to their career area and attend scheduled college co-op classes in the host country.



# Student Services

- Cultural Exchange: Faculty/student groups participate in program activities that provide general knowledge concerning family life, culture, economy, working conditions, and education in the host country.

Interested students should contact the Office of International Initiatives at 3100 Main, 713.718.5058.

## Career Planning and Resources

The Student Job Placement Office assists current and former students in finding full-time, part time, and cooperative education employment. Students can also build resumes and search for employment opportunities online at jobs.hccs.edu. Workshops are provided for those making career choices and developing job search skills. Specific services are outlined in the HCC Student Handbook.

## Student Life and Recreational/Sports

The Student Development Office offers activities and programs that extend students' personal and intellectual growth. Some of the activities include: student government; student associations; clubs and organizations relating to student interests; honor societies; student publications (The Egalitarian and organization newsletters); recreational sports; and cultural, social, and educational activities.

## Testing

HCC Testing Centers and counselors use a variety of tests to assist students in determining special abilities, aptitudes, study habits, values, career interests, and personality traits. Testing Centers in each college within the District offer COMPASS, ASSET, CELSA, TABE and GED tests according to established schedules. Please contact the Test Center that you plan on going to for times, schedule, and assessments offered at that location. The complete description of testing services is in the HCC Student Handbook.

## Veterans

The District Office of Veteran Affairs offers services for veterans requesting educational benefits while enrolled in HCC. To apply for veterans' benefits, call the Veterans Call Center at 713-718-8522. Eligible veterans or dependents include:

- Chapter 30 Veterans who entered the military after July 1, 1985 and contributed to the educational program.
- Chapter 1606 (Selected Reserves) Reservists who entered the Selected Reserves after July 1, 1985.
- Chapter 31 Veterans who have a service connected disability which creates an employment problem.
- Chapter 35 (Dependents) Spouses or children of deceased or service-connected disabled veterans (100 percent).
- Chapter 33 (Post 9/11 GI Bill) Veterans who served on active duty after 9/10/01 for an aggregate of at least 90 days or at least 30 continuous days and received a disability discharge.
- HAZLEWOOD ACT Veterans who entered the service from Texas and have exhausted their veteran benefits and wish to continue college work cannot be in default of a student loan.

## Activated Reservists

An HCC student who is attending classes and is called to active duty during a semester may elect to do one of the following:

- Receive a refund of the tuition and fees paid for the semester from which the student withdraws.
- Receive an incomplete grade in all courses by designating "withdrawn" on the transcript.
- Request instructor to assign an appropriate final grade or credit if the student has satisfactorily completed a substantial amount of course work and demonstrated sufficient mastery of the course material.

# HCC Guarantee of Educational Excellence

The Houston Community College District is committed to excellence in education. As an expression of this commitment, HCC guarantees its graduates both transfer credit and entry-level job skills. Such guarantee is a statement of confidence in the administration, faculty, and staff as well as a commitment to our educational mission to empower students so they may achieve their highest potential.

This guarantee is expressly subject to and limited to special conditions identified in the following sections on job competency and transfer credit. The HCC obligation under this guarantee is limited to providing additional courses under the conditions prescribed in these sections.

## Transfer Credit

HCC guarantees to those students earning the Associate in Arts, Associate of Arts in Teaching and the Associate in Science degrees that their required courses will transfer to all public-supported Texas colleges and universities. If these courses are rejected by the senior institution of the student's choice, HCC will offer the student an alternate tuition-free course that will transfer.

Transferability means the acceptance of HCC credit toward a specific major and degree at a specific institution, as defined by the student's transfer/degree plan. However, no institution of higher education shall be required to accept in transfer, or apply toward a degree program, more than sixty-six (66) semester credit hours of lower-division academic credit. Institutions of higher education, may choose to accept additional credit hours by agreement. The transfer guarantee of academic courses is subject to the following conditions:

- The student must file a written transfer/degree plan by the time he/she has completed 12 semester hours or the equivalent at HCC. The transfer/degree plan must include the following: (a) the specific institution to which the student plans to transfer, (b) the bachelor's degree and major the student plans to pursue, and (c) the date such decision was made.
- Courses must be identified by the receiving institutions as transferable and applicable toward a specific major. The receiving institution determines the following:
  - Total number of credits accepted for transfer
  - Grades required

- Relevant grade point average
- Duration of transferability
- Required courses must have been taken at HCC no earlier than three years before the attempt to transfer.

If the above terms and conditions have been met and courses are not accepted by a receiving institution in transfer, the following terms and conditions are applicable:

- The student must submit to HCC a Notice of Transfer Credit Denial from the receiving institution (within 10 days of denial) so the resolution process may begin.
- If transfer credit denial is not resolved, tuition-free transfer courses (semester hour for semester hour) must be taken within a one-year period.
- Although courses are tuition-free, students will be responsible for any fees or course-related expenses, other than the course-required books that HCC is responsible for providing at no cost to the student.

# HCC Guarantee of Educational Excellence

## Job Competency Guarantee

HCC guarantees that graduates earning workforce certificates or degrees will possess the job skills required for entry-level employment in the occupational field for which they have been trained. (This guarantee does not imply the graduate will pass any licensing or qualifying examination for a particular career.)

Any HCC workforce program certificate or degree graduate whom the employer determines is lacking in the technical or general educational skills necessary for entry to the position shall be provided up to nine tuition-free credit hours. A program of instruction must be designed to meet specific occupational competencies identified in technical courses which are competency-based and emphasize the acquisition of the skills necessary for immediate employment and/or career advancement. Program competencies are identified in the course syllabus provided to each student.

- This guarantee applies only to certificates and degrees of at least 30 semester hours or 360 contact hours.
- All course work in question must have been taken at HCC and taught by HCC instructors.
- The graduate must have earned the AAS or certificate in a workforce program listed in the HCC catalog no earlier than one year prior to the beginning date of the employment in question.
- The graduate must have completed the degree within a five-year period beginning at the point of first enrollment.

- The graduate must be employed full-time within 12 months of graduation and in a position directly related to the specific program completed at HCC.
- Within 90 days of the graduate's initial date of employment, the employer must certify in writing that the graduate lacks entry-level skills identified by HCC as program-exit competencies. The employer must specify the areas of deficiency.
- The employer, graduate, and HCC personnel will develop a written retraining plan. The retraining will be limited to nine credit hours or 360 contact hours related to the identified skill deficiency.
- The retraining must be completed within one calendar year from the time the plan is agreed upon.
- Although retraining is tuition-free, the graduate (or employer) is responsible for the cost of insurance, uniforms, fees, and any other course-related expenses. HCC is responsible for the cost of books required for the course work.

# Academic Degrees

The Associate in Arts, the Associate of Arts in Teaching, and the Associate in Science degrees can give you a good start before transferring to a four-year university. These academic degrees provide a solid foundation through a traditional liberal arts education. Studies include the humanities and fine arts, social sciences, communication, teacher education, mathematics, and science. The liberal arts develop critical and analytical skills demanded by constantly changing environments. After transfer to a four-year university, you may concentrate in a major area of study during your junior and senior years.

## Associate in Arts (AA)

The Associate in Arts is intended primarily for students planning on transferring to a senior college or university to receive a baccalaureate degree in the following areas: communication, business, social sciences, humanities, and fine arts. Commencing the fall of 1999, all Associate in Arts academic core curriculum courses taken at HCC are guaranteed to transfer and count toward the core curriculum at all Texas public higher educational institutions.

In addition, if a student successfully completes any part of a field of study (FOS) curriculum developed by the Texas Higher Education Board, the FOS courses will be transferred to a Texas public higher educational institution and must be substituted for that institution's lower division requirements in the degree program containing the field of study. The student shall receive full academic credit for the transferred FOS courses in the related university degree program. HCC has developed specialized transfer plans for specific majors and for specific universities. Students should obtain appropriate transfer plans including FOS courses from a counselor. Students also need to be aware that universities often have limitations on the amount of credit that can transfer from community colleges to universities. That limit is usually around sixty-six semester hours taken at community colleges.

### Associate in Arts Required Academic Core\*

ENGL 1301 Composition I .....	3
ENGL 1302 Composition II .....	3
Oral Communication (choose one) .....	3
ARAB 1411, 1412; COMM 1307; CHIN 1411, 1412; FREN 1411, 1412; GERM 1411, 1412; JAPN 1411, 1412; KORE 1411, 1412; RUSS 1411, 1412; SPAN 1411, 1412; SPCH 1311, 1315, 1318, 1321, 1342, 2335, or 2341; VIET 1411, 1412; TURK 1491, 1492	
Academic Humanities (choose one) .....	3
ENGL 2307, 2308, 2322, 2323, 2327, 2328, 2332, 2333, 2334, 2335, 2336, 2341, 2342, 2343, 2351, 2353, 2374; HUMA 2319; PHIL 1301, 2306, 2307, 2316, 2317, 2321	
Mathematics (choose one) .....	3
MATH 1314, 1316, 1324, 1325, 1332, 1342, 1442, 2412, 2413, 2414, 2415	
Natural Science with lab .....	4
ASTR 1403, 1404; BIOL 1308 & 1108, 1309 & 1109, 1406, 1407, 1411, 1413, 2401, 2402, 2406, 2416, 2420, 2428; CHEM 1405, 1407, 1411, 1412, 1413, 1414, 2423, 2425; ENVR 1401; GEOL 1401, 1402, 1403, 1404, 1405; PHYS 1401, 1402, 2325 & 2125, 2326 & 2126.	
<i>Note: Course must have a lab. Please see p. 61 for Natural Science core curriculum restrictions.</i>	
Natural Science (lab optional) .....	3
ANTH 2301; ASTR 1303, 1304, 1403, 1404; BIOL 1308, 1309, 1322, 1406, 1407, 1411, 1413, 2401, 2402, 2406, 2416, 2420, 2428; CHEM 1305, 1307, 1405, 1407, 1411, 1412, 1413, 1414, 2423, 2425; DANC 2325; ENVR 1301, 1401; GEOG 1301; GEOL 1345, 1347, 1401, 1402, 1403, 1404; PHYS 1305, 1307, 1401, 1402, 2325, 2326.	
<i>Note: Please see p. 61 for Natural Science core curriculum restrictions.</i>	
American History (choose two) .....	6
Choose one from HIST 1301 or 1302	
Choose one from HIST 1301, 1302, 2301, 2328, or 2371, 2381	
GOVT 2301 Government I .....	3
GOVT 2302 Government II .....	3
Visual/Performing Arts (choose 3 hours) .....	3
ARTS 1301, 1303, 1304, 1311, 1312, 1316, 1317, 2316, 2317, 2323, 2324, 2326, 2327, 2333, 2334, 2341, 2342, 2346, 2347, 2348, 2349, 2356, 2357, 2366, 2367; DANC 1112, 1113, 1210, 1211, 1301, 1305, 1306, 1341, 1342, 1345, 1346, 1347, 1348, 1349, 2112, 2113, 2210, 2301, 2303, 2325, 2341, 2342, 2345, 2346, 2347, 2351, 2352, 2389; DRAM 1161, 1162, 1310, 1320, 1322, 1330, 1341, 1351, 1352, 2331, 2336, 2337, 2338, 2351, 2361, 2363, 2366, 2367, 2389; MUAP 1101-2292 (Music Lessons); MUSI 1131, 1135, 1139, 1140, 1159, 1160, 1161, 1163, 1164, 1166, 1168, 1181, 1182, 1183, 1184, 1188, 1190, 1192, 1211, 1212, 1216, 1217, 1223, 1226, 1227, 1229, 1239, 1254, 1301, 1306, 1308, 1309, 1310, 1386, 2135, 2139, 2140, 2159, 2160, 2161, 2163, 2164, 2181, 2182, 2211, 2212, 2216, 2217, 2223, 2227, 2229, 2239, 2241, 2258, 2266, 2386	

# Academic Degrees

Social/Behavioral Science (choose one) .....	3
ANTH 2302, 2346, 2351; ECON 2301, 2302, 2311; GEOG 1302, 1303, 2312; GOVT 2304; HIST 2389; PHIL 2307; PSYC 2301, 2389; SOCI 1301, 1306, 2301, 2319, 2336, 2374; TECA 1354	
Cross/Multicultural Studies (choose one) .....	3
ANTH 2302, 2346, 2351; ARTS 1301, 1303, 1304; ECON 2311; ENGL 2322, 2323, 2327, 2328, 2332, 2333, 2334, 2335, 2336, 2341, 2342, 2343, 2353, 2374; DANC 2303, EDUC 1325; GEOG 1302, 1303, 2312; HIST 2311, 2312, 2321, 2322, 2328, 2381; HUMA 1301, 1305, 2319, 2323; MUSI 1306, 1308, 1309; PHED 1304; PHIL 1301, 1304, 2307, 2316, 2317, 2321; PSYC 2370; SOCI 1301, 2319, 2374; SPCH 1318; any Foreign Language 1411, 1412, 2311, or 2312.	
<i>Other Required Courses</i>	
College-Level Electives .....	17
<i>* No one course may be used to fulfill more than one core category</i>	

## AA Degree Transfer Advising Plan

### AA: Agricultural Sciences

#### FIRST YEAR

First Semester	Credits
ENGL 1301 English Composition I .....	3
US History Elective .....	3
Oral Communication Elective .....	3
MATH 1314 College Algebra .....	3
AGRI 1319 General Animal Science .....	3
<b>Semester Total</b>	<b>15</b>

#### Second Semester

ENGL 1302 English Composition II .....	3
US History Elective .....	3
Social/Behavioral Science .....	3
BIOL 1413 General Zoology or 1411 General Botany .....	4
MATH 1324 Finite Math or MATH 1342 Statistics .....	3
<b>Semester Total</b>	<b>16</b>

#### SECOND YEAR

##### First Semester

First Semester	Credits
Humanities .....	3
GOVT 2301 American Government I .....	3
Cross Cultural Studies .....	3
CHEM 1411 General Chemistry I .....	4
AGRI 1131 The Agricultural Industry .....	1
<b>Semester Total</b>	<b>14</b>

#### Second Semester

GOVT 2302 American Government II .....	3
Fine Arts (3 hrs.) .....	3
AGRI Elective #3## (see department chair for advising) .....	3
AGRI Elective #3## (see department chair for advising) .....	3
AGRI Elective #3## (see department chair for advising) .....	3
<b>Semester Total</b>	<b>15</b>

### AA: Art Specialty Area

#### FIRST YEAR

##### First Semester

First Semester	Credits
ENGL 1301 English Composition I .....	3
US History Elective .....	3
ARTS 1311 Foundation Design I .....	3
ARTS 1316 Foundation Drawing I .....	3
MATH (College-level Math) .....	3
<b>Semester Total</b>	<b>15</b>

##### Second Semester

ENGL 1302 English Composition II .....	3
US History Elective .....	3
Social/Behavioral Science (3 hrs.) .....	3
ARTS 1317 Foundation Drawing II .....	3
ARTS 1312 Foundation Design II .....	3
<b>Semester Total</b>	<b>15</b>

#### SECOND YEAR

##### First Semester

First Semester	Credits
GOVT 2301 American Government I .....	3
ARTS 1303 Art History I .....	3
Oral Communication Elective .....	3
Natural Science (Lab optional) .....	3
Transfer ARTS Elective (see Art Department chair for advising) .....	3
<b>Semester Total</b>	<b>15</b>

##### Second Semester

Second Semester	Credits
Humanities .....	3
GOVT 2302 American Government II .....	3
ARTS 1304 Art History II .....	3
Natural Science with Lab .....	3
Transfer ARTS Elective (see Art department chair for advising) .....	3
<b>Semester Total</b>	<b>15</b>

### AA: Dance Specialty Area

#### FIRST YEAR

##### First Semester

First Semester	Credits
ENGL 1301 English Composition I .....	3
US History Elective .....	3
DANC 2303 Dance Appreciation .....	3
DANC 1345 Modern Dance I .....	3
DANC 1347 Jazz Dance I .....	3
<b>Semester Total</b>	<b>15</b>

# Academic Degrees

## Second Semester

ENGL 1302 English Composition II .....	3
US History Elective .....	3
DANC 1346 Modern Dance II .....	3
DANC 2325 Anatomy and Kinesiology .....	3
DANC 1348 Jazz Dance II .....	3
<b>Semester Total</b>	<b>15</b>

## SECOND YEAR

### First Semester

Humanities .....	3
GOVT 2301 American Government I .....	3
DANC 1301 Dance Composition .....	3
DANC 1305 World Dance I .....	3
DANC 1341 Ballet I .....	3
<b>Semester Total</b>	<b>15</b>

### Second Semester

GOVT 2302 American Government II .....	3
DANC 1342 Ballet II .....	3
Oral Communication Elective .....	3
DANC 1306 World Dance II .....	3
Social/Behavioral Science .....	3
<b>Semester Total</b>	<b>15</b>

### Third Semester

MATH (College-Level Math) .....	3
Natural Science with Lab .....	3
<b>Semester Total</b>	<b>6</b>

## AA: Drama Specialty Area

### FIRST YEAR

#### First Semester

ENGL 1301 English Composition I .....	3
US History Elective .....	3
SPCH 1342 Voice and Diction .....	3
MATH(College-level Math) .....	3
DRAM 1310 Introduction to Theatre .....	3
<b>Semester Total</b>	<b>15</b>

#### Second Semester

ENGL 1302 English Composition II .....	3
US History Elective .....	3
Social/Behavioral Science .....	3
Natural Science (Lab optional) .....	3
DRAM 1351 Acting I .....	3
<b>Semester Total</b>	<b>15</b>

## SECOND YEAR

### First Semester

Humanities .....	3
GOVT 2301 American Government I .....	3
DRAM 1352 Acting II .....	3
Natural Science with Lab .....	4
DRAM 1330 Theatre Practice I .....	3
<b>Semester Total</b>	<b>15</b>

### Second Semester

GOVT 2302 American Government II .....	3
DRAM 1322 Stage Movement .....	3
DRAM 2331 Theatre Practice II .....	3
DANC 2303 Dance Appreciation .....	3
DRAM 1341 Stage Makeup .....	3
<b>Semester Total</b>	<b>15</b>

• See Drama department chair for advising

## AA: Music Specialty Area

### FIRST YEAR

#### First Semester

ENGL 1301 English Composition I .....	3
MATH (College-level Math) .....	3
Major Instrument (FOS) .....	1
Ensemble (FOS) .....	2
MUSI 1211 Music Theory (FOS) .....	2
MUSI 1216 Ear Training/Sight Training (FOS) .....	2
<b>Semester Total</b>	<b>13</b>

#### Second Semester

ENGL 1302 English Composition II .....	3
Natural Science (Lab optional) .....	3
Major Instrument (FOS) .....	1
Ensemble (FOS) .....	2
MUSI 1212 Music Theory (FOS) .....	2
MUSI 1217 Ear Training/Sight Training (FOS) .....	2
<b>Semester Total</b>	<b>13</b>

## SECOND YEAR

### First Semester

Humanities .....	3
Major Instrument (FOS) .....	1
Ensemble (FOS) .....	2
MUSI 1308 Music Literature I (FOS) .....	3
MUSI 2216 Ear Training/Sight Training (FOS) .....	2
MUSI 2211 Music Theory (FOS) .....	2
<b>Semester Total</b>	<b>13</b>

# Academic Degrees

## Second Semester Credits

GOVT 2302 American Government II.....	3
Major Instrument (FOS).....	1
Ensemble (FOS).....	2
MUSI 1309 Music Literature II.....	3
MUSI 2217 Ear Training/Sight Training (FOS).....	2
MUSI 2212 Music Theory (FOS).....	2
<i>See music department chair for advising</i>	

**Semester Total 13**

## Third Semester Credits

US History Elective.....	3
Oral Communication.....	3
US History Elective.....	3
Social/Behavioral Science (3 hrs.).....	3
GOVT 2301 American Government I.....	3
Natural Science with Lab.....	3
<i>See Music department chair for advising</i>	

**Semester Total 18**

## AA: Journalism/Mass Communication Specialty Area

### FIRST YEAR

#### First Semester Credits

ENGL 1301 English Composition I.....	3
US History Elective.....	3
COMM 1307 Mass Communication (FOS).....	3
MATH 1314 College Algebra.....	3
COMM 1335 Introduction to Radio/TV (FOS).....	3

**Semester Total 15**

#### Second Semester

ENGL 1302 English Composition II.....	3
US History Elective.....	3
Social/Behavioral Science (3 hrs.).....	3
Natural Science (Lab optional).....	3
COMM 2302 Principles of Journalism (FOS).....	3

**Semester Total 15**

### SECOND YEAR

#### First Semester Credits

ENGL Literature 23##.....	3
GOVT 2301 American Government I.....	3
SPCH 1318 (Cross Cultural Studies).....	3
Natural Science with Lab.....	4
COMM 2305 Editing and Layout (FOS).....	3

**Semester Total 16**

## Second Semester Credits

GOVT 2302 American Government II.....	3
Fine Arts (3 hrs.).....	3
COMM 2311 News Gathering and Writing I (FOS).....	3
Transferable Elective #3##.....	3
Transferable Elective #3##.....	3
<i>See Communication department chair for advising.</i>	

**Semester Total 15**

## AA: Advertising Specialty Area

### FIRST YEAR

#### First Semester Credits

ENGL 1301 English Composition I.....	3
US History Elective.....	3
COMM 1307 Mass Communication.....	3
MATH 1314 College Algebra.....	3
COMM 2327 Advertising (FOS).....	3

**Semester Total 15**

#### Second Semester

ENGL 1302 English Composition II.....	3
US History Elective.....	3
Social/Behavioral Science (3 hrs.).....	3
Natural Science (Lab optional).....	3
COMM 2330 Public Relations (FOS).....	3

**Semester Total 15**

### SECOND YEAR

#### First Semester Credits

ENGL Literature 23##.....	3
GOVT 2301 American Government I.....	3
Cross Cultural Studies.....	4
Natural Science with Lab.....	3
COMM 2305 Editing and Layout (FOS).....	3

**Semester Total 16**

#### Second Semester Credits

GOVT 2302 American Government II.....	3
Fine Arts (3 hrs.).....	3
COMM 2311 News Gathering and Writing I (FOS).....	3
Transferable Elective #3##.....	3
Transferable Elective #3##.....	3

**Semester Total 15**

# Academic Degrees

## AA: Radio and Television Broadcasting Specialty Area

### FIRST YEAR

#### First Semester Credits

ENGL 1301 English Composition I .....	3
US History Elective .....	3
COMM 1307 Mass Communication .....	3
MATH 1314 College Algebra .....	3
COMM 1335 Introduction to Radio/TV (FOS) .....	3

**Semester Total 15**

#### Second Semester

ENGL 1302 English Composition II .....	3
US History Elective .....	3
Social/Behavioral Science (3 hrs.) .....	3
Natural Science (Lab optional) .....	3
COMM 1336 TV Production I (FOS) .....	3

**Semester Total 15**

### SECOND YEAR

#### First Semester Credits

ENGL 23## Literature .....	3
GOVT 2301 American Government I .....	3
SPCH 1318 (Cross Cultural Studies) .....	3
Natural Science with Lab .....	3
COMM 2311 News Gathering and Writing I (FOS) .....	3

**Semester Total 15**

#### Second Semester Credits

GOVT 2302 American Government II .....	3
Fine Arts (3 hrs.) .....	3
COMM 2366 Introduction to Film .....	3
Transferable Elective #3## .....	3
Transferable Elective #3## .....	3

*See Communication or Broadcast department chair for advising.*

**Semester Total 15**

## AA: General Communication Specialty Area

### FIRST YEAR

#### First Semester Credits

ENGL 1301 English Composition I .....	3
US History Elective .....	3
SPCH 1311 Intro to Speech Communication (FOS) .....	3
MATH 1314 College Algebra .....	3
Major-Related Elective #3## .....	3

**Semester Total 15**

#### Second Semester

ENGL 1302 English Composition II .....	3
US History Elective .....	3
Social/Behavioral Science (3 hrs.) .....	3
Natural Science (Lab optional) .....	3
SPCH 2333 Discussion and Small Group Communication (FOS) .....	3

**Semester Total 15**

### SECOND YEAR

#### First Semester Credits

ENGL 23## Literature .....	3
GOVT 2301 American Government I .....	3
SPCH 1318 (Cross Cultural Studies) (FOS) .....	3
Natural Science with Lab .....	3
Major Related Elective #3## .....	3

**Semester Total 15**

#### Second Semester Credits

GOVT 2302 American Government II .....	3
Fine Arts (3 hrs.) .....	3
Speech Performance Elective (SPCH 1315, 1321, 1342, 2335, or 2341) (FOS) .....	3
Major Related Elective #3## .....	3
Major Related Elective #3## .....	3

*See Speech department chair for advising.*

**Semester Total 15**

## AA: Philosophy Specialty Area

### FIRST YEAR

#### First Semester Credits

ENGL 1301 English Composition I .....	3
US History Elective .....	3
Oral Communication Elective .....	3
MATH 1314 College Algebra .....	3
Transferable Elective #3## .....	3

**Semester Total 15**

#### Second Semester

ENGL 1302 English Composition II .....	3
US History Elective .....	3
PHIL 2307 (Social/Behavioral Science) .....	3
Natural Science (Lab optional) .....	3
PHIL 1301 Introduction to Philosophy or 1303 .....	3

**Semester Total 15**

### SECOND YEAR

#### First Semester Credits

PHIL 2316 Ancient/Medieval Philosophy .....	3
GOVT 2301 American Government I .....	3
Foreign Language 1411 .....	3
Natural Science with Lab .....	4
PHIL 2303 Logic .....	3

**Semester Total 16**

#### Second Semester Credits

GOVT 2302 American Government II .....	3
Fine Arts (3 hrs.) .....	3
Foreign Language 1412 .....	3
PHIL 2306 Ethics .....	3
PHIL 2317 Modern/Contemporary Philosophy .....	3

**Semester Total 15**



# Academic Degrees

## AA: Mexican-American Studies

### FIRST YEAR

First Semester	Credits
ENGL 1301 English Composition I .....	3
US History Elective .....	3
SPAN 1411 or SPAN 1412 (by coursework or by CLEP) .....	3
MATH 1314 or MATH 1332 or higher .....	3
HUMA 1305 Introduction to Mexican American Studies (FOS) .....	3
<b>Semester Total</b>	<b>15</b>

### Second Semester

ENGL 1302 English Composition II .....	3
US History Elective .....	3
HUMA 2323 or PSYC 2370 .....	3
Natural Science (Lab optional) .....	3
GOVT 2311 Mexican American Politics (FOS) .....	3
<b>Semester Total</b>	<b>15</b>

### SECOND YEAR

#### First Semester

	Credits
ENGL 2351 Mexican American Literature (FOS) .....	3
GOVT 2301 American Government I .....	3
HUMA 2319 American Minorities (Mexican American) .....	3
Natural Science with Lab .....	4
SPAN 1412 (by coursework or by CLEP) .....	4
<b>Semester Total</b>	<b>17</b>

#### Second Semester

	Credits
GOVT 2302 American Government II .....	3
HUMA 1311 Mexican American Fine Art Appreciation (FOS) .....	3
HIST 2328 Mexican American History II (FOS) .....	3
SPAN 2311 or 2313 .....	3
SPAN 2312 or 2315 (FOS) .....	3
<b>Semester Total</b>	<b>15</b>

## AA: Liberal Arts Specialty Area

### FIRST YEAR

#### First Semester

	Credits
ENGL 1301 English Composition I .....	3
US History Elective .....	3
Oral Communication .....	3
MATH (College-level Math) .....	3
Foreign Language 1411 (Cross Cultural Course) .....	3
<b>Semester Total</b>	<b>15</b>

#### Second Semester

ENGL 1302 English Composition II .....	3
US History Elective .....	3
Social/Behavioral Science (3 hrs.) .....	3
Natural Science (Lab optional) .....	3
Foreign Language 1412 .....	3
<b>Semester Total</b>	<b>15</b>

## SECOND YEAR

### First Semester

	Credits
Humanities .....	3
GOVT 2301 American Government I .....	3
Foreign Language 2311 .....	3
Natural Science with Lab .....	4
Transferable Elective #3## .....	3
<b>Semester Total</b>	<b>16</b>

### Second Semester

	Credits
GOVT 2302 American Government II .....	3
Fine Arts (3 hrs.) .....	3
Foreign Language 2312 .....	3
Transferable Elective #3## .....	3
<b>Semester Total</b>	<b>15</b>

## AA: Criminal Justice Specialty Area

### FIRST YEAR

#### First Semester

	Credits
ENGL 1301 English Composition I .....	3
US History Elective .....	3
Oral Communication .....	3
MATH (College-level Math) .....	3
CRIJ 1301 Introduction to Criminal Justice (FOS) .....	3
<b>Semester Total</b>	<b>15</b>

#### Second Semester

ENGL 1302 English Composition II .....	3
US History Elective .....	3
PSYC 2317 Behavioral Statistics .....	3
Natural Science (Lab optional) .....	3
CRIJ 1306 Courts and Criminal Procedures (FOS) .....	3
<b>Semester Total</b>	<b>15</b>

## SECOND YEAR

### First Semester

	Credits
Humanities .....	3
GOVT 2301 American Government I .....	3
Cross Cultural Studies .....	3
Natural Science with Lab .....	4
CRIJ 2313 Correctional Systems and Practices (FOS) .....	3
<b>Semester Total</b>	<b>16</b>

### Second Semester

	Credits
GOVT 2302 American Government II .....	3
Fine Arts .....	3
CRIJ 2328 Police Systems and Practices (FOS) .....	3
CRIJ 1310 Fundamentals of Criminal Law .....	3
SOCI 2336 Criminology .....	3
<b>Semester Total</b>	<b>15</b>

# Academic Degrees

## AA: Social/Behavioral Science Specialty Area

### FIRST YEAR

First Semester	Credits
ENGL 1301 English Composition I .....	3
US History Elective .....	3
Oral Communication .....	3
MATH 1314 College Algebra .....	3
Foreign Language #4## (B.A.) or Additional Math/Science (B.S.) .....	3
<b>Semester Total</b>	<b>15</b>

### Second Semester

ENGL 1302 English Composition II .....	3
US History Elective .....	3
Foreign Language #4## (B.A.) or Additional Math/Science (B.S.) .....	3
BIOL #4## or CHEM #4## .....	4
PSYC 2301 General Psychology .....	3
<b>Semester Total</b>	<b>16</b>

## SECOND YEAR

### First Semester

	Credits
Humanities .....	3
GOVT 2301 American Government I .....	3
SOCI 1301 Introduction to Sociology .....	3
BIOL #4## or CHEM #4## .....	3
Foreign Language 23## (B.A.) .....	3
<b>Semester Total</b>	<b>15</b>

### Second Semester

	Credits
GOVT 2302 American Government II .....	3
Fine Arts (3 hrs.) (050) .....	3
Foreign Language 23## (B.A.) .....	3
ANTH #3## Elective .....	3
Behavioral Science Elective #3## .....	3
<b>Semester Total</b>	<b>15</b>

## AA: Pre-Business Specialty Area

### FIRST YEAR

First Semester	Credits
ENGL 1301 English Composition I .....	3
US History Elective .....	3
SPCH 1321 Business and Professional Speech .....	3
MATH 1314 College Algebra .....	3
BCIS 1405 Business Computer Applications (FOS) .....	4
<b>Semester Total</b>	<b>16</b>

### Second Semester

ENGL 1302 English Composition II .....	3
US History Elective .....	3
ECON 2301 Macroeconomics (FOS) .....	3
Natural Science (Lab optional) .....	3
MATH 1324 Finite Mathematics .....	3
<b>Semester Total</b>	<b>15</b>

## SECOND YEAR

### First Semester

	Credits
Humanities .....	3
GOVT 2301 American Government I .....	3
Cross Cultural Studies .....	3
MATH 1325 Calculus with Appl. ....	3
ACCT 2301 Accounting Prin. I .....	3
ECON 2302 Microeconomics .....	3
<b>Semester Total</b>	<b>18</b>

### Second Semester

	Credits
GOVT 2302 American Government II .....	3
Fine Arts (3 hrs.) .....	3
Natural Science with Lab .....	4
ACCT 2302 Accounting Prin. II .....	3
PSYC 2301 General Psychology .....	3
<b>Semester Total</b>	<b>16</b>

## AA: Business Information Systems Specialty Area

### FIRST YEAR

First Semester	Credits
ENGL 1301 English Composition I .....	3
US History Elective .....	3
SPCH 1321 Business and Professional Speech .....	3
MATH 1314 College Algebra .....	3
BCIS 1405 Business Computer Applications (FOS) .....	4
<b>Semester Total</b>	<b>16</b>

### Second Semester

ENGL 1302 English Composition II .....	3
US History Elective .....	3
ECON 2301 Macroeconomics (FOS) .....	3
Natural Science (Lab optional) .....	3
MATH 1324 Finite Mathematics .....	3
<b>Semester Total</b>	<b>15</b>

## SECOND YEAR

### First Semester

	Credits
Humanities .....	3
GOVT 2301 American Government I .....	3
ACCT 2301 Principles of Accounting I (FOS) .....	3
Natural Science with Lab .....	4
MATH 1325 Calculus with Applications (FOS) .....	3
<b>Semester Total</b>	<b>16</b>

### Second Semester

	Credits
GOVT 2302 American Government II .....	3
Fine Arts (3 hrs.) .....	3
SOCI 1301 Introduction to Sociology .....	3
ACCT 2302 Principles of Accounting II (FOS) .....	3
ECON 2302 Microeconomics (FOS) .....	3
<b>Semester Total</b>	<b>15</b>

# Academic Degrees

<b>Third Semester</b>	<b>Credits</b>
COSC 1436 Programming Fundamentals I.....	4
<b>Semester Total</b>	<b>4</b>

## AA: Pre-Nursing (AA to BSN) Specialty Area

### FIRST YEAR

<b>First Semester</b>	<b>Credits</b>
ENGL 1301 English Composition I .....	3
US History Elective.....	3
Oral Communication Elective .....	3
MATH 1342 or PSYC 2317 Statistics (FOS).....	3
BIOL 1322 Basic Nutrition (FOS).....	3
<b>Semester Total</b>	<b>15</b>

### Second Semester

ENGL 1302 English Composition II .....	3
US History Elective.....	3
Social/Behavioral Science (3 hrs.).....	3
CHEM 1405 or 1411 or 1413 Chemistry (FOS).....	4
PSYC 2301 General Psychology (behavioral science, FOS).....	3
<b>Semester Total</b>	<b>16</b>

### SECOND YEAR

<b>First Semester</b>	<b>Credits</b>
Humanities .....	3
GOVT 2301 American Government I.....	3
Cross Cultural Studies.....	3
BIOL 2401 Anatomy and Physiology I (FOS).....	4
PSYC 2314 Human Growth and Development: Lifespan (FOS).....	3
<b>Semester Total</b>	<b>16</b>

<b>Second Semester</b>	<b>Credits</b>
GOVT 2302 American Government II.....	3
Fine Arts .....	3
BIOL 2402 Anatomy and Physiology II (FOS).....	4
BIOL 2420 Microbiology (FOS).....	4
<b>Semester Total</b>	<b>14</b>

## Associate of Arts in Teaching (AAT)

### Leading to Initial Texas Teacher Certification

The Associate of Arts in Teaching is a state-approved collegiate degree program consisting of lower-division courses intended for transfer to baccalaureate programs that lead to initial Texas teacher certification. Initially, there were three AAT curricula which included 60-66 semester credit (SCH) hours of coursework. However, due to changes in the state certification process beginning in fall 2009, there will only be one AAT degree that will be offered by Houston Community College. The AAT degrees can only be offered by Texas public community colleges and are fully transferable to any Texas public university offering baccalaureate degree programs leading to initial teacher certification. All AAT academic core curriculum courses taken at HCC are guaranteed to transfer and count toward the core curriculum at all Texas public higher educational institutions.

In addition, if a student successfully completes any part of an AAT field of study (FOS) curriculum as developed by the Texas Higher Education Board, the FOS courses will be transferred to a Texas public higher educational institution and must be substituted for that institution's lower division requirements in the degree program leading to initial Texas teacher certification. The student shall receive full academic credit for the transferred FOS courses in the related university degree program leading to initial Texas teacher certification. HCC has developed specialized transfer plans, in collaboration with the Gulf Coast Teacher Education Consortium. The following universities have approved the AAT plan below for transfer toward initial Texas teacher certification: Prairie View A&M University, Sam Houston State University, Texas A&M University, Texas Southern University, University of Houston, University of Houston-Downtown, University of Houston-Clear Lake, University of Houston-Victoria, and University of St. Thomas. Students need to be aware that universities often have limitations on the amount of credit that can transfer from community colleges to universities. That limit is usually around sixty-six semester hours taken at community colleges. For more information on university requirements and plan uniqueness including details regarding the Gulf Coast Teacher Education agreement, please see the Transfer Office website and the Teacher Education department chair for advising.

# Academic Degrees

## AAT Degree Transfer Advising Plan

### Associate of Arts in Teaching leading to all initial teacher certifications in: Early Childhood-Grade 6; Grades 4-8; and Special Education

ENGL 1301 Composition I.....	3
ENGL 1302 Composition II.....	3
English Literature .....	3
SPCH 1315 Public Speaking or SPCH 1321 Business Speech (Oral).....	3
HIST 2301 Texas History or 1301.....	3
HIST 1302 American History II.....	3
GOVT 2301 Government I.....	3
GOVT 2302 Government II.....	3
MATH 1314 College Algebra.....	3
Biological Lab Science (Choose one course from: 1308/1108, 1406, 1411, 1413, 2401, 2416, 2420 or 2406).....	4
Chemical Lab Science (Choose one course from: CHEM 1305, 1405, 1411, or 1413) .....	4
TECA 1354 Child Growth or GEOG 1303 World Geography (Social/Behavioral Science) .....	3
Visual/Performing Arts (Choose one course from: ARTS 1301, 1303, 1304; DANC 2303; DRAM 1310, 2361, 2362, 2363, 2366; MUSI 1306, 1308, or 1309).....	3
Cross Cultural Studies (EDUC 1325 recommended).....	3
EDUC 1301 Introduction to the Teaching Profession.....	3
EDUC 2301 Introduction to Special Populations.....	3
MATH 1350 Math for Teachers I.....	3
MATH 1351 Math for Teachers II.....	3
Physical Lab Science (Choose one course from: ASTR 1403, 1404; BIOL 2406; ENVR 1401; GEOL 1401, 1402, 1403, 1404; PHYS, 1401, 1402, or 2325/2125).....	4

(Note: Bilingual certification requires SPAN 1411-2312)

### Associate of Arts in Teaching leading to initial teacher certifications in: Early Childhood Degree Specialization (Plan discontinued; existing students in this plan must transfer by fall 2010)

### Associate of Arts in Teaching leading to all initial teacher certifications in: Grades 8-12 or EC-Grade 12 (Plan discontinued; students seeking these certifications should follow the universities teacher education transfer plans; see counselor for more information)

## Associate in Science (AS)

The Associate in Science is intended primarily for students planning on transferring to a senior college or university to receive a baccalaureate degree in the following areas: computer science, engineering, health and natural sciences, or mathematics. (See counselor for Transfer plans). Commencing the fall of 1999, all Associate in Science academic core curriculum courses taken at HCC are guaranteed to transfer and count toward the core curriculum at all Texas public higher educational institutions.

In addition, if a student successfully completes any part of a field of study (FOS) curriculum developed by the Texas Higher Education Board, the FOS courses will be transferred to a Texas public higher educational institution and must be substituted for that institution's lower division requirements in the degree program containing the field of study. The student shall receive full academic credit for the transferred FOS courses in the related university degree program. HCC has developed specialized transfer plans for specific majors and for specific universities. Students should obtain appropriate transfer plans including FOS courses from a counselor.

Students also need to be aware that universities often have limitations on the amount of credit that can transfer from community colleges to universities. That limit is usually around sixty-six semester hours taken at community colleges.

### Associate in Science Required Academic Core\*

ENGL 1301 Composition I .....	3
ENGL 1302 Composition II .....	3
Oral Communication (choose one) .....	3
ARAB 1411,1412; COMM 1307; CHIN 1411, 1412; FREN 1411, 1412; GERM 1411,1412; JAPN 1411, 1412; KORE 1411, 1412; RUSS 1411, 1412; SPAN 1411, 1412; SPCH 1311, 1315, 1318, 1321, 1342, 2335, or 2341; TURK 1491, 1492; VIET 1411, 1412	
Humanities (choose one) .....	3
ENGL 2307, 2308, 2322, 2323, 2327, 2328, 2332, 2333, 2334, 2335, 2336, 2341, 2342, 2343, 2351, 2353, 2374; PHIL 2306, 2316, 2317	
Mathematics (choose one).....	3
MATH 1314, 1316, 1324, 1325, 1332, 1342, 1442, 2412, 2413, 2414, 2415	

# Academic Degrees

Natural Science with lab .....	4
ASTR 1403, 1404; BIOL 1308 & 1108, 1309 & 1109, 1406, 1407, 1411, 1413, 2401, 2402, 2406, 2416, 2420, 2428; CHEM 1405, 1407, 1411, 1412, 1413, 1414, 2423, 2425; ENVR 1401; GEOL 1401, 1402, 1403, 1404; PHYS 1401, 1402, 2325 & 2125, 2326 & 2126.	

*Note: Course must have a lab. Please see p. 63 for Natural Science core curriculum restrictions.*

Natural Science (lab optional) .....	3
ANTH 2301; ASTR 1303, 1304, 1403, 1404; BIOL 1308, 1309,1322, 1406, 1407, 1411, 1413, 2401, 2402, 2406, 2416, 2420, 2428; CHEM 1305, 1307, 1405, 1407, 1411, 1412, 1413, 1414, 2423, 2425; DANC 2325; ENVR 1301, 1401; GEOG 1301; GEOL 1345, 1347, 1401, 1402, 1403, 1404; PHYS 1305, 1307, 1401, 1402, 2325, 2326.	

*Note: Please see p. 63 for Natural Science core curriculum restrictions.*

American History (choose two) .....	6
Choose one from HIST 1301 or 1302 Choose one from HIST 1301, 1302, 2301, 2328, 2371 or 2381	

GOVT 2301 Government I .....	3
GOVT 2302 Government II .....	3

Visual/Performing Arts (choose 3 hours) .....	3
ARTS 1301, 1303, 1304, 1311, 1312, 1316, 1317, 2316, 2317, 2323, 2324, 2326, 2327, 2333, 2334, 2341, 2342, 2346, 2347, 2348, 2349, 2356, 2357, 2366, 2367; DANC 1112, 1113, 1210, 1211, 1301, 1305, 1306, 1341, 1342, 1345, 1346, 1347, 1348, 1349, 2112, 2113, 2210, 2301, 2303, 2325, 2341, 2342, 2345, 2346, 2347, 2351, 2352, 2389; DRAM 1161, 1162, 1310, 1320, 1322, 1330, 1341, 1351, 1352, 2331, 2336, 2337, 2338, 2351, 2361, 2363, 2366, 2367, 2389; MUAP 1101-2292 (Music Lessons); MUSI 1131, 1135, 1139, 1140, 1159, 1160, 1161, 1163, 1164, 1166, 1168, 1181, 1182, 1183, 1184, 1188, 1190, 1192, 1211, 1212, 1216, 1217, 1223, 1226, 1227, 1229, 1239, 1254, 1301, 1306, 1308, 1309, 1310, 1386, 2135, 2139, 2140, 2159, 2160, 2161, 2163, 2164, 2181, 2182, 2211, 2212, 2216, 2217, 2223, 2227, 2229, 2239, 2241, 2258, 2266, 2386	

Social/Behavioral Science (choose one) .....	3
ANTH 2302, 2346, 2351; ECON 2301, 2302, 2311; GEOG 1302, 1303, 2312; GOVT 2304; HIST 2389; PHIL 2307; PSYC 2301, 2389; SOCI 1301, 1306, 2301, 2319, 2336, 2374; TECA 1354	

Cross/Multicultural Studies (choose one) .....	3
ANTH 2302, 2346, 2351; ARTS 1301, 1303, 1304; ECON 2311; ENGL 2322, 2323, 2327, 2328, 2332, 2333, 2334, 2335, 2336, 2341,2342, 2343, 2353, 2374; DANC 2303, EDUC 1325; GEOG 1302,1303, 2312; HIST 2311,2312, 2321, 2322, 2328, 2381; HUMA 1301, 1305, 2319, 2323; MUSI 1306, 1308,1309; PHED 1304; PHIL 1301, 1304, 2307, 2316, 2317, 2321; PSYC 2370; SOCI 1301, 2319, 2374; SPCH 1318; any Foreign Language 1411, 1412, 2311, or 2312.	

## Other Required Courses

Additional Mathematics (May choose any college-level mathematics, PHIL 2303, or PSYC 2317) .....	6
Additional Natural Science with lab .....	4
College-Level Electives .....	7

*\* No one course may be used to fulfill more than one core category.*

## Associate in Science Degree Transfer Advising Plans

### AS: Civil Engineering Speciality Area

First Semester	Credits
ENGL 1301 English Composition I .....	3
US History Elective .....	3
CHEM 1411 General Chemistry I (FOS) .....	4
MATH 2413 Calculus I (FOS) .....	4
ENGR 1201 Introduction to Engineering .....	2
<b>Semester Total</b>	<b>16</b>

### Second Semester

ENGL 1302 English Composition II .....	3
US History Elective .....	3
Social/Behavioral Science (3 hrs.) .....	3
CHEM 1412 General Chemistry II (FOS) .....	4
MATH 2414 Calculus II (FOS) .....	4
<b>Semester Total</b>	<b>17</b>

## SECOND YEAR

### First Semester

First Semester	Credits
GOVT 2301 American Government I .....	3
Cross Cultural Studies .....	3
PHYS 2325 General Technical Physics (FOS) .....	3
PHYS 2125 General Technical Physics Lab (FOS) .....	1
ENGR 2301 Engineering Statics (FOS) .....	3
<b>Semester Total</b>	<b>13</b>

### Second Semester

Second Semester	Credits
GOVT 2302 American Government II .....	3
Fine Arts (3 hrs.) .....	3
ENGR 2302 Engineering Dynamics .....	3
PHYS 2326 General Technical Physics II (FOS) .....	3
PHYS 2126 General Technical Physics Lab II (FOS) .....	1
Oral Communication Elective .....	3
<b>Semester Total</b>	<b>16</b>

### AS: Computer Science Speciality Area

### First Semester

First Semester	Credits
ENGL 1301 English Composition I .....	3
US History Elective .....	3
COSC 1436 Programming Fundamentals I (FOS) .....	4
MATH 2413 Calculus I (FOS) .....	4
Oral Communication Elective .....	3
<b>Semester Total</b>	<b>17</b>

# Academic Degrees

## Second Semester

ENGL 1302 English Composition II .....	3
US History Elective .....	3
Social/Behavioral Science (3 hrs.) .....	3
COSC 1437 Programming Fundamentals II (FOS) .....	4
MATH 2414 Calculus II (FOS) .....	4
<b>Semester Total</b>	<b>17</b>

## SECOND YEAR

### First Semester

	Credits
Humanities .....	3
GOVT 2301 American Government I .....	3
Cross Cultural Studies .....	3
PHYS 2325 General Technical Physics (FOS) .....	3
PHYS 2125 General Technical Physics Lab (FOS) .....	1
COSC 2436 Programming Fundamentals III (FOS) .....	4
<b>Semester Total</b>	<b>17</b>

### Second Semester

	Credits
GOVT 2302 American Government II .....	3
Fine Arts (3 hrs.) .....	3
COSC 2325 Computer Organization and Machine Language (FOS) ..	3
PHYS 2326 General Technical Physics II(FOS) .....	3
PHYS 2126 General Technical Physics Lab II (FOS) .....	1
<b>Semester Total</b>	<b>13</b>

## AS: Science/Math Technology Speciality Area

### First Semester

	Credits
ENGL 1301 English Composition I .....	3
US History Elective .....	3
CHEM 1411 General Chemistry I .....	4
MATH 2412 Pre-Calculus .....	4
Oral Communication Elective .....	3
<b>Semester Total</b>	<b>17</b>

### Second Semester

ENGL 1302 English Composition II .....	3
US History Elective .....	3
Social/Behavioral Science (3 hrs.) .....	3
CHEM 1412 General Chemistry II .....	4
MATH 2413 Calculus I .....	4
<b>Semester Total</b>	<b>17</b>

## SECOND YEAR

### First Semester

	Credits
Humanities .....	3
GOVT 2301 American Government I .....	3
Cross Cultural Studies .....	3
PHYS 2325 General Technical Physics .....	3
PHYS 2125 General Technical Physics Lab .....	1
MATH 2414 Calculus II .....	4
<b>Semester Total</b>	<b>17</b>

## Second Semester

	Credits
GOVT 2302 American Government II .....	3
Fine Arts (3 hrs.) .....	3
MATH 2425 Calculus III .....	4
PHYS 2326 General Technical Physics II .....	3
PHYS 2126 General Technical Physics Lab II .....	1
<b>Semester Total</b>	<b>14</b>

## AS: Electrical/Electronics Engineering Technology Speciality Area

### First Semester

	Credits
ENGL 1301 English Composition I .....	3
US History Elective .....	3
CHEM 1411 General Chemistry I (FOS) .....	4
MATH 2413 Calculus I (FOS) .....	4
Oral Communication Elective .....	3
<b>Semester Total</b>	<b>17</b>

### Second Semester

ENGL 1302 English Composition II .....	3
US History Elective .....	3
Social/Behavioral Science (3 hrs.) (080) .....	3
CETT 1403 DC Circuits (FOS) .....	4
MATH 2414 Calculus II (FOS) .....	4
<b>Semester Total</b>	<b>17</b>

## SECOND YEAR

### First Semester

	Credits
Humanities (040) .....	3
GOVT 2301 American Government I (070) .....	3
Cross Cultural Studies (090) .....	3
PHYS 1401 Physics I (FOS) .....	4
CETT 1405 AC Circuits (FOS) .....	4
<b>Semester Total</b>	<b>17</b>

### Second Semester

	Credits
GOVT 2302 American Government II (070) .....	3
Fine Arts (3 hrs.) (050) .....	3
PHYS 1402 Physics II (FOS) .....	4
CETT 1425 Digital Fundamentals (FOS) .....	4
<b>Semester Total</b>	<b>14</b>

# Academic Degrees

## General Requirements (AA, AAT, and AS degrees)

To be eligible for an Associate in Arts (AA), an Associate of Arts in Teaching (AAT), or an Associate in Science (AS) degree from HCC, a student must successfully:

Complete at least 60 semester hours of credit as follows: (a) for the AA degree, 43 hours of required core courses and 17 hours of transferable electives, usually focusing on the student's transfer major (b) for the AAT degree, 44 hours of required core courses plus 16-18 hours of required pre-teaching courses (c) for the AS degree, 43 hours of required core courses plus six additional hours of mathematics, four additional hours of natural science, and 7 hours of transferable electives, usually focusing on the student's transfer major.

- Complete a minimum of 18 semester hours toward the degree in the Houston Community College System. These hours may not be satisfied through credit by exam.
- Have an overall 2.0 HCC grade point average.
- Satisfy TSI requirements.
- Resolve all financial obligations and return all College materials, including library books, to HCC prior to graduation.

Since the fall 2000 semester, HCC awards academic certificates for the following benchmarks of achievement:

- Certificate of Completion of the AA/AAT/AS Core Curriculum. To receive the Certificate of Completion for the AA/AAT/AS core curriculum, a student must complete 43 SCH of required course work in the following areas\*:

Communication .....	6
Oral Communication.....	3
Mathematics .....	3
Natural Sciences .....	7
Humanities .....	3
Visual/Performing Arts.....	3
American History .....	6
Government .....	6
Social/Behavioral Science.....	3
Cross/Multicultural Studies.....	3
Total (Core Curriculum Certificate).....	43

\*No one course may be used to fulfill more than one core category.

- If a student successfully completes the 43-hour core curriculum at HCC, that block of courses must be substituted for a receiving institution's core curriculum when a student transfers. A student will receive academic credit for each of the courses transferred and may not be required to take additional

core curriculum courses at the receiving institution, unless the receiving institution has a larger core. Students who transfer without completing the core curriculum will receive academic credit in the core curriculum of the receiving institution for each of the courses that the student has successfully completed in the core curriculum of the sending institution.

- Certificate of Completion of Developmental Education
- Certificate of Completion of the Academic-English-as-a-Second-Language (AESL) Program
- Certificate of Completion of the Intensive English (ESOL) Program

### Advanced Dance Certificate

The Advanced Dance Certificate is a 21-semester hour academic certificate designed to give a professional credential demonstrating advanced Dance proficiency. This certificate is recognized by dance studios for instructional purposes.

DANC 1301 Dance Composition .....	3
DANC 1305 or 1306 World Dance I or II .....	3
DANC 2303 Dance Appreciation .....	3
DANC 2325 Anatomy & Kinesiology.....	3
DANC 2341 or 2342 Ballet III* or IV* .....	3
DANC 2345 or 2346 Modern Dance III* or IV* .....	3
DANC 2351 or 2352 Dance Performance III* or IV* .....	3

\*Department approval needed for advanced placement; otherwise prerequisites are needed for advanced levels of technique.

### African American Studies Certificate

The Africana African American Studies Certificate is a 15 semester hour certificate program designed to help students understand Africana/ African American culture and experience from various perspectives and viewpoints. It affords students the opportunity to examine "Blacks in the Diaspora", and understand the diversity and complexities of these unique people. Upon graduation, students will be prepared for the following career and education choices: college/university transfer, criminal justice, majors such as education and liberal arts, the social and natural sciences, criminal justices and the visual and performing arts.

### Foundation Courses (choose both; 6 hrs required)

ENGL 1302 Composition II (Emphasis on Africana/African American Studies).....	3
HIST 2381 African American History .....	3

# Academic Degrees

## Elective courses (choose 3 courses; 9 hrs required)

- Oral Communication (011)
  - Spch 1315: Public Speaking (Emphasis on Africana/African American Studies)
- Humanities (Code 040)
  - Engl 2328: American Literature since the Civil War (Emphasis on Africana/African American Studies)
  - Engl 2336: Introduction to Multicultural Literature (Emphasis on Africana/African American Studies)
  - Engl 2341: Literature and Film (Emphasis on Africana/African American Studies)
  - Engl 2353: Women in Literature (Emphasis on Africana/African American Studies)
- Visual/Performing Arts (050)
  - Arts 1301: Art Appreciation (Emphasis on Africana/African American Studies)
  - Danc 1377, 1378
- Social/Behavioral Science (080)
  - Geog 1302: Cultural Geography (Emphasis on Africana/African American Studies)
  - Soci 2301: Marriage and the Family (Emphasis on Africana/African American Studies)
  - Soci 2319: Minority Studies I (Emphasis on Africana/African American Studies)
- Cross Cultural Studies (091)
  - Engl 2328: American Literature since the Civil War (Emphasis on Africana/African American Studies)
  - Engl 2336: Introduction to Multicultural Literature (Emphasis on Africana/African American Studies)
  - Engl 2341: Literature and Film (Emphasis on Africana/African American Studies)
  - Engl 2353: Women in Literature (Emphasis on Africana/African American Studies)
  - Geog 1302: Cultural Geography (Emphasis on Africana/African American Studies)
  - Huma 2319: The Minority Experience in the US (Emphasis on Africana/African American Studies)
  - Huma 2323: World Cultures (Emphasis on Africana/African American Studies)
  - Soci 2319: Minority Studies I (Emphasis on Africana/African American Studies)

## Global Studies Certificate

The Global Studies Certificate is a 15-semester hour academic certificate designed to aid students in understanding the complex interrelationships between nations and their inhabitants. The program utilizes a cross disciplinary approach, encouraging students to embrace global issues from multiple perspectives. This certificate will provide a unifying framework to help students contribute to our increasingly interconnected world as responsible global citizens. It establishes a unique foundation for the pursuit of varied majors and careers, from liberal arts and social sciences to international business. (All courses are core curriculum courses and will transfer as core to all Texas public universities).

### Required Foundation Course 1 (choose one course from the following)

SOCI 2374 Global Issues and Social Change.....	3
ECON 2311 Economic Geography .....	3
GEOG 2312 Economic Geography .....	3
HIST 2322 Modern World Civilizations: 1500-Presnt .....	3

### Required Foundation Course 2 (choose one course from the following)

Any 3-4 hour Foreign Language course chosen from ARAB, CHIN, FREN, GERM, JAPN, KORE, RUSS, SPAN, or VIET

### Choose any three courses from the following list:

- Oral Communication (011)
  - ARAB 1411, 1412; CHIN 1411, 1412; FREN 1411, 1412; GERM 1411, 1412; JAPN 1411, 1412; KORE 1411, 1412; SPAN 1411, 1412; VIET 1411, 1412
- Natural Science (030)
  - ENVR1301,1401(Note:Creditwillnotbegivenforboth ENVR 1301 and 1401)
- Humanities (040)
  - ENGL 2332, 2333, 2336
- Visual/Performing Arts (050)
  - ARTS 1303, 1304, DANC 1305, 1306
- Social/Behavioral Science (080)
  - ANTH 2302, 2346, 2351; ECON 2301, 2311; GEOG 1302, 1303, 2312; HIST 2311, 2312, 2321, 2322; PHIL 2307; SOCI 1301, 2374
- Cross/Multicultural Studies (091)
  - ANTH 2302, 2346, 2351; ARTS 1303, 1304; ARAB 1411, 1412; CHIN 1411, 1412; FREN 1411, 1412; GERM 1411, 1412; JAPN 1411, 1412; KORE: 1411, 1412; SPAN 1411,1412; VIET 1411, 1412; ECON 2311; ENGL 2332, 2333, 2336; GEOG 1302, 1303, 2312; HIST 2311, 2312, 2321, 2322; HUMA 1301, PHIL 1304, 2307 2316, 2317; PSYC 2370; SOCI 1301, 2374



# Academic Degrees

## Mexican-American/Latino Studies Certificate

The Mexican-American/Latino Studies Certificate is a 15-semester hour academic certificate designed to help you understand Mexican-American/Latino culture from different perspectives. It provides a unique foundation for various majors and careers, including elementary education, social and behavioral sciences, criminal justice, and many others. (All courses are core curriculum courses and will transfer as core to all Texas public universities).

### Required Foundation Courses (take both)

ENGL 2336 Multicultural Literature (Emphasis on Mexican-American and Latin-American Literature) .....	3
HUMA 2319 Minority Experience in the US. (Emphasis on Mexican-Americans / Latinos).....	3

### Choose any three courses from the following list:

Oral Communication (011)	SPAN 2311, 2312, 2313, 2315
Social/Behavioral Science (080)	GOVT 2301 (Emphasis on Mexican-American / Latino issues)
	HIST 2380 (Emphasis on Mexican-American / Latino issues)
	HIST 2328 (Mexican-American History)
Cross/Multicultural Studies (091)	HUMA 1305 Introduction to Mexican-American Studies
	HUMA 2323(Emphasis on Meso-American Pre-Hispanic Culture)

## Women & Gender Studies Certificate

The WGS certificate is a 15-semester hour certificate designed to help the student understand women's and gender issues as a fundamental category of social and cultural analysis; to help the student link gender with class, race, ethnic, and sexual identification; and to help the student analyze the diversity of women's experiences. It provides a unique foundation for various majors and careers, including education, social and behavioral sciences, criminal justices, math, engineering and many others. (All courses are core curriculum courses and will transfer as core to all Texas public universities.)

### Required Foundation Courses (take both)

Engl 1302 Composition II (Emphasis on women and gender issues) .....	3
Hist 1302 US History after 1877 (Emphasis on women and gender issues).....	3

### Choose any three courses from the following List:

Oral Communication (011)	SPCH 1311, 1315, 1318, 1321 (all need an emphasis on women and gender issues)
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Natural Science (030)	BIOL 1407 (focus on gender differences)
Humanities (040)	ENGL 2322, 2323, 2727, 2728, 2332, 2333, 2334, 2335, 2336, 2341, 2342, 2343, 2353 (all need an emphasis on women and gender issues)
	PHIL 1301, 1304, 2306, 2307, 2316, 2317 (women and gender issue focus)
Visual/Performing Arts (050)	ARTS 1301, 1303, 1304 (all need an emphasis on women and gender issues)
Social and Behavioral Science (080)	ANTH 2351 (emphasis on women and gender issues)
	GOVT 2301, 2302 (all need an emphasis on women and gender issues)
	HIST 1301, 2311, 2312, 2321, 2322, 2328, 2380, 2381 (all need an emphasis on women and gender issues)
	SOCI 1301, 1306, 2301, 2374 (all need an emphasis on women and gender issues)
Cross/Multicultural Studies (091)	ANTH 2302, HIST 2311, 2312, 2321, 2322, 2328, 2380, 2381 (all need an emphasis on women and gender issues)
	PSYC 2374, SOCI 1301, 1306, 2301, 2374 (all need an emphasis on women and gender issues)
	SPAN 2321, 2323 (all need an emphasis on women and gender issues)
Additional WGS-related courses*	PSYC 2306, 2308, 2314 (all need an emphasis on women and gender issues)

*Note: Additional courses above are elective courses for degree purposes. They do not count in the core curriculum and may not apply to the university major in transfer. See counselor.*

## Additional Associate Degrees

A student who has received an associate degree or higher from an accredited institution must meet specific requirements to earn an additional degree from HCC.

- The student must complete a minimum of 18 semester hours at HCC for each additional degree. These hours may not repeat credit applied from a previous HCC degree. These hours may not be satisfied through credit by exam.
- All additional hours must be applicable toward the additional degree. If the student has prior credit in required courses, appropriate substitutions may be arranged.
- All courses required by the specific HCC program of the additional degree must be completed.
- A grade point average of at least 2.0 must be earned on all hours since the previous degree.
- Academic courses from previous degrees may be applied to an additional AAS degree required academic core where equivalent and appropriate,

# Academic Degrees

which waives the need for approval, except where program restrictions prevail.

- If the first degree was an Associate in Arts, an Associate of Arts in Teaching, Associate in Science, a bachelor degree, or higher degree from an accredited educational institution in the United States, the student will be considered to be “Core Complete”, thus needing to complete only the requirement of 18 additional semester hours at HCC toward a new associate degree.
- Each additional academic associate degree obtained from HCC must be of a different type. Thus, a student may only obtain one Associate in Arts, one Associate of Arts in Teaching, and/or one Associate in Science from HCC. For example, if one degree from HCC was an AA, then any additional degrees must be an AAT, AS, or AAS.
- Multiple Associate of Applied Science degrees may be earned from HCC if all AAS program requirements are met including earning at least 18 additional semester hours at HCC, 12 of which must be earned in the major program of the additional degree. In most cases, however, there is only one AAS degree allowable per workforce program. See counselor or program chair for clarification.
- Multiple workforce Certificates of Completion may be earned from HCC if all program requirements are met for each certificate including earning at least 9 additional unique semester hours at HCC toward the major program of the additional certificate.
- All other state and institutional graduation requirements, including TSI policies and financial obligations, must be met.

## Core Curriculum

The core curriculum is required of all AA, AAT, and AS graduates. In 1997, the 75th Texas Legislature passed Senate Bill 148, which required the Texas Higher Education Coordinating Board to adopt rules that include a statement of “the content, component areas, and objectives of the core curriculum”. Every public institution of higher education was required by law to adopt and implement by fall 1999, a core curriculum of no less than 42 semester hours that will be fully transferable and, if completed, will substitute for a receiving institution’s core curriculum.

In compliance with state recommendations and in the spirit of improving its educational service to students, HCC will require all students seeking an AA, AAT, or AS to complete the core curriculum. The purpose of the HCC core curriculum program is to provide the basic intellectual competencies and perspectives that help define the educated person.

The exemplary educational objectives listed for the various courses included in the core will form the basis for assessing student performance and the effectiveness of the HCC core curriculum.

## Basic General Education Competencies in the HCC Core Curriculum

Essential to the learning process in any discipline are six basic general education competencies: reading, writing, speaking, listening, critical thinking, and computer literacy. These competencies should form the components of the HCC core curriculum and be woven into instructional practices throughout each course. Although certain courses address specific competencies, such as writing or speaking, the competencies of critical thinking or computer literacy may be included as specific objectives in many different courses. ***(While only AA, AS, and AAT degree seeking students complete a Core Curriculum, the AAS degree-seeking students must also complete the General Education Competencies listed below).***

**Reading:** Reading at the college level means having the ability to understand, analyze, and interpret a variety of printed materials: books, articles, and documents.

**Writing:** Writing at the college level means having the ability to produce clear, correct, and coherent prose adapted to a specific purpose, occasion, and audience. In addition to knowing how to use correct grammar, spelling, and punctuation, students should also become adept with the writing process, including how to determine a topic, how

to organize and develop it, and how to phrase it effectively for their audience. These abilities are acquired through practice and reflection.

**Speaking:** Effective speaking is the ability to communicate orally in clear, coherent, and persuasive language appropriate to purpose, occasion, and audience.

**Listening:** Listening at the college level means having the ability to understand, analyze, and interpret various forms of spoken communication.

**Critical Thinking:** Critical thinking embraces methods for applying both qualitative and quantitative skills analytically and creatively to subject matter in order to evaluate arguments and to construct alternative strategies. Problem solving is one of the applications of critical thinking used to address an identified task.

# Academic Degrees

**Computer Literacy:** Computer literacy at the college level means having the ability to use computer-based technology in communicating, solving problems, and acquiring information. Core-educated students should have an understanding of the limits, problems, and possibilities associated with the use of technology and should have the tools necessary to evaluate and learn new technologies as they become available.

## Perspectives in the Core Curriculum

The HCC core curriculum will contain courses that help students:

- Establish broad and multiple perspectives on the individual in relation to the larger society and world in which we live and to understand the responsibilities of living in a culturally and ethnically diverse world.
- Develop a capacity to reflect upon and discuss individual, political, economic, and social aspects of life in order to determine ways in which to be a responsible member of society.
- Recognize the importance of maintaining health and wellness.
- Develop a capacity to use knowledge of how technology and science affect their lives.
- Develop personal values for ethical behavior.
- Develop the ability to make aesthetic judgments.
- Use logical reasoning in problem solving.
- Integrate knowledge and understanding of the interrelationships of the scholarly disciplines.

## Core Components and Related Exemplary Educational Objectives

### Summary Distribution Requirements:

Communication .....	9 Semester Hours
Mathematics .....	3 Semester Hours
Natural Sciences .....	7 Semester Hours
Humanities and Arts Humanities .....	3 Semester Hours
Visual/Performing Arts .....	3 Semester Hours
Social/Behavioral Sciences	
American History .....	6 Semester Hours
Government .....	6 Semester Hours
Social Science .....	3 Semester Hours
Cross/Multicultural Studies .....	3 Semester Hours
Total .....	43 Semester Hours

## Communication - Nine Semester Hours

### Courses That Fulfill This Requirement:

*Written communication (take both):*

English 1301 Composition I.....3 Semester Hours

English 1302 Composition II.....3 Semester Hours

Oral communication (choose one):

ARAB 1411, 1412; CHIN 1411, 1412; FREN 1411, 1412

GERM 1411,1412; JAPN 1411, 1412; KORE 1411, 1412;

RUSS 1411, 1412; SPAN 1411,1412; SPCH 1311,1315,

1318, 1321, 1342, 2335, 2341; TURK 1491,1492;

VIET 1411,1412

The objective of communication in the core curriculum is to enable the student to communicate effectively in a style appropriate to the subject, occasion, and audience.

### Exemplary Educational Objectives

- To understand and demonstrate writing and speaking processes through invention, organization, drafting, revision, editing, and presentation.
- To understand the importance of specifying audience and purpose and to select appropriate communication choices.
- To understand and appropriately apply modes of expression (descriptive, expository, narrative, scientific, and self-expressive) in written, visual, and oral communication.
- To participate effectively in groups with emphasis on listening, critical and reflective thinking, and responding.
- To understand and apply basic principles of critical thinking, problem solving, and technical proficiency in the development of exposition and argument.
- To develop the ability to research and write a documented paper and/or to give an oral presentation.

## Mathematics Three Semester Hours

### Courses That Fulfill This Requirement:

MATH 1314, 1316, 1324, 1325, 1332, 1342, 1442, 2305,

2318, 2320, 2412, 2413, 2414, 2415

The objective of mathematics in the core curriculum is to develop a quantitatively literate college graduate. Every college graduate should be able to apply basic mathematical tools in the solution of real-world problems.

# Academic Degrees

## Exemplary Educational Objectives

- To apply arithmetic, algebraic, geometric, higher-order thinking, and statistical methods to modeling and solving real-world situations.
- To represent and evaluate basic mathematical information verbally, numerically, graphically, and symbolically.
- To expand mathematical reasoning skills and formal logic to develop convincing mathematical arguments.
- To use appropriate technology to enhance mathematical thinking and understanding and to solve mathematical problems and judge the reasonableness of the results.
- To interpret mathematical models such as formulas, graphs, tables, and schematics and draw inferences from them.
- To recognize the limitations of mathematical and statistical models.
- To develop the view that mathematics is an evolving discipline, interrelated with human culture, and understand its connections to other disciplines.

## Natural Sciences - Seven Semester Hours

### Courses That Fulfill This Requirement:

ANTH 2301; ASTR 1303, 1304, 1403, 1404; BIOL 1308, 1309, 1322, 1406, 1407, 1411, 1413, 2401, 2402, 2406, 2416, 2420, 2428; DANC 2325; CHEM 1305, 1307, 1405, 1407, 1411, 1412, 1413, 1414, 2423, 2425; ENVR 1301, 1401; GEOG 1301; GEOL 1345, 1347, 1401, 1402, 1403, 1404, 1405; PHYS 1305, 1307, 1401, 1402, 2325 & 2125, 2326 & 2126

*(One course must have a laboratory component.)*

*Note: Natural Science core course restrictions are as follows: BIOL 1308 and 1406 may not be taken in combination to fulfill the core requirements. Of the following CHEM courses (1305, 1405, 1411, and 1413), only one may be taken to fulfill the core curriculum requirement).*

The objective of the natural sciences in the core curriculum is to enable the student to understand, construct, and evaluate relationships in the natural sciences and to enable the student to understand the basis for building and testing theories.

## Exemplary Educational Objectives

- To understand and apply methods and appropriate technology to the study of natural sciences.
- To recognize scientific and quantitative methods and the differences between these approaches and other methods of inquiry and to communicate findings, analyses, and interpretations, both orally and in writing.
- To identify and recognize the differences among competing scientific theories.
- To demonstrate knowledge of the major issues and problems facing modern science, including issues that touch upon ethics, values, and public policies.
- To demonstrate knowledge of the interdependence of science and technology and their influence on, and contribution to, modern culture.

*Note: In the following science course combinations, only one in each list may satisfy certificate or associate degree natural science core requirements. The other courses, if additionally taken, may count as electives in the certificate or degree plan:*

- Only one of ENVR 1301 or ENVR 1401 may be taken as natural science core.
- Only one of PHYS 1311, PHYS 1411, ASTR 1304, 1382, 1404, or 1482 may be taken as natural science core.
- Only one of PHYS 1312, PHYS 1412, ASTR 1303, 1403, 1381, or 1481 may be taken as natural science core.

# Academic Degrees

## Humanities and Visual and Performing Arts – Six Semester Hours

### Courses That Fulfill This Requirement:

Three Hours of Humanities:

ENGL 2307, 2308, 2322, 2323, 2327, 2328, 2332, 2333, 2334, 2335, 2336, 2341, 2342, 2343, 2351, 2353, 2374; HUMA 2319; PHIL 1301, 2306, 2307, 2316 or 2317, 2321

Three Hours of Visual or Performing Arts:

ARTS 1301, 1303, 1304, 1311, 1312, 1316, 1317, 2316, 2317, 2323, 2324, 2326, 2327, 2333, 2334, 2341, 2342, 2346, 2347, 2348, 2349, 2356, 2357, 2366, 2367

DANC 1112, 1113, 1210, 1211, 1301, 1305, 1306, 1341, 1342, 1345, 1346, 1347, 1348, 1349, 2112, 2113, 2210, 2301, 2303, 2325, 2341, 2342, 2345, 2346, 2347, 2351, 2352, 2389

DRAM 1161, 1162, 1310, 1320, 1322, 1330, 1341, 1351, 1352, 2331, 2336, 2337, 2338, 2351, 2361, 2363, 2366, 2367, 2389

MUAP 1101-2292 (Music Lessons)

MUSI 1131, 1135, 1139, 1140, 1159, 1160, 1161, 1163, 1164, 1166, 1168, 1181, 1182, 1183, 1184, 1188, 1190, 1192, 1211, 1212, 1216, 1217, 1223, 1226, 1227, 1229, 1239, 1254, 1301, 1306, 1308, 1309, 1310, 1386, 2135, 2139, 2140, 2159, 2160, 2161, 2163, 2164, 2181, 2182, 2211, 2212, 2216, 2217, 2223, 2227, 2229, 2239, 2241, 2258, 2266, 2386

The objective of the humanities and visual and performing arts in a core curriculum is to expand students' knowledge of the human condition and human cultures, especially in relation to behaviors, ideas, and values expressed in works of human imagination and thought. Through study in disciplines such as literature and the visual and performing arts, students will engage in critical analysis, form aesthetic judgments, and develop an appreciation of the arts and humanities as fundamental to the health and survival of any society. Students should have experiences in both the arts and humanities. Students must write a research essay demonstrating critical thinking skills using appropriate MLA or APA documentation.

### Exemplary Educational Objectives

- To demonstrate awareness of the scope and variety of works in the arts and humanities.
- To understand those works as expressions of individual and human values within a historical and social context.
- To respond critically to works in the arts and humanities.

- To engage in the creative process or interpretive performance and comprehend the physical and intellectual demands required of the author or visual or performing artist.
- To articulate an informed personal reaction to works in the arts and humanities.
- To develop an appreciation for the aesthetic principles that guide or govern the humanities and arts.
- To demonstrate knowledge of the influence of literature, philosophy, and/or the arts on intercultural experiences.

## Social and Behavioral Sciences 15 Semester Hours

### Courses That Fulfill This Requirement:

Six Hours of American History: (choose two)

choose one HIST 1301, 1302 and

choose one from HIST 1301, 1302, 2301, 2328, 2371 or 2381

Six Hours of Government: (take both)

GOVT 2301, 2302

Three Hours of Social/Behavioral Science: (choose one)

ANTH 2302, 2346, 2351; ECON 2301, 2302, 2311;

GEOG 1302, 1303, 2312; GOVT 2304; HIST 2389

PHIL 2307; PSYC 2301, 2389; SOCI 1301, 1306, 2301,

2319, 2336, 2374; TECA 1354

The objective of social and behavioral science in the core curriculum is to increase students' knowledge of how social and behavioral scientists discover, describe, and explain the behaviors and interactions among individuals, groups, institutions, events, and ideas. Such knowledge will better equip students to understand themselves and the roles they play in addressing the issues facing humanity.

### Exemplary Educational Objectives

- To employ the appropriate methods, technologies, and data that social and behavioral scientists use to investigate the human condition.
- To examine social institutions and processes across a range of historical periods, social structures, and cultures.
- To use and critique alternative explanatory systems or theories.
- To develop and communicate alternative explanations or solutions for contemporary social issues.
- To analyze the effects of historical, social, political, economic, cultural, and global forces on the subject of study.

# Academic Degrees

- To comprehend the origins and evolution of U.S. and Texas political systems, with a focus on the growth of political institutions, the constitutions of the U.S. and Texas, federalism, civil liberties, and civil and human rights.
- To understand the evolution and current role of the U.S. in the world.
- To differentiate and analyze historical evidence (documentary and statistical) and differing points of view.
- To recognize and apply reasonable criteria for the acceptability of historical evidence and social research.
- To analyze, critically assess, and develop creative solutions to public policy problems.
- To recognize and assume responsibility as a citizen in a democratic society by learning to think independently, by engaging in public discourse, and gathering information through the news media and other appropriate sources about politics and public policy.
- To identify and understand differences and commonalities of diverse cultures.

## Cross/Multi-Cultural Studies Three Semester Hours

### Courses That Fulfill This Requirement:

ANTH 2302, 2346, 2351; ARTS 1301, 1303, 1304  
DANC 2303; ECON 2311; EDUC 1325; ENGL 2322,  
2323, 2327, 2328, 2332, 2333, 2334, 2335, 2336, 2341,  
2342, 2343, 2353, 2374; GEOG 1302, 1303, 2312;  
HIST 2311, 2312, 2321, 2322, 2328, 2380, 2381;  
HUMA 1301, 1305, 2319, 2323; MUSI 1306, 1308, 1309;  
PHED 1304; PHIL 1301, 1304, 2307, 2321, 2316, 2317  
PSYC 2370, 2374; SOCI 1301, 2374; SPCH 1318  
Any Foreign Language 1411, 1412, 2311, 2312

The objective of cross/multi-cultural studies in the core curriculum is to introduce students to areas of study which enlarge their knowledge and appreciation of the multi-cultural and multi-racial world in which they live.

### Exemplary Educational Objectives

- To establish broad and multiple perspectives in relation to the larger society and world in which we live, and to understand the responsibilities of living in a culturally and ethnically diversified world.
- To demonstrate knowledge of those elements and processes that create and define culture.
- To understand and analyze the origin and function of values, beliefs, and practices found in human societies.
- To develop basic cross/multi-cultural understanding, empathy, and communication.
- To identify and understand underlying commonalities of diverse cultural practices.

# Career and Technology Education Degrees and Certificates

## Career and Technology Education Degrees and Certificates

Designed primarily for students seeking skills, knowledge, and training leading to employment in a specific field, the Associate in Applied Science degree is awarded in technical and occupational areas. Courses and programs are divided into thirteen clusters: Agriculture, Food, and Natural Resources; Architecture and Construction; Arts, Audio/Video Technology and Communications; Business; Education and Schools; Government and Public Service; Health and Medical Sciences; Hospitality and Tourism; Human Services and Social Sciences; Information Technology; Manufacturing; Science, Technology, Engineering and Mathematics; and Transportation, Distribution and Logistics. Degree requirements include general education courses and specific occupation-related courses.

### Associate in Applied Science (AAS)

The **Associate in Applied Science (AAS)** degree is intended primarily for students whose first priority is to acquire skills and knowledge needed for employment in a specific field.

To be eligible for an AAS degree from HCC, a student must successfully:

- Complete at least 60 semester hours of credit and the prescribed curriculum for a two-year career and technology education program (see AAS degree plans).
- Complete a minimum of 18 semester hours toward the degree at HCC, 12 semester hours of which must be in the career and technology education program the student is pursuing. These hours may not be satisfied by Credit by Examination or Advanced Standing Credit.
- Have an overall 2.0 HCC grade point average.
- Satisfy all TSI requirements.
- Resolve all financial obligations and return all materials to HCC prior to graduation.

Multiple Associate of Applied Science degrees may be earned from HCC if all AAS program requirements are met, including earning at least eighteen (18) additional semester hours at HCC. Twelve (12) of these hours must be earned in the major program of the additional degree. These hours may not be satisfied through credit by exam or advanced-standing credit. Though an AAS degree may have multiple specialization options, only one AAS degree can be earned with one specialization per career and technical education program and/or discipline. For additional information, please contact the counseling office.

## General Education Competencies for AAS Degree Students

All AAS degree-seeking students will be expected to obtain the following general education competencies: Reading, Writing, Speaking, Listening, Critical Thinking, and Computer Literacy. These are the same general education competencies expected for all associate degree seeking students at HCC and are further defined on p. (69) of this Catalog. These competencies will be taught in many of the program-specific courses and in the General Education Elective Course Options below. Assessments of the general education competencies will be performed in Freshman Success Courses (computer literacy), program-specific courses (especially Capstone Courses), and in the general education elective courses.

# Career and Technology Education Degrees and Certificates

## General Education Elective Course Options

In the various AAS Career & Technology Education degree plans, some general education electives are required. These courses will ensure that AAS degree-seeking students obtain the same general education competencies noted above as all AA, AS, and AAT degree-seeking students are expected to obtain. The following courses are approved:

CTE Humanities/Fine Arts Electives: Must choose three hours from ARTS, DANC, DRAM, ENGL Literature, Foreign Language 2311, 2312, HUMA, MUAP, MUSI, or any PHIL (except 2303). Math/Science Electives: Must choose three hours from ANTH 2301, ASTR, BIOL, CHEM, DANC 2325, ENVR, GEOG 1301, GEOL, MATH, PHYS, or PSYC 2317.

Math/Science Electives: Must choose three hours from ANTH 2301, ASTR, BIOL, CHEM, DANC 2325, ENVR, GEOG 1301, GEOL, MATH, PHYS, or PSYC 2317.

Social/Behavioral Science Electives: Must choose three hours from ANTH (2302, 2346, or 2351), ECON, GEOG, GOVT, HIST, PSYC (except 2317), or SOCI.

*General Education Electives: Students must choose one course from each of the above areas.*

## Advanced Technical Certificate

An **Advanced Technical Certificate** is a certificate that has a defined associate or baccalaureate degree (or, in some circumstances, junior-level standing in a baccalaureate degree program) as a prerequisite for admission into the certificate program. It must consist of at least 16 and no more than 50 SCH. It must be focused, clearly related to the prerequisite degree, and justifiable to meet industry or external agency requirements. It is designed to provide a longer, more specialized, and advanced set of knowledge and skills in a particular area of expertise, e.g., Diagnostic Medical Sonography.

## Enhanced Skills Certificate

An **Enhanced Skills Certificate** is a certificate associated with an AAS degree program. The associated AAS must be a prerequisite for the enhanced skills certificate. The certificate must be well focused, clearly related to the program, and justifiable. It must consist of at least six and no more than 15 SCH and may extend an AAS award to an overall total that shall not exceed 87 semester hours. It is intended to provide skills beyond career entry or where external mandates make it impossible for specified programs to meet the 72 SCH limit.

To be eligible for an Enhanced or an Advanced Technical Certificate from HCC, a student must:

- Complete the related AAS degree.
- Successfully complete the prescribed curriculum.
- Have an overall grade point average of at least 2.0 in all credits applying to the certificate.
- Resolve all financial obligations to HCC and return all materials, including library books.

## Certificates of Completion

A Level I Certificate can be completed by a student in one calendar year or less. It must consist of at least 15 and no more than 42 semester credit hours. Students in all Level I certificates shall be subject to the requirements of the Texas Success Initiative (TSI).

A **Level II Certificate** must consist of at least 43 and no more than 59 semester credit hours. Students in all Level II certificates shall be subject to the requirements of the Texas Success Initiative (TSI).

A **Certificate** is awarded upon completion of a sequence of courses in an occupational field. Credits earned in a certificate typically apply to a related HCC Associate in Applied Science degree.

To be eligible for a Certificate of Completion from HCC, a student must successfully:

- Complete the prescribed curriculum for the certificate.
- Complete a minimum of nine hours in the specialization area toward the certificate at HCC. Hours may not be satisfied by Credit by Exam.
- Maintain an overall grade point average of at least 2.0 in all credits applying to the certificate.
- Present evidence of initial assessment testing on a state-approved instrument or evidence of TSI exemption.
- Resolve all financial obligations and return all materials, including library books, to HCC prior to graduation.

Multiple Certificates of Completion may be earned from HCC if all program requirements are met for each certificate, including earning nine (9) additional unique semester hours at HCC toward the major program of the additional certificate. These hours may not be satisfied through credit by exam or advanced-standing credit. Though a certificate may have multiple specialization options, only one certificate can be earned with one specialization per career and technical education program and/or discipline. For additional information, please contact the counseling office.



# Career and Technology Education Degrees and Certificates

A **Marketable Skills Achievement Award (MSA)** is granted to students who complete a sequence of credit courses totaling 9-14 SCH. These awards meet the minimum standard for program length specified in the federal Workforce Investment Act (WIA) but are too short to qualify as certificate programs on the Texas Higher Education Coordinating Board program inventory. MSA credit awards are in the following programs: Accounting, Automotive Technology, Business Management, Business Technology, Computer Science Technology, Culinary Arts, Digital Communication, Fashion Design, Fashion Merchandising, Fire Protection Technology, Horticulture, Interior Design, Real Estate and Travel and Tourism. Credits earned in a MSA typically apply to a related HCC certificate or AAS degree.

For specific MSA career and technology education degree plans visit the web site @ <http://www.hccs.edu/hccs/business-community/career-technical-education-workforce>.

## Exemplary Programs

HCC's commitment to quality education in career and technology education was validated during the Texas Higher Education Coordinating Board (THECB) site visit in April, 2005. The THECB rigorously examined the HCC Career & Technology Education programs using statewide measures and standards for program effectiveness. Based on enrollment, graduates, placement of completers, industry involvement and quality of instruction, the following career and technology programs were rated "exemplary," the highest rating possible:

- Accounting
- Audio Recording/Video Production
- Automotive Technology
- Broadcast Technology
- Business Administration
- Business Technology
- Child Development
- Computer Information Sciences
- Computer Programming
- Criminal Justice
- Drafting and Design Engineering Technology
- Emergency Medical Services
- Fashion Design
- Fashion Merchandising
- Finance (Banking)
- Fire Protection Technology
- Fire Science/Firefighting
- Interior Design
- Marketing, Management and Research
- Medical Assistant
- Nuclear Medicine Technology
- Pharmacy Technician
- Physical Therapist Assistant
- Real Estate
- Respiratory Therapist
- Technical Communication

# Agriculture, Food, Natural Resources

## Horticulture Technology (01.0601) Veterinary Paramedic (51.0808)

A Career Cluster is a grouping of occupations and broad industries based on commonalities. The Agriculture, Food, and Natural Resources career cluster is concerned with providing knowledge and skills related to production, processing, marketing, distribution, financing, and development of agricultural commodities and resources including food, fiber, wood products, natural resources, horticulture, and other plant and animal products/resources. This includes the following HCC programs: Horticulture Technology and Veterinary Paramedic.

All new semester hour students, who have earned less than 12 semester hours of college level credit, are required to take a first-year student success course in their first term at HCC. Through research and experience, Houston Community College has determined that many life and career management skills are necessary for students to make the most of their college investment. A student success course is designed to prepare students for the demands of college and for success in the world of work. The course emphasizes setting priorities, time management, effective listening, note-taking, concentration techniques and retention of information, book analysis, comprehension techniques, and test-taking skills. This course also incorporates units that are designed to facilitate the use of library databases in conducting research, planning and setting educational objectives, lifelong career assessment, decision-making, financial aid, tutoring, and student support services, enabling the student to maximize the use of college resources.

Every HCC Career and Technology Education program contains a “capstone,” an experience for the student to “put it all together.” The capstone is a learning experience resulting in a consolidation of a student’s educational experience and certifies mastery of entry level workplace competencies. The capstone experience must occur during the last semester of the student’s educational program. The capstone consists of an external learning experience or an advanced course especially designed to help students synthesize knowledge and skills or other licensure as appropriate.

## HORTICULTURE TECHNOLOGY

Horticulture is the art and science of cultivating plants. In the past, this referred to agriculture and simple gardening. New practices and tools have broadened the scope to include “ornamental landscape horticulture” or “production horticulture.” The Horticulture Technology program offers the basic knowledge and skills necessary for entry-level jobs and careers in horticulture. Students considering continuing their studies in Horticulture at a four-year college are responsible for reviewing that college’s baccalaureate degree requirements and for consulting with an HCC counselor in planning their degree program.

**Please note that a student may only earn one Marketable Skills Achievement Award (MSA) per academic year.**

### Program Outcomes

Students will be able to

- Identify key landscape plants, economic crops, insects, pests, and diseases and be able to manage them where they exist in the environment.
- Utilize principles of biology, particularly as they apply to plant propagation and growth and the management of landscape pests and diseases.
- Apply extensive practical knowledge in the management of materials and resources in areas such as fertilization, irrigation, pest management, and greenhouses.
- Demonstrate the ability to locate, apply for, interview, and keep a professional position in the workplace.

For more information call 713.718.5591 or e-mail [brenda.anderson@hccs.edu](mailto:brenda.anderson@hccs.edu).

## Horticulture

### AAS

*TSI testing is required prior to first enrollment.*

### FIRST YEAR

First Semester			Credits
LEAD	1200	Workforce Development with Critical Thinking*	2
HALT	1301	Principles of Horticulture	3
ENGL	1301	Composition I	3
HALT	1211	Shrubs, Vines, and Groundcovers	2
HALT	1309	Interior Plants	3
<b>Semester Total</b>			<b>13</b>

# Agriculture, Food, Natural Resources

## Second Semester Credits

SPAN 1300	Beginning Spanish Conversation I	3
HALT 1307	Plant Diseases	3
HALT 1333	Landscape Irrigation	3
FMKT 1301	Floral Design	3
AGRI 1309	Computers in Agriculture	3

**Semester Total 15**

## Third Semester Credits

XXXX #3##	Social/Behavioral Science General Education Elective	3
HALT 2314	Plant Propagation	3
HALT 2318	Soil Fertility and Fertilizers	3
CHEM 1305	Introductory Chemistry I OR	
CHEM 1405	Introductory Chemistry I	3-4

**Semester Total 12-13**

## SECOND YEAR

### First Semester Credits

HALT 1322	Landscape Design	3
HALT 2308	Greenhouse Management	3
HALT 1319	Landscape Construction	3
HALT 2312	Turfgrass Maintenance	3
HALT 2320	Nursery Production and Management	3

**Semester Total 15**

### Second Semester Credits

HALT 1351	Landscape Business Operations	3
HALT 2331	Advanced Landscape Design	3
HALT 2307	Horticulture Food Crops OR	
HALT 1370	Introduction to Aquaponics	3
XXXX #3##	Humanities/Fine Arts General Education Elective	3
HALT 1382	Cooperative Education**	3

**Semester Total 15**

**Program Total 70-71**

*\*Student Success Course*

*\*\*Capstone*

## Landscape Horticulture

The Landscape Horticulture certificate provides students with fundamental instruction in horticultural science and applicable workforce skills with an emphasis on landscaping techniques.

### CERTIFICATE

*TSI testing is required prior to first enrollment.*

#### First Semester Credits

LEAD 1200	Workforce Development with Critical Thinking*	2
HALT 1301	Principles of Horticulture	3
HALT 1211	Shrubs, Vines, and Groundcovers	2

AGRI 1309	Computers in Agriculture	3
CHEM 1305	Introductory Chemistry I OR	
CHEM 1405	Introductory Chemistry I	3-4

**Semester Total 13-14**

#### Second Semester Credits

HALT 1307	Plant Diseases	3
HALT 2314	Plant Propagation	3
HALT 2318	Soil Fertility and Fertilizers	3
HALT 1309	Interior Plants	3
HALT 1322	Landscape Design	3

**Semester Total 15**

#### Third Semester Credits

HALT 1319	Landscape Construction	3
HALT 1333	Landscape Irrigation	3
HALT 1382	Cooperative Education	3
HALT 2331	Advanced Landscape Design**	3

**Semester Total 12**

**Program Total 38-39**

*\*Student Success Course*

*\*\*Capstone*

## Horticulture Entrepreneurial Specialization

The Horticulture Entrepreneurial Specialization certificate is designed to prepare students to start their own business. The certificate focuses on the business management aspect of the industry as well as providing instruction in plant care and landscape design.

### CERTIFICATE

*TSI testing is required prior to first enrollment.*

#### First Semester Credits

LEAD 1200	Workforce Development with Critical Thinking*	2
HALT 1301	Principles of Horticulture	3
HALT 1211	Shrubs, Vines, and Groundcovers	2
HALT 2308	Greenhouse Management	3
CHEM 1305	Introductory Chemistry I OR	
CHEM 1405	Introductory Chemistry I	3-4

**Semester Total 13-14**

#### Second Semester Credits

HALT 1307	Plant Diseases	3
HALT 1309	Interior Plants	3
HALT 2314	Plant Propagation	3
HALT 2318	Soil Fertility and Fertilizers	3

**Semester Total 12**

# Agriculture, Food, Natural Resources

## Third Semester

	<b>Credits</b>
HALT 1319 Landscape Construction .....	3
HALT 1322 Landscape Design .....	3
HALT 1333 Landscape Irrigation .....	3
HALT 1380 Cooperative Education.....	3
<b>Semester Total</b>	<b>12</b>

## SECOND YEAR

### First Semester

	<b>Credits</b>
BUSG 1373 Entrepreneurship and Economic Development .....	3
BUSG 2309 Small Business Management/Entrepreneurship.....	3
MRKG 1311 Principles of Marketing OR	
ACNT 1303 Introduction to Accounting OR	
ACNT 2301 Principles of Accounting I.....	3
HALT 2331 Advanced Landscape Design** .....	3
<b>Semester Total</b>	<b>12</b>
<b>Program Total</b>	<b>49-50</b>

\*Student Success Course

\*\*Capstone

## Master of Floriculture

The Master of Floriculture certificate program prepares students for design and management positions in flower shops and other businesses involving floriculture. This one-year program with emphasis in floral design, plant care, and business knowledge gives students a strong advantage when they seek positions as qualified designers and managers.

### CERTIFICATE

*TSI testing is required prior to first enrollment.*

	<b>Credits</b>
LEAD 1200 Workforce Development with Critical Thinking* .....	2
HALT 1301 Principles of Horticulture .....	3
FMKT 1301 Floral Design.....	3
<b>Semester Total</b>	<b>8</b>

### Second Semester

	<b>Credits</b>
HALT 1309 Interior Plants.....	3
FMKT 2331 Advanced Floral Design.....	3
<b>Semester Total</b>	<b>6</b>

### Third Semester

	<b>Credits</b>
FMKT 2335 Flower Shop Management.....	3
HALT 1381 Cooperative Education- Applied Horticulture/Horticultural Operations** .....	3
<b>Semester Total</b>	<b>6</b>
<b>Program Total</b>	<b>20</b>

\*Student Success Course

\*\*Capstone

## Nursery and Floral Production

The Nursery and Floral Production certificate program enables students to gain an understanding of the latest technology, materials, and methods required in the growing, maintenance, distribution, and sale of nursery and floral plant material. The curriculum prepares students for work as wholesale growers of nursery stock, including woody ornamentals and foliage, bedding plants, potted flowering plants, cut flowers, and fruits and vegetables.

### CERTIFICATE

*TSI testing is required prior to first enrollment.*

#### First Semester

	<b>Credits</b>
LEAD 1200 Workforce Development with Critical Thinking* .....	2
HALT 1301 Principles of Horticulture .....	3
HALT 1211 Shrubs, Vines, and Groundcovers.....	2
AGRI 1309 Computers in Agriculture .....	3
HALT 2318 Soil Fertility and Fertilizers.....	3
<b>Semester Total</b>	<b>13</b>

#### Second Semester

	<b>Credits</b>
HALT 1307 Plant Diseases.....	3
HALT 2314 Plant Propagation .....	3
FMKT 1301 Floral Design.....	3
FMKT 2335 Flower Shop Management.....	3
<b>Semester Total</b>	<b>12</b>

#### Third Semester

	<b>Credits</b>
HALT 2308 Greenhouse Management.....	3
HALT 2320 Nursery Production and Management.....	3
FMKT 2331 Advanced Floral Design.....	3
HALT 1380 Cooperative Education**.....	3
<b>Semester Total</b>	<b>12</b>
<b>Program Total</b>	<b>37</b>

\*Student Success Course

\*\*Capstone

## Gulf Coast Gardener

The Gulf Coast Gardener Marketable Skills Achievement Award (MSA) allows students to choose a path of study from three areas: nursery, floral, or interiorscaping. It provides students with a general knowledge of horticulture and horticultural practices related to nursery and floral production and landscaping.

# Agriculture, Food, Natural Resources

## MSA

(Marketable Skills Achievement Award)

<b>First Semester</b>			<b>Credits</b>
HALT 1301	Principles of Horticulture .....		3
XXXX #3##	Elective*** .....		3
HALT 1211	Shrubs, Vines, and Groundcovers .....		2
HALT 1307	Plant Diseases .....		3
XXXX #3##	Elective*** .....		3
<b>Semester Total</b>			<b>14</b>
<b>Program Total</b>			<b>14</b>

\*\*\*Electives may be chosen from the following courses:  
 HALT 1309, HALT 1319, HALT 2308, HALT 2320, FMKT 1301,  
 or FMKT 2331.

## VETERINARY PARAMEDIC

The Veterinary Paramedic program prepares graduates for employment in zoological parks and aquariums, humane shelters, animal control centers, pet stores, kennels, stables and animal hospitals. The one-year program is divided into three semesters. New applicants are accepted each fall and spring semester. Instruction includes classroom lectures, practical labs and field trips. The program is not intended for pre-veterinary medicine or to qualify students as registered veterinary technicians.

Unless exempt from TSI testing, applicants must complete the admissions procedure to be considered for the program. Additionally, in order to ensure student success in the program, applicants are required to attend one of the department's monthly information sessions. Contact the program for specific requirements for admission and the student handbook for program policies.

### Program Outcomes

Students will be able to

- Identify exotic and domestic animal breeds.
- Operate veterinary technical equipment.
- Recognize common parasites in domestic and exotic animals.
- Perform routine hematological analysis on different animal species.
- Produce a radiograph and explain good radiography technique.
- Demonstrate knowledge of zoo mammal, avian, equine, canine and feline management.

For more information call 713.718.5851 or  
 e-mail [pamela.huebner@hccs.edu](mailto:pamela.huebner@hccs.edu).

## Veterinary Paramedic

### CERTIFICATE

TSI testing is required prior to first enrollment.

<b>First Semester</b>			<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking* .....		2
VTHT 1413	Veterinary Anatomy and Physiology .....		4
VTHT 1233	Small Zoo and Wild Mammals .....		2
VTHT 2323	Veterinary Clinical Pathology I .....		3
VTHT 1371	Shelter Management .....		3
VTHT 1166	Practicum .....		1
<b>Semester Total</b>			<b>15</b>

<b>Second Semester</b>			<b>Credits</b>
VTHT 2331	Veterinary Clinical Pathology II .....		3
VTHT 1229	Large Zoo and Wild Mammals .....		2
VTHT 1349	Veterinary Pharmacology .....		3
VTHT 2201	Canine and Feline Clinical Management .....		2
VTHT 2205	Equine Clinical Management .....		2
<b>Semester Total</b>			<b>12</b>

<b>Third Semester</b>			<b>Credits</b>
VTHT 1105	Veterinary Medical Terminology .....		1
VTHT 1345	Veterinary Radiology .....		3
VTHT 1370	Avian and Reptile Management .....		3
VTHT 1341	Anesthesia and Surgical Assistance** .....		3
<b>Semester Total</b>			<b>10</b>
<b>Program Total</b>			<b>37</b>

\*Student Success Course

\*\*Capstone

# Architecture and Construction

**Construction Engineering Technology  
(15.1001)  
Heating, Air Conditioning & Refrigeration  
(47.0201)  
Industrial Electricity (46.0301, 46.0302)**

A Career Cluster is a grouping of occupations and broad industries based on commonalities. The Architecture and Construction career cluster is concerned with providing knowledge and skills related to designing, planning, managing, building and maintaining the built environment. This includes the following HCC programs: Construction Engineering Technology, Heating, Air Conditioning & Refrigeration and Industrial Electricity.

All new semester hour students, who have earned less than 12 semester hours of college level credit, are required to take a first-year student success course in their first term at HCC. Through research and experience, Houston Community College has determined that many life and career management skills are necessary for students to make the most of their college investment. A student success course is designed to prepare students for the demands of college and for success in the world of work. The course emphasizes setting priorities, time management, effective listening, note-taking, concentration techniques, retention of information, book analysis, comprehension techniques, and test-taking skills. This course also incorporates units that are designed to facilitate the use of library databases in conducting research, planning and setting educational objectives, lifelong career assessment, decision-making, financial aid, tutoring, and student support services, enabling the student to maximize the use of college resources.

Every HCC Career and Technology Education program contains a "capstone," an experience for the student to "put it all together." The capstone is a learning experience resulting in a consolidation of a student's educational experience and certifies mastery of entry level workplace competencies. The capstone experience must occur during the last semester of the student's educational program. The capstone consists of an external learning experience or an advanced course especially designed to help students synthesize knowledge and skills or other licensure as appropriate.

## CONSTRUCTION ENGINEERING TECHNOLOGY

The Construction Engineering Technology program is designed to develop qualified personnel for employment in the field of construction or to enhance the workplace skills of those already employed in the industry for career advancement. Job opportunities include management and supervisory positions in construction of residential and commercial buildings and other related industries.

### Program Outcomes

Students will be able to:

- Demonstrate knowledge of safety rules and regulations.
- Demonstrate the proper use/selection and maintenance of hand and power tools and measuring instruments.
- Interpret and decode information found in blueprints, specifications, and applicable documents related to construction projects.
- Describe the mechanical, electrical, and plumbing components in construction and interpret applicable building codes.
- Utilize computer and related software to access, estimate, coordinate, and schedule construction projects.

For more information call 713.718.6898 or e-mail [max.saravia@hccs.edu](mailto:max.saravia@hccs.edu).

## Construction Technology

### AAS

*TSI testing is required prior to first enrollment.*

### FIRST YEAR

<b>First Semester</b>		<b>Credits</b>
LEAD	1200 Workforce Development with Critical Thinking* .....	2
TECM	1301 Industrial Mathematics .....	3
CNBT	1201 Introduction to the Construction Industry .....	2
CNBT	1318 Construction Tools and Techniques .....	3
CNBT	1300 Residential and Light Commercial Blueprint Reading.....	3
CNBT	1311 Construction Methods and Materials I .....	3
<b>Semester Total</b>		<b>16</b>

# Architecture and Construction

<b>Second Semester</b>			<b>Credits</b>
ITSC	1309	Integrated Software Applications .....	3
HART	1307	Refrigeration Principles.....	3
ELPT	1329	Residential Wiring.....	3
CNBT	#3##	Department Approved Elective .....	3
CNBT	1302	Mechanical, Plumbing, and Electrical Systems in Construction I.....	3
CNBT	1316	Construction Technology I.....	3
<b>Semester Total</b>			<b>18</b>

## SECOND YEAR

<b>First Semester</b>			<b>Credits</b>
ENGL	1301	Composition I.....	3
CNBT	1342	Building Codes and Inspections.....	3
BMGT	1301	Supervision .....	3
DFTG	1313	Drafting for Specific Occupations.....	3
XXXX	#3##	Humanities/Fine Arts General Education Elective .....	3
<b>Semester Total</b>			<b>15</b>

<b>Second Semester</b>			<b>Credits</b>
CNBT	1346	Construction Estimating I.....	3
CNBT	2342	Construction Management I.....	3
XXXX	#3##	Math/Natural Science General Education Elective .....	3
ENGL	1302	Composition II OR	
ARTS	1316	Foundation Drawing I.....	3
XXXX	#3##	Social/Behavioral Science General Education Elective...	3
<b>Semester Total</b>			<b>15</b>

<b>Third Semester</b>			<b>Credits</b>
CNBT	2337	Construction Estimating II OR	
BUSG	1303	Principles of Finance OR	
BMGT	1313	Principles of Purchasing .....	3
CNBT	2335	Computer-Aided Construction Scheduling **.....	3
<b>Semester Total</b>			<b>6</b>
<b>Program Total</b>			<b>70</b>

\*Student Success Course  
\*\*Capstone

## Craft Management Specialization

The AAS in Craft Management prepares qualified craftspeople to enhance their technical skills for career advancement. The program is designed to allow individuals in areas such as the apprenticeship programs and Heating, Air Conditioning and Refrigeration, Industrial Electricity, Welding, or other related disciplines, to assume supervisory, project leader or management positions.

A maximum of 21 semester hours of credit may be awarded for successful completion of an HCC certificate in an approved field, Department of Labor Bureau of Apprentice Training - Journeyman Certification, and/or field experience with approval of the department. For certificates with less than 21 semester hours, additional courses in Construction Technology or other related disciplines may be required.

## AAS

*TSI testing is required prior to first enrollment.*

### FIRST YEAR

Block credit for approved certification\* ..... 21

### SECOND YEAR

<b>First Semester</b>			<b>Credits</b>
ENGL	1301	Composition I.....	3
CNBT	1342	Building Codes and Inspections.....	3
BMGT	1301	Supervision .....	3
DFTG	1313	Drafting for Specific Occupations.....	3
XXXX	#3##	Humanities/Fine Arts General Education Elective .....	3
<b>Semester Total</b>			<b>15</b>

<b>Second Semester</b>			<b>Credits</b>
CNBT	1346	Construction Estimating I.....	3
CNBT	2342	Construction Management I .....	3
XXXX	#3##	Math/Natural Science General Education Elective .....	3
ENGL	1302	Composition II OR	
ARTS	1316	Foundation Drawing I.....	3
XXXX	#3##	Social/Behavioral Science General Education Elective...	3
<b>Semester Total</b>			<b>15</b>

<b>Third Semester</b>			<b>Credits</b>
CNBT	2337	Construction Estimating II OR	
BUSG	1303	Principles of Finance OR	
BMGT	1313	Principles of Purchasing .....	3
XXXX	#3##	Department Approved Elective .....	3
CNBT	2335	Computer-Aided Construction Scheduling**.....	3
<b>Semester Total</b>			<b>9</b>
<b>Program Total</b>			<b>60</b>

\*Student Success Course  
\*\*Capstone

# Architecture and Construction

## Construction Technology

The Construction Technology certificate program enhances the skills learned in the helper certificate by providing more advanced training in Heating, Air Conditioning and Refrigeration, Industrial Electricity, Plumbing and Construction Technology trades and practices.

### **CERTIFICATE**

*TSI testing is required prior to first enrollment.*

<b>First Semester</b>		<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking*	2
TECM 1301	Industrial Mathematics	3
CNBT 1201	Introduction to the Construction Industry	2
CNBT 1318	Construction Tools and Techniques	3
CNBT 1300	Residential and Light Commercial Blueprint Reading	3
CNBT 1311	Construction Methods and Materials I	3
<b>Semester Total</b>		<b>16</b>

<b>Second Semester</b>		<b>Credits</b>
ITSC 1309	Integrated Software Applications	3
HART 1307	Refrigeration Principles	3
ELPT 1329	Residential Wiring	3
CNBT #3##	Department Approved Elective	3
CNBT 1302	Mechanical, Plumbing, and Electrical Systems in Construction I	3
CNBT 1316	Construction Technology**	3
<b>Semester Total</b>		<b>18</b>
<b>Program Total</b>		<b>34</b>

*\*Student Success Course*

*\*\*Capstone*

## Construction Helper

The Construction Helper certificate prepares students for entry-level employment in the field of construction. Students are exposed to a variety of trades involved in residential and commercial buildings. Students enrolled in this certificate obtain basic skills required in the construction industry, including safety regulations, trade standards and practices, blueprint reading, basic carpentry, air conditioning, electrical, and plumbing skills.

### **CERTIFICATE**

*TSI testing is required prior to first enrollment.*

<b>First Semester</b>		<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking*	2
TECM 1301	Industrial Mathematics	3
CNBT 1201	Introduction to the Construction Industry	2
CNBT 1318	Construction Tools and Techniques	3
CNBT 1300	Residential and Light Commercial Blueprint Reading	3
CNBT 1311	Construction Methods and Materials I**	3
<b>Semester Total</b>		<b>16</b>
<b>Program Total</b>		<b>16</b>

*\*Student Success Course*

*\*\*Capstone*

## HEATING, AIR CONDITIONING AND REFRIGERATION

The Heating, Air Conditioning and Refrigeration program is designed to train individuals in the field of air conditioning, heating and refrigeration equipment, maintenance and repair and in the use of EPA-approved recovery equipment. Individuals satisfying course competencies have career opportunities in a variety of job classifications such as service and repair of residential and commercial air conditioning and refrigeration systems. All seeking employment as air conditioning/refrigeration technicians must pass an Environmental Protection Agency (EPA) certification test. HCC recommends students pass this test before completing the program.

Students successfully completing any of the certificates listed below may apply a maximum of 21 semester hours towards an AAS degree in Construction Technology - Craft Management Specialization. For certificates with fewer than 21 semester hours, additional courses in Construction Technology, Business Administration, or other related disciplines may be required.



# Architecture and Construction

## Program Outcomes

Students will be able to:

- Demonstrate knowledge of safety rules and regulations.
- Demonstrate the proper selection, use, and maintenance of hand and power tools and measuring instruments used in A/C and Refrigeration.
- Maintain A/C and Refrigeration equipment.
- Service/repair A/C and Refrigeration equipment.
- Troubleshoot A/C and Refrigeration equipment.

For more information call 713.718.6898 or e-mail max.saravia@hccs.edu.

## Basic Air Conditioning and Refrigeration\*\*\*

### CERTIFICATE

*TSI testing is required prior to completion of first enrollment.*

First Semester	Credits
LEAD 1200 Workforce Development with Critical Thinking* .....	2
TECM 1301 Industrial Mathematics .....	3
HART 1301 Basic Electricity for HVAC .....	3
HART 1307 Refrigeration Principles .....	3
HART 1341 Residential Air Conditioning .....	3
HART 1356 EPA Recovery Certification Preparation** .....	3
<b>Semester Total</b>	<b>17</b>
<b>Program Total</b>	<b>17</b>

*\*Student Success Course*

*\*\*Capstone*

*\*\*\*Pending approval from the Texas Higher Education Coordinating Board (THECB).*

## Heating, Air Conditioning and Refrigeration Technology\*\*\*

### CERTIFICATE

*TSI testing is required prior to completion of first enrollment.*

First Semester	Credits
LEAD 1200 Workforce Development with Critical Thinking* .....	2
TECM 1301 Industrial Mathematics .....	3
HART 1301 Basic Electricity for HVAC .....	3
HART 1307 Refrigeration Principles .....	3
HART 1341 Residential Air Conditioning .....	3
HART 1356 EPA Recovery Certification Preparation .....	3
<b>Semester Total</b>	<b>17</b>

## Second Semester

	Credits
HART 1345 Gas and Electric Heating .....	3
HART 2342 Commercial Refrigeration .....	3
HART 2349 Heat Pumps OR	
HART 2301 Air Conditioning and Refrigeration Codes .....	3
ELPT 1341 Motor Control OR	
INCR 1302 Physics of Instrumentation .....	3
<b>Semester Total</b>	<b>12</b>

## Third Semester

	Credits
HART 2357 Specialized Commercial Refrigeration .....	3
HART 2334 Advanced Air Conditioning Controls OR	
ELMT 1301 Programmable Logic Controllers .....	3
HART 2345 Residential Air Conditioning System Design .....	3
HART 2336 Air Conditioning Troubleshooting** .....	3
<b>Semester Total</b>	<b>12</b>
<b>Program Total</b>	<b>41</b>

*\*Student Success Course*

*\*\*Capstone*

*\*\*\*Pending approval from the Texas Higher Education Coordinating Board (THECB).*

## Heating, Air Conditioning and Refrigeration Technician/Installer

*This certificate will be deactivated as of September 1, 2011.*

*New students will not be admitted into the program.*

### CERTIFICATE

## Residential Building High Performance Technology - Rater

The world and the nation are experiencing an outburst of environmental conscientiousness, renewable energy alternatives, and energy conservation. The increased demand and awareness for energy efficient homes has prompted the necessity for qualified personnel in this incipient, but rapidly developing, field. The Residential Building High Performance Rater certificate prepares students for employment as energy raters, energy assessors, and verifiers.

### CERTIFICATE

*TSI testing is required prior to first enrollment.*

First Semester	Credits
LEAD 1200 Workforce Development with Critical Thinking* .....	2
RBPT 1300 Fundamentals of Residential Building Science .....	3
RBPT 1305 Residential Lighting, Appliances, and Plug Loads .....	3
RBPT 1310 Residential Mechanical Systems .....	3
<b>Semester Total</b>	<b>11</b>

# Architecture and Construction

<b>Second Semester</b>		<b>Credits</b>
RBPT 2320	Residential Energy Conservation Codes .....	3
RBPT 2325	Energy Rating Systems for Homes.....	3
RBPT 2315	Green Rating Systems for Homes .....	3
RBPT 2330	Advanced Residential Building Science and Systems.....	3
<b>Semester Total</b>		<b>12</b>

<b>Third Semester</b>		<b>Credits</b>
RBPT 2340	Advanced Residential Mechanical Systems .....	3
RBPT 2355	Sustainable Neighborhood Development**.....	3
<b>Semester Total</b>		<b>6</b>
<b>Program Total</b>		<b>29</b>

\*Student Success Course

\*\*Capstone

## INDUSTRIAL ELECTRICITY

The Industrial Electricity program prepares students for employment in the electrical industry. There is an increased demand for trained electricians to work in the installation, maintenance, and service of residential, commercial and industrial electrical systems. Rewarding career opportunities exist in the areas of industrial automation and fiber optic installations. The program provides comprehensive, theoretical and hands-on training to meet the industry's continued and changing demands for qualified personnel. Students are required to purchase tools and books.

Students successfully completing any of the certificates listed below may apply a maximum of 21 semester hours towards an AAS degree in Construction Technology - Craft Management Specialization. For certificates with fewer than 21 semester hours, additional courses in Construction Technology, Business Administration, or other related disciplines may be required.

### **Program Outcomes**

Students will be able to:

- Demonstrate knowledge of safety rules and regulations.
- Demonstrate the proper use/selection and maintenance of hand and power tools and measuring instruments.
- Interpret, decode, and apply information found in electrical codes, blueprints, schematics, wiring diagrams, specifications, and applicable documents to perform, test, and troubleshoot wiring projects.

- Describe the operation, uses, and applications of electromagnetic and Solid State controllers and related control devices to perform, test, and troubleshoot industrial control projects.
- Utilize computers and related software to translate, perform, test, and troubleshoot control schemes.

For more information call 713.718.6898 or e-mail max.saravia@hccs.edu.

## **Cable and Network Installer**

### **CERTIFICATE**

*This certificate will be deactivated as of September 1, 2011.  
New students will not be admitted into the program.*

## **Cable and Network Technician**

### **CERTIFICATE**

*This certificate will be deactivated as of September 1, 2011.  
New students will not be admitted into the program.*

## **Electrical Helper**

### **CERTIFICATE**

*TSI testing is required prior to first enrollment.*

<b>First Semester</b>		<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking* .....	2
TECM 1301	Industrial Mathematics .....	3
ELPT 1221	Introduction to Electrical Safety and Tools .....	2
ELPT 1311	Basic Electrical Theory .....	3
ELPT 1325	National Electrical Code I.....	3
ELPT 1329	Residential Wiring.....	3
ELPT 1345	Commercial Wiring**.....	3
<b>Semester Total</b>		<b>19</b>
<b>Program Total</b>		<b>19</b>

\*Student Success Course

\*\*Capstone

# Architecture and Construction

## Electrical Power Technology

### CERTIFICATE

*TSI testing is required prior to first enrollment.*

<b>First Semester</b>		<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking*	2
TECM 1301	Industrial Mathematics	3
ELPT 1221	Introduction to Electrical Safety and Tools	2
ELPT 1311	Basic Electrical Theory	3
ELPT 1325	National Electrical Code I	3
ELPT 1329	Residential Wiring	3
<b>Semester Total</b>		<b>16</b>

<b>Second Semester</b>		<b>Credits</b>
ELPT 1341	Motor Control	3
CNBT 1300	Residential and Light Commercial Blueprint Reading	3
ELMT 1301	Programmable Logic Controllers	3
ELPT 1345	Commercial Wiring	3
ELPT 2325	National Electrical Code II OR	3
ELPT 1355	Electronic Applications	3
<b>Semester Total</b>		<b>15</b>

<b>Third Semester</b>		<b>Credits</b>
XXXX #3##	Department Approved Elective	3
ELPT 2301	Journeyman Electrician Exam Review OR	3
CNBT 1302	Mechanical, Plumbing, and Electrical Systems in Construction I**	3
<b>Semester Total</b>		<b>6</b>
<b>Program Total</b>		<b>37</b>

*\*Student Success Course*

*\*\*Capstone*

## Industrial Automation Technology

### CERTIFICATE

*TSI testing is required prior to first enrollment.*

<b>First Semester</b>		<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking*	2
TECM 1301	Industrial Mathematics	3
ELPT 1221	Introduction to Electrical Safety and Tools	2
ELPT 1311	Basic Electrical Theory	3
ELPT 1341	Motor Control	3
ELMT 1301	Basic Programmable Logic Controllers	3
<b>Semester Total</b>		<b>16</b>

<b>Second Semester</b>		<b>Credits</b>
ELPT 1355	Electronic Applications	3
ELPT 2419	Programmable Logic Controllers I	4
HYDR 1345	Hydraulics and Pneumatics	3
INCR 1302	Physics of Instrumentation	3
ELPT 1325	National Electrical Code I	3
<b>Semester Total</b>		<b>16</b>

<b>Third Semester</b>		<b>Credits</b>
ELPT 2445	Programmable Logic Controllers II	4
ELPT 2449	Industrial Automation**	4
<b>Semester Total</b>		<b>8</b>
<b>Program Total</b>		<b>40</b>

*\*Student Success Course*

*\*\*Capstone*

# Arts, A/V Technology and Communications

## **COMMUNICATION & MEDIA ARTS**

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**Audio Recording Technology (10.0202)**  
**Digital Communication (10.0303)**  
**Film/Video Production and Special Effects (50.0602)**

## **VISUAL & PERFORMING ARTS**

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**Fashion Design (50.0407)**  
**Fashion Merchandising (52.1902)**  
**Interior Design (50.0408)**  
**Music Arranging, Composition and Production (50.0904)**  
**Music Business (50.1003)**  
**Music in Performance (50.0903)**

A Career Cluster is a grouping of occupations and broad industries based on commonalities. The Arts, Audio/Video Technology and Communications career cluster is concerned with providing knowledge and skills related to designing, producing, exhibiting, performing, writing, and publishing multimedia content including visual and performing arts and design, journalism, and entertainment services. This includes the following HCC programs: Audio Recording Technology, Digital Communication, Film/Video Production and Special Effects, Music Arranging, Composition and Production, Music Business, Music in Performance, Fashion Design, Fashion Merchandising and Interior Design.

All new semester hour students, who have earned less than 12 semester hours of college level credit, are required to take a first-year student success course in their first term at HCC. Through research and experience, Houston Community College has determined that many life and career management skills are necessary for students to make the most of their college investment. A student success course is designed to prepare students for the demands of college and for success in the world of work. The course emphasizes setting priorities, time management, effective listening, note-taking, concentration techniques, retention of information, book analysis, comprehension techniques, and test-taking skills. This course also incorporates units that are designed to facilitate the use of library databases in conducting research, planning and setting educational objectives, lifelong career assessment, decision-making, financial aid, tutoring, and student support services, enabling the student to maximize the use of college resources.

Every HCC Career and Technology Education program contains a “capstone,” an experience for the student to “put it all together.” The capstone is a learning experience resulting in a consolidation of a student’s educational experience and certifies mastery of entry level workplace competencies. The capstone experience must occur during the last semester of the student’s educational program. The capstone consists of an external learning experience or an advanced course especially designed to help students synthesize knowledge and skills or other licensure as appropriate.

## **AUDIO RECORDING TECHNOLOGY**

“Hands-on” is the guiding philosophy behind this innovative program in audio recording, live sound and video production. With the addition of a SSL 4048 G+ mixing console, students acquire hundreds of engineering hours as they produce audio recordings, MIDI sequences and music videos in seven well-equipped recording studios and video editing suites. After completing the first and second semester classes, each student is assigned a weekly recording session to enhance technical and creative skills. Graduating students complete their education with classes in audio mastering, CD production, and internships. They may augment their training with two enhanced skills certificates in Electronic Music or Film (see Filmmaking). Upon completion, students pursue careers in recording studios, live sound reinforcement, MIDI sequencing, electronics maintenance, equipment installation, radio, television, music video production and sales.

The Audio Recording Technology program prepares students for employment in the audio industry by providing relevant instruction, opportunities for internships and career advancement, and resources for creating professional musical recordings for portfolios of its graduates. The Audio Recording Technology program is responsive to its industry advisory committee, and consistently achieves graduation and placement rates exceeding the standards set by the Texas Higher Education Coordinating Board (THECB).

### **Program Outcomes**

Students will be able to

- Create professional quality recording projects containing no appreciable harmonic or amplitude distortion.
- Demonstrate proper adjustment and use of standard effects processing devices such as compressors, limiters, expanders, gates, equalizers, reverberation devices, and delay processors.

# Arts, A/V Technology and Communications

- Describe the signal flow and operation of equipment commonly found in professional recording studios such as microphones, mixers, multi-track recorders, outboard effects processors, and patch bays.
- Utilize effective troubleshooting skills to diagnose malfunctions in equipment commonly found in recording studios and perform basic maintenance such as equipment calibration and cable soldering.
- Demonstrate competency in preparing MIDI sequences using industry standard hardware and software.
- Prepare professionally acceptable resumes and portfolios needed for employment within the audio recording industry.
- Practice interview techniques needed for employment within the audio recording industry.

For more information call 713.718.5602 or e-mail [ty.welborn@hccs.edu](mailto:ty.welborn@hccs.edu).

## Audio Recording Technology

### AAS

*TSI testing is required prior to first enrollment.*

#### FIRST YEAR

##### First Semester

	<b>Credits</b>
LEAD 1200 Workforce Development with Critical Thinking*	2
MUSC 1427 Audio Engineering I	4
MUSC 1323 Audio Electronics	3
MUSI 1223 Studio Orchestra	2
MUSC 1331 MIDI I	3
<b>Semester Total</b>	<b>14</b>

##### Second Semester

	<b>Credits</b>
MUSI 1181 Piano Class I	1
MUSI 1301 Music Fundamentals	3
MUSC 2427 Audio Engineering II	4
MUSC 2355 MIDI II	3
RTVB 1240 Audio/Radio Production II Lab	2
RTVB 1321 TV Field Production	3
<b>Semester Total</b>	<b>16</b>

##### Third Semester

	<b>Credits</b>
RTVB 2232 Audio/Radio Production III Lab	2
MUSC 2447 Audio Engineering III	4
<b>Semester Total</b>	<b>6</b>

#### SECOND YEAR

##### First Semester

	<b>Credits</b>
MUSC 2201 Audio Engineering Practices	2
MUSC 2448 Audio Engineering IV	4
MUSB 1305 Survey of the Music Business	3
ENGL 1301 Composition I	3
MATH 1314 College Algebra	3
<b>Semester Total</b>	<b>15</b>

##### Second Semester

	<b>Credits</b>
MUSC 2457 Audio Engineering V OR	
XXXX #3## Department Approved Elective	4
MUSC 2201 Audio Engineering Practices OR	
XXXX #3## Department Approved Elective	2
XXXX #3## Social/Behavioral Science General Education Elective	3
RTVB 2382 Cooperative Education-Radio and Television Broadcasting Technology	3
<b>Semester Total</b>	<b>12</b>

##### Third Semester

	<b>Credits</b>
MUSC 2201 Audio Engineering Practices OR	
XXXX #3## Department Approved Elective	2
MUSC 2458 Audio Engineering VI OR	
XXXX #3## Department Approved Elective	4
RTVB 2343 Commercial Recording Techniques**	3
<b>Semester Total</b>	<b>9</b>
<b>Program Total</b>	<b>72</b>

\*Student Success Course  
\*\*Capstone

## Electronic Music/MIDI

Graduates with an AAS in Audio Recording Technology program seeking further training in electronic music production may pursue this certificate. The courses emphasize digital audio editing, sequencing applications and the creation of music for video and film.

### ENHANCED SKILLS CERTIFICATE

#### First Semester

	<b>Credits</b>
MUSI 1182 Piano Class II OR	
MUAP 1169 Piano	1
RTVB 2330 Film and Video Editing	3
MUSC 2345 Synthesis II	3
MUSC 2433 Scoring for Video and Film	4
<b>Semester Total</b>	<b>11</b>
<b>Program Total</b>	<b>11</b>

# Arts, A/V Technology and Communications

## Audio Recording Technology

All courses in this certificate apply to the AAS in Audio Recording Technology degree.

### CERTIFICATE

*TSI testing is required prior to first enrollment.*

<b>First Semester</b>		<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking*	2
MUSC 1427	Audio Engineering I.....	4
MUSC 1323	Audio Electronics .....	3
MUSI 1223	Studio Orchestra.....	2
MUSC 1331	MIDI I .....	3
<b>Semester Total</b>		<b>14</b>
<b>Second Semester</b>		<b>Credits</b>
RTVB 1321	TV Field Production .....	3
MUSI 1181	Piano Class I.....	1
MUSI 1301	Music Fundamentals.....	3
MUSC 2427	Audio Engineering II.....	4
MUSC 2355	MIDI II .....	3
RTVB 1240	Audio/Radio Production II Lab .....	2
<b>Semester Total</b>		<b>16</b>
<b>Third Semester</b>		<b>Credits</b>
RTVB 2232	Audio/Radio Production III Lab.....	2
RTVB 2382	Cooperative Education-Radio and Television Broadcasting Technology/Technician.....	3
MUSC 2447	Audio Engineering III**.....	4
<b>Semester Total</b>		<b>9</b>
<b>Program Total</b>		<b>39</b>

\*Student Success Course

\*\*Capstone

## Electronic Music/MIDI

The certificate program emphasizes skills used by MIDI producers and sound designers in MIDI studios, multitrack recording studios and project studios. Some of the courses in this certificate apply to the AAS in Audio Recording Technology degree.

### CERTIFICATE

*TSI testing is required prior to first enrollment.*

<b>First Semester</b>		<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking*	2
MUSI 1223	Studio Orchestra .....	2
MUSI 1181	Piano Class I OR	
MUAP 1169	Piano.....	1
MUSC 1427	Audio Engineering I.....	4
MUSC 1331	MIDI I .....	3
RTVB 1321	TV Field Production .....	3
MUSI 1301	Music Fundamentals.....	3
<b>Semester Total</b>		<b>18</b>
<b>Second Semester</b>		<b>Credits</b>
MUSI 1182	Piano Class II OR	
MUAP 1169	Piano.....	1
RTVB 1240	Audio/Radio Production II Lab .....	2
MUSC 2427	Audio Engineering II.....	4
MUSC 2355	MIDI II .....	3
MUSC 2345	Synthesis II .....	3
RTVB 2330	Film and Video Editing.....	3
<b>Semester Total</b>		<b>16</b>
<b>Third Semester</b>		<b>Credits</b>
MUAP 1169	Piano.....	1
RTVB 2343	Commercial Recording Techniques .....	3
MUSC 2433	Scoring for Video and Film**.....	4
<b>Semester Total</b>		<b>8</b>
<b>Program Total</b>		<b>43</b>

\*Student Success Course

\*\*Capstone

## DIGITAL COMMUNICATION

The Digital Communication programs offer students the opportunity to explore innovative digital media. Business and industry need skilled illustrators, photographers and technical communicators to design, photograph, write, edit, and produce a wide variety of advertising and technical materials in print and electronic media.

Each of these programs provides students quality instruction in the rapidly evolving technologies which are utilized in regional and global careers. Photography students

# Arts, A/V Technology and Communications

acquire skills in photographic techniques for illustrative, photojournalistic and portraiture presentations. Multimedia and Web students acquire skills in animation, digital video and the construction of interactive web pages. Graphic Design students acquire skills to develop their original concepts and ideas in traditional studio and digital design processes. Students in all specializations develop portfolios of their work to help prepare them for work in the industry after graduation.

The Texas Higher Education Coordinating Board (THECB) allows students to earn only one **AAS** in Digital Communication. Students may choose from one of the following five specializations: General, Digital Photography, Graphic Design, Multimedia, or Web Publishing.

THECB allows students to earn only one **Certificate Level I** in Digital Communication. Students may choose from one of the following three specializations: General, Multimedia, or Web Publishing.

Likewise, THECB allows students to earn only one **Certificate Level II** in Digital Communication. Students may choose from one of the following five specializations: General, Digital Photography, Graphic Design, Multimedia, or Web Publishing.

## Program Outcomes

Students will be able to

- Demonstrate ability to select and apply industry standard software in design.
- Design and demonstrate use of software and techniques in Digital Communication's practical applications.
- Develop a portfolio of work that demonstrates proficiency in skills for employment.
- Present a professional portfolio of work that demonstrates proficiency in skills for employment.

*For more information call 713.718.7890 or 713.718.7895.*

## Digital Communication

- AAS
- Level I Certificate
- Level II Certificate
- Marketable Skills Achievement Award

## Digital Communication with a Specialization in:

### Digital Photography

- AAS
- Level II Certificate
- Marketable Skills Achievement Award

### Graphic Design

- AAS
- Level II Certificate
- Marketable Skills Achievement Award

### Multimedia

- AAS
- Level I Certificate
- Level II Certificate
- Marketable Skills Achievement Award

### Web Publishing

- AAS
- Level I Certificate
- Level II Certificate
- Marketable Skills Achievement Award

The Digital Communication department provides state-of-the-art curriculum and instruction in digital photography, graphic design, multimedia development, and web publishing. The department uses the latest technologies to prepare students in meeting professional and personal goals and provides business and industry with a highly skilled workforce.

Five Marketable Skills Achievement (MSA) awards are available to students who complete a sequence of courses totaling 9–14 semester credit hours. Credits earned in a MSA in Digital Communication apply to related certificates or AAS degrees.

In addition, please note that a student may only earn one Marketable Skills Achievement Award (MSA) per academic year.

*For more information call 713.718.7890 or visit: <http://swc2.hccs.edu/digicom>.*

# Arts, A/V Technology and Communications

## Digital Communication

Digital Communication prepares students to enter the workforce as generalists in the area of computerized graphic communication. The degree includes generalized training in digital photography, graphic design, multimedia, and web technologies. The program prepares students for employment in the fields of print-based media, electronic interactive multimedia, and web design and authoring.

Students may earn an AAS, Level I or Level II certificate in Digital Communication.

### AAS

*TSI testing is required prior to first enrollment.*

#### FIRST YEAR

<b>First Semester</b>		<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking*	2
ARTC 1325	Introduction to Computer Graphics	3
ARTC 1302	Digital Imaging I (Photoshop)	3
ARTC 1309	Basic Illustration	3
ARTC 1305	Basic Graphic Design	3
SPCH 1321	Business and Professional Speaking	3
<b>Semester Total</b>		<b>17</b>

<b>Second Semester</b>		<b>Credits</b>
ARTC 1353	Computer Illustration (Illustrator)	3
ARTC 2311	History of Communication Graphics	3
IMED 1301	Introduction to Digital Media	3
IMED 1316	Web Design I	3
XXXX #3##	Math/Natural Science General Education Elective	3
<b>Semester Total</b>		<b>15</b>

<b>Third Semester</b>		<b>Credits</b>
IMED 1341	Interface Design	3
ENGL 1301	Composition I	3
ITSE 2313	Web Authoring (Dreamweaver)	3
<b>Semester Total</b>		<b>9</b>

#### SECOND YEAR

<b>First Semester</b>		<b>Credits</b>
ARTC 2313	Digital Publishing II (InDesign)	3
ARTC 2317	Typographic Design	3
ARTV 2301	2-D Animation I (Flash)	3
ARTV 1351	Digital Video	3
XXXX #3##	Humanities/Fine Arts General Education Elective	3
<b>Semester Total</b>		<b>15</b>

#### Second Semester

		<b>Credits</b>
XXXX #3##	Social/Behavioral Science General Education Elective	3
ARTV 1345	3-D Modeling and Rendering I	3
IMED 1359	Writing for Digital Media	3
ARTC 2335	Portfolio Development for Graphic Design	3
IMED 2388	Internship-Digital Communication and Media/Multimedia**	3
<b>Semester Total</b>		<b>15</b>
<b>Program Total</b>		<b>71</b>

*\*Student Success Course*

*\*\*Capstone*

## Digital Communication-Level I

### CERTIFICATE

*TSI testing is required prior to first enrollment.*

#### FIRST YEAR

<b>First Semester</b>		<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking*	2
ARTC 1325	Introduction to Computer Graphics	3
ARTC 1302	Digital Imaging I (Photoshop)	3
ARTC 1309	Basic Illustration	3
ARTC 1305	Basic Graphic Design	3
<b>Semester Total</b>		<b>14</b>

<b>Second Semester</b>		<b>Credits</b>
ARTC 2311	History of Communication Graphics	3
IMED 1301	Introduction to Digital Media	3
IMED 1316	Web Design I	3
ARTC 1353	Computer Illustration (Illustrator)	3
IMED 1341	Interface Design	3
<b>Semester Total</b>		<b>15</b>

#### SECOND YEAR

<b>First Semester</b>		<b>Credits</b>
ITSE 2313	Web Authoring (Dreamweaver)	3
ARTV 1351	Digital Video	3
ARTC 2335	Portfolio Development for Graphic Design	3
ARTV 2301	2-D Animation I (Flash)**	3
<b>Semester Total</b>		<b>12</b>
<b>Program Total</b>		<b>41</b>

*\*Student Success Course*

*\*\*Capstone*



# Arts, A/V Technology and Communications

## Digital Communication-Level II

### CERTIFICATE

*TSI testing is required prior to first enrollment.*

#### FIRST YEAR

<b>First Semester</b>		<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking*	2
ARTC 1325	Introduction to Computer Graphics	3
ARTC 1302	Digital Imaging I (Photoshop)	3
ARTC 1309	Basic Illustration	3
ARTC 1305	Basic Graphic Design	3
<b>Semester Total</b>		<b>14</b>

<b>Second Semester</b>		<b>Credits</b>
ARTC 2313	Digital Publishing II (InDesign)	3
ARTC 1353	Computer Illustration (Illustrator)	3
IMED 1301	Introduction to Digital Media	3
ARTV 1345	3-D Modeling and Rendering I	3
IMED 1316	Web Design I	3
<b>Semester Total</b>		<b>15</b>

#### SECOND YEAR

<b>First Semester</b>		<b>Credits</b>
IMED 1341	Interface Design	3
ETWR 1302	Introduction to Technical Writing	3
ITSE 2313	Web Authoring (Dreamweaver)	3
ARTC 2311	History of Communication Graphics	3
<b>Semester Total</b>		<b>12</b>

<b>Second Semester</b>		<b>Credits</b>
ARTV 2301	2-D Animation I (Flash)	3
IMED 1359	Writing for Digital Media	3
ARTV 1351	Digital Video	3
IMED 2388	Internship-Digital Communication and Media/Multimedia	3
ARTC 2335	Portfolio Development for Graphic Design**	3
<b>Semester Total</b>		<b>15</b>
<b>Program Total</b>		<b>56</b>

\*Student Success Course

\*\*Capstone

## Digital Communication

The Marketable Skills Achievement Award (MSA) in Digital Communication offers students an opportunity to gain workforce skills that assist them in the job market as well as give them a jump-start toward a higher certificate or degree.

### MSA

*(Marketable Skills Achievement Award)*

<b>First Semester</b>		<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking*	2
ARTC 1325	Introduction to Computer Graphics	3
ARTC 1305	Basic Graphic Design	3
IMED 1301	Introduction to Digital Media	3
IMED 1316	Web Design I	3
<b>Semester Total</b>		<b>14</b>
<b>Program Total</b>		<b>14</b>

## Digital Communication-Digital Photography Specialization

The Digital Communication AAS in Digital Photography Specialization provides training in the field of graphic imaging. Students learn camera and associated equipment operation, image manipulation and production, photographic business management and design and concept development. They study photographic techniques for illustrative, photojournalistic and portraiture presentations. Students also learn how to develop a professional website while they build a portfolio for entry into the workforce.

Students may earn an AAS or Level II certificate in Digital Photography Specialization.

### AAS

*TSI testing is required prior to first enrollment.*

#### FIRST YEAR

<b>First Semester</b>		<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking*	2
ARTC 1305	Basic Graphic Design	3
ARTC 1325	Introduction of Computer Graphics	3
ARTC 1302	Digital Imaging I (Photoshop)	3
PHTC 1311	Fundamentals of Photography	3
XXXX #3##	Social /Behavioral Science General Education Elective..	3
<b>Semester Total</b>		<b>17</b>

# Arts, A/V Technology and Communications

## Second Semester Credits

ARTC 2311	History of Communication Graphics .....	3
ARTV 1351	Digital Video .....	3
ARTC 2305	Digital Imaging II (Advanced Photoshop).....	3
PHTC 1353	Portraiture I .....	3
XXXX #3##	Humanities/Fine Arts General Education Elective .....	3
<b>Semester Total</b>		<b>15</b>

## Third Semester Credits

SPCH 1321	Business and Professional Speaking.....	3
ENGL 1301	Composition I .....	3
<b>Semester Total</b>		<b>6</b>

## SECOND YEAR

### First Semester Credits

PHTC 1345	Illustrative Photography .....	3
PHTC 1351	Photojournalism I .....	3
ARTC 1353	Computer Illustration (Illustrator).....	3
ARTC 2313	Digital Publishing II (Adobe InDesign) .....	3
IMED 1316	Web Design I .....	3
<b>Semester Total</b>		<b>15</b>

### Second Semester Credits

XXXX #3##	Math/Natural Science General Education Elective .....	3
PHTC 2340	Photographic Studio Management.....	3
ITSE 2313	Web Authoring (Dreamweaver).....	3
PHTC 2343	Portfolio Development.....	3
IMED 2388	Internship-Digital Communication and Media/Multimedia** .....	3
<b>Semester Total</b>		<b>15</b>
<b>Program Total</b>		<b>68</b>

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## Digital Communication-Digital Photography Specialization-Level II

### CERTIFICATE

*TSI testing is required prior to first enrollment.*

#### FIRST YEAR

##### First Semester Credits

LEAD 1200	Workforce Development with Critical Thinking* .....	2
ARTC 1305	Basic Graphic Design .....	3
ARTC 1325	Introduction of Computer Graphics .....	3
ARTC 1302	Digital Imaging I (Photoshop).....	3
PHTC 1311	Fundamentals of Photography.....	3
<b>Semester Total</b>		<b>14</b>

##### Second Semester Credits

ARTC 2311	History of Communication Graphics .....	3
ARTV 1351	Digital Video .....	3
ARTC 2305	Digital Imaging II (Advanced Photoshop).....	3
PHTC 1353	Portraiture I .....	3
<b>Semester Total</b>		<b>12</b>

## SECOND YEAR

### First Semester Credits

PHTC 1345	Illustrative Photography .....	3
PHTC 1351	Photojournalism I .....	3
ARTC 1353	Computer Illustration (Illustrator).....	3
ARTC 2313	Digital Publishing II (Adobe InDesign) .....	3
IMED 1316	Web Design I .....	3
<b>Semester Total</b>		<b>15</b>

### Second Semester Credits

PHTC 2340	Photographic Studio Management.....	3
ITSE 2313	Web Authoring (Dreamweaver).....	3
IMED 2388	Internship-Digital Communication and Media/Multimedia .....	3
PHTC 2343	Portfolio Development** .....	3
<b>Semester Total</b>		<b>12</b>
<b>Program Total</b>		<b>53</b>

\*Student Success Course

\*\*Capstone

## Digital Photography

The Marketable Skills Achievement Award (MSA) in Digital Photography offers students an opportunity to gain workforce skills that benefit them in the job market as well as give them a jump-start toward a higher certificate or degree in Digital Photography. These courses also apply to other certificates and degrees offered by the Digital Communication Department.

### MSA

*(Marketable Skills Achievement Award)*

#### First Semester Credits

LEAD 1200	Workforce Development with Critical Thinking* .....	2
ARTC 1325	Introduction to Computer Graphics .....	3
ARTC 1305	Basic Graphic Design .....	3
ARTC 1302	Digital Imaging I (Photoshop).....	3
PHTC 1311	Fundamentals of Photography.....	3
<b>Semester Total</b>		<b>14</b>
<b>Program Total</b>		<b>14</b>

# Arts, A/V Technology and Communications

## Digital Communication-Graphic Design Specialization

The Digital Communication-Graphic Design Specialization program provides students training in communication concepts, design, layout, and typography using computer technology to prepare print-based materials such as newsletters, brochures, advertisements, and other documents.

Students may earn an AAS or Level II certificate in Graphic Design.

### AAS

*TSI testing is required prior to first enrollment.*

#### FIRST YEAR

<b>First Semester</b>		<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking*	2
ARTC 1325	Introduction to Computer Graphics	3
ARTC 1302	Digital Imaging I (Photoshop)	3
ARTC 1309	Basic Illustration	3
ARTC 1305	Basic Graphic Design	3
ETWR 1302	Introduction to Technical Writing	3
<b>Semester Total</b>		<b>17</b>

<b>Second Semester</b>		<b>Credits</b>
ARTC 2311	History of Communication Graphics	3
PHTC 1311	Fundamentals of Photography	3
ARTC 1321	Illustration Techniques	3
ARTC 1353	Computer Illustration (Illustrator)	3
XXXX #3##	Humanities/Fine Arts General Education Elective	3
<b>Semester Total</b>		<b>15</b>

<b>Third Semester</b>		<b>Credits</b>
XXXX #3##	Math/Natural Science General Education Elective	3
XXXX #3##	Social/Behavioral Science General Education Elective	3
<b>Semester Total</b>		<b>6</b>

#### SECOND YEAR

<b>First Semester</b>		<b>Credits</b>
ARTC 1317	Design Communication I	3
ARTC 2313	Digital Publishing II (InDesign)	3
ARTC 2317	Typographic Design	3
ARTC 2305	Digital Imaging II (Advanced Photoshop)	3
IMED 1316	Web Design I	3
<b>Semester Total</b>		<b>15</b>

<b>Second Semester</b>		<b>Credits</b>
ENGL 1301	Composition I	3
ARTC 2347	Design Communication II	3
ARTC 2348	Digital Publishing III	3
ARTC 2335	Portfolio Development for Graphic Design	3
SPCH 1311	Fundamentals of Speech OR	
SPCH 1321	Business and Professional Speaking	3
<b>Semester Total</b>		<b>15</b>

## Third Semester **Credits**

IMED 2388	Internship-Digital Communication and Media/Multimedia**	3
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**Semester Total 3**

**Program Total 71**

*\*Student Success Course*

*\*\*Capstone*

## Digital Communication-Graphic Design Specialization-Level II

### CERTIFICATE

*TSI testing is required prior to first enrollment.*

#### FIRST YEAR

<b>First Semester</b>		<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking*	2
ARTC 1305	Basic Graphic Design	3
ARTC 1325	Introduction to Computer Graphics	3
ARTC 1302	Digital Imaging I (Photoshop)	3
ARTC 1309	Basic Illustration	3
<b>Semester Total</b>		<b>14</b>

<b>Second Semester</b>		<b>Credits</b>
ARTC 2311	History of Communication Graphics	3
PHTC 1311	Fundamentals of Photography	3
ARTC 1321	Illustration Techniques	3
ARTC 1353	Computer Illustration (Illustrator)	3
ETWR 1302	Introduction to Technical Writing	3
<b>Semester Total</b>		<b>15</b>

#### SECOND YEAR

<b>First Semester</b>		<b>Credits</b>
ARTC 1317	Design Communication I	3
ARTC 2313	Digital Publishing II (InDesign)	3
ARTC 2317	Typographic Design	3
ARTC 2305	Digital Imaging II	3
IMED 1316	Web Design I	3
<b>Semester Total</b>		<b>15</b>

<b>Second Semester</b>		<b>Credits</b>
ARTC 2348	Digital Publishing III	3
ARTC 2347	Design Communication II	3
IMED 2388	Internship-Digital Communication and Media/Multimedia	3
ARTC 2335	Portfolio Development for Graphic Design**	3
<b>Semester Total</b>		<b>12</b>
<b>Program Total</b>		<b>56</b>

*\*Student Success Course*

*\*\*Capstone*

# Arts, A/V Technology and Communications

## Graphic Design

The Marketable Skills Achievement Award (MSA) in Graphic Design offers students an opportunity to gain workforce skills that benefit them in the job market as well as give them a jump-start toward a higher certificate or degree in Graphic Design. These courses also apply to other certificates and degrees offered by the Digital Communication Department.

### MSA

(Marketable Skills Achievement Award)

<b>First Semester</b>		<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking* ....2	ARTC 1325
	Introduction to Computer Graphics	3
ARTC 1305	Basic Graphic Design .....	3
ARTC 1353	Computer Illustration (Illustrator).....	3
ARTC 1302	Digital Imaging I (Photoshop).....	3
<b>Semester Total</b>		<b>14</b>
<b>Program Total</b>		<b>14</b>

## Digital Communication-Multimedia Specialization

The Multimedia Specialization program uses a variety of media such as sound, text, graphics, video, and animation to communicate information in an interactive computer environment. The program prepares students for employment in the fields of advertising, video, animation, marketing presentations, simulations, and interactive software development.

Students may earn an AAS or Level I or Level II certificate in Multimedia Specialization.

### AAS

TSI testing is required prior to first enrollment.

#### FIRST YEAR

<b>First Semester</b>		<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking* .....	2
IMED 1301	Introduction to Digital Media .....	3
IMED 1316	Web Design I .....	3
ARTC 1305	Basic Graphic Design .....	3
ARTC 1325	Introduction to Computer Graphics.....	3
<b>Semester Total</b>		<b>14</b>

## Second Semester

IMED 1341	Interface Design.....	3
ARTC 1302	Digital Imaging I (Photoshop).....	3
XXXX #3##	Math/Natural Science General Education Elective .....	3
IMED 2351	Digital Media Programming (Java Script).....	3
INEW 2334	Advanced Web Programming .....	3
<b>Semester Total</b>		<b>15</b>

## Third Semester

ARTC 1353	Computer Illustration (Illustrator).....	3
ARTV 1345	3-D Modeling and Rendering I.....	3
IMED 1359	Writing for Digital Media.....	3
<b>Semester Total</b>		<b>9</b>

## SECOND YEAR

<b>First Semester</b>		<b>Credits</b>
ENGL 1301	Composition I.....	3
ARTV 1351	Digital Video.....	3
ARTV 2301	2-D Animation I .....	3
ARTV 2345	3-D Modeling and Rendering II .....	3
XXXX #3##	Humanities/Fine Arts General Education Elective .....	3
<b>Semester Total</b>		<b>15</b>

## Second Semester

XXXX #3##	Social/Behavioral Science General Education Elective... 3	
ARTV 2341	Advanced Digital Video .....	
ARTV 1341	3-D Animation I .....	
SPCH 1321	Business & Professional Speaking .....	
IMED 2313	Project Analysis and Design .....	
<b>Semester Total</b>		<b>15</b>

## Third Semester

IMED 2388	Internship-DigitalCommunication and Media/Multimedia** .....	3
<b>Semester Total</b>		<b>3</b>
<b>Program Total</b>		<b>71</b>

\*Student Success Course

\*\*Capstone

## Digital Communication-Multimedia Specialization- Level I

### CERTIFICATE

TSI testing is required prior to first enrollment.

<b>First Semester</b>		<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking* .....	2
ARTC 1325	Introduction to Computer Graphics.....	3
IMED 1301	Introduction to Digital Media .....	3
IMED 1316	Web Design I .....	3
ARTC 1302	Digital Imaging I (Photoshop).....	3
ARTC 1305	Basic Graphic Design .....	3
<b>Semester Total</b>		<b>17</b>

# Arts, A/V Technology and Communications

<b>Second Semester</b>			<b>Credits</b>
IMED	1341	Interface Design.....	3
ARTC	1353	Computer Illustration (Illustrator).....	3
ARTC	1345	3-D Modeling and Rendering I.....	3
ARTV	1351	Digital Video.....	3
IMED	2351	Digital Media Programming (Java Script).....	3
<b>Semester Total</b>			<b>15</b>

<b>Third Semester</b>			<b>Credits</b>
IMED	2388	Internship - Digital Communication and Media/Multimedia.....	3
ARTV	2345	3-D Modeling and Rendering II.....	3
ARTV	2301	2-D Animation I**.....	3
<b>Semester Total</b>			<b>9</b>
<b>Program Total</b>			<b>41</b>

\*Student Success Course  
\*\*Capstone

## Digital Communication-Multimedia Specialization-Level II

### CERTIFICATE

*TSI testing is required prior to first enrollment.*

#### FIRST YEAR

<b>First Semester</b>			<b>Credits</b>
LEAD	1200	Workforce Development with Critical Thinking*.....	2
ARTC	1325	Introduction to Computer Graphics.....	3
IMED	1301	Introduction to Digital Media.....	3
IMED	1316	Web Design I.....	3
ARTC	1302	Digital Imaging I (Photoshop).....	3
<b>Semester Total</b>			<b>14</b>

<b>Second Semester</b>			<b>Credits</b>
ARTC	1305	Basic Graphic Design.....	3
IMED	1341	Interface Design.....	3
ARTC	1353	Computer Illustration (Illustrator).....	3
ARTV	1345	3-D Modeling and Rendering I.....	3
<b>Semester Total</b>			<b>12</b>

#### SECOND YEAR

<b>First Semester</b>			<b>Credits</b>
ARTV	2301	2-D Animation I.....	3
ARTV	1351	Digital Video.....	3
IMED	1359	Writing for Digital Media.....	3
IMED	2351	Digital Media Programming (Java Script).....	3
ARTV	2345	3-D Modeling and Rendering II.....	3
<b>Semester Total</b>			<b>15</b>

<b>Second Semester</b>			<b>Credits</b>
IMED	2334	Advanced Web Programming.....	3
ARTV	1341	3-D Animation I.....	3
ARTV	2341	Advanced Digital Video.....	3
IMED	2388	Internship - Digital Communication and Media/Multimedia.....	3
IMED	2313	Project Analysis and Design**.....	3
<b>Semester Total</b>			<b>15</b>
<b>Program Total</b>			<b>56</b>

\*Student Success Course

\*\*Capstone

## Multimedia

The Marketable Skills Achievement Award (MSA) in Multimedia offers students an opportunity to gain workforce skills that benefit them in the job market as well as give them a jump-start toward a higher certificate or degree in Multimedia offered by the Digital Communication Department.

### MSA

*(Marketable Skills Achievement Award)*

#### First Semester

			<b>Credits</b>
LEAD	1200	Workforce Development with Critical Thinking*.....	2
IMED	1301	Introduction to Digital Media.....	3
ARTC	1325	Introduction to Computer Graphics.....	3
ARTC	1305	Basic Graphic Design.....	3
ARTC	1302	Digital Imaging I (Photoshop).....	3
<b>Semester Total</b>			<b>14</b>
<b>Program Total</b>			<b>14</b>

# Arts, A/V Technology and Communications

## Digital Communication-Web Publishing Specialization

The Web Publishing Specialization trains students to work as professional web publishers for the fast-growing and ever-changing Internet community. It offers a series of courses that provide training in designing and deploying interactive, dynamic web sites for education, business and industry. The degree includes activities that promote teamwork in web publishing.

Students may earn an AAS or Level I or Level II certificate in Web Publishing.

### AAS

*TSI testing is required prior to first enrollment.*

#### FIRST YEAR

<b>First Semester</b>		<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking*	2
ARTC 1325	Introduction to Computer Graphics	3
ARTC 1305	Basic Graphic Design	3
IMED 1316	Web Design I	3
ARTC 1302	Digital Imaging I (Photoshop)	3

**Semester Total 14**

<b>Second Semester</b>		<b>Credits</b>
SPCH 1321	Business and Professional Speaking	3
IMED 2351	Digital Media Programming (Java Script)	3
ETWR 1302	Introduction to Technical Writing	3
IMED 1341	2-D Interface Design	3
INEW 2334	Advanced Web Programming	3

**Semester Total 15**

<b>Third Semester</b>		<b>Credits</b>
ITSE 2313	Web Authoring	3
XXXX #3##	Social/Behavioral Science General Education Elective	3
XXXX #3##	Math/Natural Science General Education Elective	3

**Semester Total 9**

#### SECOND YEAR

<b>First Semester</b>		<b>Credits</b>
ENGL 1301	Composition I	3
ARTV 2301	2-D Animation I (Flash)	3
IMED 1359	Writing for Digital Media	3
IMED 2309	Internet Commerce	3
XXXX #3##	Humanities/Fine Arts General Education Elective	3

**Semester Total 15**

## Second Semester Credits

ARTV 2330	2-D Animation II	3
ITSE 1306	PHP Programming	3
IMED 2313	Project Analysis and Design	3
IMED 2388	Internship - Digital Communication and Media/Multimedia**	3

**Semester Total 12**

**Program Total 65**

*\*Student Success Course*

*\*\*Capstone*

## Digital Communication-Web Publishing Specialization-Level I

### CERTIFICATE

*TSI testing is required prior to first enrollment.*

<b>First Semester</b>		<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking*	2
ARTC 1325	Introduction to Computer Graphics	3
ARTC 1305	Basic Graphic Design	3
IMED 1316	Web Design I	3
ARTC 1302	Digital Imaging I (Photoshop)	3

**Semester Total 14**

<b>Second Semester</b>		<b>Credits</b>
IMED 1341	Interface Design	3
IMED 2351	Digital Media Programming (Java Script)	3
ETWR 1302	Introduction to Technical Writing	3
ITSE 2313	Web Authoring	3
INEW 2334	Advanced Web Programming	3

**Semester Total 15**

<b>Third Semester</b>		<b>Credits</b>
ARTV 2301	2-D Animation I (Flash)	3
IMED 1359	Writing for Digital Media	3
IMED 2388	Internship - Digital Communication and Media/Multimedia	3
IMED 2309	Internet Commerce**	3

**Semester Total 12**

**Program Total 41**

*\*Student Success Course*

*\*\*Capstone*

# Arts, A/V Technology and Communications

## Digital Communication-Web Publishing Specialization-Level II

### CERTIFICATE

*TSI testing is required prior to first enrollment.*

#### FIRST YEAR

<b>First Semester</b>		<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking*	2
ARTC 1325	Introduction to Computer Graphics	3
ARTC 1305	Basic Graphic Design	3
IMED 1316	Web Design I	3
ARTC 1302	Digital Imaging I (Photoshop)	3
<b>Semester Total</b>		<b>14</b>

<b>Second Semester</b>		<b>Credits</b>
IMED 1341	Interface Design	3
IMED 2351	Digital Media Programming (Java Script)	3
IMED 1359	Writing for Digital Media	3
INEW 2334	Advanced Web Programming	3
<b>Semester Total</b>		<b>12</b>

#### SECOND YEAR

<b>First Semester</b>		<b>Credits</b>
ETWR 1302	Introduction to Technical Writing	3
ITSE 2313	Web Authoring	3
ARTV 2301	2-D Animation I (Flash)	3
IMED 2309	Internet Commerce	3
<b>Semester Total</b>		<b>12</b>

<b>Second Semester</b>		<b>Credits</b>
ARTV 2330	2-D Animation II	3
ITSE 1306	PHP Programming	3
IMED 2388	Internship - Digital Communication and Media/Multimedia	3
IMED 2313	Project Analysis and Design**	3
<b>Semester Total</b>		<b>12</b>
<b>Program Total</b>		<b>50</b>

\*Student Success Course  
\*\*Capstone

### Web Publishing

The Marketable Skills Achievement Award (MSA) in Digital Communication/Web Publishing offers students an opportunity to gain workforce skills that benefit them in the job market as well as give them a jump-start toward a higher certificate or degree in Web Publishing. These courses also apply to other certificates and degrees offered by the Digital Communication Department.

### MSA

*(Marketable Skills Achievement Award)*

<b>First Semester</b>		<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking*	2
ARTC 1325	Introduction to Computer Graphics	3
ARTC 1305	Basic Graphic Design	3
IMED 1316	Web Design I	3
IMED 1341	Interface Design	3
<b>Semester Total</b>		<b>14</b>
<b>Program Total</b>		<b>14</b>

### FILM/VIDEO PRODUCTION AND SPECIAL EFFECTS

HCC's Film/Video Production and Special Effects program offers training for one career paths with **five** specializations in the film industry. Students studying traditional Film/Video Production will learn all phases of filmmaking, pre-production, production and post-production. In this innovative hands-on program, students work with HD and 16mm film cameras and edit with both non-linear digital and traditional equipment. During their academic career, students perform every function necessary to complete theatrical, documentary, and docu-drama style films: scriptwriting, producing, directing, acting, shooting, budgeting, managing and serving as crew.

After their first year, students refine their skills through the rigorous application of their craft in advanced areas of theatrical, feature and documentary film production. Upon graduation, students pursue careers in all levels of the film industry.

The Texas Higher Education Coordinating Board (THECB) allows students to earn only one **AAS** in Filmmaking. Students may choose from one of the following three specializations: General, Acting for Film, or Film/Video and Special Effects.

The Texas Higher Education Coordinating Board (THECB) allows students to earn only one **Certificate** in Filmmaking I. Students may choose from one of the following four specializations: Filmmaking Editing, Film/Video Production, Filmmaking Screenwriting or Film/Video and Special Effects.

The Texas Higher Education Coordinating Board (THECB) allows students to earn only one **Certificate** in Filmmaking II. Students may choose from one of the following two specializations: General or Film/Video and Special Effects.

# Arts, A/V Technology and Communications

## Program Outcomes

Students will be able to

- Compose effective treatments and scripts for use in common video and film genres including documentaries, dramas, commercials, news, and public service announcements.
- Demonstrate the preparation needed for film and video production, management (including budgeting, supervision of personnel, permitting, scheduling and guild/union relations) and post-production supervision.
- Describe accepted film industry distribution processes including promotions, advertising, and publicity.
- Demonstrate industry standard film/video editing and post-production processes used in the completion of shorts, trailers, documentaries, and features.
- Apply cinematographic concepts to film/video projects including camera setup, lighting, and scene design.
- Develop professionally acceptable resumes, demo reels and interview techniques needed for employment within the film industry.

For more information call 713.718.5602 or 713.718.5990 or e-mail richard.boyd@hccs.edu or rick.harrington@hccs.edu.

## PROGRAMS OFFERED

### Filmmaking

- AAS
- Level II Certificate
- Enhanced Skills Certificate

### Filmmaking with a Specialization in:

#### Acting for Film

- AAS

#### Editing

- Level I Certificate

#### Film/Video Production

- Level I Certificate

#### Screenwriting

- Level I Certificate

## Film/Video and Special Effects

- AAS
- Level I Certificate
- Level II Certificate

## Filmmaking

### AAS

*TSI testing is required prior to first enrollment.*

#### FIRST YEAR

<b>First Semester</b>		<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking*	2
RTVB 1321	TV Field Production	3
RTVB 1309	Audio/Radio Production I	3
MUSB 2355	Legal Aspects of the Entertainment Industry	3
ENGL 1301	Composition I	3
FLMC 1300	Production Management	3
<b>Semester Total</b>		<b>17</b>

<b>Second Semester</b>		<b>Credits</b>
RTVB 2337	TV Production Workshop I	3
RTVB 1429	Scriptwriting	4
DRAM 2366	Survey and History of Film OR	
XXXX #3##	Humanities/Fine Arts General Education Elective	3
RTVB 2330	Film and Video Editing	3
COMM #3##	Approved Elective	3
<b>Semester Total</b>		<b>16</b>

<b>Third Semester</b>		<b>Credits</b>
FLMC 2335	Screenwriting for Features, Shorts and Documentaries	3
FLMC 2344	Advanced Film and Video Editing	3
<b>Semester Total</b>		<b>6</b>

#### SECOND YEAR

<b>First Semester</b>		<b>Credits</b>
FLMC 1304	Lighting for Film or Video	3
FLMC 2308	Film Business and Marketing	3
FLMC 2333	Cinematography	3
XXXX #3##	Social/Behavioral Science General Education Elective	3
<b>Semester Total</b>		<b>12</b>

<b>Second Semester</b>		<b>Credits</b>
FLMC 2330	Audio Post Production	3
FLMC 2342	Film Editing and Sound Synchronization OR	
XXXX #3##	Department Approved Elective	3
FLMC 2336	Production Development/Producing	3
XXXX #3##	Math/Natural Science General Education Elective	3
<b>Semester Total</b>		<b>12</b>



# Arts, A/V Technology and Communications

<b>Third Semester</b>		<b>Credits</b>
FLMC 2380	Cooperative Education-Cinematography and Film-Video Production.....	3
FLMC 2334	Directing for Film or Video**.....	3
<b>Semester Total</b>		<b>6</b>
<b>Program Total</b>		<b>69</b>

\*Student Success Course  
\*\*Capstone

## Filmmaking

Students wishing for a complete education in film production without the academic courses required by an associate degree should pursue this certificate. All courses in this certificate apply towards the AAS in Filmmaking.

### CERTIFICATE

*TSI testing is required prior to first enrollment.*

#### **FIRST YEAR**

<b>First Semester</b>		<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking*.....	2
RTVB 1321	TV Field Production.....	3
RTVB 1309	Audio/Radio Production I.....	3
ENGL 1301	Composition I.....	3
FLMC 1300	Production Management.....	3
<b>Semester Total</b>		<b>14</b>

<b>Second Semester</b>		<b>Credits</b>
DRAM 2366	Survey and History of Film OR	
XXXX #3##	Humanities/Fine Arts General Education Elective.....	3
RTVB 2337	TV Production Workshop I.....	3
RTVB 1429	Scriptwriting.....	4
RTVB 2330	Film and Video Editing.....	3
<b>Semester Total</b>		<b>13</b>

<b>Third Semester</b>		<b>Credits</b>
FLMC 2344	Advanced Film and Video Editing.....	3
MUSB 2355	Legal Aspects of the Entertainment Industry.....	3
<b>Semester Total</b>		<b>6</b>

#### **SECOND YEAR**

<b>First Semester</b>		<b>Credits</b>
FLMC 1304	Lighting for Film or Video.....	3
FLMC 2308	Film Business and Marketing.....	3
FLMC 2333	Cinematography.....	3
FLMC 2330	Audio Post Production.....	3
<b>Semester Total</b>		<b>12</b>

<b>Second Semester</b>		<b>Credits</b>
FLMC 2342	Film Editing Sound Synchronization OR	
XXXX #3##	Department Approved Elective.....	3
FLMC 2336	Production Development/Producing.....	3
FLMC 2380	Cooperative Education-Cinematography and Film-Video Production.....	3
FLMC 2334	Directing for Film or Video**.....	3
<b>Semester Total</b>		<b>12</b>
<b>Program Total</b>		<b>57</b>

\*Student Success Course  
\*\*Capstone

## Filmmaking - Audio Post-Production

Graduates with an AAS in Filmmaking seeking further training in audio post-production techniques may pursue this certificate. The courses emphasize digital audio production techniques, Foley and ADR techniques, and music sequencing for video and film.

### ENHANCED SKILLS CERTIFICATE

<b>First Semester</b>		<b>Credits</b>
RTVB 1240	Audio/Radio Production II Lab.....	2
MUSC 1331	MIDI I.....	3
MUSC 2427	Audio Engineering II.....	4
MUSC 2351	Audio for Video.....	3
<b>Semester Total</b>		<b>12</b>
<b>Program Total</b>		<b>12</b>

## Filmmaking - Acting for Film Specialization

### AAS

*This AAS degree will be deactivated as of January 1, 2012.  
No new students will be admitted into the program.*

# Arts, A/V Technology and Communications

## Filmmaking - Editing Specialization

Students prepare for a career in film editing by acquiring hundreds of hours using linear, non-linear video and film editors. The certificate also includes courses in audio post production using computer programs such as Pro Tools. All courses in this certificate apply towards the AAS in Filmmaking.

### CERTIFICATE

*TSI testing is required prior to first enrollment.*

#### FIRST YEAR

<b>First Semester</b>		<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking*	2
RTVB 1321	TV Field Production	3
RTVB 1309	Audio/Radio Production I	3
MUSB 2355	Legal Aspects of the Entertainment Industry	3
FLMC 2308	Film Business and Marketing	3
FLMC 1300	Production Management	3
<b>Semester Total</b>		<b>17</b>

<b>Second Semester</b>		<b>Credits</b>
DRAM 2366	Survey and History of Film OR	
XXXX #3##	Humanities/Fine Arts General Education Elective	3
RTVB 2330	Film and Video Editing	3
FLMC 2330	Audio Post Production	3
FLMC 2342	Film Editing and Sound Synchronization OR Department Approved Elective	3
FLMC 2344	Advanced Film and Video Editing**	3
<b>Semester Total</b>		<b>15</b>
<b>Program Total</b>		<b>32</b>

\*Student Success Course  
\*\*Capstone

## Filmmaking - Film/Video Production Specialization

Students prepare for a career in film production by acquiring hundreds of production hours. Courses include video and 16mm film cinematography, general production and lighting. All courses in this certificate apply towards the AAS in Filmmaking.

### CERTIFICATE

*TSI testing is required prior to first enrollment.*

#### FIRST YEAR

<b>First Semester</b>		<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking*	2
RTVB 1309	Audio/Radio Production I	3
RTVB 1321	TV Field Production	3
ENGL 1301	Composition I	3
RTVB 2330	Film and Video Editing	3
<b>Semester Total</b>		<b>14</b>

<b>Second Semester</b>		<b>Credits</b>
FLMC 1300	Production Management	3
RTVB 1429	Scriptwriting	4
FLMC 2333	Cinematography	3
DRAM 2366	Survey and History of Film OR	
XXXX #3##	Humanities/Fine Arts General Education Elective	3
FLMC 2344	Advanced Film and Video Editing**	3
<b>Semester Total</b>		<b>16</b>
<b>Program Total</b>		<b>30</b>

\*Student Success Course  
\*\*Capstone

## Filmmaking - Screenwriting Specialization

Students interested in a career in screenwriting should choose this option since it emphasizes skills used when writing scripts for film and video productions. All courses in this certificate apply towards the AAS in Filmmaking.

# Arts, A/V Technology and Communications

## CERTIFICATE

*TSI testing is required prior to first enrollment.*

### FIRST YEAR

<b>First Semester</b>		<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking*	2
RTVB 1321	TV Field Production	3
MUSB 1301	Legal Aspects of the Entertainment Industry	3
ENGL 1301	Composition I	3
DRAM 2366	Survey and History of Film OR	
XXXX #3##	Humanities/Fine Arts General Education Elective	3
FLMC 1300	Production Management	3
<b>Semester Total</b>		<b>17</b>

<b>Second Semester</b>		<b>Credits</b>
RTVB 1429	Scriptwriting	4
FLMC 2308	Film Business and Marketing	3
RTVB 2330	Film and Video Editing	3
COMM #3##	Approved Elective	3
FLMC 2335	Screenwriting for Features, Shorts and Documentaries**	3
<b>Semester Total</b>		<b>16</b>
<b>Program Total</b>		<b>33</b>

*\*Student Success Course*

*\*\*Capstone*

## Filmmaking - Film/Video and Special Effects Specialization

The Film/Video and Special Effects AAS Specialization is a cutting-edge, hands-on program combining video production with computer-generated special effects. Students learn to create digital video for all types of formats using high definition (HDTV) or standard definition video: single-camera video, broadcast, live studio, internet streaming video, podcasting and DVD authoring. Students completing the AAS degree will be ready for employment in many types of productions including movies, commercials, documentaries, church productions, news, talk shows, live sports, instructional videos, and corporate videos. The program also offers students certificates in Film/Video and Special Effects.

*For more information call 713.718.6725 or email marcelo.gonzalez@hccs.edu or linda.leauvano@hccs.edu.*

## AAS

*TSI testing is required prior to first enrollment.*

### FIRST YEAR

<b>First Semester</b>		<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking*	2
ARTC 1302	Digital Imaging I	3
RTVB 1321	TV Field Production	3
COMM 1307	Introduction to Mass Communication	3
RTVB 2330	Film and Video Editing	3
<b>Semester Total</b>		<b>14</b>

<b>Second Semester</b>		<b>Credits</b>
RTVB 1325	TV Studio Production	3
FLMC 2344	Advanced Film and Video Editing	4
FLMC 1370	Special Effects for Film/Video I	3
FLMC 1300	Production Management	3
ENGL 1301	Composition I	3
<b>Semester Total</b>		<b>15</b>

<b>Third Semester</b>		<b>Credits</b>
FLMC 2380	Cooperative Education-Cinematography and Film/Video Production	3
DRAM 2366	Survey of the History of Film OR	
XXXX #3##	Humanities/Fine Arts General Education Elective	3
<b>Semester Total</b>		<b>6</b>

### SECOND YEAR

<b>First Semester</b>		<b>Credits</b>
FLMC 2333	Cinematography	3
FLMC 2305	Film Style 3-D Animation Production	3
RTVB 1309	Audio/Radio Production I	3
RTVB 1429	Scriptwriting	4
XXXX #3##	Social/Behavioral Science General Education Elective	3
<b>Semester Total</b>		<b>16</b>

<b>Second Semester</b>		<b>Credits</b>
RTVB 2335	Television Production	3
RTVB 1355	Radio and Television Announcing	3
FLMC 1391	Special Topics in Film/Cinema Studies	3
XXXX #3##	Math/Natural Science General Education Elective	3
<b>Semester Total</b>		<b>12</b>

<b>Third Semester</b>		<b>Credits</b>
RTVB 2386	Internship - Radio and Television	3
FLMC 2370	Special Effects for Film/Video II**	3
<b>Semester Total</b>		<b>6</b>
<b>Program Total</b>		<b>69</b>

*\*Student Success Course*

*\*\*Capstone*

# Arts, A/V Technology and Communications

## Filmmaking - Film/Video and Special Effects Specialization - Level I

### CERTIFICATE

*TSI testing is required prior to first enrollment.*

#### FIRST YEAR

<b>First Semester</b>		<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking*	2
ARTC 1302	Digital Imaging I	3
RTVB 1321	TV Field Production	3
FLMC 1370	Special Effects for Film/Video Production I	3
RTVB 2330	Film and Video Editing	3
<b>Semester Total</b>		<b>14</b>

<b>Second Semester</b>		<b>Credits</b>
FLMC 2305	Film Style 3-D Animation Production	3
RTVB 2335	Television Production	3
FLMC 2344	Advanced Film and Video Editing	3
DRAM 2366	Survey and History of Film OR	
XXXX #3##	Humanities/Fine Arts General Education Elective	3
FLMC 2370	Special Effects for Film/Video Production II**	3
<b>Semester Total</b>		<b>15</b>
<b>Program Total</b>		<b>29</b>

\*Student Success Course

\*\*Capstone

## Filmmaking - Film/Video and Special Effects Specialization - Level II

### CERTIFICATE

*TSI testing is required prior to first enrollment.*

#### FIRST YEAR

<b>First Semester</b>		<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking*	2
ARTC 1302	Digital Imaging I	3
RTVB 1321	TV Field Production	3
RTVB 2330	Film and Video Editing	3
DRAM 2366	Survey and History of Film OR	
XXXX #3##	Humanities/Fine Arts General Education Elective	3
<b>Semester Total</b>		<b>14</b>

<b>Second Semester</b>		<b>Credits</b>
RTVB 1325	TV Studio Production	3
FLMC 2344	Advanced Film and Video Editing	3
FLMC 1370	Special Effects for Film/Video I	3
FLMC 1300	Production Management	3
ENGL 1301	Composition I	3
<b>Semester Total</b>		<b>15</b>

<b>Third Semester</b>		<b>Credits</b>
FLMC 2380	Cooperative Education-Cinematography and Film/Video Production	3
<b>Semester Total</b>		<b>3</b>

## SECOND YEAR

### First Semester

		<b>Credits</b>
FLMC 2333	Cinematography	3
FLMC 2370	Special Effects for Film/Video Production II	3
RTVB 1309	Audio/Radio Production I	3
RTVB 1429	Scriptwriting	4
<b>Semester Total</b>		<b>13</b>

### Second Semester

		<b>Credits</b>
FLMC 1391	Special Topics in Film/Cinema Studies	3
RTVB 1355	Radio and Television Announcing	3
RTVB 2335	Television Production	3
FLMC 2305	Film-Style 3-D Animation Production**	3
<b>Semester Total</b>		<b>12</b>
<b>Program Total</b>		<b>57</b>

\*Student Success Course

\*\*Capstone

## Visual & Performing Arts

### FASHION DESIGN

The Fashion Design program prepares students for careers in fashion related fields. Creative studies in design fundamentals, fashion analysis, fashion history, textiles, color, and sketching, along with technical training in draping, pattern making, pattern grading, and clothing construction provide the training required for entry-level employment by the mass production ready-to-wear industry or for custom design business operations.

The Texas Higher Education Coordinating Board (THECB) allows students to earn only one **AAS** in Fashion Design. Students may choose from one of the following two specializations: General or Theatrical Costume Design.

In addition, please note that a student may only earn one Marketable Skills Achievement Award (MSA) per academic year.

### Program Outcomes

Students will be able to

- Demonstrate an understanding of different areas of specialty work and an ability to collaborate on projects to simulate real life industry situations.
- Apply critical thinking and creative problem solving skills to a variety of fashion design problems.
- Illustrate design concepts at various stages of development using the design process, sewing skills, drawing skills, and/or appropriate software.

# Arts, A/V Technology and Communications

- Recognize the necessity of working long hours to meet deadlines by prioritizing tasks and effectively using time.

For more information call 713.718.6158 or e-mail [suzette.brimmer@hccs.edu](mailto:suzette.brimmer@hccs.edu).

## Fashion Design

### AAS

*TSI testing is required prior to first enrollment.*

#### FIRST YEAR

<b>First Semester</b>		<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking*	2
FSDH 1302	Introduction to Fashion	3
FSDH 1313	Art for Fashion	3
FSDH 1324	Ready-to-Wear Construction	3
FSDH 1301	Textiles	3
<b>Semester Total</b>		<b>14</b>

<b>Second Semester</b>		<b>Credits</b>
FSDH 1311	Fashion History	3
FSDH 1318	Apparel Computer Systems	3
FSDH 1322	Fashion Sketching	3
FSDH 1351	Design Construction Techniques	3
FSDH 1328	Flat Pattern Design I	3
<b>Semester Total</b>		<b>15</b>

<b>Third Semester</b>		<b>Credits</b>
ENGL 1301	Composition I	3
XXXX #3##	Social/Behavioral Science General Education Elective	3
XXXX #3##	Humanities/Fine Arts General Education Elective	3
XXXX #3##	Math/Natural Science General Education Elective	3
<b>Semester Total</b>		<b>12</b>

#### SECOND YEAR

<b>First Semester</b>		<b>Credits</b>
FSDH 1355	Flat Pattern Design II	3
FSDH 2306	Draping	3
FSDH 2337	Couture Dressmaking	3
FSDH 2343	Fashion Collection Design	3
FREN 1300	Beginning French (Fashion Emphasis)	3
<b>Semester Total</b>		<b>15</b>

<b>Second Semester</b>		<b>Credits</b>
FSDH 1305	Apparel Alterations	3
FSDH 2341	Pattern Grading	3
FSDH 1332	Custom Patterns OR	
FSDH 1329	Basic Men's Tailoring	3
FSDH 2388	Internship-Fashion/Apparel Design	3
FSDH 2344	Fashion Collection Production**	3
<b>Semester Total</b>		<b>15</b>
<b>Program Total</b>		<b>71</b>

\*Student Success Course  
\*\*Capstone

## Apparel Construction

The Apparel Construction Marketable Skills Achievement Award (MSA) prepares students for entry-level work in sewing for a designer, altering garments for a store alteration's department or dry cleaners or production sewing in a garment factory. All courses in this certificate apply to the AAS in Fashion Design degree.

### MSA

*(Marketable Skills Achievement Award)*

<b>First Semester</b>		<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking*	2
FSDH 1305	Apparel Alterations	3
FSDH 1324	Ready-to-Wear Construction	3
FSDH 1301	Textiles	3
<b>Semester Total</b>		<b>11</b>
<b>Program Total</b>		<b>11</b>

## Custom Dressmaking and Alterations

The Custom Dressmaking and Alterations certificate program prepares students for entry-level work in ladies' clothing alterations, custom dressmaking, and designer's sample sewing. All courses in this certificate apply to the AAS in Fashion Design degree.

### CERTIFICATE

*TSI testing is required prior to first enrollment.*

#### FIRST YEAR

<b>First Semester</b>		<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking*	2
FSDH 1302	Introduction to Fashion	3
FSDH 1313	Art for Fashion	3
FSDH 1324	Ready-to-Wear Construction	3
FSDH 1301	Textiles	3
FSDH 1318	Apparel Computer Systems	3
<b>Semester Total</b>		<b>17</b>

<b>Second Semester</b>		<b>Credits</b>
FSDH 1322	Fashion Sketching	3
FSDH 1332	Custom Patterns	3
FSDH 1351	Design Construction Techniques	3
FSDH 1305	Apparel Alterations	3
FSDH 2306	Draping	3
<b>Semester Total</b>		<b>15</b>

# Arts, A/V Technology and Communications

<b>Third Semester</b>		<b>Credits</b>
FSHD 2337	Couture Dressmaking .....	3
FSHD 2388	Internship-Fashion/Apparel Design** .....	3
<b>Semester Total</b>		<b>6</b>
<b>Program Total</b>		<b>38</b>

\*Student Success Course  
\*\*Capstone

## Men's Tailoring and Alterations

The Men's Tailoring and Alterations certificate program prepares students for entry-level work in men's clothing alterations and custom tailoring. All courses in this certificate apply to the AAS in Fashion Design degree.

### CERTIFICATE

*TSI testing is required prior to first enrollment.*

<b>First Semester</b>		<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking* .....	2
FSHD 1302	Introduction to Fashion .....	3
FSHD 1318	Apparel Computer Systems .....	3
FSHD 1324	Ready-to-Wear Construction .....	3
FSHN 1301	Textiles .....	3
<b>Semester Total</b>		<b>14</b>
<b>Second Semester</b>		<b>Credits</b>
FSHN 1305	Apparel Alterations .....	3
FSHN 1329	Basic Men's Tailoring .....	3
FSHD 2388	Internship-Fashion/Apparel Design** .....	3
<b>Semester Total</b>		<b>9</b>
<b>Program Total</b>		<b>23</b>

\*Student Success Course  
\*\*Capstone

## Patternmaking

The Patternmaking certificate program prepares the student for entry-level work in ladies' ready-to-wear pattern-making, pattern grading and pattern marker making. All courses in this certificate apply to the AAS in Fashion Design degree.

### CERTIFICATE

*TSI testing is required prior to first enrollment.*

<b>First Semester</b>		<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking* .....	2
FSHD 1302	Introduction to Fashion .....	3
FSHD 1313	Art for Fashion .....	3
FSHD 1328	Flat Pattern Design I .....	3
FSHN 1301	Textiles .....	3
FSHD 1318	Apparel Computer Systems .....	3
<b>Semester Total</b>		<b>17</b>

<b>Second Semester</b>		<b>Credits</b>
FSHD 1332	Custom Patterns .....	3
FSHD 1355	Flat Pattern Design II .....	3
FSHD 2306	Draping .....	3
FSHD 2341	Pattern Grading .....	3
FSHD 2388	Internship-Fashion/Apparel Design** .....	3
<b>Semester Total</b>		<b>15</b>
<b>Program Total</b>		<b>32</b>

\*Student Success Course  
\*\*Capstone

## Theatrical Costume Design Specialization

The Theatrical Costume Design AAS prepares students for entry-level work in a theatrical costume workshop.

### AAS

*TSI testing is required prior to first enrollment.*

#### FIRST YEAR

<b>First Semester</b>		<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking* .....	2
FSHD 1313	Art for Fashion .....	3
FSHD 1324	Ready-to-Wear Construction .....	3
FSHN 1301	Textiles .....	3
DRAM 1310	Introduction to Theater .....	3
<b>Semester Total</b>		<b>14</b>
<b>Second Semester</b>		<b>Credits</b>
FSHD 1235	Millinery .....	2
FSHD 1311	Fashion History .....	3
FSHD 1322	Fashion Sketching .....	3
FSHD 1328	Flat Pattern Design I .....	3
FSHD 1351	Design Construction Techniques .....	3
<b>Semester Total</b>		<b>14</b>

<b>Third Semester</b>		<b>Credits</b>
ENGL 1301	Composition I .....	3
XXXX #3##	Math/Natural Science General Education Elective .....	3
XXXX #3##	Social/Behavioral Science General Education Elective ...	3
<b>Semester Total</b>		<b>9</b>

#### SECOND YEAR

<b>First Semester</b>		<b>Credits</b>
FSHD 1291	Special Topics in Fashion Design and Illustration (Mask Making) .....	2
FSHN 1329	Basic Men's Tailoring .....	3
FSHD 2315	Bustier Construction .....	3
FSHD 2310	Fabric Design .....	3
FSHD 1318	Apparel Computer Systems .....	3
<b>Semester Total</b>		<b>14</b>

# Arts, A/V Technology and Communications

<b>Second Semester</b>			<b>Credits</b>
FSHD 1332	Custom Patterns .....		3
DRAM 1341	Stage Makeup.....		3
FSHD 2306	Draping .....		3
FSHD 2388	Internship-Fashion/Apparel Design.....		3
FSHD 2312	Theatrical Costume Design** .....		3
<b>Semester Total</b>			<b>15</b>
<b>Program Total</b>			<b>66</b>

\*Student Success Course  
\*\*Capstone

## Theatrical Costume Crafts

The Theatrical Costume Crafts Marketable Skills Achievement Award (MSA) prepares the student for entry-level work in costume crafts for theatrical performance or for costume sales and rentals. All courses in this certificate apply to the AAS in Theatrical Costume Design degree specialization.

### MSA

(Marketable Skills Achievement Award)

<b>First Semester</b>			<b>Credits</b>
FSHN 1235	Millinery.....		2
FSDH 2315	Bustier Construction.....		3
FSDH 2310	Fabric Design.....		3
FSDH 1291	Special Topics in Fashion Design and Illustration (Mask Making) .....		2
FSDH 1311	Fashion History .....		3
<b>Semester Total</b>			<b>13</b>
<b>Program Total</b>			<b>13</b>

## Theatrical Costume Design

The Theatrical Costume Design certificate program prepares the student for entry-level work in a theatrical costume workshop. All courses in this certificate apply to the AAS in Theatrical Costume Design degree specialization.

### CERTIFICATE

TSI testing is required prior to first enrollment.

#### FIRST YEAR

<b>First Semester</b>			<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking* .....		2
FSHN 1301	Textiles .....		3
DRAM 1310	Introduction to Theatre.....		3
FSDH 1313	Art for Fashion .....		3
FSDH 1322	Fashion Sketching .....		3
FSDH 1324	Ready-to-Wear Construction .....		3
<b>Semester Total</b>			<b>17</b>

<b>Second Semester</b>			<b>Credits</b>
FSDH 1235	Millinery.....		2
FSDH 1328	Flat Pattern Design I.....		3
FSDH 1351	Design Construction Techniques .....		3
FSDH 2315	Bustier Construction.....		3
FSDH 1332	Custom Patterns .....		3
FSDH 1311	Fashion History .....		3
<b>Semester Total</b>			<b>17</b>

#### SECOND YEAR

<b>First Semester</b>			<b>Credits</b>
FSDH 2306	Draping .....		3
FSDH 2310	Fabric Design.....		3
FSHN 1329	Basic Men's Tailoring .....		3
FSDH 2312	Theatrical Costume Design.....		3
FSDH 2388	Internship-Fashion/Apparel Design** .....		3
<b>Semester Total</b>			<b>15</b>
<b>Program Total</b>			<b>49</b>

\*Student Success Course  
\*\*Capstone

## FASHION MERCHANDISING

The Fashion Merchandising program offers an opportunity for students to prepare for careers in fashion retailing or wholesale operations through basic training in merchandising techniques along with creative development. All of the courses in the Fashion Merchandising certificates apply to this AAS in Fashion Merchandising degree.

In addition, please note that a student may only earn one Marketable Skills Achievement Award (MSA) per academic year.

### Program Outcomes

Students will be able to

- Express ideas clearly utilizing a broad fashion vocabulary demonstrating knowledge of fashion/textile/knitwear terminology.
- Apply standard calculations in patternmaking.
- Recognize the necessity of working long hours to meet deadlines by prioritizing tasks and effectively using time.
- Illustrate design concepts at various stages of development using the design process, sewing skills, drawing skills, and/or appropriate software.
- Identify different consumer market segments and determine a specific target market on which to focus.

For more information call 713.718.6158 or e-mail [suzette.brimmer@hccs.edu](mailto:suzette.brimmer@hccs.edu).

# Arts, A/V Technology and Communications

## Fashion Merchandising

### AAS

*TSI testing is required prior to first enrollment.*

#### FIRST YEAR

<b>First Semester</b>		<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking*	2
FSHD 1302	Introduction to Fashion	3
FSHN 1301	Textiles	3
FSHD 1308	Fashion Trends	3
FSHD 1324	Ready-to-Wear Construction	3
<b>Semester Total</b>		<b>14</b>

<b>Second Semester</b>		<b>Credits</b>
FSHN 1320	Fashion Selling	3
FSHD 1311	Fashion History	3
FSHD 1313	Art for Fashion	3
FSHD 1318	Apparel Computer Systems	3
IBUS 1354	International Marketing Management	3
<b>Semester Total</b>		<b>15</b>

<b>Third Semester</b>		<b>Credits</b>
XXXX #3##	Social/Behavioral Science General Education Elective	3
XXXX #3##	Math/Natural Science General Education Elective	3
XXXX #3##	Humanities/Fine Arts General Education Elective	3
ENGL 1301	Composition I	3
<b>Semester Total</b>		<b>12</b>

#### SECOND YEAR

<b>First Semester</b>		<b>Credits</b>
FSHN 2303	Fashion Buying	3
FSHN 2307	Fashion Advertising	3
FSHN 2320	Visual Merchandising	3
MRKG 1311	Principles of Marketing	3
SPCH 1321	Business and Professional Speaking	3
<b>Semester Total</b>		<b>15</b>

<b>Second Semester</b>		<b>Credits</b>
FSHN 2305	Fashion Retailing	3
FREN 1300	Beginning French (Fashion Emphasis)	3
FSHD 1322	Fashion Sketching OR	3
FSHN 2309	Fashion Image	3
FSHN 2388	Internship-Fashion Merchandising	3
FSHN 2301	Fashion Promotion**	3
<b>Semester Total</b>		<b>15</b>
<b>Program Total</b>		<b>71</b>

\*Student Success Course  
\*\*Capstone

## Fashion Image Consultant

The Fashion Image Consultant certificate program develops the students' awareness of personal style while preparing them to advise clients on color, line, design, silhouette, and total wardrobe planning. All the courses in this certificate apply to the AAS in Fashion Merchandising degree.

### CERTIFICATE

*TSI testing is required prior to first enrollment.*

<b>First Semester</b>		<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking*	2
FSHD 1302	Introduction to Fashion	3
FSHN 1301	Textiles	3
FSHD 1308	Fashion Trends	3
FSHD 1313	Art for Fashion Design	3
FSHD 1324	Ready-to-Wear Construction	3
<b>Semester Total</b>		<b>17</b>

<b>Second Semester</b>		<b>Credits</b>
FSHN 1320	Fashion Selling	3
FSHN 2301	Fashion Promotion	3
FSHN 2309	Fashion Image	3
FSHD 1311	Fashion History	3
FSHD 1318	Apparel Computer Systems	3
<b>Semester Total</b>		<b>15</b>

<b>Third Semester</b>		<b>Credits</b>
FSHN 2388	Internship-Fashion Merchandising**	3
<b>Semester Total</b>		<b>3</b>
<b>Program Total</b>		<b>35</b>

\*Student Success Course  
\*\*Capstone

## Fashion Sales Associate

The Fashion Sales Associate Marketable Skills Achievement Award (MSA) prepares students for entry-level work in retail fashion sales for a small boutique or large department store. All the courses in this MSA apply to the AAS in Fashion Merchandising degree.

### MSA

*(Marketable Skills Achievement Award)*

<b>First Semester</b>		<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking*	2
FSHD 1302	Introduction to Fashion	3
FSHN 1320	Fashion Selling	3
FSHN 2305	Fashion Retailing	3
FSHD 1324	Ready-to-Wear Construction	3
<b>Semester Total</b>		<b>14</b>



# Arts, A/V Technology and Communications

**Program Total 14**

## Visual Merchandising

The Visual Merchandising certificate program develops the students' technical window and interior display skills and understanding of aesthetic principles and applications, preparing them for entry-level positions as visual merchandisers in retail stores. Studies are concentrated on window and interior display, including computer applications. All of the courses in this certificate apply to the AAS in Fashion Merchandising degree.

### CERTIFICATE

*TSI testing is required prior to first enrollment.*

#### First Semester

	<b>Credits</b>
LEAD 1200 Workforce Development with Critical Thinking* .....	2
FSHD 1302 Introduction to Fashion .....	3
FSHN 1301 Textiles .....	3
FSHD 1313 Art for Fashion Design .....	3
FSHD 1308 Fashion Trends .....	3

**Semester Total 14**

#### Second Semester

	<b>Credits</b>
FSHN 2303 Fashion Buying .....	3
FSHN 2305 Fashion Retailing .....	3
FSHD 1318 Apparel Computer Systems .....	3
FSHD 1322 Fashion Sketching .....	3
FSHN 2301 Fashion Promotion .....	3

**Semester Total 15**

#### Third Semester

	<b>Credits</b>
FSHN 2307 Fashion Advertising .....	3
FSHN 2320 Visual Merchandising .....	3
FSHN 2388 Internship-Fashion Merchandising** .....	3

**Semester Total 9**

**Program Total 38**

\*Student Success Course

\*\*Capstone

## INTERIOR DESIGN

The Interior Design curriculum, culminating in an AAS degree, provides a balance of technical, creative, and business training necessary for a career in the interior design profession.

The Interior Design program consists of four (4) semesters and two (2) summers of study in interior design with 15 semester hours of academic courses, all of which provide

graduates the essential skills to enter the profession of interior design and decoration. As this is a skills-based program, please be aware of course sequencing and prerequisites.

To obtain more information about registering as an interior designer in the state of Texas, please contact the Texas Board of Architectural Examiners, 333 Guadalupe, Suite 350, Austin, TX, 78701-3942, 512.305.8535.

In addition, please note that a student may only earn one Marketable Skills Achievement Award (MSA) per academic year.

### Program Outcomes

Students will be able to

- Demonstrate an understanding of the programming, planning and designing of interior spaces by solving specific design problems, and then synthesizing and applying various technical, historical, cultural and theoretical concepts.
- Apply critical thinking and creative problem solving skills to a variety of interior design problems.
- Communicate design concepts at various stages of development using the design process, drawing skills and/or appropriate software programs.
- Develop professional quality presentations and demonstrate adequate written and oral communication skills.

*All interior design majors are encouraged to consult with the Interior Design Department before registering for classes.*

*For more information call 713.718.6038.*

## Interior Design

### AAS

*TSI testing is required prior to first enrollment.*

#### Prerequisites

LEAD 1200 Workforce Development with Critical Thinking* .....	2
ENGL 1301 Composition I .....	3
XXXX #3## Math/Science General Education Elective .....	3
<b>Semester Total</b>	<b>8</b>

### FIRST YEAR

#### First Semester

	<b>Credits</b>
INDS 1311 Fundamentals of Interior Design .....	3
INDS 1301 Basic Elements of Design .....	3
INDS 1319 Technical Drawing for Interior Designers .....	3
INDS 1351 History of Interiors I .....	3
INDS 2321 Presentation Drawing .....	3

# Arts, A/V Technology and Communications

		<b>Semester Total</b>	<b>15</b>
<b>Second Semester</b>		<b>Credits</b>	
INDS	1349	Fundamentals of Space Planning .....	3
INDS	1352	History of Interiors II .....	3
INDS	2305	Interior Design Graphics (AutoCAD) .....	3
INDS	2307	Textiles for Interior Design .....	3
INDS	2317	Rendering Techniques .....	3

**Semester Total**      **15**

		<b>Semester Total</b>	<b>15</b>
<b>Third Semester</b>		<b>Credits</b>	
ARTS	1303	Art History I .....	3
ARTS	1304	Art History II .....	3
XXXX	#3##	Social/Behavioral Science General Education Elective ...	3

**Semester Total**      **9**

## SECOND YEAR

		<b>Semester Total</b>	<b>9</b>
<b>First Semester</b>		<b>Credits</b>	
INDS	1315	Materials, Methods and Estimating .....	3
INDS	2313	Residential Design I .....	3
INDS	2315	Lighting for Interior Design .....	3
INDS	2270	Photoshop for Interior Design .....	2

**Semester Total**      **11**

		<b>Semester Total</b>	<b>15</b>
<b>Second Semester</b>		<b>Credits</b>	
INDS	1345	Commercial Design I .....	3
INDS	2210	Kitchen and Bath Design .....	2
INDS	2325	Professional Practices for Interior Designers .....	3
INDS	2386	Internship - Interior Design .....	3
INDS	2337	Portfolio Presentation** .....	3

**Semester Total**      **15**

**Program Total**      **72**

\*Student Success Course  
\*\*Capstone

## Interior Decorating

The Interior Decorating curriculum, culminating in a certificate, provides a balance of technical, creative, and business training necessary for a career in the interior decorating profession. Students will demonstrate an understanding of how to specify finishes and fabrics as well as operate a small interior decorating business. All courses in this certificate apply to the AAS in Interior Design degree.

## CERTIFICATE

*TSI testing is required prior to first enrollment.*

### FIRST YEAR

		<b>First Semester</b>	<b>Credits</b>
LEAD	1200	Workforce Development with Critical Thinking* .....	2
INDS	1301	Basic Elements of Design .....	3
INDS	1311	Fundamentals of Interior Design .....	3
INDS	1315	Materials, Methods and Estimating .....	3

**Semester Total**      **11**

		<b>Second Semester</b>	<b>Credit</b>
INDS	1319	Technical Drawing for Interior Designers .....	3
INDS	2307	Textiles for Interior Design .....	3
INDS	2325	Professional Practices for Interior Designers** .....	3

**Semester Total**      **9**

**Program Total**      **20**

\*Student Success Course  
\*\*Capstone

## Interior Design Communication

The Interior Design Communication Marketable Skills Achievement Award (MSA) is one that distinguishes individuals interested in specialized training in becoming effective visual design communicators. Students who complete this MSA will gain recognition for their high level of skill in a variety of visual mediums, qualifying them to enter the interior design field as an entry-level draftsman, design assistant, junior designer and/or gain an entry-level position within the presentation department of a larger design firm.

### MSA

*(Marketable Skills Achievement Award)*

		<b>First Semester</b>	<b>Credits</b>
LEAD	1200	Workforce Development with Critical Thinking* .....	2
INDS	1319	Technical Drawing .....	3
INDS	2321	Presentation Drawing .....	3

**Semester Total**      **8**

		<b>Second Semester</b>	<b>Credits</b>
INDS	2305	Interior Design Graphics (AutoCAD) .....	3
INDS	2317	Rendering Techniques .....	3

**Semester Total**      **6**

**Program Total**      **14**

# Arts, A/V Technology and Communications

## MUSIC ARRANGING, COMPOSITION AND PRODUCTION

The Commercial Music programs at Houston Community College work together to prepare students for careers in the music industry and lifelong musical avocations in their communities. Students learn to be music arrangers, songwriters, composers and producers; music business men and women; and commercial music performers. In addition to traditional academic music studies, these programs offer expanded and interdisciplinary training, with a greater emphasis on computer based music technologies, business practices, and popular music and jazz performance. Commercial Music is where the greatest amount of music industry employment is to be found. These programs are accountably guided by an Industry Advisory Board and subject to continuing institutional, student and accrediting evaluations, constantly aimed toward achieving relevant and modern teaching and learning excellence.

The Texas Higher Education Coordinating Board (THECB) allows students to earn only one AAS in Music Arranging, Composition, and Production. Students must choose from one of the following two specializations: Arranging and Composition or Production.

### Program Outcomes

Students will be able to

- Illustrate the musical "Circle of 5ths," showing key signatures and respective major/minor scales and keys.
- Have the skills to notate print-ready sheet music and music scores using computer software.
- Have the skills to produce digital recordings of his/her original musical works.
- Analyze songs and musical compositions for basic structural forms.
- Improve core competencies through readings and lectures, writing reports and exams, presenting oral reports utilizing computer skills, creating computer generated music notation and sequencing and recording music.
- Present a 15 minute program of original musical works utilizing principles of music theory, and/or of lyric construction, sequencing and recording (capstone recital).

For more information call 713.718.5606 or e-mail [aubrey.tucker@hccs.edu](mailto:aubrey.tucker@hccs.edu).

## Production Specialization

### AAS

*TSI testing is required prior to first enrollment.*

#### FIRST YEAR

##### First Semester

			Credits
EDUC	1300	Learning Framework*	3
ENGL	1301	Composition I	3
MUSI	1216	Elementary Ear Training I	2
MUSI	1211	Theory I	2
MUSI	1181	Piano Class I	1
MUSP	1201	Applied Commercial Music: Arranging and Composition***	2
XXXX	#3##	Math/Natural Science General Education Elective	3
<b>Semester Total</b>			<b>16</b>

##### Second Semester

			Credits
MUSC	1331	MIDI I	3
MUSI	1217	Ear Training/Sight-Singing II	2
MUSI	1212	Theory II	2
MUSI	1182	Piano Class II	1
MUSP	1201	Applied Commercial Music: Arranging and Composition***	2
PSYC	2301	Introduction to Psychology OR	
XXXX	#3##	Social Science General Education Elective	3
MUSC	1427	Audio Engineering I	4
<b>Semester Total</b>			<b>17</b>

##### Third Semester

			Credits
MUSB	1305	Survey of the Music Business	3
MUSC	2355	MIDI II	3
<b>Semester Total</b>			<b>6</b>

#### SECOND YEAR

##### First Semester

			Credits
MUSI	2216	Ear Training/Sight-Singing III	2
MUSI	2211	Theory III	2
MUSI	2181	Piano Class III	1
MUSC	2427	Audio Engineering II	4
RTVB	1240	Audio/Radio Production II Lab	2
MUSC	1330	Computer Music Notation I	3
MUSP	1201	Applied Commercial Music: Arranging and Composition***	2
MUSP	12##	Commercial Music Ensemble***	2
<b>Semester Total</b>			<b>18</b>

# Arts, A/V Technology and Communications

<b>Second Semester</b>		<b>Credits</b>
MUSC 2350	Computer Music Notation II .....	3
MUSI 2182	Piano Class IV .....	1
MUSI 2212	Theory IV .....	2
MUSI 2217	Ear Training/Sight Singing IV .....	2
SPCH 1311	Fundamentals of Speech OR	
SPCH 1315	Public Speaking OR	
SPCH 1321	Business and Professional Speaking.....	3
RTVB 2343	Commercial Recording Techniques .....	3
MUSP 1201	Applied Commercial Music: Arranging and Composition (Recital)**/**** .....	2
<b>Semester Total</b>		<b>16</b>
<b>Program Total</b>		<b>72</b>

\*Student Success Course

\*\*Capstone

\*\*\*Required twice \*\*\*\*Required four times

## Arranging and Composition Specialization

The AAS and certificate in the Arranging and Composition Specialization allow students the choice to concentrate more on music courses and less on production and audio technology.

### AAS

*TSI testing is required prior to first enrollment.*

#### FIRST YEAR

<b>First Semester</b>		<b>Credits</b>
EDUC 1300	Learning Framework* .....	3
ENGL 1301	Composition I .....	3
MUSI 1216	Elementary Ear Training I .....	2
MUSI 1211	Theory I .....	2
MUSC 1330	Computer Music Notation I .....	3
MUSC 2141	Forum/Recital*** .....	1
MUSI 1181	Piano Class I .....	1
MUSI 11##	Ensemble .....	1
MUSP 1201	Applied Commercial Music: Arranging and Composition**** .....	2
<b>Semester Total</b>		<b>13</b>

<b>Second Semester</b>		<b>Credits</b>
MUSC 1331	MIDI I .....	3
MUSC 2141	Forum/Recital*** .....	1
MUSI 1217	Ear Training/Sight-Singing II .....	2
MUSI 1212	Theory II .....	2
MUSI 1182	Piano Class II .....	1
MUSI 11##	Ensemble .....	1
MUSP 1201	Applied Commercial Music: Arranging and Composition**** .....	2
PSYC 2301	Introduction to Psychology OR	
XXXX #3##	Social Science General Education Elective .....	3
<b>Semester Total</b>		<b>15</b>

<b>Third Semester</b>		<b>Credits</b>
MUSI 1306	Music Appreciation .....	3
XXXX #3##	Math/Natural Science General Education Elective .....	3
<b>Semester Total</b>		<b>6</b>

#### SECOND YEAR

<b>First Semester</b>		<b>Credits</b>
MUSB 1305	Survey of the Music Business .....	3
MUSI 2216	Ear Training/Sight-Singing III .....	2
MUSI 2211	Theory III .....	2
MUSC 2350	Computer Music Notation II .....	3
MUSI 2181	Piano Class III .....	1
MUSP 1201	Applied Commercial Music: Arranging and Composition**** .....	2
SPCH 1311	Fundamentals of Speech OR	
SPCH 1315	Public Speaking OR	
SPCH 1321	Business and Professional Speaking.....	3
<b>Semester Total</b>		<b>16</b>

<b>Second Semester</b>		<b>Credits</b>
MUSB 2381	Cooperative Education-Music Management and Merchandising.....	3
MUSI 2217	Ear Training/Sight Singing IV .....	2
MUSI 2212	Theory IV .....	2
MUSI 2182	Piano Class IV .....	1
MUSI 1310	History and Literature of Recorded Music in America .....	3
MUSP 1201	Applied Commercial Music: Arranging and Composition (Recital)**/**** .....	2
<b>Semester Total</b>		<b>13</b>
<b>Program Total</b>		<b>68</b>

\*Student Success Course

\*\*Capstone

\*\*\*Required twice \*\*\*\*Required four times

# Arts, A/V Technology and Communications

## Arranging, Composition and Production

The Arranging, Composition and Production Level I Certificate gives students a solid foundation in their specialization and is a goal attainable in two semesters. Courses earned may be applied to the Music Arranging, Composition, and Production AAS degree.

### CERTIFICATE

*TSI testing is required prior to first enrollment.*

<b>First Semester</b>		<b>Credits</b>
EDUC 1300	Learning Framework*	3
MUSI 1301	Music Fundamentals	3
MUSC 1331	MIDI I	3
MUSI 1181	Piano Class I	1
MUSP 1201	Applied Commercial Music: Arranging and Composition**	2
<b>Semester Total</b>		<b>12</b>

<b>Second Semester</b>		<b>Credits</b>
MXXX #4##	MUSB, MUSC, MUSI, OR MUSP Elective***	4
MUSP 1201	Applied Commercial Music: Arranging and Composition**/**	2
<b>Semester Total</b>		<b>6</b>
<b>Program Total</b>		<b>18</b>

\*Student Success Course

\*\*Capstone - Required twice

\*\*\*May be any MUSB, MUSC, MUSI, or MUSP course(s) with Department approval.

## MUSIC BUSINESS

The Music Business Specialization provides students with the knowledge and experience to gain employment in the exciting fields of the music entertainment industry. In addition to the workforce and academic core, the student becomes familiar with the wide scope of the music business and gains industry experience in an approved internship.

### Program Outcomes

Students will be able to

- Understand the “bundle of rights” that are the foundation of U.S. copyright law and the key to music property rights.
- Articulate the music business system and how its subsystems work together to produce income.

- Have basic understanding and skills in the related fields of audio and video technology.
- Gain basic skills in music theory, ear training and piano/keyboard skills.
- Improve core competencies through readings and lectures, writing reports and exams, learning music, and researching and presenting oral reports utilizing computer skills.
- Apply knowledge and skills learned in this program in a capstone music industry internship.

For more information call 713.718.5606 or e-mail [aubrey.tucker@hccs.edu](mailto:aubrey.tucker@hccs.edu).

## Music Business

### AAS

*TSI testing is required prior to first enrollment.*

#### FIRST YEAR

<b>First Semester</b>		<b>Credits</b>
EDUC 1300	Learning Framework*	3
MUSB 1305	Survey of the Music Business	3
MUSI 1181	Piano Class I	1
MUSI 1211	Theory I	2
MUSI 1216	Elementary Ear Training I	2
MUSP 12##	Applied Commercial Music***	2
ITSC 1309	Integrated Software Applications I OR	
POFI 1301	Computer Applications I OR	
BCIS 1405	Business Computer Applications	3
<b>Semester Total</b>		<b>16</b>

<b>Second Semester</b>		<b>Credits</b>
BUSG 1301	Introduction to Business	3
ENGL 1301	Composition I	3
HRPO 1311	Human Relations	3
XXXX #3##	Math/Natural Science General Education Elective	3
MUSP 12##	Applied Commercial Music****	2
MUSI 12##	Ensemble OR	
MUSP 12##	Commercial Music Ensemble	2
<b>Semester Total</b>		<b>16</b>

<b>Third Semester</b>		<b>Credits</b>
ENGL 1302	Composition II	3
MUSB #3##	Approved MUSB Elective****	3
MUSI 1306	Music Appreciation OR	
MUSI 1310	History and Literature of Recorded Music in America	3
<b>Semester Total</b>		<b>9</b>

# Arts, A/V Technology and Communications

## SECOND YEAR

### First Semester

	<b>Credits</b>
BMGT 1303 Principles of Management .....	3
MUSB #3## Approved MUSB Elective**** .....	3
MUSC 1331 MIDI I .....	3
RTVB 1321 TV Field Production .....	3
MUSC 1427 Audio Engineering I.....	4
<b>Semester Total</b>	<b>16</b>

### Second Semester

	<b>Credits</b>
ACCT 2301 Principles of Accounting I OR	
ACNT 1303 Introduction to Accounting I.....	3
BUSG 2305 Business Law/Contracts .....	3
ECON 2302 Principles of Economics.....	3
MUSB #3## Approved MUSB Elective**** .....	3
MUSB 2381 Cooperative Education-Music Management and Merchandising** .....	3
<b>Semester Total</b>	<b>15</b>
<b>Program Total</b>	<b>72</b>

*\*Student Success Course*

*\*\*Capstone*

*\*\*\*Required twice \*\*\*\*Required three times*

*\*\*\*\*Program-related electives (9 semester hours) may be chosen from the following courses: MUSB 1341, MUSB 1391, MUSB 2301, MUSB 2305, MUSB 2309, MUSB 2345, MUSB 2355, MUSB 2381.*

## Music Business

The Music Business certificate gives students a solid foundation for the Music Business industry. All courses earned apply to the Music Business AAS degree.

## CERTIFICATE

*TSI testing is required prior to first enrollment.*

### First Semester

	<b>Credits</b>
EDUC 1300 Learning Framework*.....	3
MUSB 1305 Survey of the Music Business.....	3
MUSB 2355 Legal Aspects of the Entertainment Industry .....	3
<b>Semester Total</b>	<b>9</b>

### Second Semester

	<b>Credits</b>
MUSB #3## Music Business Elective*** .....	3
MXXX #3## MUSC, MUSI, or MUSP Elective**** .....	3
MUSB 2309 The Record Industry** .....	3
<b>Semester Total</b>	<b>9</b>
<b>Program Total</b>	<b>18</b>

*\*Student Success Course*

*\*\*Capstone*

*\*\*\*Music Business elective may be chosen from the following courses: MUSB 1341, MUSB 1391, MUSB 2301, MUSB 2305, MUSB 2309, MUSB 2345, MUSB 2355, MUSB 2381.*

*\*\*\*\*May be any MUSI, MUSC, or MUSP course(s) with Department approval.*

## MUSIC IN PERFORMANCE

The Music in Performance AAS degree program is designed for those students who wish to devote a concentrated two years preparing themselves for professional or semiprofessional careers in music. Seven specializations are offered so that students may concentrate in a chosen performance area: commercial voice, conducting, instrumental, jazz studies, musical theater, piano studio, and voice. A wide variety of performance opportunities are available to students through performing and networking with recognized professionals in music performance.

The Texas Higher Education Coordinating Board (THECB) allows students to earn only one AAS in Music in Performance. Students may choose from one of the following five specializations: Instrumental, Jazz Studies, Music Theater, Piano Studio or Voice.

### Program Outcomes

Students will be able to

- Perform musical works at the sophomore college level on a musical instrument, voice or conducting.
- Demonstrate knowledge of music theory, ear training, music literature and music business at the sophomore college level.
- Have practical experience in performing with musical ensembles, class piano and in digital notation and sequencing.
- Improve core competencies through readings and lectures, writing reports and exams, presenting oral reports, and studying and performing music.
- Present a 15 minute recital program of musical works (capstone recital).

*For more information call 713.718.5620 or e-mail [betty.shine@hccs.edu](mailto:betty.shine@hccs.edu).*

# Arts, A/V Technology and Communications

## Conducting Specialization

The AAS degree in the Conducting Specialization is a two-year program stressing the rudiments of conducting and a general study of music to prepare students to conduct vocal or instrumental ensembles.

### AAS

*TSI testing is required prior to first enrollment.*

#### FIRST YEAR

First Semester		Credits
EDUC 1300	Learning Framework*	3
ENGL 1301	Composition I	3
MUSI 1216	Elementary Ear Training I	2
MUSI 1211	Theory	2
MUSC 1309	Conducting Class	3
MUSC 2141	Forum/Recital***	1
MUSI 1181	Piano Class I	1
MUSI 1308	Music Literature I	3
<b>Semester Total</b>		<b>18</b>

Second Semester		Credits
MUSC 1249	Applied Music: Conducting I	2
MUSC 2141	Forum/Recital***	1
MUSI 1217	Ear Training/Sight-Singing II	2
MUSI 1212	Theory II	2
MUSI 1182	Piano Class II	1
MUSI 2241	Community College Chorus OR	
MUSI 1227	Community College Band***	2
MUSC 1331	MIDI I	3
PSYC 2301	Introduction to Psychology OR	
XXXX #3##	Social Science General Education Elective	3
<b>Semester Total</b>		<b>16</b>

Third Semester		Credits
MUSI 1309	Music Literature II	3
XXXX #3##	Math/Natural Science General Education Elective	3
<b>Semester Total</b>		<b>6</b>

#### SECOND YEAR

First Semester		Credits
MUSB 1305	Survey of the Music Business	3
MUSI 2216	Ear Training/Sight-Singing III	2
MUSI 2211	Theory III	2
MUSI 2241	Community College Chorus OR	
MUSI 1227	Community College Band***	2
MUSI 2181	Piano Class III	1
MUSC 2249	Applied Music Conducting II***	2
SPCH 1311	Fundamentals of Speech OR	
SPCH 1315	Public Speaking OR	
SPCH 1321	Business and Professional Speaking	3
<b>Semester Total</b>		<b>15</b>

## Second Semester

		Credits
MUSC 1330	Computer Music Notation I	3
MUSI 2217	Ear Training/Sight Singing IV	2
MUSI 2212	Theory IV	2
MUSI 2182	Piano Class IV	1
MUSI 1310	History and Literature of Recorded Music in America	3
MUSC 2249	Applied Music: Conducting II: Recital**/**	2

**Semester Total 13**

**Program Total 68**

*\*Student Success Course*

*\*\*Capstone*

*\*\*\*Required twice*

## Instrumental Specialization

The AAS degree and certificate in the Instrumental Specialization prepare students for performance of music composed for the literature of bands, orchestras and chamber music.

### AAS

*TSI testing is required prior to first enrollment.*

#### FIRST YEAR

First Semester		Credits
EDUC 1300	Learning Framework*	3
ENGL 1301	Composition I	3
MUSP 12##	Applied Commercial Music: Instrument***	2
MUSI 1216	Elementary Ear Training I	2
MUSI 1211	Theory I	2
MUSC 2141	Forum/Recital***	1
MUSI 1181	Piano Class I	1
MUSI 11##	Ensemble	1
XXXX #3##	Performance Related Elective****	3
<b>Semester Total</b>		<b>18</b>

Second Semester		Credits
MUSC 12##	Applied Commercial Music: Instrument***	2
MUSC 1331	MIDI I	3
MUSC 2141	Forum/Recital***	1
MUSI 1217	Ear Training/Sight-Singing II	2
MUSI 1212	Theory II	2
MUSI 1182	Piano Class II	1
MUSI 11##	Ensemble	1
PSYC 2301	Introduction to Psychology OR	
XXXX #3##	Social Science General Education Elective	3
<b>Semester Total</b>		<b>15</b>

# Arts, A/V Technology and Communications

<b>Third Semester</b>		<b>Credits</b>
MUSI 1306	Music Appreciation.....	3
XXXX #3##	Math/Natural Science General Education Elective.....	3
<b>Semester Total</b>		<b>6</b>

## SECOND YEAR

<b>First Semester</b>		<b>Credits</b>
MUSP 12##	Applied Commercial Music: Instrument***.....	2
MUSB 1305	Survey of the Music Business.....	3
MUSC 2141	Forum/Recital***.....	1
MUSI 2216	Ear Training/Sight-Singing III.....	2
MUSI 2211	Theory III.....	2
MUSI 11##	Ensemble.....	1
MUSI 2181	Piano Class III.....	1
SPCH 1311	Fundamentals of Speech OR	
SPCH 1315	Public Speaking OR	
SPCH 1321	Business and Professional Speaking.....	3
<b>Semester Total</b>		<b>15</b>

<b>Second Semester</b>		<b>Credits</b>
MUSC 1330	Computer Music Notation I.....	3
MUSI 2217	Ear Training/Sight Singing IV.....	2
MUSI 2212	Theory IV.....	2
MUSI 11##	Ensemble.....	1
MUSI 2182	Piano Class IV.....	1
MUSI 1310	History and Literature of Recorded Music in America.....	3
MUSP 22##	Applied Commercial Music: Recital**.....	2
<b>Semester Total</b>		<b>14</b>
<b>Program Total</b>		<b>68</b>

\*Student Success Course

\*\*Capstone

\*\*\*Required three times

\*\*\*\*Performance related electives may be chosen from the following: DANC, DRAM, MUSI, or MUSP.

## Jazz Studies Specialization

The AAS degree and certificate in the Jazz Studies Specialization prepare students to be jazz musicians. Particular emphasis is given to jazz improvisation, theory and ensembles.

### AAS

*TSI testing is required prior to first enrollment.*

## FIRST YEAR

<b>First Semester</b>		<b>Credits</b>
EDUC 1300	Learning Framework*.....	3
ENGL 1301	Composition I.....	3
MUSP 12##	Applied Commercial Music***.....	2
MUSI 1216	Elementary Ear Training I.....	2

MUSI 1211	Theory I.....	2
MUSC 2141	Forum/Recital***.....	1
MUSI 1181	Piano Class I.....	1
MUSP 1250	Small Commercial Music Ensemble: Jazz.....	2
MUSC 2214	Improvisation Theory I.....	2
<b>Semester Total</b>		<b>18</b>

<b>Second Semester</b>		<b>Credits</b>
MUSP 12##	Applied Commercial Music***.....	2
MUSC 1331	MIDI I.....	3
MUSC 2141	Forum/Recital***.....	1
MUSI 1217	Ear Training/Sight-Singing II.....	2
MUSI 1212	Theory II.....	2
MUSI 1182	Piano Class II.....	1
MUSI 11##	Ensemble***.....	1
PSYC 2301	Introduction to Psychology OR	
XXXX #3##	Social Science General Education Elective.....	3
<b>Semester Total</b>		<b>15</b>

<b>Third Semester</b>		<b>Credits</b>
MUSI 1305	Survey of the Music Business.....	3
XXXX #3##	Math/Natural Science General Education Elective.....	3
<b>Semester Total</b>		<b>6</b>

## SECOND YEAR

<b>First Semester</b>		<b>Credits</b>
MUSP 12##	Applied Commercial Music: Instrument***.....	2
MUSC 2141	Forum/Recital***.....	1
MUSI 2216	Ear Training/Sight-Singing III.....	2
MUSI 2211	Theory III.....	2
MUSI 11##	Ensemble***.....	1
MUSI 2181	Piano Class III.....	1
MUSI 1310	History and Literature of Recorded Music in America.....	3
SPCH 1311	Fundamentals of Speech OR	
SPCH 1315	Public Speaking OR	
SPCH 1321	Business and Professional Speaking.....	3
<b>Semester Total</b>		<b>15</b>

<b>Second Semester</b>		<b>Credits</b>
MUSC 1330	Computer Music Notation I.....	3
MUSI 2217	Ear Training/Sight Singing IV.....	2
MUSI 2212	Theory IV.....	2
MUSI 2182	Piano Class IV.....	1
MUSI 11##	Ensemble***.....	1
XXXX #3##	Performance Related Elective****.....	3
MUSP 22##	Applied Commercial Music (Recital)**.....	2
<b>Semester Total</b>		<b>14</b>
<b>Program Total</b>		<b>68</b>

\*Student Success Course

\*\*Capstone

\*\*\*Required three times

\*\*\*\* Performance related electives may be chosen from the following: DANC, DRAM, MUSI, or MUSP.



# Arts, A/V Technology and Communications

## Music Theater Specialization

The AAS degree and certificate in the Music Theater Specialization prepare students to be singers, actors and dancers for musical stage productions with emphasis on musical training.

### AAS

*TSI testing is required prior to first enrollment.*

#### FIRST YEAR

First Semester		Credits
EDUC 1300	Learning Framework*	3
DANC 1347	Jazz Dance I	3
ENGL 1301	Composition I	3
MUSI 1216	Elementary Ear Training I	2
MUSI 1211	Theory I	2
MUSC 2141	Forum/Recital**** OR	
MUAP 1140	Applied Music****	1
MUSI 1181	Piano Class I	1
MUSP 1227	Applied Commercial Music: Voice***	2
<b>Semester Total</b>		<b>17</b>

Second Semester		Credits
MUSC 2141	Forum/Recital**** OR	
MUAP 1140	Applied Music****	1
MUSI 1217	Ear Training/Sight-Singing II	2
MUSI 1212	Theory II	2
MUSI 11##	Ensemble	1
MUSI 1182	Piano Class II	1
MUSP 1227	Applied Commercial Music: Voice***	2
DRAM 1351	Acting I	3
PSYC 2301	Introduction to Psychology OR	
XXXX #3##	Social Science General Education Elective	3
<b>Semester Total</b>		<b>15</b>

Third Semester		Credits
MUSB 1305	Survey of the Music Business	3
XXXX #3##	Math/Natural Science General Education Elective	3
<b>Semester Total</b>		<b>6</b>

#### SECOND YEAR

First Semester		Credits
MUSC 2141	Forum/Recital**** OR	1
MUAP 1140	Applied Music****	1
MUSI 2216	Ear Training/Sight-Singing III	2
MUSI 2211	Theory III	2
MUSP 1308	Music Theater I	3
MUSI 2181	Piano Class III	1
MUSP 1227	Applied Commercial Music: Voice***	2
SPCH 1311	Fundamentals of Speech OR	
SPCH 1315	Public Speaking OR	
SPCH 1321	Business and Professional Speaking	3
<b>Semester Total</b>		<b>14</b>

#### Second Semester

	Credits
MUSI 11## Ensemble	1
MUSC 2141 Forum/Recital**** OR	
MUAP 1140 Applied Music****	1
MUSC 1330 Computer Music Notation I	3
MUSC 1331 MIDI I	3
MUSI 1310 History and Literature of Recorded Music in America	3
MUSP 1227 Applied Commercial Music: Voice (Recital)*** OR	
MUAP 2281 Applied Music	2
MUSP 2338 Music Theater II**	3

**Semester Total 16**  
**Program Total 68**

*\*Student Success Course*

*\*\*Capstone*

*\*\*\*Required three times \*\*\*\*Required four times*

## Piano Studio Specialization

The AAS degree and certificate in the Piano Studio Specialization prepare students for employment as piano and keyboard instructors and as operators of piano studios. Instruction includes training in music business practices.

### AAS

*TSI testing is required prior to first enrollment.*

#### FIRST YEAR

First Semester		Credits
EDUC 1300	Learning Framework*	3
ENGL 1301	Composition I	3
MUSP 1210	Applied Commercial Music: Piano***	2
MUSI 1216	Elementary Ear Training I	2
MUSI 1211	Theory I	2
MUSC 2141	Forum/Recital***	1
MUSI 1181	Piano Class I	1
MUSP 1292	Special Topics in Music-Piano and Organ Performance***	2

**Semester Total 16**

Second Semester		Credits
MUSP 1210	Applied Commercial Music: Piano***	2
MUSC 1331	MIDI I	3
MUSC 2141	Forum/Recital***	1
MUSI 1217	Ear Training/Sight-Singing II	2
MUSI 1212	Theory II	2
MUSI 1182	Piano Class II	1
MUSP 1292	Special Topics in Music-Piano and Organ Performance***	2
PSYC 2301	Introduction to Psychology OR	
XXXX #3##	Social Science General Education Elective	3

**Semester Total 16**

# Arts, A/V Technology and Communications

## Third Semester Credits

MUSI 1306	Music Appreciation.....	3
XXXX #3##	Math/Natural Science General Education Elective.....	3
<b>Semester Total</b>		<b>6</b>

## SECOND YEAR

### First Semester Credits

MUSI 11##	Ensemble.....	1
MUSI 2216	Ear Training/Sight-Singing III.....	2
MUSI 2211	Theory III.....	2
MUSI 2181	Piano Class III.....	1
MUSP 1292	Special Topics in Music: Piano (Improvisation)***.....	2
MUSP 1210	Applied Commercial Music: Piano***.....	2
MUSP 2304	Piano Studio I.....	3
SPCH 1311	Fundamentals of Speech OR	
SPCH 1315	Public Speaking OR	
SPCH 1321	Business and Professional Speaking.....	3
<b>Semester Total</b>		<b>16</b>

### Second Semester Credits

MUSC 2141	Forum/Recital***.....	1
MUSC 1330	Computer Music Notation I.....	3
MUSI 2217	Ear Training/Sight Singing IV.....	2
MUSI 2212	Theory IV.....	2
MUSI 2182	Piano Class IV.....	1
MUSP 2344	Piano Studio II.....	3
MUSP 1210	Applied Commercial Music: Piano (Recital)**.....	2
<b>Semester Total</b>		<b>14</b>
<b>Program Total</b>		<b>68</b>

\*Student Success Course

\*\*Capstone

\*\*\*Required three times.

## Voice Specialization

The AAS degree and certificate in Voice Specialization offer options in Voice and Commercial Voice studies. The Voice option concentrates on development of classical vocal techniques appropriate for operatic, Broadway musical and chamber music singing. The Commercial Voice option trains students for the on-microphone singing of popular music and jazz. Students interested in the Commercial Voice option should contact the department or counselor to make appropriate substitutions.

*Voice Option: MUSI 1160, MUSI 1161 and MUSI 2160*

*Commercial Voice Option: substitute MUSI 1310*

*Voice Option: MUSP 2308*

*Commercial Voice Option: substitute MUSI 1329*

*Voice Option: MUSP 2339*

*Commercial Voice Option: substitute MUSI 11## (Required twice) and MUSC 2141*

*Voice Option: MUSP 2161*

*Commercial Voice Option: substitute MUSC 2141*

## AAS

*TSI testing is required prior to first enrollment.*

## FIRST YEAR

### First Semester Credits

EDUC 1300	Learning Framework*.....	3
ENGL 1301	Composition I.....	3
MUSP 1227	Applied Commercial Music: Voice****.....	2
MUSI 1216	Elementary Ear Training I.....	2
MUSI 1211	Theory I.....	2
MUSI 11##	Ensemble***.....	1
MUSC 2141	Forum/Recital.....	1
MUSI 1160	Italian Diction.....	1
MUSI 1181	Piano Class I.....	1
MUSI 1306	Music Appreciation.....	3
<b>Semester Total</b>		<b>19</b>

### Second Semester Credits

MUSP 1227	Applied Commercial Music: Voice****.....	2
MUSC 1331	MIDI I.....	3
MUSI 1217	Ear Training/Sight-Singing II.....	2
MUSI 1212	Theory II.....	2
MUSI 1161	English Diction.....	1
MUSI 1182	Piano Class II.....	1
MUSI 11##	Ensemble***.....	1
PSYC 2301	Introduction to Psychology OR	
XXXX #3##	Social Science General Education Elective.....	3
<b>Semester Total</b>		<b>15</b>

# Arts, A/V Technology and Communications

## Third Semester

	Credits
SPCH 1311 Fundamentals of Speech OR	
SPCH 1321 Business and Professional Speaking OR	
SPCH 1315 Public Speaking .....	3
XXXX #3## Math/Natural Science General Education Elective .....	3
<b>Semester Total</b>	<b>6</b>

## SECOND YEAR

### First Semester

	Credits
MUSB 1305 Survey of the Music Business .....	3
MUSP 1227 Applied Commercial Music: Voice**** .....	2
MUSI 2216 Ear Training/Sight-Singing III .....	2
MUSI 2211 Theory III .....	2
MUSI 2160 German Diction .....	1
MUSI 2181 Piano Class III .....	1
MUSP 2308 Opera Workshop I .....	3
<b>Semester Total</b>	<b>14</b>

### Second Semester

	Credits
MUSP 1227 Applied Commercial Music: Voice (Recital)** .....	2
MUSC 1330 Computer Music Notation I .....	3
MUSI 2217 Ear Training/Sight Singing IV .....	2
MUSI 2212 Theory IV .....	2
MUSI 2161 French Diction .....	1
MUSI 2182 Piano Class IV .....	1
MUSP 2339 Opera Workshop II .....	3
<b>Semester Total</b>	<b>14</b>
<b>Program Total</b>	<b>68</b>

\*Student Success Course

\*\*Capstone

\*\*\*Required twice \*\*\*\*Required three times

## Music in Performance

The Music in Performance Level I certificate gives students a solid foundation in their specialization. All courses earned apply to the Music in Performance AAS degree.

### CERTIFICATE

*TSI testing is required prior to first enrollment.*

#### First Semester

	Credits
EDUC 1300 Learning Framework* .....	3
MUSP 12## Applied Commercial Music OR	
MUAP 12## Applied Music*** .....	2
MUSI 1301 Music Fundamentals .....	3
MUSI 1181 Piano Class I .....	1
MUSP 12## Applied Commercial Music OR	
MUSI 12## Ensemble*** .....	2
<b>Semester Total</b>	<b>11</b>

#### Second Semester

	Credits
MUSP 12## Applied Commercial Music OR	
MUAP 12## Applied Music** .....	2
MXXX #3## MUSB, MUSC, MUSI, OR MUSP Elective**** .....	3
MUSP 12## Applied Commercial Music OR	
MUSI 12## Ensemble*** .....	2
<b>Semester Total</b>	<b>7</b>
<b>Program Total</b>	<b>18</b>

\*Student Success Course

\*\*Capstone

\*\*\* Required twice; private lesson on instrument or voice

\*\*\*\*May be any MUSB, MUSC, MUSI, or MUSP course(s) with Commercial Music Department approval.

# Business

**Accounting (52.0301)**  
**Business Management (52.0201)**  
**Business Technology (52.0407)**  
**Finance - Banking (52.0803)**  
**International Business (52.1101)**  
**Marketing (52.1401)**  
**Real Estate (52.1501)**

A Career Cluster is a grouping of occupations and broad industries based on commonalities. The Business career cluster is concerned with providing knowledge and skills related to planning, organizing, directing and evaluating business functions essential to efficient and productive business operations. Business Management and Administration career opportunities are available in every sector of the economy. This includes the following HCC programs: Accounting, Business Management, Business Technology, Finance, International Business, Marketing, and Real Estate.

All new semester hour students, who have earned less than 12 semester hours of college level credit, are required to take a first-year student success course in their first term at HCC. Through research and experience, Houston Community College has determined that many life and career management skills are necessary for students to make the most of their college investment. A student success course is designed to prepare students for the demands of college and for success in the world of work. The course emphasizes setting priorities, time management, effective listening, note-taking, concentration techniques, and retention of information, book analysis, comprehension techniques, and test-taking skills. This course also incorporates units that are designed to facilitate the use of library databases in conducting research, planning and setting educational objectives, lifelong career assessment, decision-making, financial aid, tutoring, and student support services, enabling the student to maximize the use of college resources.

Every HCC Career and Technology Education program contains a "capstone," an experience for the student to "put it all together." The capstone is a learning experience resulting in a consolidation of a student's educational experience and certifies mastery of entry level workplace competencies. The capstone experience must occur during the last semester of the student's educational program. The capstone consists of an external learning experience or an advanced course especially designed to help students synthesize knowledge and skills or other licensure as appropriate.

## ACCOUNTING

The Accounting program provides students with occupational and technical instruction, continuing education, college-parallel courses, professional assistance, and resources for learning. This program prepares students for careers as paraprofessionals in accounting firms assisting certified public accountants as generalists who prepare taxes, perform audits, and prepare financial statements.

The Accounting program offers courses that qualify students for the CPA exam. The Texas State Board of Public Accountancy, 333 Guadalupe, Tower 3, Suite 900, Austin, TX 78701-3900, 512.305.7800, Fax 512.305.7854 has accredited these courses for CPA candidates. The website for the Texas State Board of Public Accountancy is [www.tsbpa.state.tx.us](http://www.tsbpa.state.tx.us).

In addition, please note that a student may only earn one Marketable Skills Achievement Award (MSA) per academic year.

### Program Outcomes

Students will be able to

- Read, listen, speak, and write proficiently in preparation for presentations with clients, accounting firms and compliance work.
- Demonstrate complete understanding of the accounting cycle.
- Reconcile and verify account balances, audit for internal control and prepare financial statements.
- Prepare financial statements and tax returns utilizing computerized software packages (i.e. Turbo Tax, Peachtree and/or QuickBooks).

*For more information call 713.718.7905 or e-mail [marina.grau@hccs.edu](mailto:marina.grau@hccs.edu).*

# Business

## Accounting

### AAS

TSI testing is required prior to first enrollment.

#### FIRST YEAR

<b>First Semester</b>		<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking*	2
ACCT 2301	Principles of Accounting I****	3
ECON 2301	Principles of Economics (Macro)	3
ENGL 1301	Composition I	3
XXXX #3##	Computer Applications Elective***	3
HRPO 2301	Human Resources Management	3
<b>Semester Total</b>		<b>17</b>

<b>Second Semester</b>		<b>Credits</b>
ITSW 2334	Advanced Spreadsheets OR	
POFI 1349	Spreadsheets	3
ENGL 1302	Composition II	3
PSYC 2301	Introduction to Psychology	3
BUSG 2305	Business Law/Contracts	3
ACCT 2302	Principles of Accounting II	3
XXXX #3##	Humanities/Fine Arts General Education Elective	3
<b>Semester Total</b>		<b>18</b>

#### SECOND YEAR

<b>First Semester</b>		<b>Credits</b>
MATH 1314	College Algebra	3
ACNT 2331	Internal Control and Auditing OR	
ACNT 1313	Computerized Accounting Applications	3
ACNT 2303	Intermediate Accounting I	3
ACNT 1331	Federal Income Tax: Individual	3
ACNT 1382	Cooperative Education-Accounting Technician	3
<b>Semester Total</b>		<b>15</b>

<b>Second Semester</b>		<b>Credits</b>
BMGT 1327	Principles of Management	3
ACNT 2309	Cost Accounting OR	
ACNT 1392	Small Business Accounting	3
ACNT 1347	Federal Income Tax for Partnerships and Corporations	3
ACNT 2382	Cooperative Education-Accounting Technician	3
ACNT 2304	Intermediate Accounting II**	3
<b>Semester Total</b>		<b>15</b>
<b>Program Total</b>		<b>65</b>

\*Student Success Course

\*\*Capstone

\*\*\*Electives may be chosen from the following courses: ITSC 1309, POFI 1301, or BCIS 1405.

\*\*\*\*Students without an accounting background are strongly advised to complete ACNT 1303, Introduction to Accounting I.

## Accounting

### CERTIFICATE

TSI testing is required prior to first enrollment.

<b>First Semester</b>		<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking*	2
ACCT 2301	Principles of Accounting I****	3
XXXX #3##	Computer Applications Elective***	3
HRPO 2301	Human Resources Management	3
MATH 1314	College Algebra	3
<b>Semester Total</b>		<b>14</b>

<b>Second Semester</b>		<b>Credits</b>
ACCT 2302	Principles of Accounting II	3
ACNT 2331	Internal Control and Auditing OR	
ACNT 1313	Computerized Accounting Applications	3
ACNT 1331	Federal Income Tax: Individual	3
ACNT 1382	Cooperative Education-Accounting Technician	3
<b>Semester Total</b>		<b>12</b>

<b>Third Semester</b>		<b>Credits</b>
ACNT 2309	Cost Accounting OR	
ACNT 1392	Special Topics in Accounting Technician-Small Business Accounting	3
ITSW 2334	Advanced Spreadsheets OR	
POFI 1349	Spreadsheets	3
ACNT 1347	Federal Income Tax for Partnerships and Corporations	3
ACNT 2382	Cooperative Education-Accounting Technician	3
ACNT 2303	Intermediate Accounting I**	3
<b>Semester Total</b>		<b>15</b>
<b>Program Total</b>		<b>41</b>

\*Student Success Course

\*\*Capstone

\*\*\*Electives may be chosen from the following courses: ITSC 1309, POFI 1301, or BCIS 1405.

\*\*\*\*Students without an accounting background are strongly advised to complete ACNT 1303, Introduction to Accounting I.

# Business

## Payroll Specialist

The Payroll Specialist Marketable Skills Achievement Award (MSA) prepares students to perform activities associated with human resources, payroll transactions, payroll tax compliance and filing of all quarterly and yearly payroll tax reports required by company policies and government regulations.

### MSA

(Marketable Skills Achievement Award)

#### FIRST YEAR

First Semester			Credits
ACNT	1303	Introduction to Accounting I.....	3
ACNT	1329	Payroll Accounting .....	3
POFI	1301	Computer Applications I OR	
ITSC	1309	Integrated Software Applications .....	3
BMGT	1370	Introduction to HR/ PeolpeSoft Applications OR	
ITSW	2334	Advanced Spreadsheets OR	
POFI	1349	Spreadsheets OR	
ACNT	1313	Computerized Accounting Applications.....	3
<b>Semester Total</b>			<b>12</b>
<b>Program Total</b>			<b>12</b>

## BUSINESS ADMINISTRATION

The Business Administration program provides distinctive learning that actively engages students, faculty, and the business community in developing knowledge and skills relevant for success in a complex global economy. The majority of Americans make their living in business, regardless of their academic major. The job market is opening up for individuals with an associate degree in business. The program offers an AAS degree and certificate with several specializations.

The Texas Higher Education Coordinating Board (THECB) allows students to earn only one AAS in Business Management. Students may choose from one of the following two specializations: General or Human Resource Management.

In addition, please note that a student may only earn one Marketable Skills Achievement Award (MSA) per academic year.

### Program Outcomes

Students will be able to

- Identify essential management skills necessary for career success.
- Describe the relationships of social responsibility, ethics, and law in business.
- Construct a business plan.
- Examine the role of strategic human resource planning in support of organizational mission and objectives.
- Describe the impact of corporate culture and atmosphere on employee behavior.

For more information call 713.718.6295 or e-mail [raven.davenport@hccs.edu](mailto:raven.davenport@hccs.edu).

## Business Management

### AAS

TSI testing is required prior to first enrollment.

#### FIRST YEAR

First Semester			Credits
LEAD	1200	Workforce Development with Critical Thinking* .....	2
BUSG	1301	Introduction to Business OR	
BUSI	1301	Business Principles .....	3
BMGT	1327	Principles of Management .....	3
ENGL	1301	Composition I .....	3
XXXX	#3##	General Education Elective.....	3
MATH	1314	College Algebra OR	
XXXX	#3##	Math/Natural Science General Education Elective .....	3
<b>Semester Total</b>			<b>17</b>

Second Semester			Credits
ENGL	1302	Composition II .....	3
BMGT	1301	Supervision .....	3
HRPO	1311	Human Relations .....	3
XXXX	#3##	Computer Applications Elective*** .....	3
XXXX	#3##	Humanities/Fine Arts General Education Elective .....	3
ACNT	1303	Introduction to Accounting I OR	
ACCT	2301	Principles of Accounting I.....	3
<b>Semester Total</b>			<b>18</b>

#### SECOND YEAR

First Semester			Credits
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# Business

MRKG 1311	Principles of Marketing.....	3
XXXX #3##	General Education Elective.....	3
BUSG 2380	Cooperative Education I.....	3
BUSG 2305	Business Law/Contracts OR	
BUSI 2301	Business Law I.....	3
HRPO 2301	Human Resource Management.....	3

**Semester Total 15**

## Second Semester Credits

BUSG 1370	Personal Financial Planning.....	3
HRPO 2307	Organizational Behavior OR	
BMGT 1341	Business Ethics.....	3
ECON 2302	Principles of Economics (Micro).....	3
BUSG 2381	Cooperative Education II.....	3
BUSG 2309	Small Business Management**.....	3

**Semester Total 15**

**Program Total 65**

*\*Student Success Course*

*\*\*Capstone*

*\*\*\*Electives may be chosen from the following courses: ITSC 1309, POFI 1301, or BCIS 1405.*

## Business Management

The Business Management certificate provides students with the knowledge and skills required for entry-level positions in management. All courses in this certificate apply to the AAS in Business Management degree.

### CERTIFICATE

*TSI testing is required prior to first enrollment.*

#### First Semester Credits

LEAD 1200	Workforce Development with Critical Thinking*.....	2
HRPO 2301	Human Resource Management.....	3
BUSG 1301	Introduction to Business OR	
BUSI 1301	Business Principles.....	3
HRPO 1311	Human Relations.....	3
BMGT 1327	Principles of Management.....	3

**Semester Total 14**

#### Second Semester Credits

BUSG 2305	Business Law/Contracts OR	
BUSI 2301	Business Law I.....	3
BMGT 1301	Supervision.....	3
BUSG 2380	Cooperative Education I**.....	3

**Semester Total 9**

**Program Total 23**

*\*Student Success Course*

*\*\*Capstone*

## Business Management

## Entrepreneurship

The Business Management-Entrepreneurship certificate provides students with instruction in entrepreneurial skills, business principles, accounting, and real life experiences through cooperative education. The program is designed to assist students in starting their own businesses.

### CERTIFICATE

*TSI testing is required prior to first enrollment.*

#### First Semester Credits

LEAD 1200	Workforce Development with Critical Thinking*.....	2
BUSG 1373	Entrepreneurship and Economic Development.....	3
ACNT 1303	Introduction to Accounting I.....	3
MRKG 1311	Principles of Marketing OR	
MRKG 2312	e-Commerce Marketing.....	3

**Semester Total 11**

#### Second Semester Credits

BUSG 1301	Introduction to Business OR	
BUSI 1301	Business Principles.....	3
BUSG 2305	Business Law/Contracts OR	
BUSI 2301	Business Law I.....	3
BUSG 2309	Small Business Management.....	3
BUSG 1382	Cooperative Education-Entrepreneurship/Entrepreneurial Studies**.....	3

**Semester Total 12**

**Program Total 23**

*\*Student Success Course*

*\*\*Capstone*

## Human Resource Management

# Business

## Specialization

The AAS in Human Resource Management Specialization provides students with the knowledge and skills necessary to pursue a career in the human resources area including benefits, compensation, and other aspects of human resource management.

The Texas Higher Education Coordinating Board (THECB) allows students to earn the AAS in Business Management OR the AAS in Human Resource Management Specialization, not both.

## AAS

*TSI testing is required prior to first enrollment.*

### FIRST YEAR

<b>First Semester</b>		<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking*	2
BUSG 1301	Introduction to Business OR	
BUSI 1301	Business Principles	3
ENGL 1301	Composition I	3
BMGT 1327	Principles of Management	3
XXXX #3##	General Education Elective	3
XXXX #3##	Computer Applications Elective****	3
<b>Semester Total</b>		<b>17</b>

<b>Second Semester</b>		<b>Credits</b>
ENGL 1302	Composition II	3
MATH 1314	College Algebra*** OR	
XXXX #3##	Math/Natural Science General Education Elective	3
BMGT 1301	Supervision	3
HRPO 1311	Human Relations	3
ACNT 1303	Introduction to Accounting I OR	
ACCT 2301	Principles of Accounting I	3
XXXX #3##	Humanities/Fine Arts General Education Elective	3
<b>Semester Total</b>		<b>18</b>

### SECOND YEAR

<b>First Semester</b>		<b>Credits</b>
BUSG 2380	Cooperative Education I	3
BUSG 2305	Business Law/Contracts OR	
BUSI 2301	Business Law I	3
HRPO 1302	Human Resources Training and Development	3
XXXX #3##	Program-Related Elective*****	3
HRPO 2301	Human Resource Management	3
<b>Semester Total</b>		<b>15</b>

<b>Second Semester</b>		<b>Credits</b>
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HRPO 2371	Recruitment, Interviewing and Placement of Human Resources	3
HRPO 2372	Wage and Salary Administration	3
HRPO 1305	Management and Labor Relations	3
ECON 2302	Principles of Economics (Micro)	3
BUSG 2381	Cooperative Education II**	3
<b>Semester Total</b>		<b>15</b>
<b>Program Total</b>		<b>65</b>

*\*Student Success Course*

*\*\*Capstone*

*\*\*\*Recommended for transfer*

*\*\*\*\*Electives may be chosen from the following courses: ITSC 1309, POFI 1301, or BCIS 1405.*

*\*\*\*\*\*Electives may be chosen from the following: BUSG, BMGT, HRPO, IBUS, MRKG, or LMGT.*

## Human Resource Management

The Human Resource Management certificate provides students with the knowledge and abilities to apply individual technical skills within the defined area. All courses in this certificate apply to the AAS in Human Resource Management degree.

## CERTIFICATE

*TSI testing is required prior to first enrollment.*

<b>First Semester</b>		<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking*	2
HRPO 1302	Human Resources Training and Development	3
HRPO 1305	Management and Labor Relations	3
HRPO 2371	Recruiting, Interviewing, and Placement	3
BMGT 1327	Principles of Management	3
<b>Semester Total</b>		<b>14</b>

<b>Second Semester</b>		<b>Credits</b>
HRPO 2301	Human Resource Management	3
HRPO 2372	Wage and Salary Administration	3
BUSG 2380	Cooperative Education I**	3
<b>Semester Total</b>		<b>9</b>
<b>Program Total</b>		<b>23</b>

*\*Student Success Course*

*\*\*Capstone*



# Business

## Logistics and Global Supply Chain Management\*\*\*\*

The AAS in Logistics and Global Supply Chain Management provides students with the knowledge and abilities to apply individual technical skills necessary to pursue a career in areas such as exporting/importing, materials handling, global transportation, warehouse and distribution center management, purchasing management, and traffic management.

### Program Outcomes

Students will be able to

- Explain logistics/supply chain terms.
- Demonstrate understanding of technological factors of logistics in international trade.
- Apply forecasting techniques to various facets of supply chain management.
- Solve transportation problems utilizing knowledge of world geography and the transportation system.
- Explain the total supply chain management and function in distribution.

For more information call 713.718.6295 or e-mail [raven.davenport@hccs.edu](mailto:raven.davenport@hccs.edu).

## AAS

TSI testing is required prior to first enrollment.

### FIRST YEAR

First Semester		Credits
LEAD 1200	Workforce Development with Critical Thinking*	2
LMGT 1319	Introduction to Business Logistics	3
ENGL 1301	Composition I	3
IBUS 1341	Global Supply Chain Management	3
MATH 1314	College Algebra*** OR	
XXXX #3##	Math/Science General Education Elective	3
XXXX #3##	Humanities/Fine Arts General Education Elective	3
<b>Semester Total</b>		<b>17</b>

Second Semester		Credits
ENGL 1302	Composition II	3
IBUS 1301	Principles of Exports	3
ECON 2302	Principles of Microeconomics	3
BMGT 1301	Supervision	3
LMGT 1321	Introduction to Materials Handling	3
<b>Semester Total</b>		<b>15</b>

Third Semester		Credits
BUSG 1374	Business Writing Essentials	3
<b>Semester Total</b>		<b>3</b>

## SECOND YEAR

First Semester		Credits
IBUS 2335	International Business Law	3
BUSG 2380	Cooperative Education-Business/Commerce, General	3
IBUS 1302	Principles of Imports	3
BMGT 1313	Principles of Purchasing	3
LMGT 1323	Domestic and International Transportation Management	3
<b>Semester Total</b>		<b>15</b>

Second Semester		Credits
LMGT 1325	Warehouse and Distribution Center Management	3
LMGT 1345	Economics of Transportation and Distribution	3
LMGT 2334	Principles of Traffic Management	3
XXXX #3##	Approved General Education Elective	3
BUSG 2381	Cooperative Education-Business/Commerce, General**	3
<b>Semester Total</b>		<b>15</b>
<b>Program Total</b>		<b>65</b>

\*Student Success Course

\*\*Capstone

\*\*\*Recommended for transfer

\*\*\*\*Pending approval from the Texas Higher Education Coordinating Board (THECB).

## Logistics and Global Supply Chain Management

The Logistics and Global Supply Chain Management certificate provides students with the knowledge and abilities to apply individual technical skills for an entry-level position. All courses in the certificate apply to the AAS in Logistics and Global Supply Chain Management.

## CERTIFICATE

TSI testing is required prior to first enrollment.

### FIRST YEAR

First Semester		Credits
LEAD 1200	Workforce Development with Critical Thinking*	2
LMGT 1319	Introduction to Business Logistics	3
IBUS 1301	Principles of Exports	3
LMGT 1321	Introduction to Materials Handling	3
BMGT 1313	Principles of Purchasing	3
<b>Semester Total</b>		<b>14</b>

# Business

## Second Semester

			Credits
LMGT 1323	Domestic and International Transportation Management	3	
IBUS 1302	Principles of Imports .....	3	
LMGT 1325	Warehouse and Distribution Center Management.....	3	
IBUS 1341	Global Supply Chain Management** .....	3	
<b>Semester Total</b>			<b>12</b>
<b>Program Total</b>			<b>26</b>

\*Student Success Course

\*\*Capstone

## Maritime Logistics

The Maritime certificate provides students with specialized skills needed for an entry level position in the maritime logistic industry.

### CERTIFICATE

*TSI testing is required prior to first enrollment.*

#### First Semester

			Credits
LEAD 1200	Workforce Development with Critical Thinking*	2	
MART 1370	Introduction to Maritime Shipping .....	3	
LMGT 1170	Certified Logistics Associate .....	1	
OSHT 1301	Introduction to Safety and Health.....	3	
<b>Semester Total</b>			<b>9</b>
LMGT 1270	Equipment Operation.....	2	
LMGT 1271	Certified Logistics Technician Certification.....	2	
LMGT 1325	Warehouse and Distribution Center Management** .....	3	
<b>Semester Total</b>			<b>7</b>
<b>Program Total</b>			<b>16</b>

\*Student Success Course

\*\*Capstone

## Business Plan

The Business Plan Marketable Skills Achievement Award (MSA) is designed to develop and assist entrepreneurs with opening successful businesses or enhancing their current business. The Business Plan MSA provides instruction in the basics of developing a business plan and in promoting that business.

### MSA

*(Marketable Skills Achievement Award)*

#### FIRST YEAR

##### First Semester

			Credits
BUSG 1373	Entrepreneurship and Economic Development .....	3	
BUSG 2309	Small Business Management .....	3	
MRKG 1311	Principles of Marketing OR		
ACNT 1303	Introduction to Accounting OR		
ACCT 2301	Principles of Accounting.....	3	
<b>Semester Total</b>			<b>9</b>
<b>Program Total</b>			<b>9</b>

## BUSINESS TECHNOLOGY

The Business Technology curricula are designed to provide students an opportunity to develop the knowledge, skills, and abilities required for assuming administrative assistant and other office positions in today's competitive workplace. The curricula are competency-based and organized to teach industry-driven educational outcomes.

All courses in the Business Technology certificate programs apply toward the AAS in Business Technology. The Business Technology program offers courses that qualify students for the (MOS) Microsoft Office Specialist certification. Please visit the MOS website: [www.certipoint.com/officespecialist](http://www.certipoint.com/officespecialist) for more information.

Students who hold Certified Administrative Professional or Certified Professional Secretary credentials are granted 15 semester credit hours for the following courses: POFT 1370, (Introduction to Office Technology); POFT 2301, Intermediate Keyboarding; ACNT 1303, Introduction to Accounting I; POFT 1325, Business Math and Machine Applications; POFT 2331, Administrative Systems.

To be granted the 15 semester credit hours, the applicant must request that the certifying agency provide the College with proof that the applicant has passed all sections of the certification exam.

# Business

The Texas Higher Education Coordinating Board (THECB) allows students to earn only one **AAS** in Business Technology. Students may choose from one of the following four specializations: General Office Administration, Microsoft Office Technology, Legal Office Assistant, or Medical Office Specialist.

Likewise, the Texas Higher Education Coordinating Board (THECB) allows students to earn only one **Certificate** in Business Technology. Students may choose from one of the following six specializations: Bilingual Business Technology, Human Resources/PeopleSoft, General Office Administration, Microsoft Office Technology, Legal Office Assistant, or Medical Coding/Transcription Specialist.

Business Technology also offers the following Marketable Skills Achievement Awards (MSA): Financial PeopleSoft and Medical Management.

In addition, please note that a student may only earn one Marketable Skills Achievement Award (MSA) per academic year.

## Program Outcomes

Students will be able to

- Read, listen, speak, and write proficiently.
- Apply keyboarding and document processing skills to specific office applications.
- Use appropriate tools and processes such as records management, accounting fundamentals, and software applications in word processing, spreadsheet, database, and presentations to manage information.
- Apply organizational skills to the management of projects, daily schedules, multiple tasks, and unexpected interruptions.

For more information call 713.718.7807 or e-mail [willie.caldwell@hccs.edu](mailto:willie.caldwell@hccs.edu).

## General Office Administration Specialization

### AAS

*TSI testing is required prior to first enrollment.*

### FIRST YEAR

<b>First Semester</b>		<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking*	2
POFI 1301	Computer Applications I	3
ENGL 1301	Composition I	3
POFT 1329	Beginning Keyboarding	3
POFT 1370	Introduction to Office Technology	3
POFT 1325	Business Math and Machine Applications	3
<b>Semester Total</b>		<b>17</b>

<b>Second Semester</b>		<b>Credits</b>
ACNT 1303	Introduction to Accounting I	3
POFT 1349	Records and Information Management I	3
XXXX #3##	Humanities/Fine Arts General Education Elective	3
POFT 2301	Intermediate Keyboarding	3
POFI 1341	Computer Applications II	3
<b>Semester Total</b>		<b>15</b>

### SECOND YEAR

<b>First Semester</b>		<b>Credits</b>
POFT 1345	Shorthand/Notetaking	3
BMGT 1370	Introduction to HR/ PeopleSoft Applications	3
BMGT 1325	Office Management	3
POFI 1349	Spreadsheets	3
POFT 1380	Cooperative Education I	3
<b>Semester Total</b>		<b>15</b>

<b>Second Semester</b>		<b>Credits</b>
HRPO 1311	Human Relations	3
POFT 2380	Cooperative Education II	3
POFI 2331	Desktop Publishing for the Office	3
PSYC 2301	Introduction to Psychology	3
POFT 2331	Administrative Systems**	3
<b>Semester Total</b>		<b>15</b>

<b>Third Semester</b>		<b>Credits</b>
XXXX #3##	Math/Science General Education Elective	3
ECON 2301	Principles of Economics (Macro) OR	
ECON 2302	Principles of Economics (Micro) OR	
ECON 1301	Introduction to Economics	3
<b>Semester Total</b>		<b>6</b>
<b>Program Total</b>		<b>68</b>

\*Student Success Course

\*\*Capstone

# Business

## General Office Administration Specialization

### CERTIFICATE

*TSI testing is required prior to first enrollment.*

#### FIRST YEAR

<b>First Semester</b>		<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking*	2
POFI 1301	Computer Applications I	3
POFT 1325	Business Math and Machine Applications	3
POFT 1329	Beginning Keyboarding	3
<b>Semester Total</b>		<b>11</b>

<b>Second Semester</b>		<b>Credits</b>
POFT 1319	Records and Information Management I	3
ENGL 1301	Composition I	3
POFT 1370	Introduction to Office Technology	3
POFT 2301	Intermediate Keyboarding**	3
<b>Semester Total</b>		<b>12</b>
<b>Program Total</b>		<b>23</b>

\*Student Success Course

\*\*Capstone

## Bilingual Business Technology

### CERTIFICATE

*TSI testing is required prior to first enrollment.*

<b>First Semester</b>		<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking*	2
POFI 1301	Computer Applications I	3
POFT 1370	Introduction to Office Technology	3
POFT 1329	Beginning Keyboarding	3
SPAN 1300	Beginning Spanish Conversation I OR	
FREN 1300	Beginning French Conversation I OR	
JAPN 1300	Beginning Japanese Conversation I OR	
KORE 1411	Beginning Korean I OR	
VIET 1411	Beginning Vietnamese I	3-4
<b>Semester Total</b>		<b>14-15</b>

#### Second Semester

		<b>Credits</b>
ENGL 1301	Composition I	3
POFI 1341	Computer Applications II	3
SPAN 1310	Beginning Spanish Conversation II OR	
FREN 1310	Beginning French Conversation II OR	
JAPN 1310	Beginning Japanese Conversation II OR	
KORE 1412	Beginning Korean II OR	
VIET 1412	Beginning Vietnamese II	3-4
BMGT 1325	Office Management	3
POFT 2331	Administrative Systems**	3
<b>Semester Total</b>		<b>15-16</b>
<b>Program Total</b>		<b>29-31</b>

\*Student Success Course

\*\*Capstone

## Human Resources/PeopleSoft Specialization

### CERTIFICATE

*TSI testing is required prior to first enrollment.*

<b>First Semester</b>		<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking*	2
POFI 1301	Computer Applications I	3
BMGT 1370	Introduction to HR/PeopleSoft Applications	3
POFT 1329	Beginning Keyboarding	3
<b>Semester Total</b>		<b>11</b>

<b>Second Semester</b>		<b>Credits</b>
POFI 1341	Computer Applications II	3
BMGT 1371	Intermediate HR/PeopleSoft Applications	3
BMGT 2305	Advanced Communications in Management/PeopleSoft Applications	3
<b>Semester Total</b>		<b>9</b>

<b>Third Semester</b>		<b>Credits</b>
BMGT 2331	Total Quality Management/PeopleSoft Applications	3
BMGT 2310	Financial Management/PeopleSoft Applications	3
POFT 2331	Administrative Systems**	3
<b>Semester Total</b>		<b>9</b>
<b>Program Total</b>		<b>29</b>

\*Student Success Course

\*\*Capstone

# Business

## Financial Peoplesoft

The Financial PeopleSoft Marketable Skills Achievement Award (MSA) prepares students for financial accounting positions in Human Resources departments. Financial departments and executives in corporations and in independently owned businesses, constantly search for trained PeopleSoft end-users, qualified to successfully integrate PeopleSoft software and effectively demonstrate Human Resources processes, using PeopleSoft functions. These secure positions offer good working conditions and numerous fringe benefits. All courses apply toward the Human Resources/PeopleSoft Specialization certificate.

### MSA

(Marketable Skills Achievement Award)

#### FIRST YEAR

##### First Semester

	<b>Credits</b>
BMGT 1370 Introduction to HR/PeopleSoft Applications.....	3
POFI 1301 Computer Applications I.....	3
BMGT 2310 Financial Management/PeopleSoft Applications.....	3
POFT 1325 Business Math and Machine Applications.....	3
<b>Semester Total</b>	<b>12</b>
<b>Program Total</b>	<b>12</b>

## Microsoft Office Technology Specialization

### AAS

TSI testing is required prior to first enrollment.

#### FIRST YEAR

##### First Semester

	<b>Credits</b>
LEAD 1200 Workforce Development with Critical Thinking*.....	2
POFI 1301 Computer Applications I.....	3
PQFT 1329 Beginning Keyboarding.....	3
POFT 1370 Introduction to Office Technology.....	3
BMGT 1325 Office Management.....	3
ENGL 1301 Composition I.....	3
<b>Semester Total</b>	<b>17</b>

##### Second Semester

	<b>Credits</b>
POFI 1341 Computer Applications II.....	3
BUSG 1301 Introduction to Business.....	3
PQFT 2301 Intermediate Keyboarding.....	3
XXXX #3## Humanities/Fine Arts General Education Elective.....	3
POFT 1325 Business Math and Machine Applications.....	3
<b>Semester Total</b>	<b>15</b>

## SECOND YEAR

### First Semester

	<b>Credits</b>
POFI 1380 Cooperative Education I.....	3
POFI 1349 Spreadsheets.....	3
POFT 1319 Records and Information Management I.....	3
ACNT 1303 Introduction to Accounting I.....	3
<b>Semester Total</b>	<b>12</b>

### Second Semester

	<b>Credits</b>
POFI 2331 Desktop Publishing for the Office.....	3
BMGT 1370 Introduction to HR/ PeopleSoft Applications.....	3
HRPO 1311 Human Relations.....	3
ECON 2301 Principles of Economics (Macro) OR	
ECON 2302 Principles of Economics (Micro) OR	
ECON 1301 Introduction to Economics.....	3
<b>Semester Total</b>	<b>12</b>

### Third Semester

	<b>Credits</b>
BMGT 1371 Intermediate HR/ PeopleSoft Applications.....	3
POFT 2331 Administrative Systems**.....	3
PSYC 2301 Introduction to Psychology.....	3
XXXX #3## Math/Science General Education Elective.....	3
POFI 2380 Cooperative Education II.....	3
<b>Semester Total</b>	<b>15</b>
<b>Program Total</b>	<b>71</b>

\*Student Success Course

\*\*Capstone

## Microsoft Office Technology Specialization

### CERTIFICATE

TSI testing is required prior to first enrollment.

#### First Semester

	<b>Credits</b>
LEAD 1200 Workforce Development with Critical Thinking*.....	2
POFI 1301 Computer Applications I.....	3
POFI 1341 Computer Applications II.....	3
POFT 1329 Beginning Keyboarding.....	3
<b>Semester Total</b>	<b>11</b>

#### Second Semester

	<b>Credits</b>
POFI 1349 Spreadsheets.....	3
POFT 1325 Business Math and Machine Applications.....	3
POFI 2331 Desktop Publishing for the Office**.....	3
<b>Semester Total</b>	<b>9</b>
<b>Program Total</b>	<b>20</b>

\*Student Success Course

\*\*Capstone

# Business

## Legal Office Assistant Specialization

### AAS

TSI testing is required prior to first enrollment.

#### FIRST YEAR

<b>First Semester</b>		<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking*	2
POFI 1301	Computer Applications I	3
ENGL 1301	Composition I	3
POFT 1329	Beginning Keyboarding	3
POFT 1370	Introduction to Office Technology	3
POFL 1305	Legal Terminology	3
<b>Semester Total</b>		<b>17</b>

#### Second Semester

<b>Second Semester</b>		<b>Credits</b>
POFT 1319	Records and Information Management I	3
POFT 1325	Business Math and Machine Applications	3
POFT 2301	Intermediate Keyboarding	3
POFT 1345	Shorthand/Notetaking	3
XXXX #3##	Humanities/Fine Arts General Education Elective	3
<b>Semester Total</b>		<b>15</b>

#### SECOND YEAR

#### First Semester

<b>First Semester</b>		<b>Credits</b>
POFL 2305	Legal Research	3
POFI 2331	Desktop Publishing for the Office	3
POFT 1380	Cooperative Education I	3
HRPO 1311	Human Relations	3
POFL 1359	Legal Transcription	3
<b>Semester Total</b>		<b>15</b>

#### Second Semester

<b>Second Semester</b>		<b>Credits</b>
POFT 2380	Cooperative Education II	3
BMGT 1325	Office Management	3
ACNT 1303	Introduction to Accounting I	3
ECON 2301	Principles of Economics (Macro) OR	
ECON 2302	Principles of Economics (Micro) OR	
ECON 1301	Introduction to Economics	3
<b>Semester Total</b>		<b>12</b>

#### Third Semester

<b>Third Semester</b>		<b>Credits</b>
PSYC 2301	Introduction to Psychology	3
XXXX #3##	Math/Science General Education Elective	3
BMGT 1370	Introduction to HR/ PeopleSoft Applications	3
POFT 2331	Administrative Systems**	3
<b>Semester Total</b>		<b>12</b>
<b>Program Total</b>		<b>71</b>

\*Student Success Course

\*\*Capstone

## Legal Office Assistant Specialization

### CERTIFICATE

TSI testing is required prior to first enrollment.

#### First Semester

<b>First Semester</b>		<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking*	2
POFI 1301	Computer Applications I	3
POFL 1305	Legal Terminology	3
POFT 1345	Shorthand/Notetaking	3
POFL 1359	Legal Transcription	3
<b>Semester Total</b>		<b>14</b>

#### Second Semester

<b>Second Semester</b>		<b>Credits</b>
BMGT 1370	Introduction to HR/ PeopleSoft Applications	3
POFL 2305	Legal Research	3
POFT 2301	Intermediate Keyboarding**	3
<b>Semester Total</b>		<b>9</b>
<b>Program Total</b>		<b>23</b>

\*Student Success Course

\*\*Capstone

## Medical Office Specialist Specialization

### AAS

TSI testing is required prior to first enrollment.

#### FIRST YEAR

#### First Semester

<b>First Semester</b>		<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking*	2
POFI 1301	Computer Applications I	3
POFT 1329	Beginning Keyboarding	3
MDCA 1313	Medical Terminology	3
ENGL 1301	Composition I	3
PSYC 2302	Applied Psychology OR	
PSYC 2301	Introduction to Psychology	3
<b>Semester Total</b>		<b>17</b>

#### Second Semester

<b>Second Semester</b>		<b>Credits</b>
POFT 2301	Intermediate Keyboarding	3
POFT 1370	Introduction to Office Technology	3
MRMT 1307	Medical Transcription I	3
XXXX #3##	Humanities/Fine Arts General Education Elective	3
POFT 1325	Business Math and Machine Applications	3
<b>Semester Total</b>		<b>15</b>

# Business

## SECOND YEAR

### First Semester

	<b>Credits</b>
POFT 1380 Cooperative Education I.....	3
HRPO 1311 Human Relations .....	3
POFI 1341 Computer Applications II.....	3
BMGT 1325 Office Management.....	3
POFT 1319 Records and Information Management I.....	3
<b>Semester Total</b>	<b>15</b>

### Second Semester

	<b>Credits</b>
ACNT 1303 Introduction to Accounting I.....	3
POFM 1300 Medical Coding Basics.....	3
POFT 2380 Cooperative Education II.....	3
BIOL 1308 Introductory Biology I.....	3
<b>Semester Total</b>	<b>12</b>

### Third Semester

	<b>Credits</b>
POFM 2333 Medical Document Production (Coding II).....	3
ECON 2301 Principles of Economics (Macro) OR	
ECON 2302 Principles of Economics (Micro) OR	
ECON 1301 Introduction to Economics.....	3
POFT 2331 Administrative Systems**.....	3
<b>Semester Total</b>	<b>9</b>
<b>Program Total</b>	<b>68</b>

\*Student Success Course

\*\*Capstone

## Medical Coding/Transcription Specialist Specialization\*\*\*

### CERTIFICATE

*TSI testing is required prior to first enrollment.*

#### First Semester

	<b>Credits</b>
LEAD 1200 Workforce Development with Critical Thinking*.....	2
MDCA 1313 Medical Terminology .....	3
POFI 1301 Computer Applications I.....	3
POFT 2301 Intermediate Keyboarding.....	3
POFM 1300 Medical Coding Basics.....	3
<b>Semester Total</b>	<b>14</b>

#### Second Semester

	<b>Credits</b>
SPAN 1300 Beginning Spanish Conversation I.....	3
MRMT 1307 Medical Transcription I.....	3
POFM 2333 Medical Document Production (Coding II).....	3
POFT 2331 Administrative Systems**.....	3
<b>Semester Total</b>	<b>12</b>
<b>Program Total</b>	<b>26</b>

\*Student Success Course

\*\*Capstone

\*\*\*Complete certificate also offered through Distance Education.

## Medical Management

The Medical Management Marketable Skills Achievement Award (MSA) is a specialized curriculum designed to provide entry-level skills for students seeking career opportunities as assistants to medical management in doctors' offices, clinics and hospitals. Emphasis is placed on specialized bodies of knowledge such as public management requests, coding postings, records management and basic computer skills.

### MSA

*(Marketable Skills Achievement Award)*

#### FIRST YEAR

##### First Semester

	<b>Credits</b>
POFI 1104 Computer Fundamentals .....	1
MDCA 1313 Medical Terminology .....	3
BMGT 1327 Principles of Management .....	3
<b>Semester Total</b>	<b>7</b>

##### Second Semester

	<b>Credits</b>
POFM 1300 Medical Coding Basics.....	3
BUSG 1301 Introduction to Business.....	3
<b>Semester Total</b>	<b>6</b>
<b>Program Total</b>	<b>13</b>

## FINANCE - BANKING

The AAS in Finance-Banking provides training in the financial services industry. The HCC School of Finance is fortunate to have a long standing relationship (over 37 years) with the American Institute of Banking (AIB), the educational branch of the American Bankers' Association, located at 1120 Connecticut Avenue, N.W., Washington, DC 20036, 512.472.8388. This link is provided by the Texas Bankers' Association (TBA), which is the local training provider for the AIB and helps with assistance and placement within the finance industry.

The following courses are given simultaneous credit with the American Banker's Association: BNKG 1303 (Principles of Bank Operations), BNKG 1340 (Money and Banking), BNKG 1345 (Consumer Lending), BNKG 1349 (Commercial Lending), BNKG 1351 (Selling Bank Products and Services), BNKG 1353 (Mortgage Lending), BNKG1356 (Analyzing Financial Statements), BUSG 1303 (Principles of Finance), and IBUS 2339 (International Banking). Other college courses taken within the Finance - Banking program are given transfer credit toward American Banker's Association (ABA) diplomas at their discretion.

# Business

Although the major emphasis of the program is on commercial banking, the AAS degree may be used in a broad range of financial service areas. Upon consultation with the Finance-Banking department, students may tailor their curriculum to fit the type of financial business desired.

In addition, please note that a student may only earn one Marketable Skills Achievement Award (MSA) per academic year.

## Program Outcomes

Students will be able to

- Explain the basic functions of the financial intermediary system and explain its methods of generating income.
- Describe the Federal Reserve's purpose, structure, and relationship to monetary policy.
- Illustrate the five C's of credit.
- Analyze problems that demonstrate the concepts of basic Financial Business Ethics.
- Diagram and explain the check routing and the U.S. check payment system.
- Interpret Articles 3 and 4 of the Uniform Commercial Code as they apply to negotiable instruments and the U.S. banking system.
- Measure the "time value of money" using the concepts of Present Value, Future Value, Simple Interest, and Compound Interest.

For more information call 713.718.5404 or e-mail earl.smith@hccs.edu.

## Finance - Banking

### AAS

*TSI testing is required prior to first enrollment.*

#### FIRST YEAR

##### First Semester

	<b>Credits</b>
LEAD 1200 Workforce Development with Critical Thinking* .....	2
BNKG 1303 Principles of Bank Operation .....	3
ENGL 1301 Composition I .....	3
ECON 2302 Principles of Economics (Micro).....	3
BUSG 1301 Introduction to Business.....	3
MATH 1314 College Algebra OR	
XXXX #3## Math/Science General Education Elective.....	3
<b>Semester Total</b>	<b>17</b>

#### Second Semester

	<b>Credits</b>
XXXX #3## Humanities/Fine Arts General Education Elective .....	3
XXXX #3## General Education Elective.....	3
BNKG 1340 Money and Banking .....	3
BMGT 1303 Principles of Management .....	3
BUSG 2305 Business Law Contracts .....	3
<b>Semester Total</b>	<b>15</b>

#### SECOND YEAR

##### First Semester

	<b>Credits</b>
HRPO 1311 Human Relations .....	3
ACCT 2301 Principles of Accounting I.....	3
IBUS 2339 International Banking and Finance .....	3
BNKG 2380 Cooperative Education I-Banking and Financial Support Services .....	3
BNKG 1349 Commercial Lending OR	
BNKG 1345 Consumer Lending.....	3
<b>Semester Total</b>	<b>15</b>

##### Second Semester

	<b>Credits</b>
BNKG 1356 Analyzing Financial Statements I.....	3
BUSG 1303 Principles of Finance.....	3
BNKG 1351 Selling Bank/Financial Products and Services.....	3
BNKG 2381 Cooperative Education II-Banking and Financial Support Services.....	3
BNKG 2374 Financial Business Administration** .....	3
<b>Semester Total</b>	<b>15</b>
<b>Program Total</b>	<b>62</b>

\*Student Success Course

\*\* Capstone

## Financial Lending

The Financial Lending certificate is designed to provide students with a solid foundation for a career in the financial lending industry. For those students who wish to pursue a four-year degree, both the certificate and the AAS can be tailored to their best advantage. Most courses with the BNKG prefix are accredited and earn dual credit with the American Institute of Banking (AIB).

For more information call 713.718.5404 or e-mail earl.smith@hccs.edu.

### CERTIFICATE

*TSI testing is required prior to first enrollment.*

#### First Semester

	<b>Credits</b>
LEAD 1200 Workforce Development with Critical Thinking* .....	2
BNKG 1303 Principles of Bank Operation .....	3
BNKG 1340 Money and Banking .....	3
BNKG 1351 Selling Bank/Financial Products and Services.....	3
IBUS 2339 International Banking and Finance .....	3
<b>Semester Total</b>	<b>14</b>



# Business

## Second Semester

	<b>Credits</b>
BNKG 1356 Analyzing Financial Statements I.....	3
BNKG 1349 Commercial Lending.....	3
BNKG 1345 Consumer Lending.....	3
BNKG 2380 Cooperative Education I-Banking and Financial Support Services** .....	3
<b>Semester Total</b>	<b>12</b>
<b>Program Total</b>	<b>26</b>

\*Student Success Course

\*\*Capstone

## Financial Operations

The Financial Operations certificate is designed to provide students with a solid foundation for a career in the retail banking industry. For those students who wish to pursue a four-year degree, both the certificate and the AAS can be tailored to their best advantage. Most courses with the BNKG prefix are accredited and earn dual credit with the American Institute of Banking (AIB).

For more information call 713.718.5404 or e-mail earl.smith@hccs.edu.

## CERTIFICATE

TSI testing is required prior to first enrollment.

### First Semester

	<b>Credits</b>
LEAD 1200 Workforce Development with Critical Thinking* .....	2
BNKG 1303 Principles of Bank Operation .....	3
BNKG 1340 Money and Banking .....	3
BNKG 1351 Selling Bank/Financial Products and Services.....	3
<b>Semester Total</b>	<b>11</b>

### Second Semester

	<b>Credits</b>
BUSG 1303 Principles of Finance.....	3
ENGL 1301 Composition I.....	3
BNKG 2380 Cooperative Education I-Banking and Financial Support Services** .....	3
<b>Semester Total</b>	<b>9</b>
<b>Program Total</b>	<b>20</b>

\*Student Success Course

\*\*Capstone

## Teller Training

The entry-level Teller Training Marketable Skills Achievement Award (MSA) prepares students for employment in a financial institution as a teller. Because of multiple start dates within a semester, students should contact the office or consult the schedule of courses for specific program start dates.

For more information call 713.718.5404 or e-mail earl.smith@hccs.edu.

## MSA

(Marketable Skills Achievement Award)

### First Semester

	<b>Credits</b>
BNKG 1305 Teller Training.....	3
BNKG 1373 Teller Training Lab.....	3
BNKG 1351 Selling Bank/Financial Products and Services.....	3
<b>Semester Total</b>	<b>9</b>
<b>Program Total</b>	<b>9</b>

## INTERNATIONAL BUSINESS

The International Business program provides students with the knowledge and abilities to apply individual technical skills necessary to pursue a career in areas such as freight forwarding, shipping, international logistics management and other areas involved in import/export.

In addition, please note that a student may only earn one Marketable Skills Achievement Award (MSA) per academic year.

### Program Outcomes

Students will be able to

- Identify global issues and trends.
- Examine legal issues and proper documentation necessary for international trade.
- Analyze various sources of international business research.
- Demonstrate knowledge of global and world geography.

For more information call 713.718.6295 or e-mail raven.davenport@hccs.edu.

# Business

## International Business

### AAS

*TSI testing is required prior to first enrollment.*

#### FIRST YEAR

<b>First Semester</b>		<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking*	2
ENGL 1301	Composition I	3
LMGT 1319	Introduction to Business Logistics	3
BUSG 1301	Introduction to Business	3
MATH 1314	College Algebra*** OR	
XXXX #3##	Math/Science General Education Elective	3
XXXX #3##	Humanities/Fine Arts General Education Elective	3
<b>Semester Total</b>		<b>17</b>

<b>Second Semester</b>		<b>Credits</b>
ENGL 1302	Composition II	3
IBUS 1305	Introduction to International Business and Trade	3
IBUS 1301	Principles of Exports	3
IBUS 1370	Economic Geography	3
IBUS 1341	Global Supply Chain Management	3
<b>Semester Total</b>		<b>15</b>

#### SECOND YEAR

<b>First Semester</b>		<b>Credits</b>
IBUS 2335	International Business Law	3
IBUS 2380	Cooperative Education - International Business/Trade/Commerce	3
BUSG 2309	Small Business Management	3
XXXX #3##	Approved Program Elective****	3
IBUS 1354	International Marketing Management	3
<b>Semester Total</b>		<b>15</b>

<b>Second Semester</b>		<b>Credits</b>
ECON 2302	Principles of Economics (Micro)	3
IBUS 1302	Principles of Imports	3
XXXX #3##	Approved General Education Elective	3
IBUS 2381	Cooperative Education - International Business/Trade/Commerce	3
IBUS 2341	Intercultural Management**	3
<b>Semester Total</b>		<b>15</b>
<b>Program Total</b>		<b>62</b>

*\*Student Success Course*

*\*\*Capstone*

*\*\*\*Recommended for transfer*

*\*\*\*\*Electives may be chosen from the following courses: IBUS 2339, LMGT 1323, LMGT 1345, ANTH 2351, ITSC 1309, POFI 1301, BCIS 1405, or any Foreign Language*

## International Business

The International Business certificate provides students with the knowledge and abilities to apply individual technical skills for an entry-level position in international business. All courses in this certificate apply to the AAS in International Business degree.

### CERTIFICATE

*TSI testing is required prior to first enrollment.*

<b>First Semester</b>		<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking*	2
IBUS 1305	Introduction to International Business and Trade	3
IBUS 1354	International Marketing Management	3
IBUS 1301	Principles of Exports	3
IBUS 2335	International Business Law	3
<b>Semester Total</b>		<b>14</b>
<b>Second Semester</b>		<b>Credits</b>
IBUS 1341	Global Supply Chain Management	3
IBUS 1302	Principles of Imports	3
IBUS 2341	Intercultural Management**	3
<b>Semester Total</b>		<b>9</b>
<b>Program Total</b>		<b>23</b>

*\*Student Success Course*

*\*\*Capstone*

## Certified Global Business Specialist

### MSA

*(Marketable Skills Achievement Award)*

<b>First Semester</b>		<b>Credits</b>
IBUS 1305	Introduction to International Business and Trade	3
IBUS 1301	Principles of Exports	3
IBUS 2341	Intercultural Management OR	
IBUS 1354	International Marketing Management	3
<b>Semester Total</b>		<b>9</b>
<b>Program Total</b>		<b>9</b>

# Business

## MARKETING/MARKETING MANAGEMENT

The AAS in Marketing provides students with the knowledge, skills, and abilities to pursue a career in marketing, marketing research, advertising, retailing or sales. The degree offers a wide spectrum of courses in all aspects of marketing including marketing services. The program is designed for anyone seeking entry-level employment in the field of Marketing.

### Program Outcomes

Students will be able to

- Identify the marketing mix components in relation to market segmentation.
- Explain the environmental factors which influence consumer and organization decision-making process.
- Construct a marketing plan.
- Identify the elements of the communication process between buyers and sellers in business.
- Assess marketing research techniques to implement competitive marketing decisions.

For more information call 713.718.6295 or e-mail [raven.davenport@hccs.edu](mailto:raven.davenport@hccs.edu).

## Marketing

### AAS

TSI testing is required prior to first enrollment.

### FIRST YEAR

First Semester		Credits
LEAD 1200	Workforce Development with Critical Thinking*	2
MRKG 1311	Principles of Marketing	3
ENGL 1301	Composition I	3
ECON 2302	Principles of Economics (Micro)	3
XXXX #3##	Humanities/Fine Arts General Education Elective	3
MATH 1314	College Algebra**OR	
XXXX #3##	Math/Science General Education Elective	3
<b>Semester Total</b>		<b>17</b>

Second Semester		Credits
ENGL 1302	Composition II	3
MRKG 2312	e-Commerce	3
MRKG 2371	Services Marketing OR	
MRKG 1391	Special Topics in Business Marketing and Management	3
MRKG 2348	Marketing Research and Strategies	3
BUSG 1301	Introduction to Business	3
ACNT 1303	Introduction to Accounting I OR	
ACCT 2301	Principles of Accounting I	3
<b>Semester Total</b>		<b>18</b>

### SECOND YEAR

First Semester		Credits
XXXX #3##	Computer Applications Elective****	3
BMGT 1327	Principles of Management	3
MRKG 2372	Consumer Behavior	3
MRKG 2333	Principles of Selling	3
MRKG 2380	Cooperative Education I	3
<b>Semester Total</b>		<b>15</b>

Second Semester		Credits
HRPO 1311	Human Relations	3
IBUS 1354	International Marketing Management	3
MRKG 2349	Advertising and Sales Promotion	3
MRKG 2381	Cooperative Education - Marketing Management	3
MRKG 2374	Marketing Case Studies**	3
<b>Semester Total</b>		<b>15</b>
<b>Program Total</b>		<b>65</b>

\*Student Success Course

\*\*Capstone

\*\*\*Recommended for transfer

\*\*\*\* Electives may be chosen from the following courses: ITSC 1309, POFI 1301, or BCIS 1405.

## Marketing

The Marketing certificate provides students with specialized skills needed for entry-level positions in marketing or retailing. All courses in this certificate apply to the AAS in Marketing degree.

### CERTIFICATE

TSI testing is required prior to first enrollment.

First Semester		Credits
LEAD 1200	Workforce Development with Critical Thinking*	2
MRKG 1311	Principles of Marketing	3
MRKG 2372	Consumer Behavior	3
MRKG 2333	Principles of Selling	3
MRKG 2349	Advertising and Sales Promotion	3
<b>Semester Total</b>		<b>14</b>

Second Semester		Credits
IBUS 1354	International Marketing Management OR	
MRKG 1391	Special Topics in Business Marketing and Marketing Management	3
MRKG 2312	e-Commerce OR	
MRKG 2371	Services Marketing	3
MRKG 2380	Cooperative Education-Marketing Management**	3
<b>Semester Total</b>		<b>9</b>
<b>Program Total</b>		<b>23</b>

\*Student Success Course

\*\*Capstone

# Business

## Retailing

The Retailing certificate provides students with specialized skills needed for entry-level positions in marketing or retailing. All courses in this certificate apply to the AAS in Marketing degree.

### CERTIFICATE

*TSI testing is required prior to first enrollment.*

<b>First Semester</b>		<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking*	2
MRKG 1311	Principles of Marketing	3
MRKG 2372	Consumer Behavior	3
MRKG 2333	Principles of Selling	3
MRKG 1302	Principles of Retailing	3
<b>Semester Total</b>		<b>14</b>

<b>Second Semester</b>		<b>Credits</b>
HRPO 1311	Human Relations	3
XXXX #3##	Program-Related Elective***	3
XXXX #3##	Program-Related Elective***	3
MRKG 2371	Services Marketing**	3
<b>Semester Total</b>		<b>12</b>
<b>Program Total</b>		<b>26</b>

\*Student Success Course

\*\*Capstone

\*\*\*Electives may be chosen from the following: BUSG, BMGT, HRPO, IBUS, MRKG, or LMGT.

## REAL ESTATE

The Real Estate program provides students with the knowledge and specialized skills required for career opportunities in the real estate profession. Students may choose to prepare for careers in residential sales, commercial real estate, mortgage lending, appraisal, inspection, or property management. Courses are available for professional development or for personal information. The Real Estate program offers current workplace curriculum and training in the use of technology to assist individuals and business and industry in meeting their professional goals.

This HCC Real Estate program is accredited by the Texas Real Estate Commission, 1101 Camino La Costa, Austin, TX 78711-2188, 512.459.6544.

The Texas Higher Education Coordinating Board (THECB) allows students to earn only one **AAS** in Real Estate. Students may choose from one of the following two specializations: General or Mortgage Lending.

In addition, please note that a student may only earn one Marketable Skills Achievement Award (MSA) per academic year.

### Program Outcomes

Students will be able to

- Explain the Articles of the Texas Real Estate Commission's "Canons of Professional Ethics" (Fidelity, Integrity and Competency).
- Analyze the disclosure requirements in real estate situations, such as first meeting with a client, listing a property and an in-house sale.
- Describe the real estate sales/transaction process to include: completing a TREC Earnest Money Contract, completing a listing contract and opening title.
- Explain the fiduciary obligations owed to a principal: obedience, loyalty, disclosure, confidentiality, accounting and reasonable care and diligence.

For more information call 713.718.5240 or e-mail [alex.binkley@hccs.edu](mailto:alex.binkley@hccs.edu).

## Real Estate

The AAS in Real Estate is a two year program that introduces students to the many opportunities in the real estate industry such as residential and commercial brokerage, appraisal, property management and investment. Upon completion, students will have met the educational requirements for the Texas Real Estate salesperson and broker licenses.

### AAS

*TSI testing is required prior to first enrollment.*

#### FIRST YEAR

<b>First Semester</b>		<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking*	2
RELE 1301	Principles of Real Estate I	3
ENGL 1301	Composition I	3
RELE 1338	Principles of Real Estate II	3
RELE 2301	Law of Agency	3
RELE 1311	Law of Contracts	3
<b>Semester Total</b>		<b>17</b>

# Business

<b>Second Semester</b>			<b>Credits</b>
ENGL 1302	Composition II.....	3	
RELE 1325	Real Estate Mathematics OR		
XXXX #3##	Approved Mathematics.....	3	
RELE 1321	Real Estate Marketing.....	3	
RELE 1319	Real Estate Finance OR		
RELE 1324	Loan Origination and Quality Control.....	3	
RELE 1323	Real Estate Computer Applications .....	3	
<b>Semester Total</b>			<b>15</b>

## SECOND YEAR

<b>First Semester</b>			<b>Credits</b>
ECON 2301	Principles of Economics (Macro) .....	3	
RELE 1372	Basic Appraisal Principles.....	3	
RELE 1307	Real Estate Investment OR		
RELE 2331	Real Estate Brokerage.....	3	
ENVR 1301	Environmental Science.....	3	
RELE 1381	Cooperative Education-Real Estate.....	3	
<b>Semester Total</b>			<b>15</b>

<b>Second Semester</b>			<b>Credits</b>
RELE 1309	Real Estate Law.....	3	
RELE 1329	Fundamentals of Environmental Issues OR		
RELE 1315	Property Management .....	3	
GOVT 2301	American Government OR		
PSYC 2302	Applied Psychology.....	3	
XXXX #3##	Humanities/Fine Arts General Education Elective .....	3	
RELE 2381	Cooperative Education-Real Estate**.....	3	
<b>Semester Total</b>			<b>15</b>
<b>Program Total</b>			<b>62</b>

\*Student Success Course  
\*\*Capstone

## Real Estate-Mortgage Lending Specialization

The two year AAS in Real Estate - Mortgage Lending Specialization degree prepares students to enter the mortgage lending industry as a loan officer, loan processor or administrator.

### AAS

*TSI testing is required prior to first enrollment.*

#### FIRST YEAR

<b>First Semester</b>			<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking* .....	2	
RELE 1301	Principles of Real Estate I.....	3	
ENGL 1301	Composition I.....	3	
RELE 1325	Real Estate Mathematics OR		
XXXX #3##	Approved Mathematics.....	3	
RELE 1324	Loan Origination and Quality Control.....	3	
RELE 1311	Real Estate Contracts.....	3	
<b>Semester Total</b>			<b>17</b>

<b>Second Semester</b>			<b>Credits</b>
ENGL 1302	Composition II.....	3	
RELE 2301	Law of Agency.....	3	
RELE 1338	Principles of Real Estate II.....	3	
RELE 1372	Basic Appraisal Principles.....	3	
RELE 1381	Cooperative Education-Real Estate.....	3	
<b>Semester Total</b>			<b>15</b>

## SECOND YEAR

<b>First Semester</b>			<b>Credits</b>
ECON 2301	Principles of Economics (Macro) .....	3	
RELE 2307	Real Estate Title and Settlement .....	3	
RELE 1319	Real Estate Finance.....	3	
ENVR 1301	Environmental Science .....	3	
RELE 1371	Loan Processing .....	3	
<b>Semester Total</b>			<b>15</b>

<b>Second Semester</b>			<b>Credits</b>
RELE 1309	Real Estate Law.....	3	
RELE 2311	Fundamentals of Mortgage Lending .....	3	
GOVT 2301	American Government OR		
PSYC 2302	Applied Psychology.....	3	
XXXX #3##	Humanities/Fine Arts General Education Elective .....	3	
RELE 2381	Cooperative Education-Real Estate**.....	3	
<b>Semester Total</b>			<b>15</b>
<b>Program Total</b>			<b>62</b>

\*Student Success Course  
\*\*Capstone

The Real Estate certificate options listed below provide students with the knowledge and abilities to apply individualized technical skills within the defined area.

For more information call 713.718.5240 or e-mail [alex.binkley@hccs.edu](mailto:alex.binkley@hccs.edu).

# Business

## Commercial Real Estate

The Commercial Real Estate program prepares students to enter the non-residential real estate market as an owner, broker or sales agent. The curriculum focuses on the general environment of commercial real estate and includes valuation, environmental issues, selling, listing, and leasing activities.

### CERTIFICATE

*TSI testing is required prior to first enrollment.*

<b>First Semester</b>		<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking*	2
RELE 1307	Real Estate Investment	3
RELE 1315	Property Management	3
RELE 1329	Fundamentals of Environmental Issues	3
RELE 1372	Basic Appraisal Principles	3
RELE 1381	Cooperative Education-Real Estate**	3
<b>Semester Total</b>		<b>17</b>
<b>Program Total</b>		<b>17</b>

*\*Student Success Course*

*\*\*Capstone*

## Mortgage Lending Professional

The Mortgage Lending Professional program prepares students to enter the mortgage lending industry as a loan officer, loan processor, loan clerk or administrative assistant.

For more information about Residential Mortgage Lending Professional licensure, contact the Texas Department of Savings and Mortgage Lending [www.sml.state.tx.us](http://www.sml.state.tx.us), 2601 North Lamar, Suite 201, Austin, TX 78705, 512.475.1350.

### CERTIFICATE

*TSI testing is required prior to first enrollment.*

<b>First Semester</b>		<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking*	2
RELE 1319	Real Estate Finance	3
RELE 1324	Loan Origination and Quality Control	3
RELE 1371	Loan Processing OR	
RELE 2307	Real Estate Title and Settlement	3
RELE 1372	Basic Appraisal Principles	3
RELE 2311	Fundamentals of Mortgage Lending	3
RELE 1381	Cooperative Education-Real Estate**	3
<b>Semester Total</b>		<b>20</b>
<b>Program Total</b>		<b>20</b>

*\*Student Success Course*

*\*\*Capstone*

## Property Management

The Property Management program is designed for students wanting to enter the property management field as an onsite manager, consultant, owner, or assistant. The curriculum focuses on the operational side of non-residential real estate and includes maintenance, rent collection, insurance and legal issues.

### CERTIFICATE

*TSI testing is required prior to first enrollment.*

<b>First Semester</b>		<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking*	2
RELE 1335	Real Estate Construction	3
RELE 1315	Property Management	3
RELE 1307	Real Estate Investment	3
RELE 1309	Real Estate Law OR	
RELE 1338	Principles of Real Estate II	3
RELE 1381	Cooperative Education-Real Estate**	3
<b>Semester Total</b>		<b>17</b>
<b>Program Total</b>		<b>17</b>

*\*Student Success Course*

*\*\*Capstone*

## Real Estate Appraisal

The Real Estate Appraisal program provides students with a fundamental understanding of the appraisal/valuation process. Investors, lenders, property managers, end users and various governmental agencies use appraisal/valuation techniques in their decision making. The curriculum focuses on valuation procedures, approaches to value, property descriptions, residential and commercial applications, appraisal math and construction.

For more information about Real Estate Appraisal licensure, contact the Texas Appraiser Licensing and Certification Board: [www.talcb.state.tx.us](http://www.talcb.state.tx.us), P. O. Box 12188 Austin, TX 78711-2188, 877.825.2289.

# Business

## **CERTIFICATE**

*TSI testing is required prior to first enrollment.*

<b>First Semester</b>			<b>Credits</b>
LEAD	1200	Workforce Development with Critical Thinking*	2
RELE	1307	Real Estate Investments	3
RELE	1329	Fundamentals of Environmental Issues	3
RELE	1335	Real Estate Construction	3
RELE	1372	Basic Appraisal Principles	3
<b>Semester Total</b>			<b>14</b>

<b>Second Semester</b>			<b>Credits</b>
RELE	1105	Uniform Standards of Professional Appraisal Practice	1
RELE	1373	Basic Appraisal Procedures	3
RELE	1381	Cooperative Education-Real Estate**	3
<b>Semester Total</b>			<b>7</b>
<b>Program Total</b>			<b>21</b>

\*Student Success Course  
\*\*Capstone

## **Residential Real Estate**

The Residential Real Estate program prepares students to enter the world of residential real estate as a salesperson, broker or leasing agent. The curriculum meets the Texas Real Estate Commission's educational requirement to obtain a salesperson's license and meets the Statutory Annual Education (SAE) requirement.

For more information about Residential Real Estate licensure contact the Texas Real Estate Commission [www.trec.state.tx.us](http://www.trec.state.tx.us), 1101 Camino La Costa, Austin, TX 78752, 800.250.8732.

## **CERTIFICATE**

*TSI testing is required prior to first enrollment.*

<b>First Semester</b>			<b>Credits</b>
LEAD	1200	Workforce Development with Critical Thinking*	2
RELE	1301	Principles of Real Estate I	3
RELE	2301	Law of Agency	3
RELE	1311	Law of Contracts	3
<b>Semester Total</b>			<b>11</b>

<b>Second Semester</b>			<b>Credits</b>
RELE	#3##	Real Estate Elective	3
RELE	1338	Principles of Real Estate II	3
RELE	1381	Cooperative Education-Real Estate**	3
<b>Semester Total</b>			<b>9</b>
<b>Program Total</b>			<b>20</b>

\*Student Success Course  
\*\*Capstone

## **Loan Processing and Loan Origination**

The Loan Processing and Loan Origination Marketable Skills Achievement Award (MSA) prepares students for entry-level employment in the mortgage lending industry as a loan and credit clerk, loan interviewer or loan officer/counselor.

## **MSA**

*(Marketable Skills Achievement Award)*

<b>First Semester</b>			<b>Credits</b>
RELE	1371	Loan Processing	3
RELE	1324	Loan Origination and Quality Control	3
RELE	1372	Basic Appraisal Principles	3

**Semester Total** 9  
**Program Total** 9

# Education and Schools

## **Child Development (19.0706, 19.0708, 19.0709)**

A Career Cluster is a grouping of occupations and broad industries based on commonalities. The Education and Schools career cluster is concerned with providing knowledge and skills related to planning, managing and providing education and training services and related learning support services. Texas teacher certification requires a bachelor's degree. Students may complete the first two years at HCC by earning the Associate of Arts in Teaching (AAT).

All new semester hour students, who have earned less than 12 semester hours of college level credit, are required to take a first-year student success course in their first term at HCC. Through research and experience, Houston Community College has determined that many life and career management skills are necessary for students to make the most of their college investment. A student success course is designed to prepare students for the demands of college and for success in the world of work. The course emphasizes setting priorities, time management, effective listening, note-taking, concentration techniques, and retention of information, book analysis, comprehension techniques, and test-taking skills. This course also incorporates units that are designed to facilitate the use of library databases in conducting research, planning and setting educational objectives, lifelong career assessment, decision-making, financial aid, tutoring, and student support services, enabling the student to maximize the use of college resources.

Every HCC Career and Technology Education program contains a "capstone," an experience for the student to "put it all together." The capstone is a learning experience resulting in a consolidation of a student's educational experience and certifies mastery of entry level workplace competencies. The capstone experience must occur during the last semester of the student's educational program. The capstone consists of an external learning experience or an advanced course especially designed to help students synthesize knowledge and skills or other licensure as appropriate.

## **CHILD DEVELOPMENT**

The Child Development curricula are designed to provide academic background and practical work experience necessary for successful care and guidance of young children. Students completing this program will be qualified to serve as the following: day care teachers or assistants, foster parents, paraprofessionals, or, with appropriate work experience, childcare center directors. Some courses apply to K-6 teacher certification. (See General Information, Academic Degrees and Certificates for field of study information.) The AAS degree requires completion of 62 semester hours. All of the courses in the Child Development Administration, Early Childhood, and In-Home Specialist/Nanny Certificate programs may apply to this AAS degree. The Child Development AAS degree is approved for Tech Prep.

According to the Texas Department of Family and Protective Services: "No person with a conviction or who is under indictment for, or is the subject of an official criminal complaint alleging violation of any of the crimes listed as a felony against the person or a felony violation of the Texas Controlled Substance Act may be present while children are in care," therefore the Child Development program is not appropriate for anyone who falls into this category.

The Child Development program is accredited by the National Association for the Education of Young Children (NAEYC), 1313 L. Street, NW, Suite 500, Washington DC 2005-4101 ([www.naeyc.org](http://www.naeyc.org)).

**Please note that a student may only earn one Marketable Skills Achievement Award (MSA) per academic year.**

### **Program Outcomes**

Students will be able to

- Develop an understanding of child development and learning.
- Examine family and community relationships.
- Explain the observation, documentation, and assessment process needed to support young children and their families.
- Construct meaningful curriculum from content knowledge in early childhood, using developmentally effective approaches which connect children and their families.
- Identify and conduct themselves as members of the early childhood profession.

*For more information call 713.718.6303 or e-mail [vanese.delahoussaye@hccs.edu](mailto:vanese.delahoussaye@hccs.edu).*



# Education and Schools

## Child Development

### AAS

*TSI testing is required prior to first enrollment.*

#### FIRST YEAR

<b>First Semester</b>	<b>Credits</b>
EDUC 1300 Learning Framwork* .....	3
ENGL 1301 Composition I .....	3
CDEC 1313 Curriculum Resources for Early Childhood Programs .....	3
TECA 1311 Educating Young Children.....	3
CDEC 1323 Observation and Assessment .....	3
<b>Semester Total</b>	<b>15</b>

#### Second Semester

XXXX #3## Humanities/Fine Arts General Education Elective .....	3
CDEC 1356 Emergent Literacy for Early Childhood .....	3
CDEC 2326 Administration of Programs for Children I .....	3
TECA 1354 Child Growth and Development.....	3
CDEC 1319 Child Guidance .....	3
<b>Semester Total</b>	<b>15</b>

#### Third Semester

XXXX #3## Directed Elective*** .....	3
SOCI 1301 Introduction to Sociology OR	
SOCI 2301 Marriage and Family OR .....	3
GOVT 2301 Government I .....	3
<b>Semester Total</b>	<b>6</b>

#### SECOND YEAR

<b>First Semester</b>	<b>Credits</b>
PSYC 2301 Introduction to Psychology.....	3
TECA 1303 Family, School, and Community.....	3
CDEC 2307 Math and Science for Early Childhood.....	3
CDEC 1359 Children with Special Needs.....	3
CDEC 1358 Creative Arts for Early Childhood.....	3
<b>Semester Total</b>	<b>15</b>

#### Second Semester

	<b>Credits</b>
XXXX #3## Math/Natural Science General Education Elective .....	3
XXXX #3## Directed Elective*** .....	3
TECA 1318 Wellness of the Young Child .....	3
CDEC 2380 Cooperative Education - Child Care Provider/Assistant ** .....	3
<b>Semester Total</b>	<b>12</b>
<b>Program Total</b>	<b>63</b>

*\*Student Success Course*

*\*\*Capstone - Cooperative Education must be a total of 3 semester hours (total of 240 lab hours must be completed in a NAEYC accredited child care center)*

*\*\*\*Electives may be chosen from the following courses: CDEC 1317, 1321, 1339, 1391, 1393, 2322, 2324, 2328, 2341; BUSG 1370 and BMGT 1301; POFI 1301, ITSC 1309, or BCIS 1405, all EDUC courses. Alternative electives may be chosen with prior departmental approval.*

*NOTE: The laboratory component of all courses requiring labs must be completed in order to fulfill degree requirements.*

## Child Development Administration

The Child Development Administration certificate is designed for students who have appropriate experience and whose goals include the administration of programs for young children whether in a day care or institutional setting. The certificate focuses upon the interpersonal skills needed to supervise childcare staff, manage business practices, maintain the minimum standards in a child care setting, and recognize the importance of parent, staff, and community interactions. All of the courses in this certificate apply to the AAS in Child Development degree.

### CERTIFICATE

*TSI testing is required prior to first enrollment.*

<b>First Semester</b>	<b>Credits</b>
EDUC 1300 Learning Framwork* .....	3
ENGL 1301 Composition I .....	3
CDEC 1313 Curriculum Resource for Early Childhood Programs.....	3
TECA 1354 Child Growth and Development.....	3
CDEC 2326 Administration of Programs for Children I .....	3
<b>Semester Total</b>	<b>15</b>

<b>Second Semester</b>	<b>Credits</b>
BMGT 1301 Supervision .....	3
CDEC 1319 Child Guidance .....	3
CDEC #3## Elective .....	3
TECA 1303 Family, School, and Community .....	3
TECA 1318 Wellness of the Young Child .....	3
<b>Semester Total</b>	<b>15</b>

# Education and Schools

<b>Third Semester</b>		<b>Credits</b>
XXXX #3##	Computer Applications Elective***	3
CDEC 2328	Administration of Programs for Children II**	3
<b>Semester Total</b>		<b>6</b>
<b>Program Total</b>		<b>36</b>

\*Student Success Course

\*\*Capstone

\*\*\*Electives may be chosen from the following courses: ITSC 1309, POFI 1301, or BCIS 1405.

## Early Childhood

The Early Childhood certificate is designed to give students a practical working knowledge of basic child development principles that will assist them in the everyday planning and implementation of developmentally appropriate activities and environments for young children. The certificate is meant to integrate with the goals and courses required for the AAS degree in Child Development. All of the courses in this certificate apply to the AAS in Child Development degree.

### CERTIFICATE

*TSI testing is required prior to first enrollment.*

<b>First Semester</b>		<b>Credits</b>
EDUC 1300	Learning Framework*	3
ENGL 1301	Composition I	3
TECA 1311	Educating Young Children	3
TECA 1318	Wellness of the Young Child	3
CDEC 1356	Emergent Literacy for Early Childhood	3
<b>Semester Total</b>		<b>15</b>

<b>Second Semester</b>		<b>Credits</b>
PSYC 2301	Introduction to Psychology OR	
SOCI 1301	Introduction to Sociology OR	
CDEC 1359	Children with Special Needs	3
CDEC 1319	Child Guidance	3
CDEC 2307	Math and Science for Early Childhood	3
CDEC 1358	Creative Arts for Early Childhood	3
<b>Semester Total</b>		<b>12</b>

<b>Third Semester</b>		<b>Credits</b>
CDEC #3##	Elective	3
TECA 1354	Child Growth and Development	3
CDEC 2326	Administration of Programs for Children I**	3
<b>Semester Total</b>		<b>9</b>
<b>Program Total</b>		<b>36</b>

\*Student Success Course

\*\*Capstone

## Early Childhood Paraprofessional (EPC)

The Early Childhood Paraprofessional certificate is designed to prepare students for entrance into the teaching profession as public school aides, assistant teachers in early learning facilities or to transfer to a four-year institution. The certificate focuses on the skills and abilities needed to work with young children.

### CERTIFICATE

*TSI testing is required prior to first enrollment.*

#### FIRST YEAR

<b>First Semester</b>		<b>Credits</b>
EDUC 1300	Learning Framework*	3
TECA 1354	Child Growth and Development	3
CDEC 1323	Observation and Assessment	3
ENGL 1301	Composition I	3
TECA 1311	Educating Young Children	3
<b>Semester Total</b>		<b>15</b>

<b>Second Semester</b>		<b>Credits</b>
CDEC 1319	Child Guidance	3
XXXX #3##	Department Approved Elective***	3
EDUC 1301	Introduction to Education	3
EDUC 2301	Introduction to Special Education	3
SOCI 1301	Introduction to Sociology OR	
TECA 1303	Family, School, and Community	3
<b>Semester Total</b>		<b>15</b>

<b>Third Semester</b>		<b>Credits</b>
CDEC 1356	Emergent Literacy for Early Childhood	3
EDUC 1325	Multicultural Education**	3
<b>Semester Total</b>		<b>6</b>
<b>Program Total</b>		<b>36</b>

\*Student Success Course

\*\*Capstone

\*\*\*Electives may be chosen from the following courses:

BCIS 1405, CDEC 1359, CDEC 1393, CDEC 1321, CDEC 2341, EDUC 1300, ITSC 1309, POFI 1301, PSYC 1300, PSYC 2301, SLNG 1317, SLNG 1315, SOCI 1301, SPAN 1411.

# Education and Schools

## In-Home Specialist/Nanny

### **CERTIFICATE**

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This certificate will be deactivated as of September 1, 2011.

No new students will be admitted into the program.

## Child Development Associate Training

This MSA is designed to fulfill the education requirements for the Child Development Associate Credential (CDA) which is administered by the National Association for the Education of Young Children. Students with a CDA should be able to meet the specific needs of children and nurture the children's physical, social, emotional, and intellectual growth in a child development framework.

### **MSA**

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*(Marketable Skills Achievement Award)*

*TSI testing is required prior to first enrollment.*

#### **First Semester**

	<b>Credits</b>
CDEC 1317 Child Development Associate Training I .....	3
CDEC 2322 Child Development Associate Training II .....	3
CDEC 2324 Child Development Associate Training III .....	3

**Program Total 9**

## Infant and Toddler Teacher

Students who complete this MSA develop the necessary skills to support quality care for infants and toddlers by providing experiences and opportunities which enhance the physical, social, emotional, and intellectual development of children ages 0-3.

### **MSA**

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*(Marketable Skills Achievement Award)*

*TSI testing is required prior to first enrollment.*

#### **First Semester**

CDEC 1339 Early Childhood Development: 0-3 Years .....	3
CDEC 1321 The Infant and Toddler .....	3
CDEC 1391 Special Topics Infants and Toddlers and Their Families ..	3

**Semester Total 9**

**Program Total 9**

# Government and Public Service

**Criminal Justice/Law Enforcement/  
Police Science (43.0107)**  
**Fire Protection (43.0201)**  
**Fire Science/Firefighting (43.0203)**  
**Paralegal Technology (22.0302)**

A Career Cluster is a grouping of occupations and broad industries based on commonalities. The Law, Public Safety, Corrections and Security career cluster is concerned with providing knowledge and skills related to planning, managing, and providing legal, public safety, protective services and homeland security, including professional and technical support services. This includes the following HCC programs: Criminal Justice/Law Enforcement, Fire Protection, Fire Science/Firefighting and Paralegal Technology.

All new semester hour students, who have earned less than 12 semester hours of college level credit, are required to take a first-year student success course in their first term at HCC. Through research and experience, Houston Community College has determined that many life and career management skills are necessary for students to make the most of their college investment. A student success course is designed to prepare students for the demands of college and for success in the world of work. The course emphasizes setting priorities, time management, effective listening, note-taking, concentration techniques, retention of information, book analysis, comprehension techniques, and test-taking skills. This course also incorporates units that are designed to facilitate the use of library databases in conducting research, planning and setting educational objectives, lifelong career assessment, decision-making, financial aid, tutoring, and student support services, enabling the student to maximize the use of college resources.

Every HCC Career and Technology Education program contains a "capstone," an experience for the student to "put it all together." The capstone is a learning experience resulting in a consolidation of a student's educational experience and certifies mastery of entry level workplace competencies. The capstone experience must occur during the last semester of the student's educational program. The capstone consists of an external learning experience or an advanced course especially designed to help students synthesize knowledge and skills or other licensure as appropriate.

## CRIMINAL JUSTICE

The Criminal Justice program consists of the AA transfer plan for Criminal Justice, the AAS in Criminal Justice with concentrations in law enforcement, corrections, or juvenile justice, and the following certificate: Basic Peace Officer Licensing. Texas requires a four-year degree to qualify as a probation officer or protective service worker. Students must be 21 or older to enter the police academy.

Students with an interest in a criminal justice program should consult with one of the criminal justice faculty to assure that their career and academic goals are met. Academic classes are offered on-line, off-site, during the day and evening, and on Saturday. Basic Peace Officer Licensing courses must be completed in person.

The Department offers on-site and off-site in-service training for law enforcement and corrections personnel including juvenile and adult community corrections officers.

Students who intend to transfer to a senior institution should refer to the Associate in Arts (AA) degree transfer advising plans/Criminal Justice speciality area (See General Course Information, Academic Degrees for speciality area of the catalog) or consult an HCC counselor to design a course of study to avoid inappropriate course selection and possible loss of credit upon transfer.

## Law Enforcement

This two-year program prepares students for a career in Law Enforcement. Upon successful completion of the program, students obtain an AAS degree and the opportunity to take the Texas Commission on Law Enforcement Officer Standards and Education (TCLEOSE) State Licensing Exam. This program satisfies all the educational requirements for such agencies as the Houston Police Department and the Department of Public Safety. Most of the coursework may be taken at any of the HCC campuses; however, the last semester must be taken at HCC Northeast Campus.

The Texas Higher Education Coordinating Board (THECB) allows students to earn only one **AAS** in Criminal Justice. Students may choose from one of the following concentrations in law enforcement, corrections, or juvenile justice.

# Government and Public Service

## Program Outcomes

Students will be able to

- Demonstrate outcomes set forth in TCLEOSE Course 1000 (WECM statement of end of course outcomes).
- Articulate key concepts in police science and criminal justice.
- Analyze and apply research to Texas Penal Code Law, Code of Criminal Procedure, Family Code, Health and Safety Code, and Transportation Code.
- Demonstrate knowledge of and commitment to law enforcement professional, ethical, and legal obligations.

For more information call 713.718.8361 or e-mail [chris.carmean@hccs.edu](mailto:chris.carmean@hccs.edu).

## AAS

TSI testing required prior to first enrollment.

### FIRST YEAR

First Semester		Credits
CRIJ 1301	Introduction to Criminal Justice*	3
ENGL 1301	Composition I	3
GOVT 2301	American Government I	3
PSYC 2301	Introduction to Psychology	3
XXXX #3##	Computer Applications Elective**	3
<b>Semester Total</b>		<b>15</b>

Second Semester		Credits
CRIJ 1306	The Courts and Criminal Procedures	3
CRIJ 1307	Crime in America	3
CRIJ 1310	Fundamentals of Criminal Law	3
SOCI 1301	Introduction to Sociology	3
ENGL 1302	Composition II	3
<b>Semester Total</b>		<b>15</b>

Third Semester		Credits
CRIJ 2314	Criminal Investigation	3
SPCH 1311	Fundamentals of Speech	3
<b>Semester Total</b>		<b>6</b>

### SECOND YEAR

First Semester		Credits
GOVT 2302	American Government II	3
CRIJ 2328	Police Systems and Practices	3
CRIJ 2323	Legal Aspects of Law Enforcement	3
XXXX #3##	Humanities/Fine Arts General Education Elective	3
<b>Semester Total</b>		<b>12</b>

## Second Semester

		Credits
PHED 2113	Physical Training for Law Enforcement	1
CJLE 2421	Texas Peace Officer Law	4
CJLE 2420	Texas Peace Officer Procedures	4
CJLE 2522	Texas Peace Officer Skills	5
<b>Semester Total</b>		<b>14</b>

## Third Semester

		Credits
XXXX #3##	Math/Science General Education Elective	3
CJLE 2384	Criminal Justice Cooperative Education-Law Enforcement/Police Science**	3
<b>Semester Total</b>		<b>6</b>
<b>Program Total</b>		<b>68</b>

\*Student Success Course

\*\*Capstone

\*\*\*Electives may be chosen from the following courses: ITSC 1309, POFI 1301, or BCIS 1405

## Basic Peace Officer Licensing

The Basic Peace Officer Licensing program prepares students for a career as a Texas Peace Officer. Upon successful completion, students take the state licensure examination. Students must be at least 21 years of age and a US citizen, submit to fingerprinting for a criminal history report, physical examination and drug screen, psychological evaluation, achieve an acceptable score in English and reading on the COMPASS test, and have a high school diploma or GED. Students must meet stringent requirements that exceed general college rules for enrollment and completion of this program. Students may enroll in day (full or part-time) or night (part-time) classes.

Students may choose to enroll in the Basic Peace Officer Licensing certificate program for credit or the optional non-credit track.

For more information call 713.718.8361 or 713.718.8377 or e-mail [chris.carmean@hccs.edu](mailto:chris.carmean@hccs.edu).

## CERTIFICATE

### Level I

First Semester		Credits
CJLE 1506	Basic Peace Officer I	5
CJLE 1512	Basic Peace Officer II	5
PHED 2113	Physical Training for Law Enforcement	1
<b>Semester Total</b>		<b>11</b>

# Government and Public Service

## Level II

<b>Second Semester</b>			<b>Credits</b>
CJLE	1518	Basic Peace Officer III .....	5
CJLE	1524	Basic Peace Officer IV** .....	5
<b>Semester Total</b>			<b>10</b>
<b>Program Total</b>			<b>21</b>

\*\*Capstone

## Corrections Specialization

The Corrections Specialization program trains individuals for a career in Corrections and employment with the Texas Department of Criminal Justice (TDCJ). Students currently employed with TDCJ can utilize this degree for promotional purposes. This degree program transfers to Midwestern University and University of Houston/Clear Lake in total by agreement.

For more information call 713.718.8377 or e-mail [chris.carmean@hccs.edu](mailto:chris.carmean@hccs.edu).

## AAS

*TSI testing required prior to first enrollment.*

### FIRST YEAR

<b>First Semester</b>			<b>Credits</b>
CRIJ	1301	Introduction to Criminal Justice* .....	3
ENGL	1301	Composition I .....	3
GOVT	2301	American Government I .....	3
PSYC	2301	Introduction to Psychology .....	3
XXXX	#3##	Computer Applications Elective*** .....	3
<b>Semester Total</b>			<b>15</b>

<b>Second Semester</b>			<b>Credits</b>
CRIJ	1306	The Courts and Criminal Procedure .....	3
CRIJ	1310	Fundamentals of Criminal Law .....	3
XXXX	#4##	Foreign Language Elective OR .....	3
SGNL	1401	American Sign Language (ASL): Beginning I .....	4
SOCI	1301	Introduction to Sociology .....	3
XXXX	#3##	Humanities/Fine Arts General Education Elective .....	3
<b>Semester Total</b>			<b>16</b>

### SECOND YEAR

<b>First Semester</b>			<b>Credits</b>
MATH	1314	College Algebra .....	3
SPCH	1311	Fundamentals of Speech .....	3
ENGL	2311	Technical and Industrial Correspondence and Report Writing .....	3
CRIJ	1307	Crime in America .....	3
CRIJ	2314	Criminal Investigation .....	3
<b>Semester Total</b>			<b>15</b>

## Second Semester

			<b>Credits</b>
CRIJ	2301	Community Resources in Corrections .....	3
CRIJ	2313	Correctional Systems and Practices .....	3
CJCR	2325	Legal Aspects of Corrections .....	3
PHIL	2306	Introduction to Ethics .....	3
CJSA	2364	Practicum (or Field Experience)-Criminal Justice/Safety Studies** .....	3
<b>Semester Total</b>			<b>15</b>
<b>Program Total</b>			<b>61</b>

\*Student Success Course

\*\*Capstone

\*\*\*Electives may be chosen from the following courses: ITSC 1309, POFI 1301, or BCIS 1405

## Juvenile Justice Specialization

The AAS Juvenile Justice Specialization program prepares students for a career as a Juvenile Probation Officer or for other related Juvenile Justice occupations. After program completion, students may transfer to Prairie View A&M's School of Juvenile Justice to complete the Bachelor of Science degree. This program features competency-based instruction from Juvenile Probation Officers working in the field.

For more information call 713.718.8377 or e-mail [chris.carmean@hccs.edu](mailto:chris.carmean@hccs.edu).

## AAS

*TSI testing required prior to first enrollment.*

### FIRST YEAR

<b>First Semester</b>			<b>Credits</b>
CRIJ	1301	Introduction to Criminal Justice* .....	3
ENGL	1301	Composition I .....	3
GOVT	2301	American Government I .....	3
PSYC	2301	Introduction to Psychology .....	3
XXXX	#3##	Computer Applications Elective*** .....	3
<b>Semester Total</b>			<b>15</b>

<b>Second Semester</b>			<b>Credits</b>
CRIJ	1310	Fundamentals of Criminal Law .....	3
CRIJ	1306	The Courts and Criminal Procedure .....	3
GOVT	2302	American Government II .....	3
XXXX	#4##	Foreign Language Elective .....	4
XXXX	#3##	Humanities/Fine Arts General Education Elective .....	3
<b>Semester Total</b>			<b>16</b>

# Government and Public Service

## SECOND YEAR

<b>First Semester</b>		<b>Credits</b>
SGNL 1401	American Sign Language (ASL): Beginning I.....	4
MATH 1314	College Algebra.....	3
CRIJ 2301	Community Resources in Corrections .....	3
CRIJ 1313	Juvenile Justice Systems.....	3
SOCI 1301	Introduction to Sociology.....	3
<b>Semester Total</b>		<b>16</b>
<b>Second Semester</b>		<b>Credits</b>
SPCH 1311	Fundamentals of Speech.....	3
ENGL 2311	Technical and Industrial Correspondence and Report Writing I.....	3
CJSA 1393	Special Topics in Criminal Justice Studies.....	3
PHIL 2306	Introduction to Ethics .....	3
CJSA 2364	Practicum-Criminal Justice Studies**.....	3
<b>Semester Total</b>		<b>15</b>
<b>Program Total</b>		<b>62</b>

\*Student Success Course

\*\*Capstone

\*\*\*Electives may be chosen from the following courses: ITSC 1309, POFI 1301, or BCIS 1405

## FIRE PROTECTION

The Fire Protection program provides courses leading to an AAS degree in Fire and Arson Investigation Technology.

The AAS degree in Fire and Arson Investigation Technology provides advanced training and education in fire and arson investigation techniques and topics. The curriculum includes courses from the Criminal Justice program.

In addition, please note that a student may only earn one Marketable Skills Achievement Award (MSA) per academic year.

### Program Outcomes

Students will be able to

- Explain a modern fire protection agency, organize staffing requirements, and identify public and private fire protection agencies.
- Identify the cause and point of origin of a fire, list possible motives of fire setters, and describe the elements of investigation practices.
- Demonstrate a complete investigation from the fire ground to the courtroom and perform sketching, photographing, interviewing and documentation skills.

For more information call 713.718.5236 or e-mail [rufus.summers@hccs.edu](mailto:rufus.summers@hccs.edu).

## Fire and Arson Investigation Technology

### AAS

*TSI testing required prior to first enrollment.*

## FIRST YEAR

<b>First Semester</b>		<b>Credits</b>
CRIJ 1301	Introduction to Criminal Justice* .....	3
ENGL 1301	Composition I.....	3
SPCH #3##	Speech Elective*** .....	3
CRIJ 2323	Legal Aspects of Law Enforcement.....	3
FIRT 1338	Fire Protection Systems.....	3
XXXX #3##	Computer Applications Elective**** .....	3
<b>Semester Total</b>		<b>18</b>
<b>Second Semester</b>		<b>Credits</b>
XXXX #3##	Social/Behavioral Science General Education Elective... 3	
XXXX #3##	Humanities/Fine Arts General Education Elective .....	3
CRIJ 1307	Crime in America.....	3
CRIJ 1310	Fundamentals of Criminal Law .....	3
FIRT 1327	Building Construction in the Fire Service.....	3
<b>Semester Total</b>		<b>15</b>

## SECOND YEAR

<b>First Semester</b>		<b>Credits</b>
CHEM 1405	Introductory Chemistry.....	4
CRIJ 2314	Criminal Investigation.....	3
FIRT 1303	Fire and Arson Investigation I .....	3
FIRT #3##	Fire Elective .....	3
FIRT 1315	Hazardous Materials I.....	3
<b>Semester Total</b>		<b>16</b>
<b>Second Semester</b>		<b>Credits</b>
CRIJ 1306	The Courts and Criminal Procedure .....	3
CRIJ 2328	Police Systems and Practices.....	3
FIRT 1345	Hazardous Materials II.....	3
FIRT 2333	Fire and Arson Investigation II .....	3
FIRT 2380	Cooperative Education-Fire Protection and Safety Technology/Technician** .....	3
<b>Semester Total</b>		<b>15</b>
<b>Program Total</b>		<b>64</b>

\*Student Success Course

\*\*Capstone

\*\*\*Electives may be chosen from the following courses: SPCH 1311, SPCH 1315, and SPCH 1321

\*\*\*\*Electives may be chosen from the following courses: ITSC 1309, POFI 1301, or BCIS 1405

# Government and Public Service

## Fire and Arson Investigator

The Fire and Arson Investigator Marketable Skills Achievement Award (MSA) provides students work in a public or private organization to investigate fires and determine the cause and origin. It also provides the certification to give credibility to testimony of cause and origin of fires. Students completing the MSA will be able to list possible motives for fire setters and describe the elements of investigation practices.

### MSA

(Marketable Skills Achievement Award)

<b>First Semester</b>			<b>Credits</b>
FIRT 1301	Fundamentals of Fire Protection.....	3	
FIRT 1303	Fire and Arson Investigation I.....	3	
FIRT 2333	Fire and Arson Investigation II.....	3	
<b>Semester Total</b>			<b>9</b>
<b>Program Total</b>			<b>9</b>

## FIRE SCIENCE AND SAFETY TECHNOLOGY

A growing trend in fire service nationwide is the creation of a college-educated fire-fighting workforce. The goal of the Fire Science and Safety awards is to enhance technical competencies in the following areas: fire suppression, fire prevention, fire service management, life safety, and other related topics. Although this program is primarily directed toward the professional firefighter, it also provides training and education for personnel of insurance organizations and other industries involved in fire safety and protection.

The Texas Higher Education Coordinating Board (THECB) allows students to earn only one AAS in Fire Protection and Safety Technology. Students must choose from one of the following three specializations: Fire Officer, Fire Fighter, or Industrial.

### Fire Science and Safety - Fire Officer Specialization\*\*\*

The AAS Fire Officer Specialization provides a career firefighter with skills and knowledge to manage in the upper echelon of a fire department. It enhances the fire fighter's competencies in fire suppression, prevention, fire service management, and other related topics. This degree qualifies a firefighter to take the Fire Officer I exam from the Texas Commission on Fire Protection. The Fire Officer I certificate requires the completion of the Fire Instructor I certificate.

## Program Outcomes

Students will be able to

- Name the principles, theory, and practices associated with leading edge fire science and management, including issues associated with tactical fire operations, fire safety, firefighting leadership and management, and community fire issues.
- Recall aspects of fire department organization, operations, tools and equipment, the role of the fire fighter, hazardous materials awareness and the mission of the fire service.
- Use fire ground operations and fire suppression, hazardous materials operations and rescue techniques.
- Complete certifications by successfully passing a written and practical state exam in the specialty discipline by the Texas Commission on Fire Protection based on National Fire Protection Association standards. This reflects professional preparedness.

For more information call 713.718.5236 or e-mail [rufus.summers@hccs.edu](mailto:rufus.summers@hccs.edu).

## AAS

TSI testing required prior to first enrollment.

### FIRST YEAR

<b>First Semester</b>			<b>Credits</b>
FIRT 1301	Fundamentals of Fire Protection* .....	3	
FIRT 2309	Firefighting Strategies and Tactics I.....	3	
FIRT 1307	Fire Prevention Codes and Inspections.....	3	
ENGL 1301	Composition I.....	3	
XXXX #3##	Computer Applications Elective***** .....	3	
<b>Semester Total</b>			<b>15</b>

<b>Second Semester</b>			<b>Credits</b>
FIRT 1309	Fire Administration I.....	3	
FIRT 1338	Fire Protection Systems.....	3	
SPCH #3##	Speech Elective****.....	3	
XXXX #3##	Math/Natural Science General Education Elective .....	3	
XXXX #3##	Humanities/Fine Arts General Education Elective .....	3	
<b>Semester Total</b>			<b>15</b>

<b>Third Semester</b>			<b>Credits</b>
FIRT 1349	Fire Administration II OR		
FIRT 1342	Fire Officer I.....	3	
PSYC 2301	Introduction to Psychology OR		
PSYC 2302	Applied Psychology.....	3	
<b>Semester Total</b>			<b>6</b>



# Government and Public Service

## SECOND YEAR

<b>First Semester</b>		<b>Credits</b>
FIRT 1433	Fire Chemistry I.....	4
FIRT 1327	Building Construction in the Fire Service.....	3
FIRT 1303	Fire and Arson Investigation I.....	3
GOVT 2301	American Government: National, State and Local I.....	3
FIRT 1353	Legal Aspects of Fire Protection.....	3
<b>Semester Total</b>		<b>16</b>

<b>Second Semester</b>		<b>Credits</b>
FIRT 1315	Hazardous Materials I.....	3
FIRT 2351	Company Fire Officer OR	
FIRT 1343	Fire Officer II.....	3
FIRT 2305	Fire Instructor I.....	3
FIRT #3##	Fire Elective*****	3
FIRT 2380	Cooperative Education-Fire Protection and Safety Technology**.....	3
<b>Semester Total</b>		<b>15</b>
<b>Program Total</b>		<b>67</b>

\*Student Success Course

\*\*Capstone

\*\*\*Pending approval from the Texas Higher Education Coordinating Board (THECB).

\*\*\*\*Electives may be chosen from the following courses: SPCH 1311, SPCH 1315, and SPCH 1321

\*\*\*\*\*Electives may be chosen from the following courses: FIRT 1305, 1311, 1319, 1345, 1347, 1391, 1392, 2307, 2333, and FIRS 1301, 1313, 1319, 1323, 1329, 1407, 1433, 2459

\*\*\*\*\*Electives may be chosen from the following courses: ITSC 1309, POFI 1301, or BCIS 1405

## Fire Officer I

The Fire Officer I certificate is offered to fire fighters who complete the required courses and who reach the level of competency described by NFPA standard 1021. These six courses allow fire fighters to take the Fire Officer I test from the Texas Commission on Fire Protection.

For more information call 713.718.5236 or e-mail [rufus.summers@hccs.edu](mailto:rufus.summers@hccs.edu).

## CERTIFICATE

TSI testing required prior to first enrollment.

<b>First Semester</b>		<b>Credits</b>
FIRT 1307	Fire Prevention Codes and Inspections.....	3
FIRT 1309	Fire Administration I.....	3
FIRT 1303	Fire and Arson Investigation I.....	3
<b>Semester Total</b>		<b>9</b>

## Second Semester

		<b>Credits</b>
FIRT 2309	Firefighting Strategies and Tactics I.....	3
FIRT 2305	Fire Instructor I.....	3
FIRT 2351	Company Fire Officer** OR	
FIRT 1342	Fire Officer I.....	3
<b>Semester Total</b>		<b>9</b>
<b>Program Total</b>		<b>18</b>

\*Student Success Course

\*\*Capstone

## Fire Instructor

The series of three courses provides training required to apply for the Texas Commission on Fire Protection (TCFP) Fire Instructor I, II, and III certifications. These courses also provide a three-course certification step to becoming a Training Program Manager.

To obtain the TCFP Fire Instructor I, II, and III certification, participants must have a Basic Fire Fighter certification with TCFP and pass the Knowledge and Skills tests for each level of certification. An application fee of \$15 per certification must be paid to TCFP when submitting an application to take the final assessment from the Texas Commission on Environmental Quality.

## Program Outcomes

Students will be able to

- Demonstrate a lesson plan using instructional aids and evaluation forms.
- Develop a lesson plan, schedule training sessions, and conduct a class using lesson plans.
- Develop a comprehensive training curriculum and write equipment specifications from specific curriculum information.

For more information call 713.718.5236 or e-mail [rufus.summers@hccs.edu](mailto:rufus.summers@hccs.edu).

## MSA

(Marketable Skills Achievement Award)

<b>First Semester</b>		<b>Credits</b>
FIRT 2305	Fire Instructor I.....	3
<b>Semester Total</b>		<b>3</b>
<b>Second Semester</b>		<b>Credits</b>
FIRT 2307	Fire Instructor II.....	3
<b>Semester Total</b>		<b>3</b>

# Government and Public Service

<b>Third Semester</b>		<b>Credits</b>
FIRT 2459	Fire Instructor III .....	4
<b>Semester Total</b>		<b>4</b>
<b>Program Total</b>		<b>10</b>

## Fire Science and Safety - Fire Fighter Specialization

Students seeking a career in the Fire Service can receive a certification required to work as a fire fighter in the State of Texas. By completing this AAS degree, students are eligible to take the State exam. The demand for firefighters is increasing, and those with certification and an associate degree have an educational advantage over those with a basic certification. These awards meet the educational need for advanced certification from the Texas Commission on Fire Protection.

### Program Outcomes

Students will be able to

- Write a basic incident report, given the report forms, guidelines, and information, so that all pertinent information is recorded, the information is accurate, and the report is complete.
- Demonstrate the need for team assistance, given fire department communications equipment, SOPs, and a team, so that the supervisor is consistently informed of team needs, departmental SOPs are followed, and the assignment is accomplished safely.
- Recognize an ignitable liquid fire, operating as a member of a team, given an assignment, an attack line, personal protective equipment, a foam proportioning device, a nozzle, foam concentrates, and a water supply, so that the correct type of foam concentrate is selected for the given fuel and conditions, a properly proportioned foam stream is applied to the surface of the fuel to create and maintain a foam blanket, fire is extinguished, reignition is prevented, team protection is maintained with a foam stream, and the hazard is faced until retreat to safe haven is reached.
- Use an interior attack line for a team's accomplishment of an assignment in a structure fire, given attack lines, personnel, personal protective equipment, and tools, so that crew integrity is established; attack techniques are selected for the given level of the fire (e.g., attic, grade level, upper levels, or basement); attack techniques are communicated to the attack teams; constant team coordination is maintained; fire growth and development is continuously evaluated; search, rescue, and ventilation requirements are communicated or managed; hazards are reported to the attack teams; and incident command is apprised of changing conditions.
- Control a flammable gas cylinder fire, operating as a member of a team, given an assignment, a cylinder outside of a structure, an attack line, personal protective equipment, and tools, so that crew integrity is maintained, contents are identified, safe havens are identified prior to advancing, open valves are closed, flames are not extinguished unless the leaking gas is eliminated, the cylinder is cooled, cylinder integrity is evaluated, hazardous conditions are recognized and acted upon, and the cylinder is faced during approach and retreat.
- Analyze evidence of fire cause and origin, given a flashlight and overhaul tools, so that the evidence is noted and protected from further disturbance until investigators can arrive on the scene.
- Practice a victim entrapped in a motor vehicle as part of a team, given stabilization and extrication tools, so that the vehicle is stabilized, the victim is disentangled without further injury, and hazards are managed.
- Organize rescue operation teams, given standard operating procedures, necessary rescue equipment, and an assignment, so that procedures are followed, rescue items are recognized and retrieved in the time as prescribed by the AHJ, and the assignment is completed.
- Demonstrate a fire safety survey in a private dwelling, given survey forms and procedures, so that fire and life safety hazards are identified, recommendations for their correction are made to the occupant, and unresolved issues are referred to the proper authority.
- Relate fire safety information to station visitors or small groups, given prepared materials, so that all information is presented, the information is accurate, and questions are answered or referred.
- Interpret a pre-incident survey, given forms, necessary tools, and an assignment, so that all required occupancy information is recorded, items of concern are noted, and accurate sketches or diagrams are prepared.

# Government and Public Service

- Identify power plants, power tools, and lighting equipment, given tools and manufacturers' instructions, so that equipment is clean and maintained according to manufacturer and departmental guidelines, maintenance is recorded, and equipment is placed in a ready state or reported otherwise.
- Describe an annual service test on fire hose, given a pump, a marking device, pressure gauges, a timer, record sheets, and related equipment, so that procedures are followed, the condition of the hose is evaluated, any damaged hose is removed from service, and the results are recorded.

For more information call 713.718.5236 or e-mail [rufus.summers@hccs.edu](mailto:rufus.summers@hccs.edu).

## AAS

TSI testing required prior to first enrollment.

### FIRST YEAR

<b>First Semester</b>		<b>Credits</b>
FIRS 1301	Firefighter Certification I*	3
FIRS 1407	Firefighter Certification II	4
FIRS 1313	Firefighter Certification III	3
EMSP 1501	Emergency Medical Technician-Basic	5
EMSP 1160	Clinical-Emergency Medical Services	1
<b>Semester Total</b>		<b>16</b>

<b>Second Semester</b>		<b>Credits</b>
FIRS 1319	Firefighter Certification IV	3
FIRS 1423	Firefighter Certification V	4
FIRS 1329	Firefighter Certification VI	3
FIRS 1433	Firefighter Certification VII	4
FIRS 1203	Firefighter Agility and Fitness Preparation	2
<b>Semester Total</b>		<b>16</b>

<b>Third Semester</b>		<b>Credits</b>
FIRT 2309	Firefighting Strategies and Tactics I	3
PSYC 2301	Introduction to Psychology OR	
PSYC 2302	Applied Psychology	3
SPCH #3##	Speech Elective***	3
<b>Semester Total</b>		<b>9</b>

### SECOND YEAR

<b>First Semester</b>		<b>Credits</b>
CHEM 1405	Introductory Chemistry	4
FIRT 1327	Building Construction in the Fire Service	3
ENGL 1301	Composition I	3
XXXX #3##	Computer Applications Elective****	3
XXXX #3##	Humanities/Fine Arts General Education Elective	3
<b>Semester Total</b>		<b>16</b>

### Second Semester

		<b>Credits</b>
FIRT 1309	Fire Administration I	3
FIRT 1338	Fire Protection Systems	3
FIRT 1315	Hazardous Materials I	3
FIRT 1303	Fire and Arson Investigation I	3
FIRT 2380	Cooperative Education-Fire Protection and Safety Technology**	3
<b>Semester Total</b>		<b>15</b>
<b>Program Total</b>		<b>72</b>

\*Student Success Course

\*\*Capstone

\*\*\*Electives may be chosen from the following courses: SPCH 1311, SPCH 1315, and SPCH 1321

\*\*\*\*Electives may be chosen from the following courses: ITSC 1309, POFI 1301, or BCIS 1405

## Fire Science and Safety - Industrial Specialization

Southeast Texas is one of the largest industrial communities in the nation. Students who have certifications in fire suppression, inspections, or fire investigation may find employment in industry. This degree provides education to augment their experience.

Although this program is primarily fire service courses, other students may seek a career as a safety person for industry or insurance services. This training provides knowledge that can benefit the industrial community.

### Program Outcomes

Students will be able to

- Demonstrate appropriate codes, list different occupancy classifications, and understand fire protection systems.
- Demonstrate and evaluate occupancy types, emergency plans, and fire protection systems.
- Evaluate building plans and identify code deficiencies, recognize symbols for fire protection and Life Safety Codes.

For more information call 713.718.5236 or e-mail [rufus.summers@hccs.edu](mailto:rufus.summers@hccs.edu).

# Government and Public Service

## AAS

TSI testing required prior to first enrollment.

### FIRST YEAR

<b>First Semester</b>		<b>Credits</b>
FIRT 1347	Industrial Fire Protection*	3
FIRT 1408	Fire Inspector I	4
FIRT 1307	Fire Prevention Codes and Inspections	3
ENGL 1301	Composition I	3
XXXX #3##	Computer Applications Elective****	3
<b>Semester Total</b>		<b>16</b>

<b>Second Semester</b>		<b>Credits</b>
FIRT 1309	Fire Administration I	3
FIRT 1338	Fire Protection Systems	3
SPCH #3##	Speech Elective***	3
XXXX #3##	Math/Natural Science General Education Elective	3
XXXX #3##	Humanities/Fine Arts General Education Elective	3
<b>Semester Total</b>		<b>15</b>

<b>Third Semester</b>		<b>Credits</b>
FIRT 1433	Fire Chemistry I	4
PSYC 2301	Introduction to Psychology OR	
PSYC 2302	Applied Psychology	3
<b>Semester Total</b>		<b>7</b>

### SECOND YEAR

<b>First Semester</b>		<b>Credits</b>
FIRT 1327	Building Construction in the Fire Service	3
FIRT 2419	Fire Chemistry II	4
FIRT 1303	Fire and Arson Investigation I	3
FIRT 2309	Firefighting Strategies and Tactics I	3
<b>Semester Total</b>		<b>13</b>

<b>Second Semester</b>		<b>Credits</b>
FIRT 1340	Fire Inspector II	3
GOVT 2301	American Government: National, State and Local I	3
FIRT 1315	Hazardous Materials I	3
FIRT 1202	Plans Examiner	2
FIRT 2380	Cooperative Education-Fire Protection and Safety Technology**	3
<b>Semester Total</b>		<b>14</b>
<b>Program Total</b>		<b>65</b>

\*Student Success Course

\*\*Capstone

\*\*\*Electives may be chosen from the following courses: SPCH 1311, SPCH 1315, and SPCH 1321

\*\*\*\*Electives may be chosen from the following courses: ITSC 1309, POFI 1301, or BCIS 1405

## Fire Inspector

The Fire Inspector Marketable Skills Achievement Award (MSA) provides students with work inspecting buildings and occupancies for fire hazards. It also provides certification for individuals to enforce building and occupancy codes to prevent loss of life and prevent fires. Students completing the MSA should be able to utilize the appropriate codes, list types of construction and occupancy classifications, identify building service equipment, processes and hazards, list different types of fire protection systems, water supply and be able to review blueprints and make corrections that comply with current codes.

### Program Outcomes

Students will be able to

- Demonstrate appropriate codes, list different occupancy classifications, and understand fire protection systems.
- Demonstrate and evaluate occupancy types, emergency plans, and fire protection systems.
- Evaluate building plans and identify code deficiencies, recognize symbols for fire protection and Life Safety Codes.

For more information call 713.718.5236 or e-mail [rufus.summers@hccs.edu](mailto:rufus.summers@hccs.edu).

## MSA

(Marketable Skills Achievement Award)

<b>First Semester</b>		<b>Credits</b>
FIRT 1408	Fire Inspector I	4
FIRT 1340	Fire Inspector II	3
FIRT 1202	Plans Examiner I	2
<b>Semester Total</b>		<b>9</b>
<b>Program Total</b>		<b>9</b>

## FIRE SCIENCE/FIREFIGHTING

Students completing the Basic Fire Fighting certificate will meet the requirements for the Texas Commission on Fire Protection minimum standards for working as a fire fighter in the State of Texas. This certificate can be for credit or noncredit. Credit hours will apply to the AAS degree Fire Science/Firefighting.

The Basic Firefighter certificate program is designed to meet all of the requirements of the fire-training phase of the Texas Commission on Fire Protection's minimum standards for Structure Fire Protection Personnel Certification.

# Government and Public Service

Successful completion of the program prepares students to take the State certification written and skills test. The curriculum is divided into two semesters. Students must register for all courses in the semester, and all courses for each semester must be taken concurrently. Failure to successfully complete any of the requirements for any one course results in a failing grade for all the courses in that semester. Each student must complete the first semester before being eligible to enroll in the second semester courses. As a minimum, each student must also complete an approved Emergency Care Attendant (ECA) course in order to be certified as a Structural Firefighter. HCC offers EMSP 1005, Emergency Care Attendant, as a non-credit course (see Continuing Education).

The program's current schedule is 672 contact hours and is scheduled for two semesters. HCC offers the schedule as a day class, four days a week for ten weeks a semester. For students who need to work and attend classes, HCC offers a schedule of two semesters of twenty weeks each with classes Monday and Wednesday nights from 6:00 PM to 9:00 PM, and Saturdays from 7:30 AM to 5:30 PM. Students may choose to enroll in the Basic Firefighter certificate program for credit or the optional non-credit track.

## Program Outcomes

Students will be able to

- Demonstrate the ability to don personal protective clothing within 1 minute; doff personal protective clothing and prepare for reuse; hoist tools and equipment using ropes and the correct knot; and locate information in departmental documents and standard or code materials.
- Identify knot types and usage; the difference between life safety and utility rope; reasons for placing rope out of service; the types of knots to use for given tools, ropes, or situations; hoisting methods for tools and equipment; and using rope to support response activities.
- Identify conditions that require respiratory protection, uses and limitations of SCBA, components of SCBA, donning procedures, breathing techniques, indications for and emergency procedures used with SCBA, and physical requirements of the SCBA wearer.
- Identify procedures for reporting an emergency, departmental SOPs for taking and receiving alarms, radio codes or procedures, and information needs of dispatch center. Perform fire department procedures for answering nonemergency telephone

calls. Demonstrate the ability to operate fire station telephone and intercom equipment. Comprehend personnel accountability systems, communication procedures, emergency evacuation methods, what constitutes a safe haven, elements that create or indicate a hazard, and emergency procedures for loss of air supply.

- Demonstrate mounting and dismounting procedures for riding fire apparatus, hazards and ways to avoid hazards associated with riding apparatus, prohibited practices, and types of department personal protective equipment and the means for usage. Identify potential hazards involved in operating on emergency scenes including vehicle traffic, utilities, and environmental conditions; proper procedures for dismounting apparatus in traffic; procedures for safe operation at emergency scenes; and the protective equipment available for members' safety on emergency scenes and work zone designations.
- Identify basic construction of typical doors, windows, and walls within the department's community or service area; operation of doors, windows, and locks; and the dangers associated with forcing entry through doors, windows, and walls. Identify parts of a ladder, hazards associated with setting up ladders, what constitutes a stable foundation for ladder placement, different angles for various tasks, safety limits to the degree of angulation, and what constitutes a reliable structural component for top placement. Identify the principles, advantages, limitations, and effects of horizontal, mechanical, and hydraulic ventilation as well as safety considerations when venting a structure. Demonstrate the use of forcible entry tools during rescue operations, ladder operations for rescue, psychological effects of operating in obscured conditions and ways to manage them.
- Identify the principles of fire streams; types, design, operation, nozzle pressure effects, and flow capabilities of nozzles; precautions to be followed when advancing hose lines to a fire; observable results that a fire stream has been properly applied. Identify principles of fire streams as they relate to fighting automobile fires. Identify types of attack lines and water streams appropriate for attacking stacked, piled materials and outdoor fires. Identify the types of fire attack lines and water application devices most effective for overhaul, water application methods for

# Government and Public Service

extinguishment that limit water damage. Understand the purpose of property conservation and its value to the public.

- Demonstrate loading and off-loading procedures for mobile water supply apparatus; fire hydrant operation; and suitable static water supply sources, procedures, and protocol for connecting to various water sources. Identify the classifications of fire; the types of, rating systems for, and risks associated with each class of fire; and the operating methods of and limitations of portable extinguishers.
- Identify safety principles and practices, power supply capacity and limitations, and light deployment methods. Properties, principles, and safety concerns for electricity, gas, and water systems; utility disconnect methods and associated dangers; and use of required safety equipment. Identify the types of ground cover fires, parts of ground cover fires, methods to contain or suppress, and safety principles and practices. Identify the types of cleaning methods for various tools and equipment, correct use of cleaning solvents, and manufacturer's or departmental guidelines for cleaning equipment and tools. Identify departmental procedures for noting a defective hose and removing it from service, cleaning methods, and hose rolls and loads.

For more information call 713.718.5236 or e-mail [rufus.summers@hccs.edu](mailto:rufus.summers@hccs.edu).

## Basic Firefighter

### CERTIFICATE

*TSI testing required prior to first enrollment.*

<b>First Semester</b>		<b>Credits</b>
FIRS 1301	Firefighter Certification I*	3
FIRS 1407	Firefighter Certification II	4
FIRS 1313	Firefighter Certification III	3
FIRS 1203	Firefighter Agility and Fitness	2
<b>Semester Total</b>		<b>12</b>
<b>Second Semester</b>		<b>Credits</b>
FIRS 1319	Firefighter Certification IV	3
FIRS 1423	Firefighter Certification V	4
FIRS 1329	Firefighter Certification VI	3
FIRS 1433	Firefighter Certification VII**	4
<b>Semester Total</b>		<b>14</b>
<b>Program Total</b>		<b>26</b>

\*Student Success Course

\*\* Capstone

## PARALEGAL TECHNOLOGY

The Paralegal Technology program prepares individuals to perform research, drafting, investigation, record-keeping and related administrative functions under the supervision of an attorney or court or business. The program includes instruction in legal research, document drafting, law office procedures, pleadings, courthouse procedures, and legal specialization.

The field is growing rapidly, and the need for trained individuals in the area is critical. The program may also be useful for pre-law training.

As an option for the Paralegal Technology elective, students may take LGLA 1370-ProDoc for Paralegals. At the conclusion of this course, students have the opportunity to take the exam offered by ProDoc, Inc., a division of Thompson-Reuters located at 610 Opperman Dr., Eagan, Minnesota 55123. Successful completion of the exam certifies students in ProDoc software.

Paralegals are not authorized by the State Bar of Texas to give legal advice or perform legal work without the supervision of an attorney.

The Texas Higher Education Coordinating Board (THECB) allows students to earn only one Certificate in Paralegal Technology - Legal Assistant. Students must choose from one of the following two specializations: General or Medical.

### Program Outcomes

Students will be able to

- Demonstrate knowledge of the current law on Paralegal Licensing and Certification.
- Know how to calculate answer day in Texas for a Civil Lawsuit.
- Demonstrate how to research a legal issue dealing with Texas State Court Law and reach a Legal Conclusion.
- Demonstrate how to prepare a general denial/answer and simple petition using Texas style of form.
- Demonstrate basic courtroom etiquette and court filing procedure in Texas.

For more information call 713.718.6505 or 713.718.5404 or e-mail [ronald.esposito@hccs.edu](mailto:ronald.esposito@hccs.edu) or [earl.smith@hccs.edu](mailto:earl.smith@hccs.edu).

# Government and Public Service

## AAS

*TSI testing is required prior to first enrollment.*

### FIRST YEAR

<b>First Semester</b>		<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking*	2
LGLA 1303	Legal Research	3
LGLA 1344	Texas Civil Litigation	3
LGLA 1351	Contracts	3
MATH 1314	College Algebra	3
XXXX #3##	Math/Natural Science General Education Elective	3
ENGL 1301	Composition I	3
<b>Semester Total</b>		<b>17</b>

<b>Second Semester</b>		<b>Credits</b>
LGLA 1305	Legal Writing	3
LGLA 1345	Civil Litigation	3
XXXX #3##	Paralegal Technology Elective***	3
SPCH 13##	Speech Elective****	3
PSYC 2301	Introduction to Psychology	3
<b>Semester Total</b>		<b>15</b>

### SECOND YEAR

<b>First Semester</b>		<b>Credits</b>
LGLA 1353	Wills, Trusts and Probate Administration	3
LGLA 2303	Torts and Personal Injury Law	3
ACNT 1303	Introduction to Accounting I	3
LGLA 2309	Real Property	3
GOVT 2301	American Government: National, State, and Local I OR	3
GOVT 2302	American Government: National, State, and Local II	3
LGLA 1380	Cooperative Education Legal Assistant/Paralegal	3
<b>Semester Total</b>		<b>18</b>

<b>Second Semester</b>		<b>Credits</b>
LGLA 2311	Business Organizations	3
LGLA 2313	Criminal Law and Procedure	3
LGLA 2307	Law Office Management	3
XXXX #3##	Humanities/Fine Arts General Education Elective	3
XXXX #3##	Paralegal Technology Elective***	3
LGLA 2381	Cooperative Education-Legal Assistant/Paralegal**	3
<b>Semester Total</b>		<b>18</b>
<b>Program Total</b>		<b>68</b>

\*Student Success Course

\*\*Capstone

\*\*\*Electives may be chosen from the following courses: LGLA 1355, LGLA 1370, LGLA 2315, POFI 1301, or MDCA 1313

\*\*\*\*Electives may be chosen from the following courses: SPCH 1311, 1315, 1318, or 1321

## Law Office Clerk

The Law Office Clerk certificate is a stepping-stone to the Paralegal Technology degree. This certificate allows students who are interested in working in a law office to gain entry to the legal world while working on courses which will advance them to a Paralegal position.

Paralegals are not authorized by the State Bar of Texas to give legal advice or perform legal work without the supervision of an attorney.

For more information call 713.718.6505 or 713.718.5404 or e-mail ronald.esposito@hccs.edu or earl.smith@hccs.edu.

### CERTIFICATE

*TSI testing is required prior to first enrollment.*

#### FIRST YEAR

<b>First Semester</b>		<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking*	2
LGLA 1303	Legal Research	3
LGLA 1344	Texas Civil Litigation	3
<b>Semester Total</b>		<b>8</b>

<b>Second Semester</b>		<b>Credits</b>
ACNT 1303	Introduction to Accounting I	3
LGLA 2307	Law Office Management	3
LGLA 1380	Cooperative Education-Legal Assistant/Paralegal**	3
<b>Semester Total</b>		<b>9</b>
<b>Program Total</b>		<b>17</b>

\*Student Success Course

\*\*Capstone

# Government and Public Service

## Legal Assistant

The Legal Assistant certificate allows a student to work in a law office or corporation as an assistant to an attorney or a trained paralegal. It consists of 30 semester hours which provides adequate training in the skills necessary to be a trained Legal Assistant.

Paralegals are not authorized by the State Bar of Texas to give legal advice or perform legal work without the supervision of an attorney.

For more information call 713.718.6505 or 713.718.5404 or e-mail [ronald.esposito@hccs.edu](mailto:ronald.esposito@hccs.edu) or [earl.smith@hccs.edu](mailto:earl.smith@hccs.edu).

### CERTIFICATE

*TSI testing is required prior to first enrollment.*

#### FIRST YEAR

##### First Semester

	<b>Credits</b>
LEAD 1200 Workforce Development with Critical Thinking*	2
LGLA 1303 Legal Research	3
LGLA 1344 Texas Civil Litigation	3
LGLA 2309 Real Property	3
LGLA #3## Paralegal Technology Elective***	3
ACNT 1303 Introduction to Accounting	3
<b>Semester Total</b>	<b>17</b>

##### Second Semester

	<b>Credits</b>
LGLA 1305 Legal Writing	3
LGLA 1345 Civil Litigation	3
LGLA 2303 Torts and Personal Injury Law	3
LGLA 2307 Law Office Management	3
LGLA #3## Paralegal Technology Elective***	3
LGLA 1380 Cooperative Education-Legal Assistant/Paralegal**	3
<b>Semester Total</b>	<b>18</b>
<b>Program Total</b>	<b>35</b>

\*Student Success Course

\*\*Capstone

\*\*\*Electives may be chosen from the following courses: LGLA 1355, LGLA 1370, LGLA 2315, POFI 1301, or MDCA 1313

## Legal Assistant-Medical Specialization

The Legal Assistant-Medical Specialization is a step towards the Paralegal Technology degree from HCC with an emphasis in medical legal training. This certificate allows a student to work in a law office or corporation as an assistant to an attorney or a trained paralegal. The training and education offered by the certificate is ideal for those students who are interested, have been employed or who are currently employed in the medical field. It consists of 30 semester hours which provides adequate training in the skills necessary to be a trained Legal Assistant with a medical specialization.

Paralegals are not authorized by the State Bar of Texas to give legal advice or perform legal work without the supervision of an attorney.

For more information call 713.718.6505 or 713.718.5404 or e-mail [ronald.esposito@hccs.edu](mailto:ronald.esposito@hccs.edu) or [earl.smith@hccs.edu](mailto:earl.smith@hccs.edu).

### CERTIFICATE

*TSI testing is required prior to first enrollment.*

#### FIRST YEAR

##### First Semester

	<b>Credits</b>
LEAD 1200 Workforce Development with Critical Thinking*	2
LGLA 1303 Legal Research	3
LGLA 1344 Texas Civil Litigation	3
LGLA #3## Paralegal Technology Elective***	3
LGLA 2309 Real Property	3
MDCA 1313 Medical Terminology	3
<b>Semester Total</b>	<b>17</b>

##### Second Semester

	<b>Credits</b>
LGLA 1305 Legal Writing	3
LGLA 1345 Civil Litigation	3
LGLA 2303 Torts and Personal Injury Law	3
LGLA 2307 Law Office Management	3
LGLA #3## Paralegal Technology Elective***	3
LGLA 1380 Cooperative Education-Legal Assistant/Paralegal**	3
<b>Semester Total</b>	<b>18</b>
<b>Program Total</b>	<b>35</b>

\*Student Success Course

\*\*Capstone

\*\*\*Electives may be chosen from the following courses: LGLA 1355, LGLA 1370, LGLA 2315, or POFI 1301



# Health and Medical Sciences

- Dental Assisting (51.0601)**
- Dental Hygiene (51.0602)**
- Diagnostic Medical Sonography (51.0910)**
- Emergency Medical Services (51.0904)**
- Health & Fitness Instructor (31.0501)**
- Health Information Technology (51.0707, 51.0713)**
- Histologic Technician (51.1008)**
- Human Service Technology (51.1501, 51.1502) see Human Services & Social Sciences cluster**
- Medical Assistant (51.0801)**
- Medical Laboratory Technician (51.1004)**
- Nuclear Medicine Technology (51.0905)**
- Nursing (51.3801)**
- Occupational Therapy Assistant (51.0803)**
- Pharmacy Technician (51.0805)**
- Physical Therapist Assistant (51.0806)**
- Radiography/Computed Tomography (51.0911)**
- Respiratory Therapist (51.0908)**
- Surgical Technology (51.0909)**
- Vocational Nursing (51.3901)**

A Career Cluster is a grouping of occupations and broad industries based on commonalities. The Health and Medical Sciences career cluster is concerned with providing knowledge and skills related to planning, managing, and providing therapeutic services, diagnostic services, health informatics, support services, and biotechnology research and development. This includes the following HCC programs: Dental Assisting, Dental Hygiene, Diagnostic Medical Sonography, Emergency Medical Services, Health and Fitness Instructor, Health Information Technology, Histologic Technician, Medical Assisting, Medical Laboratory Technician, Nuclear Medicine Technology, Nursing, Occupational Therapy Assistant, Pharmacy Technician, Physical Therapist Assistant, Radiography/Computed Tomography, Respiratory Therapist, Surgical Technology and Vocational Nursing.

All new semester hour students, who have earned less than 12 semester hours of college level credit, are required to take a first-year student success course in their first term at HCC. Through research and experience, Houston Community College has determined that many life and career management skills are necessary for students to make the most of their college investment. A student success course is designed to prepare students for the demands of college and for success in the world of work. The course emphasizes setting priorities, time management, effective listening, note-taking, concentration techniques, retention of information, book analysis, comprehension techniques, and test-taking skills. This course also incorporates units that are designed to facilitate the use of library databases in conducting research, planning and setting educational objectives, lifelong career assessment, decision-making, financial aid, tutoring, and student support services, enabling the student to maximize the use of college resources.

Every HCC Career and Technology Education program contains a "capstone," an experience for the student to "put it all together." The capstone is a learning experience resulting in a consolidation of a student's educational experience and certifies mastery of entry level workplace competencies. The capstone experience must occur during the last semester of the student's educational program. The capstone consists of an external learning experience or an advanced course especially designed to help students synthesize knowledge and skills or other licensure as appropriate.

## General Application Procedures for Health Sciences Programs

Courses in the Health Sciences programs are offered in a sequence which begins in the fall term each year, unless indicated otherwise on the following chart. Most students are required to attend classes full-time. Students are expected to complete certificate programs within 12 months and associate degree programs within 24 months. Health Science students are required to have a criminal background check, drug screening, certain immunizations (bacterial meningitis, tetanus/diphtheria(TD), measles, mumps, rubella (MMR), Hepatitis B, chickenpox, and seasonal flu) and proof of health insurance prior to clinical training.

*NOTE: Review the accompanying chart to identify the specific requirements associated with your program of choice.*

# Health and Medical Sciences

HEALTH SCIENCES PROGRAMS							
Requirements for Admission	CERT Biosafety Technician	ESC Computed Tomography 1 Semester FT/Evenings	CERT Dental Assisting (DNATA) FT Day	AAS Dental Hygiene (DHYG)	ATC Diagnostic Medical Sonography (DMSO) 4 Semesters FT/Day	CERT Emergency Medical Services (EMSP) Day, Night and Hybrid	AAS Emergency Medical Services (EMSP) Day, Night and Hybrid
Prerequisites	HPRS 1201	Graduate of Radiography, Radiation Therapy or Nuclear Medicine program	HPRS 1201	HPRS 1201; BIOL 2401; SOCI 1301; ENGL 1301; CHEM 1305 or higher	Graduate of 2 year Allied Health Program or BA degree. See Program narrative	Current CPR (HCP)	For Paramedic completed BTLIS certificate
Application Deadline & Terms students admitted	July 15 Admit Fall	June 1, Fall October 1, Spring	May 15, Admit Fall	March 30, Admit Fall	June 1, Admit Fall	NONE Admit several dates/year	NONE Admit several dates/year
High School Grad. or GED Required	YES	YES	YES	YES	YES	YES	YES
High School Transcript GED Scores on File	YES	NO	YES	YES	NO	YES	YES
TSI Testing Required	YES (unless exempt)	N/A	YES (unless exempt)	YES (unless exempt)	Exempt from TSI	YES (unless exempt)	YES (unless exempt)
TSI Complete before Admission	YES	N/A	NO	YES (unless exempt)	N/A	YES (unless exempt)	YES (unless exempt)
CELSA Required for non-USA High School Graduates	YES	N/A	YES	YES	N/A	YES All remediation complete	YES All remediation complete
Math/Algebra Requirement	College level	N/A	MATH 0306 or higher	College Level	MATH 1314	MATH 0306 or higher	Eligible to enroll in MATH 1314
Reading Requirement	College Level	N/A	GUST 0342 or higher	College Level	N/A	Compass 81/ Asset 42 (College Level)	Compass 81/ Asset 42 (College Level)
English Requirement	College Level	N/A	College Level	College Level	N/A	ENGL 0300 or 0347	College Level
Other Tests or Requirements	NA	TDH-MRT & ARRT or NMTCB	Current Immunization Record	HESI pass @ 70% (Biology & Physics Exempt)	See Program Narrative	Immunization & TB Skin Test	NONE
College/University Transcripts on file	YES	YES	YES	YES	YES	NO	YES (submit with application)
Personal Narrative	YES	NO	NO	NO	YES	NO	NO
Personal Interview	YES	NO	YES	YES	YES	YES	YES
Health Care Experience or Observation	NA	YES	NO	YES (RDH)	YES	NO	NO
No. of Applicants accepted/year	20/year	16/year	24/year	20/year	15-20/year	100 +/year	100 +/year
<b>AFTER ACCEPTANCE FOR ENROLLMENT, APPLICANT MUST PROVIDE THE FOLLOWING:</b>							
Physical/Health Status Report (form provided)	YES	YES	YES and Dental Exam	YES	YES	YES	YES
Current CPR Certification	NO	YES	YES	YES	YES	YES health care provider	YES
Proof of Hepatitis-B Vaccine	YES	YES	YES	YES	YES	YES	YES
Health Care Insurance	YES	YES	YES	YES	YES	YES	YES
Medical Malpractice Insur. (paid at registration)	YES	YES	YES	YES	YES	YES	YES
First Aid Training	NO	N/A	N/A	Optional	N/A	N/A	NO
Background Checks Drug Screening	YES	YES	YES	YES	YES	YES	YES

## Health and Medical Sciences

HEALTH SCIENCES PROGRAMS							
Requirements for Admission	AAS Health Information Technology (HITT) 24 Months FT/Evening	AAS Histologic Technician (HLAB) 21 Months FT & PT/Day	CERT Medical Assistant (MCCA) 12 Months FT & PT/Day	AAS Medical Laboratory Technician (MLAB) 24 Months FT & PT/Day	AAS Nuclear Medicine Technology (NMTT) 24 Months FT/Day	AAS Nursing: LVN to RN Transition (RNSG) 12 Months FT/Day	AAS Nursing: General (RNSG) 24 Months FT/Day & Evening
Prerequisites	BIOL 2401, ENGL 1301	HPRS 1201	HPRS 1201	HPRS 1201	HPRS 1201	Current VOCN License & Work, entire Academic Core RNSG 1301	BIOL 2401 ENGL 1301 PSYC 2301 RNSG 1301
Application Deadline & Terms students admitted	November 1, Admit Spring June 1, Admit Fall	July 15, Fall	July 15, Fall November 15, Spring	July 15, Fall	June 1, Admit Summer	December 1, Admit Summer	April 1, Admit August August 1, Admit January
High School Grad. or GED Required	YES	YES	YES	YES	YES	YES	YES
High School Transcript GED Scores on File	YES	YES	YES	YES	YES	YES	YES
TSI Testing Required	YES (unless exempt)	YES (unless exempt)	YES (unless exempt)	YES (unless exempt)	YES (unless exempt)	YES (unless exempt)	YES (unless exempt)
TSI Complete before Admission	YES (unless exempt)	YES (unless exempt)	YES (unless exempt)	YES (unless exempt)	YES (unless exempt)	YES (unless exempt)	YES (unless exempt)
CELSA Required for non-USA High School Graduates	YES	YES	YES	YES	YES	NO	Only for placement Academic Courses
Math/Algebra Requirement	MATH 0312 or higher	College Level	Completed MATH 0308 or higher	College Level	Completed MATH 0312 or higher	Completed MATH 0312 or higher	Completed MATH 0312 or higher
Reading Requirement	College Level	College Level	College Level	College Level	College Level	College Level	College Level
English Requirement	College Level	College Level	College Level	College Level	College Level	ENGL 1301 completed	College Level
Other Tests or Requirements	NONE	NONE	NONE	NONE	NONE	HESI Test: Read 75, Grammar 75, A&P 75, Math 75; TOEFL (non-English as first Language)	HESI Test: Read 75, Grammar 75, A&P 75, Math 75; TOEFL (non-English as first Language)
College/University Transcripts on file	YES	YES	YES	YES	YES	YES	YES
Personal Narrative	NO	YES	NO	YES	YES	NO	NO
Personal Interview	YES	YES	YES	YES	YES	NO	
Health Care Experience or Observation	NO	NO	NO	NO	Recommend	YES	NO
No. of Applicants accepted/year	30/year	15	50/class	24/year	15-25/year	30/year	180 per class max.
<b>AFTER ACCEPTANCE FOR ENROLLMENT, APPLICANT MUST PROVIDE THE FOLLOWING:</b>							
Physical/Health Status Report (form provided)	YES	YES	YES	YES	YES	YES	YES
Current CPR Certification	NO	NO	NO	NO	NO	YES	YES
Proof of Hepatitis-B Vaccine	YES	YES	YES	YES	YES	YES	YES
Health Care Insurance	YES	YES	Recommend	YES	YES	YES	YES
Medical Malpractice Insur. (paid at registration)	YES	YES	YES	YES	YES	YES	YES
First Aid Training	N/A	N/A	N/A	N/A	N/A	NO	NO
Background Checks Drug Screening	YES	YES	YES	YES	YES	YES	YES

# Health and Medical Sciences

HEALTH SCIENCES PROGRAMS							
Requirements for Admission	CERT Occupational Therapy Assistant (OTHA) 12 Months FT/Day	CERT Pharmacy Technician (PHRA) 6 Months FT 12 Months PT Day	AAS Physical Therapist Assistant (PTHA) 24 Months FT/Day	AAS Radiography (RADR) 24 Months FT/Day	AAS Respiratory Therapist (RSPT) 24 Months FT/Day	CERT Surgical Technology (SRGT) 12 Months FT/Day	CERT Vocational Nursing (VNSG) 12 Months FT/Day
Prerequisites	HPRS 1201 OTHA 1301	Complete HPRS 1201 with "B" or higher	Mandatory Information Sessions	Mandatory Information Sessions MATH 1314 ENGL 1301 After Fall 2007, add BIOL 2401, HPRS 1201, HPRS 1106	BIOL 2401, BIOL 2402, RSPT 1201	HPRS 1201	VNSG 1320 VNSG 1216
Application Deadline & Terms students admitted	May 1, Admit Fall	July 1, Admit Fall Dec 1, Admit Spring April 1, Admit Summer	March 1, Priority Deadline, June 1, Regular Deadline Admit Fall	February 1, for Summer	June 1, Admit Fall	July 1, Admit Fall	June 1, Admit Fall October 1, Admit Spring
High School Grad. or GED Required	YES	YES	YES	YES	YES	YES	YES
High School Transcript GED Scores on File	YES	YES	NO	YES	YES	YES	YES
TSI Testing Required	YES (unless exempt)	YES (unless exempt)	YES (unless exempt)	YES (unless exempt)	YES (unless exempt)	YES (unless exempt)	YES
TSI Complete before Admission	YES	YES	YES (unless exempt)	YES (unless exempt)	YES (unless exempt)	NO	YES
CELSA Required for non-USA High School Graduates	YES	YES	YES	YES	YES	YES	YES
Math/Algebra Requirement	Completed MATH 0312 or higher	Completed MATH 0308 or higher with "C" or above	MATH 0308 or higher	MATH 1314	MATH 1314	MATH 0308 or higher	MATH 0308 or higher
Reading Requirement	College Level	College Level	College Level	College Level	College Level	GUST 0342 or higher	
English Requirement	College Level	College Level	College Level	Completed ENGL 1301	College Level	College Level	
Other Tests or Requirements	ASSET or Compass	ASSET or Compass	YES BIOL 2401 and 2402 (taken within 5 years or department approval), PSYC 2301 or 2314	NONE	Program Exam	ASSET or Compass	TEAS Math 60 Reading 64
College/University Transcripts on file	YES	YES	YES	YES	YES	YES	YES
Personal Narrative	YES	YES	YES	NO	NO	NO	YES
Personal Interview	YES & 3 reference letters	YES	YES	YES	YES	YES	YES
Health Care Experience or Observation	YES	NO	YES	Recommend	Recommend	NO	YES
No. of Applicants accepted/year	20/year	150/year	40/year	40 per class	35-40/year	30-35/year	135/year
<b>AFTER ACCEPTANCE FOR ENROLLMENT, APPLICANT MUST PROVIDE THE FOLLOWING:</b>							
Physical/Health Status Report (form provided)	YES	YES	YES See Program Narrative	YES	YES	YES	YES
Current CPR Certification	YES	NO	Recommend	YES	YES	YES	YES
Proof of Hepatitis-B Vaccine	YES	NO	YES	YES	YES	YES	YES
Health Care Insurance	YES	YES	YES	YES	YES	YES	YES
Medical Malpractice Insur. (paid at registration)	YES	YES	YES	YES	YES	YES	YES
First Aid Training	YES	N/A	Recommend	N/A	YES	N/A	N/A
Background Checks Drug Screening	YES	YES	YES	YES	YES	YES	YES

# Health and Medical Sciences

## DENTAL ASSISTING

The Dental Assisting program is offered as a full-time day program. Graduates of this program receive a certificate of completion from the college. The program is accredited by the Commission on Dental Accreditation of the American Dental Association, a specialized accrediting body recognized by the Council of Postsecondary Accreditation and by the United States Department of Education (Manager, Dental Assisting Education Commission Dental Accreditation/American Dental Association, 211 East Chicago Avenue, Chicago, IL 60611).

The Dental Assisting curriculum prepares graduates for the Registered Dental Assistant (RDA) exam administered through the Texas State Board of Dental Examiners, and for employment as a dental assistant, receptionist, and office manager to the general or specialty dentist in private offices, clinics, and institutions. As a vital member of the dental health team, the dental assistant prepares the patient for treatment, provides the dentist with necessary instruments, instructs patients in proper oral hygiene, records dental services, and performs all managerial duties for the office. Graduates of this program are eligible to sit for the Dental Assisting National Board Exam, American Dental Association, 211 East Chicago Avenue, Chicago, IL 60611.

Applicants must have earned a high school diploma or GED. The Dental Assisting classes are offered Monday through Friday from 8:00 a.m. to 5:00 p.m. DNTA 1102 and DNTA 2130 are offered as hybrid classes (50% in the classroom and 50% on-line) in the third semester of the program. Students are required to pay a liability insurance fee which protects students against losses resulting from malpractice claims. The insurance is available through HCC on a blanket coverage program at a reduced rate. Each semester, students must also pay a film badge fee to monitor for radiation exposure. Applicants must meet the minimum requirements for admission to certificate programs in the Health Sciences. These requirements include: minimum scores on the TSI state approved test, successful completion of any required developmental courses, and completion and submission of the application packet by the deadline.

Individuals interested in applying must attend an Essential Requirements (ER) session at Coleman College for Health Sciences. Go online or call 713.718.7351 for the dates, times and location of the sessions. For further information, please see the **General Application Procedures** for Health Science programs.

### Program Outcomes

Students will be able to

- Demonstrate clinical competency as a Dental Assistant.
- Meet exit level skills as a Dental Assistant in a clinical setting.
- Demonstrate appropriate communication skills as required of a Dental Assistant.
- Demonstrate appropriate ethical and professional behavior as required of a Dental Assistant.

For more information call 713.718.7351 or e-mail [kay.jukes@hccs.edu](mailto:kay.jukes@hccs.edu).

### Dental Assisting

#### CERTIFICATE

*TSI testing is required prior to first enrollment.*

#### Prerequisite

HPRS 1201	Introduction to Health Professions*	2
<b>Prerequisite Total</b>		<b>2</b>

#### First Semester

DNTA 1245	Preventive Dentistry	2
DNTA 1411	Dental Science	4
DNTA 1401	Dental Materials	4
DNTA 1415	Chairside Assisting	4
DNTA 1305	Dental Radiology	3
<b>Semester Total</b>		<b>17</b>

#### Second Semester

DNTA 1447	Advanced Dental Science	4
DNTA 1351	Dental Office Management	3
DNTA 1453	Dental Assisting Applications	4
DNTA 1349	Dental Radiology in the Clinic	3
DNTA 1167	Practicum - Dental Assistant	1
<b>Semester Total</b>		<b>15</b>

#### Third Semester

DNTA 2130	Seminar for the Dental Assistant	1
DNTA 1102	Communication and Behavior in the Dental Office	1
DNTA 2267	Practicum-Dental Assistant**	2
<b>Semester Total</b>		<b>4</b>
<b>Program Total</b>		<b>38</b>

\*Student Success Course

\*\*Capstone

# Health and Medical Sciences

## DENTAL HYGIENE

The Dental Hygiene program is designed for those interested in becoming a registered dental hygienist (RDH). Graduates are prepared to function in a variety of settings including private dental offices, dental clinics or public dental health care clinics. The AAS in the dental hygiene program includes general education courses as a foundation for dental hygiene courses. The dental hygiene program curriculum is a structured intense program with didactic and clinical practice taking place at Coleman College for Health Sciences.

All of the major requirement courses are to be taken in a sequential order or at the advisement of the department advisor. A grade of "C" or higher is required for satisfactory completion of all courses. Upon successful completion of the program, graduates are eligible to apply for the national board examination and the state licensure examination for dental hygiene. The program has initial accreditation by the Commission on Dental Accreditation of the American Dental Association, 211 East Chicago Avenue, Chicago, IL 60611.

Once students have completed the two year program they are eligible to sit for the National and State board exams to become a Registered Dental Hygienist (RDH).

Individuals interested in applying must attend an Essential Requirements (ER) session at Coleman College for Health Sciences. Go online or call 713.718.8338 for the dates, times and location of the sessions. For further information, please see the **General Application Procedures** for Health Science programs.

### Program Outcomes

Students will be able to

- Demonstrate clinical competency as a dental hygienist.
- Meet entry level skills as a dental hygienist.
- Demonstrate appropriate communication skills as required of a dental hygienist.
- Demonstrate appropriate ethical and professional behavior as required of a dental hygienist.

For more information call 713.718.8338 or e-mail [linda.percell@hccs.edu](mailto:linda.percell@hccs.edu)

## AAS

*TSI testing is required prior to first enrollment.*

### Prerequisite

HPRS 1201	Introduction to Health Professions*	2
BIOL 2401	Anatomy and Physiology I	4
CHEM 1305	Introductory Chemistry I	3
ENGL 1301	Composition I	3
SOCI 1301	Introduction to Sociology	3

**Prerequisite Total 15**

### FIRST YEAR

#### First Semester Credits

BIOL 2402	Anatomy and Physiology II	4
DHYG 1227	Preventive Dental Hygiene Care	2
DHYG 1301	Orofacial Anatomy, Histology & Embryology	3
DHYG 1304	Dental Radiology	3
DHYG 1331	Preclinical Dental Hygiene	3

**Semester Total 15**

#### Second Semester Credits

DHYG 1207	General and Dental Nutrition	2
DHYG 1260	Clinical-Dental Hygiene/Hygienist	2
DHYG 1211	Periodontology	2
DHYG 2201	Contemporary Dental Hygiene Care I	2
DHYG 2231	Contemporary Dental Hygiene Care II	2
BIOL 2420	Microbiology	4

**Semester Total 14**

#### Third Semester Credits

DHYG 1261	Clinical-Dental Hygiene/Hygienist	2
DHYG 1319	Dental Materials	3

**Semester Total 5**

### SECOND YEAR

#### First Semester Credits

XXXX #3##	Approved Humanities/Fine Arts	
	General Education Elective	3
DHYG 1339	General and Oral Pathology	3
DHYG 1235	Pharmacology for the Dental Hygienist	2
DHYG 2360	Clinical-Dental Hygiene/Hygienist	3
SPCH 1318	Interpersonal Communications	3

**Semester Total 14**

#### Second Semester Credits

DHYG 1123	Dental Hygiene Practice	1
DHYG 1215	Community Dentistry	2
PSYC 2301	Introduction to Psychology	3
DHYG 2361	Clinical-Dental Hygiene/Hygienist**	3

**Semester Total 9**

**Program Total 72**

\*Student Success Course

\*\*Capstone

# Health and Medical Sciences

## DIAGNOSTIC MEDICAL SONOGRAPHY

The goal of the Diagnostic Medical Sonography program is to prepare competent entry-level general sonographers in the cognitive (knowledge), psychomotor (skills), and affective (behavior) domains. The sonographer assists the physician in gathering sonographic data necessary to make diagnostic decisions. The program is fully accredited in general diagnostic medical sonography by the Commission on Accreditation of Allied Health Education Programs (CAAHEP), 1361 Park Street, Clearwater, FL 33756-6039, Telephone: 727.210.2350, Fax: 727.210.2354, www.caahep.org.

The four-semester, full-time day program, awards an Advanced Technical Certificate after graduation. Graduates of the program are eligible to take the "Ultrasound Physics & Instrumentation," "Abdomen," and "Obstetrics & Gynecology" exams offered through the American Registry for Diagnostic Medical Sonography (ARDMS).

To be considered for admission, applicants must have completed the following courses prior to the start of the program: 1. college algebra, statistics or higher mathematics; 2. general college-level physics and/or radiographic physics; 3. communication skills (English composition or speech); 4. human anatomy and physiology I; and 5. either have completed a two-year allied health educational program in a patient care related area or have earned a bachelor's degree. Because applicants of this program must possess a degree prior to entrance, they are not required to take a TSI test.

Applicants must meet current college admission requirements and admission requirements to the program including transcript review and personal oral and written interviews (see program's website for further information on the selection criteria). Students who are accepted into the program are required to pay a liability insurance fee which protects students against losses resulting from malpractice claims. Students must pass a physical examination, drug screening test, and a criminal background check by the midpoint of their first semester in the program. Students must have all required immunizations (The hepatitis B vaccination series may take up to 6 months to complete.) or show serologic confirmation of immunity to specific diseases and carry health insurance prior to the second semester in the program in order to receive a clinical assignment. Technical Standards (physical requirements for success in the program) are available online under the program's website.

Individuals interested in applying and who live in Houston or the surrounding area must attend an Essential Requirements (ER) session. Go online or call 713.718.7650 for the dates, times and location of the sessions. Individuals living outside the Houston area should send an e-mail to [elizabeth.ho@hccs.edu](mailto:elizabeth.ho@hccs.edu) for program information or log onto the program website at [coleman.hccs.edu/sonography](http://coleman.hccs.edu/sonography).

### Program Outcomes

Students will be able to

- Recognize sonographic appearance of normal and abnormal anatomical structures.
- Provide basic patient care and practices in general diagnostic medical sonography.
- Identify sonographic patterns and/or Doppler patterns to rule out disease processes and pathologies.
- Employ professional judgment and ethics.
- Demonstrate knowledge and understanding of acoustic physics, Doppler ultrasound principles, and ultrasound instrumentation.

For more information call 713.718.7650 or e-mail [elizabeth.ho@hccs.edu](mailto:elizabeth.ho@hccs.edu).

## Diagnostic Medical Sonography

### ADVANCED TECHNICAL CERTIFICATE

#### FIRST YEAR

First Semester		Credits
DMSO 1210	Introduction to Sonography*	2
DMSO 1441	Abdominopelvic Sonography	4
DMSO 1302	Basic Ultrasound Physics	3
DMSO 1355	Sonographic Pathophysiology	3
DMSO 1451	Sonographic Sectional Anatomy	4

**Semester Total      16**

#### Second Semester

Second Semester		Credits
DMSO 2441	Sonography of Abdominopelvic Pathology	4
DMSO 2405	Sonography of Obstetrics/Gynecology	4
DMSO 1342	Intermediate Ultrasound Physics	3
DMSO 1266	Practicum I-Diagnostic Medical Sonography	2

**Semester Total      13**

#### Third Semester

Third Semester		Credits
DMSO 2351	Doppler Physics	3
DMSO 2342	Sonography of High Risk Obstetrics	3
DMSO 2253	Sonography of Superficial Structures	2
DMSO 2266	Practicum II-Diagnostic Medical Sonography	2

**Semester Total      10**

# Health and Medical Sciences

## SECOND YEAR

<b>First Semester</b>		<b>Credits</b>
DMSO 2243	Advanced Ultrasound Principles and Instrumentation .....	2
DMSO 2245	Advanced Sonography Practices.....	2
DMSO 2467	Practicum III-Diagnostic Medical Sonography** .....	4
<b>Semester Total</b>		<b>8</b>
<b>Program Total</b>		<b>47</b>

\*Student Success Course

\*\*Capstone

## EMERGENCY MEDICAL SERVICES

The two-year Emergency Medical Services (EMS) program is designed to prepare individuals as competent, entry-level pre-hospital Emergency Medical Services Practitioners. The program is fully accredited by the Committee on Accreditation of Allied Health Educational Programs (CAAHEP), 1361 Park St., Clearwater, FL 33756-6039, Telephone: 727.210.2350, Fax: 727.210.2354, www.caahep.org, of the American Medical Association (AMA), 515 N. State St., Chicago, IL 60610, 312.464.4635.

Successful program graduates are awarded a certificate of completion in addition to the AAS in Emergency Medical Services which enables them to qualify for licensure as an EMT-Paramedic with the Texas Department of State Health Services. Students completing this course of study are eligible to take an examination for certification as an EMT-Paramedic with the Texas Department of State Health Services and the National Registry of Emergency Medical Technicians.

The program is designed to orient students to entry and advanced-level emergency care as it relates to assessment, treatment, management, and ongoing evaluation of the critically ill and injured patients in their care. Advanced standing credit may be awarded for relevant education and/or experience.

NOTE: Upon successful completion of EMSP 1501/1160, students are eligible to sit for the National Registry EMT-Basic exam. Upon successful completion of EMSP 1338, 1356, 1355 and 1263, students are eligible to sit for the National Registry EMT-Intermediate exam. Upon successful completion of EMSP 2348, 2444, 2260, 2434, 2430, 2261, 2338, 2262, and 2243, students are eligible to sit for the National Registry EMT-Paramedic exam.

Students accepted into the EMS program are required to pay a liability insurance fee which protects the students against losses resulting from malpractice claims. Clinical assignments are made in more than one hospital and field

internship site, and all students are expected to rotate through each clinical affiliate. Transportation between locations is the responsibility of the student. Students must complete all hourly requirements as filed with the Texas Department of State Health Services and Committee on the Accreditation of the Emergency Medical Services Profession.

Applicants must meet the following minimum requirements for admission to the Emergency Medical Services program: college level readiness in reading, or completion of required developmental courses and submission of required admission documents by the deadline. Applicants educated in non-English speaking countries must complete the TOEFL exam with a minimum score of 20 in each of the 4 required elements.

Individuals interested in applying should contact the Northeast Codwell Hall Campus or Katy Campus. For further information, please go to the website at <http://www.hccems.com>.

### Program Outcomes

Students will be able to

- Evaluate signs and symptoms to make patient care decisions.
- Determine medication needs after assessment of a patient.
- Analyze the need for appropriate patient care by utilizing equipment, technology and assessment in a clinical setting.
- Exhibit the ability to make ethical and moral patient care decisions.
- Complete an assessment of trauma and medical patients.

For more information call 713.718.7694 or e-mail [vicki.may@hccs.edu](mailto:vicki.may@hccs.edu)

## Emergency Medical Services

### AAS

*TSI testing is required prior to first enrollment.*

## FIRST YEAR

<b>First Semester</b>		<b>Credits</b>
EMSP 1501	Emergency Medical Technician-Basic* .....	5
EMSP 1160	Clinical-Emergency Medical Technology/Technician .....	1
EMSP 1338	Introduction to Advanced Practice .....	3
EMSP 1356	Patient Assessment and Airway Management.....	3
EMSP 1355	Trauma Management.....	3
EMSP 1263	Clinical-Emergency Medical Technology/Technician .....	2
<b>Semester Total</b>		<b>17</b>



# Health and Medical Sciences

<b>Second Semester</b>		<b>Credits</b>
EMSP 2348	Emergency Pharmacology.....	3
EMSP 2444	Cardiology.....	4
EMSP 2260	Clinical-Emergency Medical EMT Paramedic (Cardiology).....	2
BIOL 2401	Anatomy and Physiology I*** .....	4
ENGL 1301	Composition I .....	3
<b>Semester Total</b>		<b>16</b>

## SECOND YEAR

<b>First Semester</b>		<b>Credits</b>
EMSP 2434	Medical Emergencies.....	4
EMSP 2430	Special Populations .....	4
EMSP 2261	Clinical-Emergency Medical EMT Paramedic (Special Populations) .....	2
BIOL 2402	Anatomy and Physiology II .....	4
XXXX #3##	Social/Behavioral Science General Education Elective...	3
<b>Semester Total</b>		<b>17</b>

<b>Second Semester</b>		<b>Credits</b>
EMSP 2338	EMS Operations.....	3
EMSP 2262	Clinical-Emergency Medical EMT Paramedic (Paramedic Field).....	2
EMSP 2243	Assessment Based Management .....	2
EMSP 1391	Special Topics in EMS .....	3
XXXX #3##	Humanities/Fine Arts General Education Elective .....	3
EMSP 2352	Emergency Medical Services Research** .....	3
<b>Semester Total</b>		<b>16</b>
<b>Program Total</b>		<b>66</b>

\*Student Success Course

\*\*Capstone

\*\*\*BIOL 1406 is strongly recommended prior to BIOL 2401

## Emergency Medical Services Paramedic

### CERTIFICATE

*TSI testing is required prior to first enrollment.*

#### FIRST YEAR

<b>First Semester</b>		<b>Credits</b>
EMSP 1501	Emergency Medical Technician-Basic* .....	5
EMSP 1160	Clinical-Emergency Medical Technology/Technician .....	1
EMSP 1338	Introduction to Advanced Practice .....	3
EMSP 1356	Patient Assessment and Airway Management.....	3
EMSP 1355	Trauma Management.....	3
EMSP 1263	Clinical-Emergency Medical Technology/Technician .....	2
<b>Semester Total</b>		<b>17</b>

<b>Second Semester</b>		<b>Credits</b>
EMSP 2348	Emergency Pharmacology.....	3
EMSP 2444	Cardiology.....	4
EMSP 2260	Clinical-Emergency Medical EMT Paramedic (Cardiology).....	2
<b>Semester Total</b>		<b>9</b>

## SECOND YEAR

<b>First Semester</b>		<b>Credits</b>
EMSP 2434	Medical Emergencies.....	4
EMSP 2430	Special Populations .....	4
EMSP 2261	Clinical-Emergency Medical EMT Paramedic (Special Populations) .....	2
<b>Semester Total</b>		<b>10</b>

<b>Second Semester</b>		<b>Credits</b>
EMSP 2338	EMS Operations.....	3
EMSP 2262	Clinical-Emergency Medical EMT Paramedic (Paramedic Field).....	2
EMSP 2243	Assessment Based Management** .....	2
<b>Semester Total</b>		<b>7</b>
<b>Program Total</b>		<b>43</b>

\*Student Success Course

\*\*Capstone

## Emergency Medical Technician Intermediate

### CERTIFICATE

*TSI testing is required prior to first enrollment.*

#### FIRST YEAR

<b>First Semester</b>		<b>Credits</b>
EMSP 1501	Emergency Medical Technician-Basic* .....	5
EMSP 1160	Clinical-Emergency Medical Technology/Technician .....	1
<b>Semester Total</b>		<b>6</b>

<b>Second Semester</b>		<b>Credits</b>
EMSP 1338	Introduction to Advanced Practice .....	3
EMSP 1356	Patient Assessment and Airway Management.....	3
EMSP 1355	Trauma Management.....	3
EMSP 1263	Clinical-Emergency Medical Technology/Technician**.....	2
<b>Semester Total</b>		<b>11</b>
<b>Program Total</b>		<b>17</b>

\*Student Success Course

\*\*Capstone

# Health and Medical Sciences

## HEALTH AND FITNESS INSTRUCTOR

The Health and Fitness Instructor AAS degree is designed to provide the knowledge and technical skills needed for employment in the fitness field. Students who successfully complete the Health & Fitness Instructor program will demonstrate a basic understanding of the tasks, knowledge, and skills necessary for a personal trainer to perform the job responsibilities of teaching the components of fitness to apparently healthy individuals. Students will screen and evaluate prospective clients; design a safe and effective exercise program; instruct clients in correct exercise techniques to avoid injury and respond to the typical questions and problems that arise in a group exercise setting that are within current fitness industry standards and best practices.

Upon completion, graduates have the knowledge and skills necessary to sit for the required American Council on Exercise National Certification Exam (ACE), 4851 Paramount Dr., San Diego, CA 92123, 858.279.8227 or 888.825.3636, e-mail: support@acefitness.org. Most facilities require a national certification to practice personal training.

Students are encouraged to meet with the Department Chair prior to enrolling in the FITT Program.

### Program Outcomes

Students will be able to

- Understand and describe basic anatomy, kinesiology and exercise physiology.
- Assess an individual's level of fitness using the American College of Sports Medicine (ACSM) guidelines.
- Demonstrate proper execution of resistance, cardio-respiratory and flexibility exercises.
- Design and customize exercise programs. Identify and demonstrate at least one strength exercise for every major muscle group.
- Explain ACSM exercise guidelines for apparently healthy individuals.
- Complete certification in First Aid/CPR/AED/ACE (American Council on Exercise).

For more information call 713.718.6084 or e-mail caprice.dodson@hccs.edu.

## Health and Fitness Instructor

### AAS

*TSI testing is required prior to first enrollment.*

### FIRST YEAR

<b>First Semester</b>		<b>Credits</b>
GUST 1270	College and Career Planning*	2
ENGL 1301	Composition I	3
BIOL 1406	General Biology I	4
FITT 2313	Exercise Science	3
FITT 1301	Fitness and Exercise Testing	3
FITT 1303	Fitness Event Planning and Promotion**	3
<b>Semester Total</b>		<b>18</b>

<b>Second Semester</b>		<b>Credits</b>
BIOL 2401	Anatomy and Physiology I	4
PHED 2111	Beginning Weight Training and Conditioning I OR	
PHED 2115	Weight Training and Conditioning II	1
FITT 2311	Prevention and Care of Exercise Injury	3
FITT 2333	Fitness Industry Operations and Technology	3
PHED #1##	Activity Class***	1
<b>Semester Total</b>		<b>12</b>

### SECOND YEAR

<b>First Semester</b>		<b>Credits</b>
PHED 1111	Aerobics Conditioning I OR	
PHED 1115	Aerobics Conditioning II	1
BUSG 1301	Introduction to Business	3
XXXX #3##	Computer Applications Elective****	3
BIOL 1322	Basic Nutrition	3
PHED 1304	Personal and Community Health	3
PSYC 2301	Introduction to Psychology	3
<b>Semester Total</b>		<b>16</b>

<b>Second Semester</b>		<b>Credits</b>
PHED 1306	First Aid	3
SPCH 1311	Fundamentals of Speech	3
XXXX #3##	Approved Humanities/Fine Arts General Education Elective	3
FITT 2364	Practicum-Health and Physical Education	3
FITT 2409	Theory of Exercise Program Design and Instruction**	4
<b>Semester Total</b>		<b>16</b>
<b>Program Total</b>		<b>62</b>

\*Student Success Course

\*\*Capstone

\*\*\*Off-campus visits required

\*\*\*\*PHED 1150 is recommended for non-swimmers

\*\*\*\*\*Electives may be chosen from the following courses: ITSC 1309, POFI 1301, or BCIS 1405

# Health and Medical Sciences

## Health and Fitness Instructor

The certificate program is designed for individuals who are employed in a fitness center or similar program and desire to upgrade their skills. Students will be introduced to the most current methodologies on how to administer fitness tests, prescribe exercise programs, and conduct fitness activities. Emphasis will be placed on providing the student with recent research in the field of fitness technology.

### CERTIFICATE

*TSI testing is required prior to first enrollment.*

<b>First Semester</b>		<b>Credits</b>
EDUC 1300	Learning Framework*	3
PHED 2111	Beginning Weight Training and Conditioning	1
FITT 1301	Fitness and Exercise Testing	3
FITT 2313	Exercise Science	3
<b>Semester Total</b>		<b>10</b>
<b>Second Semester</b>		<b>Credits</b>
FITT 2311	Prevention and Care of Exercise Injury	3
PHED 1304	Personal and Community Health	3
FITT 2409	Theory of Exercise Program Design and Instruction**	4
<b>Semester Total</b>		<b>10</b>
<b>Program Total</b>		<b>20</b>

\*Student Success Course

\*\*Capstone

## HEALTH INFORMATION TECHNOLOGY

The Health Information Technology program offers students four levels of completion: a two-year Health Information Technology AAS, a one-year Health Information Coding certificate, a nine-month Health Information Analysis certificate and a Cancer Data Management certificate.

The program is accredited by the Commission on Accreditation for Health Informatics and Information Management Education (CAHIIM) through the American Health Information Management Association (AHIMA), 233 N. Michigan Ave., Suite 2150, Chicago, IL, 60611-5519, 312.233.1100.

Upon completion of the AAS degree, students are eligible to sit for the national Registered Health Information Technician (RHIT) exam administered by AHIMA. Upon completion of the coding certificate, students may sit for the Certified Coding Associate (CCA) exam sponsored by AHIMA and the Certified Professional Coder (CPC) exam sponsored by the American Academy of Professional Coders (AAPC). Other associations that offer national accreditation exams for which graduates of the AAS and coding certificate may

sit include the American Medical Billing Association, Alliance of Claims Assistance Professional, National Electronic Billers Alliance, and the National Healthcareer Association.

The Health Information Technology program trains students to perform technical health information and medical record functions in various health care facilities. These functions include: maintaining, collecting, analyzing, and coding health information. Courses have both theory and competency-based educational components and are offered at Coleman College for Health Sciences and through the internet. Students are assigned to health information departments in the Texas Medical Center and other areas in Houston for their directed practice education classes. Students must maintain a "C" (75 percent) average and meet all prerequisites to continue in the program. Students may not earn a grade below a "C" (75 percent) in HITT courses and continue in the program.

The Cancer Data Management certificate prepares students for a career in hospital based cancer registries or population based central registries (healthcare facilities, data organizations and free standing cancer registries). Cancer Registry professionals are required to collect, analyze and disseminate cancer data. Students will acquire the technical skills necessary to maintain a cancer data collection system that will be consistent with legal and accreditation requirements of the healthcare delivery system. Graduates of the Cancer Data Management program will be eligible to write the national exam sponsored by the National Cancer Registry Association (NCRA) with at least 2 years of cancer data management experience, an associate's degree in a healthcare related field and the cancer data management certificate. Successfully passing the exam will award the graduate the Certified Tumor Registrar (CTR) credential. The program is applying to the National Cancer Registrars Association (NCRA) for accreditation.

Students accepted into the program are required to pay a liability insurance fee which protects students against losses resulting from malpractice claims. The insurance is available through HCC on a blanket coverage at a reduced rate. Students are required to undergo a criminal background check, physical exam, and drug test.

Applicants must meet the minimum requirements for admission into the Health Science programs including successful completion of all TSI requirements. Unless exempt from TSI, applicants must take the TSI state approved test, complete all developmental courses needed to reach college-level English, algebra, biology, psychology, and complete the application packet by the deadline.

# Health and Medical Sciences

Individuals interested in applying must attend an Essential Requirements (ER) session at Coleman College for Health Sciences. Go online or call 713.718.8959 for the dates, times and location of the sessions. For further information, please see the **General Application Procedures** for Health Science programs.

## Program Outcomes

Students will be able to

- Compute, interpret and analyze healthcare statistics.
- Gather, interpret, analyze and monitor data used for quality management and performance improvement programs that relate to Health Information Technology and Health Information Management.
- Analyze and validate coding and coding data for accuracy and compliance with federal and coding guidelines.
- Use common software packages (spreadsheets, word processing, presentation and graphics) and those software programs specific to the field of Health Information Technology (record tracking, encoder, release of information imaging and registries).
- Apply and interpret the concepts of the Electronic Health Record (HER).

For more information call 713.718.8959 or e-mail [carla.tyson@hccs.edu](mailto:carla.tyson@hccs.edu)

## Health Information Technology

### AAS

*TSI testing is required prior to first enrollment.*

<b>Prerequisites</b>		<b>Credits</b>
BIOL 2401	Anatomy and Physiology I***	4
ENGL 1301	Composition I	3
<b>Prerequisites Total</b>		<b>7</b>

### FIRST YEAR

<b>First Semester</b>		<b>Credits</b>
HITT 1166	Health Information Practicum I*	1
BIOL 2402	Anatomy and Physiology II	4
HITT 1301	Health Data Content and Structure	3
XXXX #3##	Approved Humanities/Fine Arts General Education Elective	3
POFI 1301	Computer Applications I	3
<b>Semester Total</b>		<b>14</b>

### Second Semester

POFI 1341	Computer Applications II	3
HITT 1305	Medical Terminology	3
HITT 1445	Health Care Delivery Systems	4
HITT 1167	Health Information Practicum II	1
HITT 1355	Health Care Statistics	3
<b>Semester Total</b>		<b>14</b>

### Third Semester

HPRS 2301	Pathophysiology	3
HITT 1349	Pharmacology	3
<b>Semester Total</b>		<b>6</b>

### SECOND YEAR

#### First Semester

HITT 1341	Coding and Classification Systems	3
HITT 1353	Legal and Ethical Aspects of Health Information	3
HITT 2339	Health Information Organization and Supervision	3
XXXX #3##	Social/Behavioral Science General Education Elective	3
<b>Semester Total</b>		<b>12</b>

#### Second Semester

HITT 2435	Coding and Reimbursement Methodologies	4
HITT 1311	Computers in Health Care	3
HITT 2443	Quality Assessment and Performance Improvement	4
HITT 2167	Health Information Practicum III	1
HITT 2340	Advanced Medical Billing and Reimbursement	3
<b>Semester Total</b>		<b>15</b>

#### Third Semester

HITT 2249	RHIT Competency Review	2
HITT 2267	Health Information/Medical Records Technology/Technician Practicum IV**	2
<b>Semester Total</b>		<b>4</b>
<b>Program Total</b>		<b>72</b>

\*Student Success Course

\*\*Capstone

\*\*\*BIOL 1406 is strongly recommended prior to BIOL 2401

## Health Information Coding

### CERTIFICATE

*TSI testing is required prior to first enrollment.*

<b>Prerequisites</b>		<b>Credits</b>
BIOL 2401	Anatomy and Physiology I***	4
BIOL 2402	Anatomy and Physiology II	4
<b>Prerequisites Total</b>		<b>8</b>

# Health and Medical Sciences

## FIRST YEAR

<b>First Semester</b>			<b>Credits</b>
HPRS 1201	Introduction to Health Professions*	.....	2
HITT 1301	Health Data Content and Structure.....		3
HITT 1349	Pharmacology.....		3
HITT 1305	Medical Terminology.....		3
<b>Semester Total</b>			<b>11</b>

<b>Second Semester</b>			<b>Credits</b>
HITT 1445	Health Care Delivery Systems.....		4
HITT 1341	Coding and Classification Systems.....		3
HITT 1353	Legal and Ethical Aspects of Health Information.....		3
HPRS 2301	Pathophysiology.....		3
<b>Semester Total</b>			<b>13</b>

<b>Third Semester</b>			<b>Credits</b>
HITT 2435	Coding and Reimbursement Methodologies.....		3
HITT 1311	Computers in Health Care.....		3
POFI 1301	Computer Applications I.....		3
HITT 2340	Advanced Medical Billing and Reimbursement.....		3
HITT 2167	Health Information Practicum III**.....		1
<b>Semester Total</b>			<b>13</b>
<b>Program Total</b>			<b>45</b>

\*Student Success Course

\*\*Capstone

\*\*\*BIOL 1406 is strongly recommended prior to BIOL 2401

## Health Information Analysis

The entry level health information analyst certificate leading to the Associate of Applied Science in Health Information Technology will prepare the completer for an entry level clerical position in a medical record or health information department.

## CERTIFICATE

TSI testing is required prior to first enrollment.

<b>First Semester</b>			<b>Credits</b>
HITT 1166	Health Information Practicum I*.....		1
HITT 1301	Health Data Content and Structure.....		3
XXXX #3##	Computer Applications Elective***.....		3
<b>Semester Total</b>			<b>7</b>

## Second Semester

			<b>Credits</b>
HITT 1305	Medical Terminology.....		3
HITT 1445	Healthcare Delivery Systems.....		4
HITT 1355	Health Care Statistics.....		3
HITT 1167	Health Information Practicum II**.....		1
<b>Semester Total</b>			<b>11</b>
<b>Program Total</b>			<b>18</b>

\*Student Success Course

\*\*Capstone

\*\*\*Electives may be chosen from the following courses: ITSC 1309, POFI 1301, or BCIS 1405

## Health Information Technology-Cancer Data Management

The Cancer Data Management certificate prepares the student for a career in hospital based cancer registries or population based central registries (healthcare facilities, data organizations and free standing cancer registries). Applicants must meet the minimum requirements for admission into the Health Science Programs including successful completion of all TSI requirements. Unless exempt from TSI, an applicant must take the TSI state approved test, complete all developmental courses needed to reach college-level English, algebra, biology, psychology, and complete the application packet by the deadline. Cancer Registry professionals are required to collect, analyze and disseminate cancer data. Students will acquire the technical skills necessary to maintain a cancer data collection system that will be consistent with legal and accreditation requirements of the healthcare delivery system.

Graduates of the Cancer Data Management program will be eligible to write the national exam sponsored by the National Cancer Registry Association (NCRA) with at least 2 years of cancer data management experience, an associate's degree in a healthcare related field and the cancer data management certificate. Successfully passing the exam will award the graduate the Certified Tumor Registrar (CTR) credential. The program is applying to the NCRA for accreditation.

# Health and Medical Sciences

## **CERTIFICATE**

*TSI testing is required prior to first enrollment.*

### **FIRST YEAR**

<b>First Semester</b>		<b>Credits</b>
HPRS 1201	Introduction to Health Professions*	2
BIOL 2401	Anatomy & Physiology I	4
ENGL 1301	Composition I	3
HITT 1301	Health Data Content and Structure	3
HITT 1355	Health Care Statistics	3
POFI 1301	Computer Applications I	3
<b>Semester Total</b>		<b>18</b>

<b>Second Semester</b>		<b>Credits</b>
BIOL 2402	Anatomy & Physiology II	4
HITT 1305	Medical Terminology I	3
HITT 1353	Legal and Ethical Aspects of Health Information	3
HITT 2443	Quality Assessment and Performance Improvement	4
HITT 1307	Cancer Data Management I	3
<b>Semester Total</b>		<b>17</b>

<b>Third Semester</b>		<b>Credits</b>
HITT 1349	Pharmacology	3
HPRS 2301	Pathophysiology	3
HITT 2339	Health Information Organization and Supervision	3
HITT 2307	Cancer Data Management II	3
HITT 2367	Practicum-Health Information/Medical Records Technology/Technician**	3
<b>Semester Total</b>		<b>15</b>
<b>Program Total</b>		<b>50</b>

\*Student Success Course

\*\*Capstone

## **Cancer Data Management**

Before the Enhanced Skills Certificate may be pursued, a degree in Health Information Technology or credential as a Registered Health Information Technician (RHIT) or a Registered Health Information Administrator (RHIA) is required.

## **ENHANCED SKILLS CERTIFICATE**

<b>First Semester</b>		<b>Credits</b>
HITT 1307	Cancer Data Management I	3
HITT 2307	Cancer Data Management II	3
HITT 2367	Health Information/Medical Records Technology/Technician	3
<b>Semester Total</b>		<b>9</b>
<b>Program Total</b>		<b>9</b>

## **HISTOLOGIC TECHNICIAN**

The AAS Histologic Technician program is a two-year, five-semester course of study requiring a total of 69 semester hours of credit. The program is accredited by the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS), 5600 N. River Rd. Suite 720, Rosemont, IL 60018, 773.714.8886. Graduates are eligible for certification with the American Society of Clinical Pathologists-Board of Registry (ASCP-BOR). New classes begin in the fall of each year.

Histologic technicians prepare slides of body tissue for microscopic examination by freezing and cutting tissues, mounting them on slides, and staining them with special dyes to make the details visible under the microscope. Most technicians work in clinical science laboratories, hospital laboratories, medical research laboratories, forensic labs, industrial laboratories or government agencies.

All applicants must meet the following admission requirements: provide proof of high school graduation or GED, pass the TSI state approved test or complete all developmental courses needed to be eligible for enrollment in MATH 1314, ENGL 1301, and BIOL 1406. The application packet must be completed by the application deadline of July 15. Applicants who have completed the application process will be invited to attend an interview session. The session will include written assignments and a personal interview. As a result of the applicant's written work, GPA of 2.0 or higher and personal interview, points will be earned toward admission.

The Health Sciences Division requires that all students accepted into the program provide proof of a physical examination performed by a physician, certain immunizations (see **General Application Procedures** for a listing of required immunizations) a urine drug screen, and criminal background check. Information and forms will be supplied at the time of the personal interview. Students accepted into the program are required to pay a liability insurance fee.

Individuals interested in applying must attend an Essential Requirements (ER) session at Coleman College for Health Sciences. Go online or call 713.718.7642 for the dates, times and location of the sessions. For further information, please see the **General Application Procedures** for Health Science programs.

# Health and Medical Sciences

## Program Outcomes

Students will be able to

- Apply techniques according to standard operating procedures in the collection and analysis of biological samples.
- Interpret laboratory results used in diagnosis and treatment.
- Integrate ethical and professional behaviors in the medical laboratory setting.
- Recognize sources of information and information gathering techniques that enable him/her to seek obtain and critically evaluate information.

For more information call 713.718.7642 or e-mail lawrence.wall@hccs.edu.

## Histologic Technician

### AAS

*TSI testing is required prior to first enrollment.*

#### Prerequisite

HPRS 1201	Introduction to Health Professions*	2
<b>Prerequisite Total</b>		<b>2</b>

### FIRST YEAR

#### First Semester

		Credits
HLAB 1401	Introduction to Histology*	4
MATH 1314	College Algebra	3
BIOL 1406	General Biology I	4
HLAB 1405	Functional Histology I	4
<b>Semester Total</b>		<b>15</b>

#### Second Semester

		Credits
CHEM 1411	General Chemistry I*** OR	
CHEM 1413	College Chemistry I	4
HLAB 1402	Histotechnology I	4
HLAB 1446	Functional Histology II	4
BIOL 2401	Anatomy and Physiology I	4
<b>Semester Total</b>		<b>16</b>

#### Third Semester

		Credits
HLAB 1460	Clinical-Histotechnology I	4
HLAB 1443	Histotechnology II	4
XXXX #3##	Approved Social/Behavioral Science General Education Elective	3
<b>Semester Total</b>		<b>11</b>

## SECOND YEAR

### First Semester

		Credits
HLAB 1461	Clinical-Histotechnology II	4
HLAB 2434	Histotechnology III	4
BIOL 2402	Anatomy and Physiology II	4
<b>Semester Total</b>		<b>12</b>

### Second Semester

		Credits
HLAB 2341	Registry Review	3
XXXX #3##	Approved Humanities/Fine Arts General Education Elective	3
ENGL 1301	Composition I	3
HLAB 1462	Clinical-Histotechnology III**	4
<b>Semester Total</b>		<b>13</b>
<b>Program Total</b>		<b>69</b>

\*Student Success Course

\*\*Capstone

\*\*\*Recommended for transfer

## MESSAGE THERAPY

### CERTIFICATE

*This certificate will be deactivated as of September 1, 2011. New students will not be admitted into the program.*

## MEDICAL ASSISTANT

Upon the recommendation of the Medical Assisting Education Review Board (MAERB), the Medical Assistant program is accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP), 1361 Park St., Clearwater, FL 33756-6039, 727.210.2350, Fax: 727.210.2354, www.caahep.org.

The program trains individuals to function as multi-skilled technicians in ambulatory health care delivery systems. Specific skills include administrative and clinical duties. Additional skills include 12-lead electrocardiography, dysrhythmia analysis, stress testing, Holter monitor and scanning, phlebotomy, pharmacology and administration of medications and fundamentals of medical insurance with coding.

Applicants for the Medical Assistant program are accepted in both fall and spring semesters. Students may attend on a full-time or part-time basis. Courses have theory and competency-based components. Clinical experience is provided in various ambulatory health care delivery facilities. The clinical externship is a non-paid external learning experience.

# Health and Medical Sciences

Applicants must be at college-level for English and reading, have completed MATH 0308 or higher and submit a completed application packet. Attendance at an Essential Requirements session is required.

Students accepted into the Medical Assistant program are required to undergo a criminal background check and drug screening, have a physical examination and submit proof of current immunizations (see **General Application Procedures** for a listing of required immunizations), the costs of which are the students' responsibility. Felons are not eligible to sit for the CMA examination unless the AAMA Certifying Board grants a waiver. Contact the AAMA for information concerning grounds for denial of eligibility for the Certified Medical Assistant CMA (AAMA) credential.

Students who participate in the clinical external learning experience are required to pay a liability insurance fee which protects students against losses resulting from malpractice claims. The insurance is available through HCC on a blanket coverage program at a reduced rate. Current CPR Level C certification (adult, youth, and infant) and attendance at a clinical orientation are required prior to enrollment in a clinical external learning experience.

Students are expected to sit for and successfully pass the national Certified Medical Assistant (CMA) exam. The CMA examination is administered throughout the year. Contact the AAMA for testing dates and fees at 1.800.ACT.AAMA or the AAMA at 20 N. Wacker Dr. Suite 1575, Chicago, IL 60606-2903, 1.800.228.2262, [www.aama-ntl.org](http://www.aama-ntl.org).

Individuals interested in applying must attend an Essential Requirements (ER) session at Coleman College for Health Sciences. Go online or call 713.718.7361 for the dates, times and location of the sessions. For further information, please see the **General Application Procedures** for Health Science programs.

## Program Outcomes

Students will be able to

- Demonstrate competency in performance of administrative skills.
- Utilize knowledge to competently and safely perform clinical skills.
- Demonstrate professionalism in a healthcare setting.
- Incorporate critical thinking in practice as a Medical Assistant.
- Communicate effectively with diverse and age appropriate groups.

- Function as a competent entry-level Medical Assistant using cognitive (knowledge), psychomotor (skills), and affective (behavior) learning domains.

For more information call 713.718.7361 or 713.718.7365 or e-mail [cynthia.lundgren@hccs.edu](mailto:cynthia.lundgren@hccs.edu).

## Medical Assistant

### CERTIFICATE

*TSI testing is required prior to first enrollment.*

Prerequisite	Credits
HPRS 1201 Introduction to Health Professions*	2
<b>Prerequisite Total</b>	<b>2</b>

First Semester	Credits
ENGL 1301 Composition I	3
MDCA 1409 Anatomy and Physiology for Medical Assistants	4
MDCA 1213 Medical Terminology	2
MDCA 1352 Medical Assistant Laboratory Procedures	3
MDCA 1417 Procedures in a Clinical Setting	4
<b>Semester Total</b>	<b>16</b>

Second Semester	Credits
MDCA 1321 Administrative Procedures	3
MDCA 1305 Medical Law and Ethics	3
ECRD 1211 Electrocardiography	2
MDCA 1448 Pharmacology and Administration of Medications	4
MDCA 1310 Medical Assistant Interpersonal and Communication Skills	3
<b>Semester Total</b>	<b>15</b>

Third Semester	Credits
MDCA 1254 Medical Assisting Credentialing Exam Review	2
MDCA 1343 Medical Insurance	3
MDCA 1371 Ambulatory Care and Emergency Procedures	3
MDCA 1264 Practicum-Medical/Clinical Assistant**	2
<b>Semester Total</b>	<b>10</b>
<b>Program Total</b>	<b>43</b>

\*Student Success Course

\*\*Capstone (must be taken concurrently with MDCA 1254, Medical Assisting Credentialing Exam Review)



# Health and Medical Sciences

## Grand-Aide Medical Worker

The Grand-Aide Medical Worker certificate combines courses from the Community Health Care Worker certificate and limited courses from the Medical Assistant program. The certificate will provide training for students to serve as liaisons between patients and health professionals, therefore improving medical and social outcomes in communities. The Grand-Aide Medical Worker will provide a “new and valuable tool” in the new paradigm for patient care.

### CERTIFICATE

*TSI testing is required prior to first enrollment.*

<b>Prerequisite</b>		<b>Credits</b>
HPRS 1201	Introduction to Health Professions*	2
<b>Prerequisite Total</b>		<b>2</b>
<b>First Semester</b>		<b>Credits</b>
CHLT 1401	Introduction to Community Health	4
CHLT 1302	Wellness and Health Promotion	3
CHLT 1342	Community Health Field Methods	3
<b>Semester Total</b>		<b>10</b>
<b>Second Semester</b>		<b>Credits</b>
MDCA 1213	Medical Terminology	2
MDCA 1371	Ambulatory Care and Emergency Procedures	3
MDCA 1291	Special Topics in Medical Assistant	2
<b>Semester Total</b>		<b>7</b>
<b>Third Semester</b>		<b>Credits</b>
MDCA 1165	Practicum (or Field Experience) - Medical/Clinical Assistant**	1
<b>Semester Total</b>		<b>1</b>
<b>Program Total</b>		<b>20</b>

\*Student Success Course

\*\*Capstone

## MEDICAL LABORATORY TECHNICIAN

The Medical Laboratory Technician program encompasses a two-year, six-semester course of study requiring a total of 71 semester hours of credit. The program is accredited by the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS), 5600 N. River Rd. Suite 720, Rosemont, IL 60018, 773.714.8886. Graduates are eligible for certification with the American Society of Clinical Pathologists Board of Registry (ASCP-BOR). New classes begin in the fall of each year.

Medical Laboratory Technicians perform analytical tests on body fluids. Test results obtained influence the diagnosis

and treatment of patients. From these test results, clues to the absence, presence, extent and cause of disease may be found. Tests are performed in laboratory areas such as Hematology, Chemistry, Microbiology, and Blood Banking. Medical Laboratory Technicians must be physically able to move equipment, manipulate small objects, sit or stand for a period of time, collect body fluids from patients and communicate with co-workers, nurses and physicians. Employment may be found in hospital laboratories, forensic laboratories, veterinary clinics, research laboratories, and in medical businesses such as instrument manufacturers and medical supply companies.

All applicants must meet the following admission requirements: provide proof of high school graduation or GED, pass the TSI state approved test or complete all developmental courses needed to be eligible for enrollment in MATH 1314, ENGL 1301, and BIOL 2401. The completed application packet must be submitted by the application deadline of July 15. Applicants who have completed the application process will be invited to attend an interview session. The session will include written assignments and a personal interview. As a result of the applicant's written work, GPA of 2.0 and higher and personal interview, points will be earned toward admission.

The Health Sciences Division requires that all students accepted into the program provide proof of a physical examination performed by a physician, certain immunizations (see **General Application Procedures** for a listing of required immunizations), a urine drug screen, and criminal background check. Information and forms will be supplied at the time of the personal interview. Students accepted into the program are required to pay a liability insurance fee.

Individuals interested in applying must attend an Essential Requirements (ER) session at Coleman College for Health Sciences. Go online or call 713.718.5518 for the dates, times and location of the sessions. For further information, please see the **General Application Procedures** for Health Science programs.

### Program Outcomes

Students will be able to

- Apply techniques according to standard operating procedures in the collection and analysis of biological samples.
- Interpret laboratory results used in diagnosis and treatment.
- Integrate ethical and professional behaviors in the medical laboratory setting.

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- Recognize sources of information and information gathering techniques that enable him/her to seek obtain and critically evaluate information.

For more information call 713.718.5518 or email [theresa.spain@hccs.edu](mailto:theresa.spain@hccs.edu) or [robbe.hallmark@hccs.edu](mailto:robbe.hallmark@hccs.edu).

## Medical Laboratory Technician

### AAS

TSI testing is required prior to first enrollment.

#### Prerequisite

HPRS 1201	Introduction to Health Professions*	2
MATH 1314	College Algebra	3
ENGL 1301	Composition I	3
<b>Prerequisite Total</b>		<b>8</b>

### FIRST YEAR

#### First Semester

BIOL 2401	Anatomy and Physiology I****	4
MLAB 1270	Hematology I	2
MLAB 1235	Immunology/Serology	2
PLAB 1223	Phlebotomy	2
<b>Semester Total</b>		<b>10</b>

#### Second Semester

BIOL 2402	Anatomy and Physiology II	4
MLAB 1271	Hematology II	2
MLAB 1227	Coagulation	2
MLAB 2431	Immunohematology	4
MLAB 2270	Clinical Chemistry I	2
<b>Semester Total</b>		<b>14</b>

#### Third Semester

BIOL 2420	Microbiology	4
MLAB 1211	Urinalysis and Body Fluids	2
MLAB 2271	Clinical Chemistry II	2
<b>Semester Total</b>		<b>8</b>

### SECOND YEAR

#### First Semester

MLAB 2434	(Clinical) Microbiology	4
MLAB 1166	Practicum-Clinical/Medical Laboratory Technician	1
MLAB 1167	Practicum-Clinical/Medical Laboratory Technician	1
CHEM 1405	Introductory Chemistry I*** OR	
CHEM 1411	General Chemistry I*** OR	
CHEM 1413	College Chemistry I***	4
<b>Semester Total</b>		<b>10</b>

#### Second Semester

CHEM 1407	Introductory Chemistry II*** OR	
CHEM 1412	General Chemistry II*** OR	
CHEM 1414	College Chemistry II***	4
MLAB 1231	Parasitology/Mycology	2
MLAB 1266	Practicum-Clinical/Medical Laboratory Technician	2
MLAB 1267	Practicum-Clinical/Medical Laboratory Technician	2
XXXX #3##	Social/Behavioral Science General Education Elective	3
<b>Semester Total</b>		<b>13</b>

#### Third Semester

XXXX #3##	Approved Humanities/Fine Arts General Education Elective	3
MLAB 2232	Seminar in Medical Laboratory Technology	2
MLAB 1371	Registry Review**	3
<b>Semester Total</b>		<b>8</b>
<b>Program Total</b>		<b>71</b>

\*Student Success Course

\*\*Capstone

\*\*\*Recommended for transfer

\*\*\*\*BIOL 1406 is strongly recommended prior to BIOL 2401

## Biosafety

The Biosafety Technician certificate encompasses a one-year, three semester course of study requiring a total of 31 semester hours of credit. New classes begin in the fall of each year.

A Biosafety Technician is qualified to recognize and control workplace factors that may impact the safety and health in biotechnology research laboratories, pharmaceutical companies, and other health care provider settings, and clinics, petrochemical and other industries.

The Biosafety Technician uses sampling instrumentation to assess and evaluate environments and assesses safe practices regarding the handling of hazardous materials, including shipping of infectious substances, radioactive materials, and nanoparticles. This career field offers the opportunity to work in the areas of laboratory safety, and in support of occupational health programs and other safety various risk management activities. Graduates of this program may find employment in various public and private entities including healthcare and the biotechnical, pharmaceutical, and petrochemical industries.

All applicants must meet the following admission requirements: provide proof of high school graduation or GED, pass the TSI state approved test or complete all developmental courses needed to be eligible for enrollment in MATH 1314, ENGL 1301 and BIOL 1406. The application

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packet must be completed by the application deadline of July 15. Applicants who have completed the application process will be invited to attend an interview session. The session will include written assignments and a personal interview. As a result of the applicant's written work, GPA of 2.0 or higher and personal interview, points will be earned toward admission. The Health Science Division requires that all students accepted into the program provide proof of a physical examination performed by a physician, certain immunizations that include the Hepatitis B vaccine, a urine drug screen, and criminal background check. Information and forms will be supplied at the time of the personal interview.

## Program Outcomes

Students will be able to

- Integrate ethical and professional behaviors in clinical setting
- Use problem solving skills to integrate biosafety and biotechnology application to a clinical setting.
- Utilize techniques and instrumentation in biotechnology and biosafety.
- Apply laboratory techniques according to standard operation procedures in the collection, processing and analysis of biological substances.

## Biosafety Technician

### CERTIFICATE

*TSI testing is required prior to first enrollment.*

#### Prerequisite

HPRS 1201	Introduction to Health Professions*	2
<b>Prerequisite Total</b>		<b>2</b>

### FIRST YEAR

#### First Semester

		Credits
BIOS 1470	Introduction to Biosafety and Biotechnology	4
CHEM 1411	General Chemistry I	4
MATH 1314	College Algebra	3
BIOL 1406	General Biology I	4
<b>Semester Total</b>		<b>15</b>

#### Second Semester

		Credits
BIOS 1471	Introduction to Lab Safety	4
BIOS 2470	Industrial Hygiene Instrumentation Laboratory	4
ENGL 1301	Composition I	3
<b>Semester Total</b>		<b>11</b>

### Third Semester

	Credits
BIOS 2370 Internship - Biosafety**	3
<b>Semester Total</b>	<b>3</b>
<b>Program Total</b>	<b>31</b>

\*Student Success Course

\*\*Capstone

## NUCLEAR MEDICINE TECHNOLOGY

The Nuclear Medicine Technology program combines academic study with clinical laboratory experience at affiliated hospitals. Graduates of the program may find employment in the areas of nuclear imaging, nuclear cardiology, PET and fusion technology. The Joint Review Committee on Educational Programs in Nuclear Medicine Technology has granted full accreditation status to this program. (Joint Review Committee on Educational Programs in Nuclear Medicine Technology, 2000 W. Danforth Rd., Ste. 130 #203, Edmond, OK 73003, 405.285.0546.) A graduate of this 24-month program is eligible to take a certification and/or registry examination in Nuclear Medicine Technology.

Students who are accepted in the program are required to pay a liability insurance fee which protects the students against losses resulting from malpractice claims. Students must pay a film badge fee each semester. Students must pass a physical examination, drug screening test, criminal background check and carry health insurance prior to receiving a hospital assignment.

Students must have all required immunizations (the Hepatitis B vaccination series may take up to 6 months to complete) or show serologic confirmation of immunity to specific diseases prior to the second semester of the program.

Program courses have both theory and competency-based educational components. Students may not earn a grade below "C" in RADR 2340, CTMT 2336 and all NMTT courses and continue in the program. The grading scale used by the Nuclear Medicine Technology program is: 90-100=A; 80-89=B; 75-79=C; and any grade below 75 is considered failing. In addition, each semester is a prerequisite for the following semesters, and a student will need to have a GPA of 2.0 or higher to be eligible for graduation.

Applicants must meet the following admission requirements: TSI approved tests or developmental courses confirming readiness in college-level reading, college-level English and

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college algebra or transcript(s) with credits in college-level math, reading and writing. A completed application must be submitted prior to the application deadline.

Individuals interested in applying and who live in Houston or the surrounding area must attend an Essential Requirements (ER) session. Go online at coleman.hccs.edu for the dates, times and location of the ER meetings. Individuals living outside the Houston area should send an e-mail to glenn.smith@hccs.edu for program information or log onto the program website at coleman.hccs.edu/nuclearmedicinetechology.

## Program Outcomes

Students will be able to

- Demonstrate patient care tasks in a laboratory setting.
- Demonstrate radiation safety techniques to minimize radiation exposure.
- Demonstrate quality control procedures.
- Prepare and administer radiopharmaceuticals.
- Competently perform imaging and non-imaging nuclear medicine procedures.
- Differentiate normal anatomy and abnormal pathology on a nuclear medicine image.

For more information call 713.718.7650 or e-mail glenn.smith@hccs.edu.

## Nuclear Medicine Technology

### AAS

TSI testing is required prior to first enrollment.

Prerequisite	Credits
HPRS 1201 Introduction to Health Professions*	2
<b>Prerequisite Total</b>	<b>2</b>

### FIRST YEAR

First Semester	Credits
BIOL 2401 Anatomy and Physiology I*******	4
BIOL 2402 Anatomy and Physiology II****	4
CHEM 1405 Introductory Chemistry I	4
MATH 1314 College Algebra	3
SCIT 1420 Physics for Allied Health	4
<b>Semester Total</b>	<b>19</b>

### Second Semester

	Credits
NMTT 1311 Nuclear Medicine Patient Care	3
NMTT 1301 Introduction to Nuclear Medicine	3
NMTT 1266 Practicum I-Nuclear Medicine Technology	2
XXXX #3## Approved Humanities/Fine Arts General Education Elective	3
<b>Semester Total</b>	<b>11</b>

### Third Semester

	Credits
NMTT 1409 Nuclear Medicine Instrumentation	4
NMTT 1267 Practicum II-Nuclear Medicine Technology	2
NMTT 2401 Radiochemistry and Radiopharmacy	4
RADR 2340 Sectional Anatomy for Medical Imaging	3
<b>Semester Total</b>	<b>13</b>

### SECOND YEAR

#### First Semester

	Credits
NMTT 2309 Nuclear Medicine Methodology II	3
NMTT 2167 Practicum III-Nuclear Medicine Technology	1
NMTT 2333 Advanced Positron Emission Tomography (PET) and Fusion Technology	3
<b>Semester Total</b>	<b>7</b>

#### Second Semester

	Credits
NMTT 2413 Nuclear Medicine Methodology III	4
NMTT 2266 Practicum IV-Nuclear Medicine Technology	2
ENGL 1301 Composition I	3
PSYC 2301 Introduction to Psychology	3
<b>Semester Total</b>	<b>12</b>

#### Third Semester

	Credits
NMTT 2335 Nuclear Medicine Technology Seminar	3
CTMT 2336 Computed Tomography Equipment and Methodology	3
NMTT 2267 Practicum V-Nuclear Medicine Technology**	2
<b>Semester Total</b>	<b>8</b>
<b>Program Total</b>	<b>72</b>

\*\*Capstone

\*\*\* BIOL 1406 is strongly recommended prior to BIOL 2401

\*\*\*\*BIOL 2401 would be taken Summer I

\*\*\*\*\*BIOL 2402 would be taken Summer II

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## NURSING

The Associate Degree Nursing program (ADN) is a two-year (six-semester) program leading to an AAS. Texas Board of Nursing has granted full accreditation approval to this program (333 Guadalupe, Suite 3-460, Austin, TX 78701, 512.305.7401, www.bne.state.tx.us.) Upon satisfactory completion of all requirements in the degree program, graduates are eligible to apply to take the NCLEX-RN examination to become a registered nurse.

To be considered for acceptance into the program, applicants must complete the admission process. Advanced placement of Licensed Vocational Nurses by challenge examination may be requested and Licensed Vocational Nurses must meet the necessary qualifications required by the ADN program. Transfer applicants are considered for admission on an individual basis. Day and evening programs are offered at the Coleman College for Health Sciences for August admissions only. Only the day program is offered for January admissions.

Requirements for admission consideration are as follows: TEAS Student Assessment Test with the following minimum scores: Mathematics 64, Reading 64, English and Language 64, and Science 64. Applicants educated in non-English speaking countries must complete the TOEFL exam with a minimum score of 20 in each of the 4 required elements. MINIMUM grade point average (GPA) of 2.5; pass the TSI state approved test or provide proof of exemption; and provide proof of college readiness in BIOL 2401, ENGL 1301, PSYC 2301, complete RNSG 1301 WITH A GRADE OF "C" OR HIGHER and a pharmacology mathematics test with a grade of 90 percent or higher. **Please Note:** BIOL 2401, BIOL 2402, BIOL 2420, and PSYC 2314 must have been taken within five years of admission; RNSG 1301 must have been taken within two years of admission. Applicants must be able to meet the "essential functions" set forth by the ADN faculty. All remaining academic courses must be taken prior to, or concurrent with, the nursing curricula specified below. Criminal background checks are required prior to final admission into the program. Applicants are encouraged to complete all REQUIRED ACADEMIC courses prior to admission.

A grade of "C" or higher must be attained in each course to advance in the program of study. All courses must be completed in sequence according to the nursing curriculum. Due to limited space, even though applicants meet admission requirements, applicants are not automatically assured admission into the ADN program. The College

may refuse admission to applicants. Applicants applying for re-admission (those students who have withdrawn from or failed any course with a RNSG prefix) must complete and submit a Re-admission Application to the Associate Degree Nursing office. Re-admission is considered on an individual basis after review by the progression admission committee. To be considered for re-admission, only one RNSG prefix course failure in the program is allowed. If students withdraw or fail a second course with a RNSG prefix, they are not permitted to continue in the program nor will they be eligible to apply to the ADN program again with the exception of the second failure/withdrawal in the final semester of the program. All courses in the nursing curriculum must be completed within four (4) years from the date of a student's registration in the first course with a RNSG prefix. All courses with RNSG prefix require a cumulative score of 75 percent to successfully pass the course.

Individuals interested in applying must attend an Essential Requirements (ER) session at Coleman College for Health Sciences. Go online or call 713.718.7230 for the dates, times and location of the sessions. For further information, please see the **General Application Procedures** for Health Science programs.

Students enrolled in Professional Nursing Review and Licensure Preparation (RNSG 2130) capstone course are required to complete, at a score specified by program faculty, a standardized EXIT EXAM. Failure to attain the required score will result in students not completing the program and not being certified for the NCLEX-RN Exam. Graduates not completing the NCLEX-RN within one year of graduation from the ADN program will be required to complete remediation and testing as specified by the program.

### Program Outcomes

Students will be able to

- Demonstrate appropriate entry level Associate Degree Nursing Program didactic competencies to pass the NCLEX-RN licensure exam.
- Demonstrate appropriate entry level comprehensive interview skills required in the Associate Degree Nursing program for patient health history incorporating needs of the client.
- Distinguish between and demonstrate approved clinical competencies in health care assessment and hospital rotations of the Associate Degree Nursing Program.

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- Demonstrate appropriate entry level Associate Degree Nursing mathematical skills required in nursing medication calculations for patient dosing.
- Display appropriate professional nursing behavior, dress, and communication which includes cultural diversity while attending didactic classes, lab classes, and clinical rotations in the A.D. N. program.

For more information call 713-718-7230 or 713-718-7231 or email [m.portersanchez@hccs.edu](mailto:m.portersanchez@hccs.edu)

## Nursing

### AAS

TSI testing is required prior to first enrollment.

<b>Pre-Admission</b>	<b>Credits</b>
ENGL 1301 Composition I .....	3
BIOL 2401 Anatomy and Physiology I*** .....	4
RNSG 1301 Pharmacology**** .....	3
PSYC 2301 Introduction to Psychology.....	3
<b>Pre-Admission Total</b>	<b>13</b>

### FIRST YEAR

<b>First Semester</b>	<b>Credits</b>
RNSG 1413 Foundations for Nursing Practice* .....	4
RNSG 1360 Clinical Nursing RNT - Foundations.....	3
RNSG 1115 Health Assessment .....	1
BIOL 2402 Anatomy and Physiology II .....	4
BIOL 2420 Microbiology .....	4
<b>Semester Total</b>	<b>16</b>

<b>Second Semester</b>	<b>Credits</b>
RNSG 1441 Common Concepts of Adult Health.....	4
RNSG 2360 Clinical Nursing RNT - Adult I .....	3
RNSG 1105 Nursing Skills I .....	1
PSYC 2314 Human Growth and Development: Lifespan.....	3
<b>Semester Total</b>	<b>11</b>

<b>Third Semester</b>	<b>Credits</b>
RNSG 2213 Mental Health Nursing .....	2
RNSG 2263 Clinical Nursing RNT - Mental Health .....	2
ENGL 1302 Composition II .....	3
XXXX #3## Approved Humanities/Fine Arts General Education Elective.....	3
<b>Semester Total</b>	<b>10</b>

### SECOND YEAR

<b>First Semester</b>	<b>Credits</b>
RNSG 1412 Nursing Care of the Childbearing & Childrearing Family 4	4
RNSG 1460 Clinical-Nursing-Registered Nurse Training.....	4
RNSG 1247 Concepts of Clinical Decision-Making.....	2
XXXX #3## Speech Elective .....	3
<b>Semester Total</b>	<b>13</b>

### Second Semester

	<b>Credits</b>
RNSG 2121 Management of Client Care .....	1
RNSG 1144 Nursing Skills II .....	1
RNSG 1343 Complex Concepts of Adult Health .....	3
RNSG 2361 Clinical Nursing RNT - Adult II .....	3
RNSG 2130 Professional Nursing Review and Licensure Preparation** .....	1
<b>Semester Total</b>	<b>9</b>
<b>Program Total</b>	<b>72</b>

\*Student Success Course

\*\*Capstone

\*\*\* BIOL 1406 is strongly recommended prior to BIOL 2401

\*\*\*\*Must be taken immediately prior to admission

### LVN to RN Transition

HCC offers an optional route to the AAS Nursing Degree via the LVN-to-RN transition program. To apply for the program, students must have graduated from an accredited LVN program and meet all requirements for entry into the AAS Nursing program including criminal background checks. Students must demonstrate evidence of one of the following: six months recent (within one year) full-time clinical practice or one year recent (within one year) part-time clinical practice, and recently completed a nursing refresher course (within one year). Students must have completed the following basic required academic courses:

ENGL 1301, approved Humanities/Fine Arts elective, BIOL 2401, BIOL 2402, BIOL 2420, PSYC 2301, PSYC 2314, and RNSG 1301. **Please Note:** BIOL 2401, BIOL 2402, BIOL 2420 and PSYC 2314 must be completed within 5 years of admission. Upon completion of RNSG 1327, RNSG 1163, RNSG 1301, with a grade of "C" or higher, students will receive 12 SCH hours credit for first-year nursing courses.

Individuals interested in applying must attend an Essential Requirements (ER) session at Coleman College for Health Sciences. Go online or call 713.718.7230 for the dates, times and location of the sessions. For further information, please see the **General Application Procedures** for Health Science programs.

Students enrolled in the RNSG 2130, Professional Nursing Review and Licensure Preparation, capstone course are required to complete, at a score specified by program faculty, a standardized EXIT EXAM. Failure to attain the required score would result in the student not completing the program and not being certified for the NCLEX-RN Exam. Graduates not completing the NCLEX-RN within one year of graduation date from the ADN program will be required to complete remediation and testing as specified by the program.

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## Program Outcomes

Students will be able to

- Demonstrate appropriate entry level Associate Degree Nursing Program didactic competencies to pass the NCLEX-RN licensure exam.
- Demonstrate appropriate entry level comprehensive interview skills required in the Associate Degree Nursing program for patient health history incorporating needs of the client.
- Distinguish between and demonstrate approved clinical competencies in health care assessment and hospital rotations of the Associate Degree Nursing Program.
- Demonstrate appropriate entry level Associate Degree Nursing mathematical skills required in nursing medication calculations for patient dosing.
- Display appropriate professional nursing behavior, dress, and communication which includes cultural diversity while attending didactic classes, lab classes, and clinical rotations in the A.D. N. program.

For more information call 713-718-7230 or 713-718-7231 or email [m.portersanchez@hccs.edu](mailto:m.portersanchez@hccs.edu)

## Transition Program: Licensed Vocational Nurse to Registered Nurse

### AAS

TSI testing is required prior to first enrollment.

Prerequisites	Credits
ENGL 1301 Composition I.....	3
BIOL 2401 Anatomy and Physiology I***.....	4
RNSG 1301 Pharmacology****.....	3
PSYC 2301 Introduction to Psychology.....	3
ENGL 1302 Composition II.....	3
BIOL 2402 Anatomy and Physiology II.....	4
BIOL 2420 Microbiology.....	4
PSYC 2314 Human Growth and Development: Lifespan.....	3
SPCH #3## Speech Elective.....	3
XXXX #3## Approved Humanities/Fine Arts General Education Elective.....	3
VNSG 1400 Nursing in Health and Illness I.....	4
VNSG 1409 Nursing in Health and Illness II.....	4
VNSG 1423 Basic Nursing Skills.....	4
<b>Prerequisites Total</b>	<b>45</b>

## FIRST YEAR

### First Semester

	Credits
RNSG 2213 Mental Health Nursing.....	2
RNSG 2263 Clinical Nursing RNT - Mental Health.....	2
RNSG 1327 Transition from Vocational Nursing to Professional Nursing.....	3
RNSG 1163 Clinical Nursing-Transition.....	1
<b>Semester Total</b>	<b>8</b>

### Second Semester

	Credits
RNSG 1247 Concepts of Clinical Decision-Making.....	2
RNSG 1412 Nursing Care of the Childbearing & Childrearing Family.....	4
RNSG 1460 Clinical-Nursing-Registered Nurse Training.....	4
RNSG 2121 Management of Client Care.....	1
<b>Semester Total</b>	<b>11</b>

### Third Semester

	Credits
RNSG 1144 Nursing Skills II.....	1
RNSG 1343 Complex Concepts of Adult Health.....	3
RNSG 2361 Clinical Nursing-Adult II.....	3
RNSG 2130 Professional Nursing Review and Licensure Preparation**.....	1
<b>Semester Total</b>	<b>8</b>
<b>Program Total</b>	<b>72</b>

\*Student Success Course

\*\*Capstone

\*\*\* BIOL 1406 is strongly recommended prior to BIOL 2401

\*\*\*\*Must be taken immediately prior to admission

## OCCUPATIONAL THERAPY ASSISTANT

The Occupational Therapy Assistant curriculum prepares graduates to provide skilled health care services under the supervision of licensed occupational therapists. Working collaboratively, the OTA is trained to provide services to consumers across the life span, particularly those with challenges (i.e. disease, injury, illness, wellness, prevention), that prevent active independent "living life to its fullest" through daily occupations and tasks. Services may include, but are not limited to, treating a wide range of physical, developmental, psychological, social, and emotional conditions. Principles, theories and treatment interventions that emphasize best practices are the hallmark of this profession's repertoire. Examples of types of intervention(s) include therapeutic exercises and activities, motor and life skills training, Basic Activities of Daily Living (BADL), and Instrumental Activities of Daily Living (IADL) training, adaptive technological use and training, splint construction and usage, home modification, work-related intervention, psychosocial group programs, and consumer/care-giver education.

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The certificate is accredited by the Accreditation Council for Occupational Therapy Education (ACOTE) of the American Occupational Therapy Association (AOTA), 4720 Montgomery Lane, P.O. Box 31220, Bethesda, MD 20824-1220; 301.652.AOTA.

The program offers an approved twelve-month curriculum which, upon completion, allows graduates to apply and take the national certification examination for occupational therapy assistants. Administered through the National Board for Certification in Occupational Therapy (NBCOT) successful completion allows the title Certified Occupational Therapy Assistant (COTA). Most states, including Texas, require a license to practice. A license is issued by The Executive Council of Physical Therapy and Occupational Therapy Examiners (ECPTOTE), located at 333 Guadalupe St., Suite 2-510, in Austin, TX, 78701-3942; 512.305.6900. A license is issued based on the graduate's results of the certification examination.

Note: Students may earn an AAS degree by completing two additional semesters of academic courses. The AAS degree is under review for accreditation by the Accreditation Council for Occupational Therapy Education (ACOTE) of the American Occupational Therapy Association (AOTA); however, it is recognized by the Texas Higher Education Coordinating Board (THECB).

Applicants must meet the general requirements for admission to the Coleman College for Health Sciences as well as the OTA program.

Applicants accepted in the program are required to provide updated documents each semester of the following: proof of CPR certificate, physical examination, immunization and Hepatitis B (which may take up to 6 months to administer), drug test, criminal background check. Personal data forms are completed prior to releasing clinical placement assignments. Students are required to pay liability insurance fees which provide protection against losses resulting from malpractice claims.

Currently, there are two prerequisites: OTHA 1301 which is taught evenings and/or weekends each Fall and Spring semester, and HPRS 1201. The program is full-time day with classes offered between the hours of 7:30 am and 6:30 pm, Monday through Friday. Saturday classes may be required some semesters.

A minimum grade of "C" is required in all OTHA courses with the exception of skills and clinical courses which have a minimum requirement of the grade of "B." Clinical internship experiences are scheduled and assigned for

spring and summer semesters. Clinical level II internships must be completed within 18 months following completion of the OTHA courses per program curriculum.

Individuals interested in applying must attend an Essential Requirements (ER) session at Coleman College for Health Sciences. Go online or call 713.718.7391 for the dates, times and location of the sessions. For further information, please see the **General Application Procedures** for Health Science programs.

## Program Outcomes

Students will be able to

- Pass all OTHA courses and OTHA certification examination.
- Develop knowledge & best practices guided by problem-solving, clinical reasoning/ life-long learning.
- Develop entry-level collaboration skills.
- Develop and practice professional behaviors.
- Practice ethical integrity and core values according to the OT philosophy.

For more information call 713.718.7391, 713.718.7392 or e-mail linda.williams@hccs.edu.

## Occupational Therapy Assistant

### CERTIFICATE

*TSI testing is required prior to first enrollment.*

<b>Prerequisites</b>		<b>Credits</b>
HPRS 1201	Introduction to Health Professions*.....	2
OTHA 1301	Introduction to Occupational Therapy.....	3
<b>Prerequisites Total</b>		<b>5</b>

<b>First Semester</b>		<b>Credits</b>
OTHA 1305	Principles of Occupational Therapy.....	3
OTHA 1309	Human Structure and Function in Occupational Therapy.....	3
OTHA 1311	Occupational Performance throughout the Lifespan.....	3
OTHA 1315	Therapeutic Use of Occupations or Activities I.....	3
OTHA 1319	Therapeutic Interventions I.....	3
<b>Semester Total</b>		<b>15</b>

<b>Second Semester</b>		<b>Credits</b>
OTHA 2301	Pathophysiology in Occupational Therapy.....	3
OTHA 2311	Abnormal Psychology in Occupational Therapy.....	3
OTHA 2331	Physical Function in Occupational Therapy.....	3
OTHA 2309	Mental Health in Occupational Therapy.....	3
OTHA 2302	Therapeutic Use of Occupations or Activities II.....	3
OTHA 2305	Therapeutic Interventions II.....	3



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OTHA 2160	Clinical-Intermediate	1
OTHA 2161	Clinical-Intermediate	1

**Semester Total 20**

### Third Semester Credits

OTHA 2330	Workplace Skills for Occupational Therapy Assistant	3
OTHA 2360	Clinical-Advanced**	3
OTHA 2361	Clinical-Advanced**	3

**Semester Total 9**

**Program Total 49**

\*Student Success Course

\*\*Capstone (OTHA 2360 and OTHA 2361)

## Occupational Therapy Assistant

The AAS degree is not accredited by the Accreditation Council for Occupational Therapy Education (ACOTE) of the American Occupational Therapy Association (AOTA); however, the AAS degree is recognized by the Texas Higher Education Coordinating Board (THECB).

### AAS

TSI testing is required prior to first enrollment.

### FIRST YEAR

#### Prerequisite Credits

OTHA 1301	Introduction to Occupational Therapy*	3
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**Prerequisite Total 3**

#### First Semester Credits

OTHA 1305	Principles of Occupational Therapy	3
OTHA 1309	Human Structure and Function in Occupational Therapy	3
OTHA 1311	Occupational Performance throughout the Lifespan	3
OTHA 1315	Therapeutic Use of Occupations or Activities I	3
OTHA 1319	Therapeutic Interventions I	3

**Semester Total 15**

#### Second Semester Credits

OTHA 2301	Pathophysiology in Occupational Therapy	3
OTHA 2311	Abnormal Psychology in Occupational Therapy	3
OTHA 2331	Physical Function in Occupational Therapy	3
OTHA 2309	Mental Health in Occupational Therapy	3
OTHA 2302	Therapeutic Use of Occupations or Activities II	3
OTHA 2305	Therapeutic Interventions II	3
OTHA 2160	Clinical-Intermediate	1
OTHA 2161	Clinical-Intermediate	1

**Semester Total 20**

#### Third Semester Credits

OTHA 2330	Workplace Skills for Occupational Therapy Assistant	3
OTHA 2360	Clinical-Advanced***	3
OTHA 2361	Clinical-Advanced**	3

**Semester Total 9**

### SECOND YEAR

#### First Semester

ENGL 1301	Composition I	3
PSYC 2301	Introduction to Psychology	3
GOVT 2301	American Government: National, State and Local I	3
XXXX #3##	Math/Natural Science General Education Elective	3

**Semester Total 12**

#### Second Semester

ARTS 1311	Design I	3
ANTH 2351	Cultural Anthropology	3
ENGL 2311	Technical and Industrial Correspondence and Report Writing	3
HIST 1302	US History after 1877	3

**Semester Total 12**

**Program Total 71**

\*Student Success Course

\*\*Capstone

## PHARMACY TECHNICIAN

The mission of the Pharmacy Technician program is to provide workforce training which prepares individuals for life, work and employment by providing them opportunities for jobs in a variety of diverse pharmacy settings, ranging from hospital, retail to home care, with opportunities for growth in the pharmacy field once graduates are employed. Specific training includes the following: pharmaceutical calculations, state and federal laws, IV admixture, prepackaging, inventory control, pharmacy terminology, pharmacology, computer applications, and the practice of pharmacy.

Students must maintain a "C" average in all PHRA courses and meet all prerequisites to continue in the program.

Health facility clinical experience is provided through affiliations with area hospitals and pharmacies. Students who participate in a clinical practicum are required to pay a liability insurance fee which protects students against losses resulting from malpractice claims. The insurance is available through HCC on a blanket coverage program at a reduced rate. In addition to liability insurance, students must have a recent physical examination, current immunizations, drug screen test and have completed all first semester courses with a minimum grade of "C" or higher prior to enrolling into the clinical practicum. **Please Note:** Individuals who wish to perform duties in a pharmacy during the clinical practicum must have an ACTIVE Technician Trainee registration with the Texas State Board of Pharmacy. A federal background check and fingerprinting are required to obtain Trainee registration. For more information on the

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criminal background check and registration please check the State Board website at [www.tsbp.state.tx.us](http://www.tsbp.state.tx.us).

Before the non-renewable Technician Trainee status expires, Texas trainees are required to take and pass the Pharmacy Technician Certification Board (PTCB) National Exam within two years and upgrade their status to Registered Technician. For more information on PTCB, please check the website at [www.ptcb.org](http://www.ptcb.org). The Pharmacy Technician program is accredited by the American Society of Health-System Pharmacists (ASHP), 7272 Wisconsin Ave., Bethesda, MD 20814, 301.664.8858.

Applicants must meet the following requirements for admission: minimum scores on the ASSET/COMPASS examination, complete the required developmental courses, personal interview, and complete the application packet by the application deadline.

Individuals interested in applying must attend an Essential Requirements (ER) session at Coleman College for Health Sciences. Go online or call 713.718.7356 for the dates, times and location of the sessions. For further information, please see the **General Application Procedures** for Health Science programs.

In addition, please note that a student may only earn one Marketable Skills Achievement Award (MSA) per academic year.

## Program Outcomes

Students will be able to

- Demonstrate appropriate entry level Pharmacy Technician didactic competencies necessary to pass the PTCB licensure exam.
- Demonstrate appropriate entry level Pharmacy Technician mathematical skills required in pharmacy calculations for patient dosing.
- Demonstrate approved clinical competencies in Retail, Home Care and Hospital rotations of the Pharmacy Technician program.
- Operate pharmacy technology accurately, with consideration for accuracy, precision and care for necessary calibrations under the supervision of a pharmacist as required by the Pharmacy Technician program.
- Practice appropriate professional type pharmacy behavior, dress and communication which takes into consideration cultural diversity while attending clinical courses in the Pharmacy Technician program.

- Define, distinguish, interpret and translate physician's orders and prescriptions accurately to evaluate them for medication errors and pharmaceutical contraindications under the direct supervision of a pharmacist assuring patient safety is always the first priority.

For more information call 713.718.7356 or e-mail [janet.pena@hccs.edu](mailto:janet.pena@hccs.edu).

## Pharmacy Technician

### CERTIFICATE

*TSI testing is required prior to first enrollment.*

<b>Prerequisite</b>		<b>Credits</b>
HPRS 1201	Introduction to Health Professions*	2
PHRA 1102	Pharmacy Law	1
<b>Prerequisite Total</b>		<b>3</b>
<b>First Semester</b>		<b>Credits</b>
PHRA 1205	Drug Classification	2
PHRA 1309	Pharmaceutical Mathematics I	3
PHRA 1313	Community Pharmacy Practice	3
PHRA 1304	Pharmacotherapy and Disease Process	3
PHRA 1261	Clinical-Pharmacy Technician/Assistant	2
<b>Semester Total</b>		<b>13</b>
<b>Second Semester</b>		<b>Credits</b>
PHRA 1449	Institutional Pharmacy Practice	4
PHRA 1445	Compounding Sterile Preparations and Aseptic Technique	4
PHRA 1247	Pharmaceutical Mathematics II	2
PHRA 2260	Clinical-Pharmacy Technician/Assistant	2
PHRA 2261	Clinical-Pharmacy Technician/Assistant**	2
<b>Semester Total</b>		<b>14</b>
<b>Program Total</b>		<b>30</b>

\*Student Success Course

\*\*Capstone

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## Retail Pharmacy Technician

The Retail Pharmacy Technician MSA is a fast-track training program that prepares the student for entry-level employment in Retail Pharmacy settings. During the first 8 weeks of the 13 week training, the student attends lecture and lab. The remaining 5 weeks consists of 160 hours of clinical practicum in a retail pharmacy and reviewing for the national pharmacy technician certification exam.

The Texas State Board of Pharmacy registration and PTCB certification requirements are the same for the Retail Pharmacy Technician MSA as they are for the Pharmacy Technician certificate. All courses in the MSA transfer into the certificate program.

For more information call 713.718.7356 or e-mail [mohamed.tlass@hccs.edu](mailto:mohamed.tlass@hccs.edu).

### MSA

(Marketable Skills Achievement Award)

#### First Semester

PHRA 1309	Pharmaceutical Mathematics I.....	3
PHRA 1313	Community Pharmacy Practice.....	3
PHRA 1143	Pharmacy Technician Certification Review.....	1
PHRA 1260	Clinical - Pharmacy Technician/Assistant.....	2
	<b>Semester Total</b>	<b>9</b>
	<b>Program Total</b>	<b>9</b>

## PHYSICAL THERAPIST ASSISTANT

The AAS Physical Therapist Assistant program is a two-year, five-semester course of study requiring a total of 70 semester hours of credit. New classes begin in the fall of each year.

The program is designed to prepare skilled technical health workers to perform various treatment procedures delegated by the physical therapist. The treatment procedures include modalities (i.e., ultrasound, whirlpool, and massage), rehabilitation techniques, and therapeutic exercises. Graduates are employed in acute care hospitals, rehabilitation centers, outpatient clinics, school systems, and home health agencies.

A grade of "C" must be earned in every course listed in the curriculum in order to graduate. If a student earns a grade below a "C" in any course with a PTHA prefix, he/she will be withdrawn from the program. Program courses have both theory and competency-based educational components. Students must attain a 75 percent average or better in all PTHA courses and have a 2.0 GPA or higher to be eligible for graduation.

Applicants must meet the minimum requirements for admission to Health Science programs which include completion of the following requirements: TSI state approved tests or all developmental courses needed to reach college-level English, biology, psychology, and intermediate algebra, and completion of the application packet by the application deadline. Students are highly encouraged to complete the general education core requirement prior to applying for admission to the program. Students with prior college credit may be exempt from HPRS 1201 with departmental approval.

Students accepted into the program are required to pay a liability insurance fee which protects students against losses resulting from malpractice claims. Students accepted into the program must successfully pass a drug screen and a criminal background check prior to the start of classes. Students must have documentation of certain immunizations (please see **General Application Procedures** for list of immunizations) prior to the start of classes.

Students accepted into the Physical Therapist Assistant program are required to attend a mandatory multi-day orientation session prior to the first (fall) semester. This orientation is designed to prepare students for the demands of college, the Physical Therapist Assistant program, and for success in the world of work. The session will emphasize setting priorities, time management, effective listening, note-taking, reading comprehension techniques, and test-taking skills. The session will also incorporate information on the use of the library, financial aid, tutoring, and student support services enabling students to maximize the use of college resources.

Graduates are eligible to take the licensure examination under the direction of the Texas State Board of Physical Therapy Examiners. The program is accredited by the Commission on Accreditation in Physical Therapy Education, 1111 N. Fairfax St., Alexandria, VA 22314-9991, 800.999.2782. Some of the Physical Therapist Assistant AAS courses are approved as Tech Prep.

Individuals interested in applying must attend an Essential Requirements (ER) session at Coleman College for Health Sciences. Go online or call 713.718.7391 for dates, time and location of the sessions. For further written information, please see the **General Application Procedures** for Health Science programs.

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## Program Outcomes

Students will be able to

- Demonstrate and apply knowledge as a physical therapist assistant in a clinical setting.
- Practice safe, ethical, and legal conduct relative to the institution, workplace, and patient care.
- Demonstrate culturally sensitive conduct relative to the institution, workplace, and in patient care.
- Use critical thinking and problem solving skills to progress, modify, and/or withhold interventions based on plan of care and patient response as determined through patient monitoring, data collection, and clinical judgment.

For more information call 713.718.7391.

## Physical Therapist Assistant

### AAS

*TSI testing is required prior to first enrollment.*

#### FIRST YEAR

##### First Semester

	<b>Credits</b>
HPRS 1201 Introduction to Health Professions*	2
PTHA 1301 The Profession of Physical Therapy	3
BIOL 2401 Anatomy and Physiology I***	4
HPRS 1106 Essentials of Medical Terminology	1
PTHA 1305 Basic Patient Care Skills	3
PTHA 1413 Functional Anatomy	4
PTHA 1229 Applied Physical Principles	2
<b>Semester Total</b>	<b>19</b>

##### Second Semester

	<b>Credits</b>
HPRS 2332 Health Care Communications	3
PTHA 1321 Pathophysiology	3
PTHA 1431 Physical Agents	4
PTHA 2301 Essentials of Data Collection	3
BIOL 2402 Anatomy and Physiology II	4
<b>Semester Total</b>	<b>17</b>

##### Third Semester

	<b>Credits</b>
PTHA 2205 Neurology	2
PTHA 2509 Therapeutic Exercise	5
<b>Semester Total</b>	<b>7</b>

#### SECOND YEAR

##### First Semester

	<b>Credits</b>
PTHA 1266 Practicum I Physical Therapist Assistant	2
PTHA 2435 Rehabilitation Techniques	4
PTHA 2431 Management of Neurological Disorders	4
PSYC 2301 Introduction to Psychology	3
<b>Semester Total</b>	<b>13</b>

##### Second Semester

	<b>Credits</b>
PSYC 2314 Human Growth Development: Lifespan	3
PTHA 1267 Practicum II Physical Therapist Assistant	2
PTHA 2266 Practicum III Physical Therapist Assistant	2
PTHA 2250 Current Concepts in Physical Therapy	2
XXXX #3## Approved Humanities/Fine Arts General Education Elective	3
PTHA 2239 Professional Issues**	2
<b>Semester Total</b>	<b>14</b>
<b>Program Total</b>	<b>70</b>

\*Student Success Course

\*\*Capstone

\*\*\*BIOL 1406 is strongly recommended prior to BIOL 2401 (taken within five years or department approval)

## RADIOGRAPHY

The two-year AAS Radiography program is accredited by the Joint Review Committee on Education in Radiologic Technology (JRCERT), 20 N. Wacker Dr., Suite 2850, Chicago, IL 60606, Telephone: 312.704.5300. Graduates are eligible to apply for the American Registry of Radiologic Technologists (ARRT) Certification Examination, 1255 Northland Dr., St. Paul, MN 55120-1155 and obtain a license from the Texas Department of State Health Services, P.O. Box 149347, Austin, TX, 78714.

Radiography is the application of knowledge using a variety of imaging methods in the examination of the body for structural defects and disease processes. Courses have both theory and competency-based educational components. Students must maintain a "C" average and meet all prerequisites to continue in the program. Students may not earn a grade below a "C" in any RADR course and continue in the program. The grading scale used by the Radiography program is as follows: 90-100 = A; 80-89 = B; 75-79 = C; and any grade below 75 is considered failing. In addition, each semester is a prerequisite for the following semesters.

Applicants must meet the following minimum requirements for admission to Health Science programs: complete the TSI state approved test or all developmental courses needed to reach college-level English, algebra, psychology, biology and complete the application packet by the application deadline.

Students accepted into the program are required to provide a physical examination report completed by a physician with documentation of required immunizations.

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Students accepted into the program must successfully pass a drug screen and a criminal background check prior to the start of classes. Hepatitis B vaccinations must be completed prior to the start of the first semester (may take up to 6 months to administer).

Students who are accepted into the program will need to verify that they are covered by health insurance and are required to pay a liability insurance fee which protects students against losses resulting from malpractice claims. Students are also required to pay a radiation monitoring badge fee each semester for all clinical education courses.

Individuals interested in applying must attend an Essential Requirements (ER) session at Coleman College for Health Sciences. Go online or call 713.718.7650 for the dates, times and location of the sessions. For further information, please see the **General Application Procedures** for Health Science programs.

The application deadline is February 1, and accepted students start in the summer.

## Program Outcomes

Students will be able to

- Demonstrate clinical competence in Radiographic Imaging.
- Demonstrate age and situation appropriate communication skills.
- Demonstrate critical thinking skills in medical imaging situations.
- Demonstrate safe radiation protection practices.
- Demonstrate professional and ethical behavior while embracing diversity.
- Develop community-mindedness and an appreciation for life-long learning.

For more information call 713.718.7650 or e-mail [jamie.tucker@hccs.edu](mailto:jamie.tucker@hccs.edu).

## Radiography

### AAS

*TSI testing is required prior to first enrollment.*

<b>Prerequisites</b>	<b>Credits</b>
HPRS 1201 Introduction to Health Professions* .....	2
MATH 1314 College Algebra.....	3
ENGL 1301 Composition I.....	3
BIOL 2401 Anatomy and Physiology I .....	4
HPRS 1106 Essentials of Medical Terminology.....	1
<b>Prerequisites Total</b>	<b>13</b>

## FIRST YEAR

<b>First Semester</b>	<b>Credits</b>
RADR 1303 Patient Care (Ethics).....	3
RADR 1411 Basic Radiographic Procedures.....	4
RADR 1160 Clinical-Radiologic Technology/Science-Radiographer ...	1
<b>Semester Total</b>	<b>8</b>

<b>Second Semester</b>	<b>Credits</b>
RADR 1313 Principles of Radiographic Imaging I.....	3
RADR 2401 Intermediate Radiographic Procedures .....	4
RADR 1266 Practicum Radiologic Technology/Science-Radiographer 2	2
SPCH 1311 Fundamentals of Speech.....	3
<b>Semester Total</b>	<b>12</b>

<b>Third Semester</b>	<b>Credits</b>
RADR 2305 Principles of Radiographic Imaging II .....	3
RADR 2331 Advanced Radiographic Procedures .....	3
RADR 1267 Practicum Radiologic Technology/Science-Radiographer 2	2
PSYC 2301 Introduction to Psychology OR	3
SOCI 1301 Introduction to Sociology.....	3
<b>Semester Total</b>	<b>11</b>

## SECOND YEAR

<b>First Semester</b>	<b>Credits</b>
RADR 2233 Advanced Medical Imaging.....	2
RADR 2360 Clinical-Radiologic Technology/Science-Radiographer ...	3
RADR 2217 Radiographic Pathology.....	2
XXXX #3## Approved Humanities/Fine Arts	3
General Education Elective.....	3
<b>Semester Total</b>	<b>10</b>

<b>Second Semester</b>	<b>Credits</b>
RADR 2213 Radiation Biology and Protection.....	2
RADR 2366 Practicum Radiologic Technology/Science-Radiographer 3	3
RADR 2340 Sectional Anatomy for Medical Imaging.....	3
RADR 2309 Radiographic Imaging Equipment.....	3
<b>Semester Total</b>	<b>11</b>

<b>Third Semester</b>	<b>Credits</b>
RADR 2335 Radiologic Technology Seminar** .....	3
RADR 2367 Practicum Radiologic Technology/ Science-Radiographer** .....	3
<b>Semester Total</b>	<b>6</b>
<b>Program Total</b>	<b>71</b>

\*Student Success Course

\*\*Capstone (RADR 2335 and RADR 2367)

# Health and Medical Sciences

## Computed Tomography

Computed Tomography is a specialized x-ray imaging technique that creates the image by using an array of individual small x-ray sensors and a computer. By moving the x-ray source and the sensor/detectors around the patient, data is collected from multiple angles. A computer then processes this information to create an image on the monitor.

The Computed Tomography program is a one-semester evening program leading to an Enhanced Skills Certificate. Courses have both theory and a competency-based clinical component. All CT courses must be enrolled in concurrently. Students accepted into the program are required to pay for the following:

- a liability insurance fee which protects students against losses resulting from malpractice claims;
- a radiation monitoring badge fee which is required for all clinical education courses;
- a drug screen and criminal background check; and
- a physical exam conducted by a licensed physician with documentation of required immunizations including Hepatitis B.

All classes are held at Coleman College for Health Sciences with the exception of clinicals which are held in the Texas Medical Center or medical facilities across the Houston area.

Requirements for the Enhanced Skills Certificate include graduating from an approved Joint Review Committee accredited program with an AAS or above in one of the Radiologic Sciences (Radiography, Radiation Therapy, or Nuclear Medicine).

Individuals interested in applying must attend an Essential Requirements (ER) session at Coleman College for Health Sciences. Go online for the dates, times and location of the sessions. The program starts each fall and spring with 16 students accepted in each class. The application deadline for fall is June 1 and for spring, October 1. For further information, please see the **General Application Procedures** for Health Science programs.

### Program Outcomes

Student will be able to

- Demonstrate Clinical competence in Computed Tomography.
- Demonstrate age and situation appropriate communication skills.

- Demonstrate critical thinking skills in a medical imaging situation.
- Demonstrate appropriate radiation safety protocols.
- Demonstrate professional and ethical behavior, embracing diversity.

For more information e-mail [roger.bumgardner@hccs.edu](mailto:roger.bumgardner@hccs.edu).

## ENHANCED SKILLS CERTIFICATE

First Semester		Credits
RADR 2340	Sectional Anatomy for Medical Imaging .....	3
CTMT 2336	Computed Tomography Equipment and Methodology.....	3
CTMT 2460	Clinical-Radiologic Technology/Science-Radiographer ..	4
CTMT 2461	Clinical-Radiologic Technology/Science-Radiographer ...	4
<b>Semester Total</b>		<b>14</b>
<b>Program Total</b>		<b>14</b>

## RESPIRATORY THERAPIST

The two-year Respiratory Therapist (RSPT) program is designed to prepare individuals for entry-level certification (CRT) and advanced-level registry (RRT) board exams administered by the National Board for Respiratory Care (NBRC), 18000 W. 105th St, Olathe, KS 66061, 913.599.4200. The program is fully accredited by the Commission on Accreditation for Respiratory Care (COARC), 1248 Harwood Rd., Bedford, TX 76021-4244, Telephone: 800.874.5615. Students awarded the AAS are eligible to take the NBRC exams and must pass the entry-level certification (CRT) examination prior to attempting the advanced level registry (RRT) exams. The registry exam contains both a written and clinical simulation exam.

The RSPT program's curriculum is designed to orient students to entry and advanced-level respiratory care as it relates to the treatment, management, control, diagnostic evaluation, and prevention of cardiopulmonary abnormalities. Courses reflect the Entry/Advanced Practitioner Certification/Registry content as summarized in the NBRC's composite examination matrices. Advanced-standing credit may be awarded for relevant education and/or experience.

As registered respiratory therapists, the RSPT graduates can expect to gain employment as crucial members of the health care team in adult, pediatric and neonatal care areas of the hospital, as well as in long term acute care facilities and in home care companies. Many registered therapists work in intensive care unit areas and emergency rooms as well as in management and education.

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Students accepted into the RSPT program pay a liability insurance fee which protects students against losses resulting from malpractice claims. All classes, with the exception of clinical practicums, are held at Coleman College for Health Sciences, 1900 Pressler. Students should be prepared to rotate among the many clinical affiliates the program utilizes for clinical training. Transportation between locations is the responsibility of the student.

All candidates must attend an Essential Requirements (ER) session which is held on campus every first and third Thursday at 5:30 pm and every second and fourth Tuesday at 12:00 noon of the month (excluding college holidays) in the auditorium. Please pre-register by going to <http://coleman.hccs.edu/coleman> and click on ER meetings to register. Seating is limited. Note: Please arrive on time. Students will not be allowed entry once the session begins. No children allowed.

Applicants must submit a "Health Science Program Application" to Student Services at Coleman College for Health Sciences Admission Office at 1900 Pressler St., Houston, TX 77030. If no previous enrollment or testing activity has taken place at HCC, the applicant must also complete and submit an "HCC Application for Admission" online at <http://saweb.hccs.edu>.

All of the items listed below should be submitted no later than May 1 each year in order for the file to be reviewed:

- Official high school transcript or official GED scores;
- Application for Health Sciences;
- College transcript(s);
- Passing TSI scores, unless exempt;
- Transcripts showing completion of BIOL 2401, BIOL 2402 and RSPT 1201 with a grade of "C" or higher;
- Completion of MATH 1314, ENGL 1301, PSYC 2301, and 3 hours of Humanities and Fine Arts elective is highly recommended;
- Verification of completion of the Hepatitis B vaccination, and
- A foreign transcript, both high school and college, must be evaluated by an approved HCC evaluation service. For a list of transcript evaluation services, please visit the following website: <http://www.hccs.edu/hccs/faculty-staff/employment-opportunities/transcript-evaluation-services>.

A representative from the Respiratory Therapist program will evaluate all completed application files. The number of positions available in each class is 40.

Qualified applicants for the Respiratory Therapist program will be required to take a program entrance exam. The student will be notified of the results via US mail. If accepted, students must pass a criminal background check and drug screening at an HCC approved agency and must provide proof of health insurance to remain in the program.

## Program Outcomes

Students will be able to

- Demonstrate Universal Precaution Protocol in a clinical/practicum setting.
- Demonstrate ethical behavior in a clinical/practicum setting.
- Demonstrate good communication skills in a clinical/practicum setting.
- Meet assigned entry level competencies in the clinical/practicum.
- Meet assigned entry level competencies in lab.

For more information call 713.718.7385 or e-mail [teddy.tovar@hccs.edu](mailto:teddy.tovar@hccs.edu)

## Respiratory Therapist

### AAS

*TSI testing is required prior to first enrollment.*

*The following prerequisite courses must be completed prior to admission to the program.*

<b>Prerequisites</b>			<b>Credits</b>
RSPT	1201	Introduction to Respiratory Care*	2
BIOL	2401	Anatomy and Physiology I	4
BIOL	2402	Anatomy and Physiology II	4
<b>Prerequisites Total</b>			<b>10</b>

### FIRST YEAR

<b>First Semester</b>			<b>Credits</b>
RSPT	2258	Respiratory Care Patient Assessment	2
RSPT	1310	Respiratory Care Procedures I	3
RSPT	1361	Clinical-Respiratory Care Therapy/Therapist	3
RSPT	1240	Advanced Cardiopulmonary Anatomy and Physiology	2
MATH	1314	College Algebra	3
<b>Semester Total</b>			<b>13</b>

<b>Second Semester</b>			<b>Credits</b>
RSPT	1311	Respiratory Care Procedures II	3
RSPT	1362	Clinical-Respiratory Care Therapy/Therapist	3
RSPT	1325	Respiratory Care Sciences	3
RSPT	2317	Respiratory Care Pharmacology	3
<b>Semester Total</b>			<b>12</b>

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<b>Third Semester (Summer)</b>			<b>Credits</b>
RSPT	2260	Clinical-Respiratory Care Therapy/Therapist.....	2
RSPT	2314	Mechanical Ventilation.....	3
ENGL	1301	Composition I.....	3
<b>Semester Total</b>			<b>8</b>

## SECOND YEAR

<b>First Semester</b>			<b>Credits</b>
RSPT	2266	Practicum-Respiratory Care Therapy/Therapist .....	2
RSPT	2255	Critical Care Monitoring .....	2
RSPT	2310	Cardiopulmonary Disease.....	3
PSYC	2301	Introduction to Psychology.....	3
XXXX	#3##	Approved Humanities/Fine Arts General Education Elective.....	3
<b>Semester Total</b>			<b>13</b>

<b>Second Semester</b>			<b>Credits</b>
RSPT	2233	Respiratory Care Case Management .....	2
RSPT	2267	Practicum-Respiratory Care Therapy/Therapist .....	2
RSPT	2325	Cardiopulmonary Diagnostics.....	3
RSPT	2353	Neonatal/Pediatric Cardiopulmonary Care .....	3
<b>Semester Total</b>			<b>10</b>

<b>Third Semester</b>			<b>Credits</b>
RSPT	2239	Advanced Cardiac Life Support.....	2
RSPT	2261	Clinical-Respiratory Care Therapy/Therapist.....	2
RSPT	2231	Simulations in Respiratory Care**.....	2
<b>Semester Total</b>			<b>6</b>
<b>Program Total</b>			<b>72</b>

\*Student Success Course  
\*\*Capstone

## SURGICAL TECHNOLOGY

The Surgical Technology program is designed for individuals interested in caring for the surgical patient. Upon completion of the program, graduates may gain employment as the primary scrub person who handles the instruments, supplies, and equipment during all types of surgical procedures. Portions of this program meet the needs of the registered nurse who is seeking employment in a surgically affiliated field. Upon completion of the courses, graduates receive a certificate of completion and are eligible to take the national certification exam through the National Board of Surgical Technology & Surgical Assisting (NBSTSA), 6 West Dry Creek, Suite 100, Littleton, CO, 80120, www.NBSTSA.org to become Certified Surgical Technologists.

Applicants must meet the following admission requirements: minimum scores on the ASSET/CELSA examination, successful completion of any required developmental courses, and completion of the application packet by the application deadline.

Students accepted into the program are required to pay a liability insurance fee which protects students against losses resulting from malpractice claims. Prior to entering the clinical area, students must provide a completed physical examination form including current immunizations and completion of Hepatitis-B series. Health Science students are also required to have a criminal background check and a drug screening prior to clinical training. All clinical trainings are non-paid experiences.

The Surgical Technology program meets the essentials and guidelines of an accredited program established by the Commission on Accreditation of Allied Health Education Programs (CAAHEP), 1361 Park St. Clearwater, FL 33756-6039, Telephone: 727.210.2350, Fax: 727.210.2354, www.caahep.org.

Individuals interested in applying must attend an Essential Requirements (ER) session at Coleman College for Health Sciences. Go online for the dates, times and location of the sessions. For further information, please see the **General Application Procedures** for Health Science programs.

In addition, please note that a student may only earn one Marketable Skills Achievement Award (MSA) per academic year.

### Program Outcomes

Students will be able to

- Demonstrate clinical competencies in surgical technology.
- Meet entry level skills in surgical technology.
- Exhibit safe, ethical, and legal behavior as it relates to the institution, workplace, and patient.
- Demonstrate appropriate aseptic techniques in a clinical setting.

For more information call 713.718.7362 or e-mail [christine.castillo@hccs.edu](mailto:christine.castillo@hccs.edu).



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## Surgical Technology

### **CERTIFICATE**

*TSI testing is required prior to first enrollment.*

<b>Prerequisite</b>	<b>Credits</b>
HPRS 1201 Introduction to Health Professions*.....	2
<b>Prerequisite Total</b>	<b>2</b>

<b>First Semester</b>	<b>Credits</b>
SRGT 1201 Medical Terminology .....	2
SRGT 1361 Clinical I-Surgical Technology/Technologist.....	3
SRGT 1409 Fundamentals of Aseptic Techniques .....	4
SRGT 1405 Introduction to Surgical Technology .....	4
SCIT 1407 Human Anatomy and Physiology I.....	4
<b>Semester Total</b>	<b>17</b>

<b>Second Semester</b>	<b>Credits</b>
SCIT 1408 Human Anatomy and Physiology II.....	4
SRGT 1441 Surgical Procedures I.....	4
SRGT 1463 Clinical II-Surgical Technology/Technologist.....	4
<b>Semester Total</b>	<b>12</b>

<b>Third Semester</b>	<b>Credits</b>
SRGT 1442 Surgical Procedures II.....	4
SRGT 2463 Clinical III-Surgical Technology/Technologist**.....	4
<b>Semester Total</b>	<b>8</b>
<b>Program Total</b>	<b>39</b>

\*Student Success Course

\*\*Capstone

## Surgical Technology-Accelerated Alternate Delivery (AAD)

The Accelerated Alternate Delivery (AAD) Marketable Skills Achievement Award (MSA) is designed to make available to the on-the-job trained surgical technologists or graduates from non-CAAHEP accredited programs an accelerated route in which to become eligible to sit for the national certification exam for surgical technology. To qualify for the program, prospective applicants must have completed on-the-job training for surgical technology or non-CAAHEP training before March 1, 2000.

### **MSA**

*(Marketable Skills Achievement Award)*

<b>First Semester</b>	<b>Credits</b>
SRGT 1201 Medical Terminology .....	2
SRGT 1372 Comprehensive Anatomy and Physiology for Surgical Technologists .....	3
SRGT 1405 Introduction to Surgical Technology .....	4
SRGT 2130 Professional Readiness .....	1
<b>Semester Total</b>	<b>10</b>
<b>Program Total</b>	<b>10</b>

# Health and Medical Sciences

## Health Care Career Academy

The Health Care Career Academy (HCCA) educates students about the health care industry in preparation for entry-level employment and selection of an appropriate educational program. Students will explore and determine their personal fit to various occupations within the health care industry and create a health career educational plan to achieve their professional goals. All learning and skill developments will be completed in preparation for entry-level employment and completion of a health career program leading to certification, licensure, and/or degree.

### CERTIFICATE

*TSI testing is required prior to first enrollment.*

<b>First Semester</b>		<b>Credits</b>
HPRS 1201	Introduction to Health Professions*	2
MDCA 1471	Ambulatory Care and Emergency Procedures	4
SRGT 1301	Medical Terminology	3
BIOL 2401	Anatomy and Physiology I	4
PLAB 1323	Phlebotomy OR	
NUPC 1320	Patient Care Technician/Assistant OR	
SRGT 1371	Sterile Processing OR	
POFI 1301	Computer Applications I	3
<b>Semester Total</b>		<b>16</b>
<b>Program Total</b>		<b>16</b>

*\*Student Success Course*

## Patient Care Technician

The Patient Care Technician Marketable Skills Achievement Award (MSA) is designed for individuals interested in caring for patients in multiple health care settings. Completers of this award are eligible to work in an entry-level position alongside health care professionals under the supervision of a registered nurse, a Licensed Vocational Nurse, or those in health care supervisory roles.

### MSA

*(Marketable Skills Achievement Award)*

<b>First Semester</b>		
HPRS 1201	Introduction to Health Professions	2
MDCA 1471	Ambulatory Care and Emergency Procedures	4
NUPC 1320	Patient Care Technician/Assistant	3
ECRD 1211	Electrocardiography	2
<b>Semester Total</b>		<b>11</b>
<b>Program Total</b>		<b>11</b>

## Phlebotomy Technician

The Phlebotomy Technician Marketable Skills Achievement Award (MSA) is designed to develop skills in a variety of blood collection techniques such as vacuum collection devices, syringes, capillary skin puncture, butterfly needles, blood cultures and specimen collection on adults, children and infants. Emphasis will be placed on infection control, specimen labeling, handling, processing and accessioning. Additional topics include professionalism, ethics and medical terminology. Completers of this award are eligible to take the American Society for Clinical Pathology (ASCP) certification exam and work in entry-level phlebotomy positions in hospitals and doctor offices.

### MSA

*(Marketable Skills Achievement Award)*

<b>First Semester</b>		
HPRS 1201	Introduction to Health Professions	2
PLAB 1323	Phlebotomy	3
PLAB 1260	Clinical-Phlebotomy/Phlebotomist	2
SRGT 1301	Medical Terminology	3
<b>Semester Total</b>		<b>10</b>
<b>Program Total</b>		<b>10</b>

## Sterile Processing Technician

The Sterile Processing Technician Marketable Skills Achievement Award (MSA) is designed for individuals interested in processing surgical instrumentation. The completer of this award will be eligible to work in an entry-level position alongside health care professionals with supervision in a surgical instrumentation central processing department.

### MSA

*(Marketable Skills Achievement Award)*

<b>First Semester</b>		
HPRS 1201	Introduction to Health Professions	2
SRGT 1301	Medical Terminology	3
SRGT 1371	Sterile Processing	3
<b>Semester Total</b>		<b>8</b>
<b>Second Semester</b>		
SRGT 1560	Clinical-Surgical Technology/Technologist	5
<b>Semester Total</b>		<b>5</b>
<b>Program Total</b>		<b>13</b>

# Health and Medical Sciences

## Renal Dialysis Technician

The Renal Dialysis Technician certificate is designed to prepare individuals to apply safe and effective dialysis treatment to patients with chronic kidney disease. The program requires technical expertise in conjunction with a patient care team that includes nurses, dietitians, social workers, doctors and, most importantly, the patient. The goal of the renal dialysis technician (RDT) is to ensure that the patient receives the highest quality of care in a safe and professional environment.

### Program Outcomes

Students will be able to

- Demonstrate clinical competencies as a renal dialysis technician.
- Meet entry level skills in renal dialysis.
- Exhibit safe, ethical, and legal behavior as it relates to the institution, workplace, and patient.
- Demonstrate appropriate aseptic techniques in a clinical setting.

### CERTIFICATE

*TSI testing is required prior to first enrollment.*

#### FIRST YEAR

First Semester		Credits
HPRS 1201	Introduction to Health Professions*	2
VNSG 1216	Nutrition	2
VNSG 1320	Anatomy and Physiology for Allied Health	3
VNSG 1423	Basic Nursing Skills	4
SRGT 1201	Medical Terminology	2
DYTC 1270	Clinical - Renal Dialysis Technician I	2
<b>Semester Total</b>		<b>15</b>

Second Semester		Credits
DYTC 2470	Principles of Renal Dialysis I	4
DYTC 2471	Renal Failure and Support Therapies and Hemodialysis Lab Procedures	4
DYTC 2472	Clinical - Renal Dialysis Technician II	4
<b>Semester Total</b>		<b>12</b>

Third Semester		Credits
DYTC 2473	Principles of Renal Dialysis II	4
DYTC 2474	Clinical - Renal Dialysis Technician III	4
DYTC 2170	Renal Dialysis Professional Readiness	1
<b>Semester Total</b>		<b>9</b>
<b>Program Total</b>		<b>36</b>

\*Student Success Course

\*\*Capstone

## VOCATIONAL NURSING

The Vocational Nursing program prepares the graduate to perform specific nursing duties under the supervision of a registered nurse, advanced practice registered nurse, physician's assistant, physician, podiatrist, or dentist. Responsibilities include direct patient care in acute-care settings, community health agencies, nursing homes, and other healthcare institutions. Graduates of the program are eligible to apply to take the NCLEX-PN Examination to become Licensed Vocational Nurses (LVN). The Texas Board of Nursing has granted full approval status to the program, 333 Guadalupe, Suite 3-460, Austin, TX 78701, 512.305.7400.

The one-year, full-time program is divided into three semesters. Classes begin in fall and spring semesters. Applicants must complete the admissions criteria in order to be accepted into the program. Applicants must submit the following documents to the admissions office:

- Health Science program application;
- Official high school transcript or GED scores. Foreign transcripts (high school and college) must be evaluated by an approved evaluation service. Cumulative high school GPA or college GPA of 2.5 or higher, if applicable. For list of transcript evaluation services please visit the following website: <http://www.hccs.edu/hccs/faculty-staff/employment-opportunities/transcript-evaluation-services>; and
- Test of Essential Academic Skills (TEAS) minimum reading of 64% and a minimum math score of 60%. TEAS must be taken within the past 3 years.

For additional information call 713.718.7330.

Completion and submission of the above documents does not guarantee acceptance into the program. Due to the popular demand and competitiveness of the program, a selection process has been implemented that consists of the following: test results, personal interview, and healthcare experience or observation/interview. Students are rated based on the above criteria. Students are required to attend an Essential Requirements (ER) session to learn more about the program and selection process.

A grade of "C" or higher must be maintained in each course to advance in the program of study. All courses must be completed in sequence according to the nursing curriculum. Re-entry applicants (those students who have withdrawn from or failed any course) must complete a re-admission application prior to students re-entering the program. One time re-admission will be considered based

# Health and Medical Sciences

on previous performance, available space, attendance, recommendation of readmission committee, interview and successful course completion as recommended during the "EXIT INTERVIEW." If a student fails or withdraws a second time, the student is not permitted to continue in the program. All courses in the nursing curriculum must be completed one year from the date of a student's registration.

Individuals interested in applying must attend an Essential Requirements (ER) session at Coleman College for Health Sciences. Go online for the dates, times and location of the sessions. Students accepted into the program must successfully pass a drug screen and a criminal background check prior to the start of classes. Hepatitis B vaccinations (may take up to 6 months to administer) must be completed prior to the start of the first semester.

In an effort to promote retention, students are required to attend the Vocational Nursing "Survival Camp" hosted prior to the first week of classes. This camp is designed to equip students with the tools of organization, test-taking strategies, time management techniques and other essential skills needed to function in a diverse community and global society.

The Vocational Nursing program is currently seeking program accreditation from the National League for Nursing Accrediting Commission. This accreditation is awarded to those programs which are recognized as meeting and/or exceeding criteria for educational excellence.

## Program Outcomes

Students will be able to

- Discuss the personal adjustments essential to the development of the vocational nurse.
- Identify the role of the licensed vocational nurse.
- Discuss the ethical and legal responsibilities in vocational nursing practice.
- Apply the classification system for nursing diagnoses as defined by the North American Nursing Diagnosis Association (NANDA) and practice the nursing process as the scientific basis for nursing care management.

For more information call 713.718.7330 or see [www.hccs.edu/vocationalnursing](http://www.hccs.edu/vocationalnursing).

## Vocational Nursing

### CERTIFICATE

*TSI testing is required prior to first enrollment.*

<b>Prerequisites</b>		<b>Credits</b>
VNSG 1216	Nutrition.....	2
VNSG 1320	Anatomy and Physiology for Allied Health.....	3
<b>Prerequisites Total</b>		<b>5</b>

<b>First Semester</b>		<b>Credits</b>
VNSG 1400	Nursing in Health and Illness I.....	4
VNSG 1122	Vocational Nursing Concepts.....	1
VNSG 1227	Essentials of Medication Administration.....	2
VNSG 1423	Basic Nursing Skills.....	4
VNSG 1161	Clinical-Licensed Vocational Nurse Training I.....	1
<b>Semester Total</b>		<b>12</b>

<b>Second Semester</b>		<b>Credits</b>
VNSG 1330	Maternal Neonatal Nursing.....	3
VNSG 1162	Clinical-Licensed Vocational Nurse Training II.....	1
VNSG 1266	Practicum I-Licensed Vocational Nurse.....	2
VNSG 1409	Nursing in Health and Illness II.....	4
VNSG 2331	Advanced Nursing Skills.....	3
VNSG 1238	Mental Illness.....	2
<b>Semester Total</b>		<b>15</b>

<b>Third Semester</b>		<b>Credits</b>
VNSG 1219	Leadership and Professional Development.....	2
VNSG 1163	Clinical-Licensed Vocational Nurse Training III.....	1
VNSG 1334	Pediatrics.....	3
VNSG 1410	Nursing in Health and Illness III.....	4
VNSG 1267	Practicum II-Licensed Vocational Nurse**.....	2
<b>Semester Total</b>		<b>12</b>
<b>Program Total</b>		<b>44</b>

\*\*Capstone

# Hospitality and Tourism

## **Culinary Arts (12.0501, 12.0503) Hotel/Restaurant Management (52.0904) Travel & Tourism (52.0903)**

A Career Cluster is a grouping of occupations and broad industries based on commonalities. The Hospitality and Tourism career cluster is concerned with providing knowledge and skills related to the management, marketing and operations of restaurants and other food services, lodging, attractions, recreation events and travel related services. This includes the following HCC programs: Culinary Arts, Hotel/Restaurant Management and Travel & Tourism.

All new semester hour students, who have earned less than 12 semester hours of college level credit, are required to take a first-year student success course in their first term at HCC. Through research and experience, Houston Community College has determined that many life and career management skills are necessary for students to make the most of their college investment. A student success course is designed to prepare students for the demands of college and for success in the world of work. The course emphasizes setting priorities, time management, effective listening, note-taking, concentration techniques, and retention of information, book analysis, comprehension techniques, and test-taking skills. This course also incorporates units that are designed to facilitate the use of library databases in conducting research, planning and setting educational objectives, lifelong career assessment, decision-making, financial aid, tutoring, and student support services, enabling the student to maximize the use of college resources.

Every HCC Career and Technology Education program contains a "capstone," an experience for the student to "put it all together." The capstone is a learning experience resulting in a consolidation of a student's educational experience and certifies mastery of entry level workplace competencies. The capstone experience must occur during the last semester of the student's educational program. The capstone consists of an external learning experience or an advanced course especially designed to help students synthesize knowledge and skills or other licensure as appropriate.

## **CULINARY ARTS**

Specialized classroom and practical laboratory work experiences in the preparation and cooking of a variety of foods are included in the Culinary Arts program. Emphasis is placed on the use and care of commercial equipment used in food preparation, sanitation in food handling, cooking and baking methods, preparation of special dishes, food standards, aspects of nutrition, and gourmet cooking.

Since this program is designed to prepare graduates for a career in Culinary Arts, tools and materials are expected to be purchased by students in order to perform routine class and laboratory assignments.

Upon completion of CHEF 1305, Safety and Sanitation, students are eligible to take the National Restaurant Association Education Foundation ServSafe Certification exam. After receiving a passing grade on the exam, students are awarded the ServSafe Health Certificate that is valid for five years.

**Please note that a student may only earn one Marketable Skills Achievement Award (MSA) per academic year.**

### **Program Outcomes**

Students will be able to

- Demonstrate professional behavior and work ethic necessary to compete and advance in the hospitality industry.
- Construct, present, and evaluate a variety of culinary dishes.
- Demonstrate competence in applying culinary techniques that are necessary in the food service industry.
- Differentiate the purpose of ingredients used in the preparation of baked goods.
- Identify, produce and present professional quality baked goods which is marketable in a professional pastry shop.
- Employ a solid foundation of techniques for baked and non baked pastry goods.

*For more information on Culinary Arts call 713.718.6045 or e-mail [nicholas.boland@hccs.edu](mailto:nicholas.boland@hccs.edu).*

*For more information on Pastry Arts call 713.718.6068 or e-mail [eddy.vandamme@hccs.edu](mailto:eddy.vandamme@hccs.edu).*

# Hospitality and Tourism

## Culinary Arts

### AAS

*TSI testing is required prior to first enrollment.*

#### FIRST YEAR

<b>First Semester</b>		<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking*	2
CHEF 1301	Basic Food Preparation	3
CHEF 2201	Intermediate Food Preparation	2
CHEF 2231	Advanced Food Preparation	2
CHEF 1305	Sanitation and Safety	3
RSTO 1325	Purchasing for Hospitality Operations	3
<b>Semester Total</b>		<b>15</b>

<b>Second Semester</b>		<b>Credits</b>
CHEF 1313	Food Service Operation/Systems	3
XXXX #3##	Math/Natural Science General Education Elective OR	
MATH 1314	College Algebra	3
CHEF 1314	A' La Carte Cooking	3
CHEF 2302	Saucier	3
RSTO 2301	Principles of Food and Beverage Control	3
<b>Semester Total</b>		<b>15</b>

<b>Third Semester</b>		<b>Credits</b>
CHEF 1345	International Cuisine	3
CHEF 1310	Garde Manger	3
CHEF 1341	American Regional Cuisine	3
<b>Semester Total</b>		<b>9</b>

#### SECOND YEAR

<b>First Semester</b>		<b>Credits</b>
CHEF 2336	Charcuterie	3
XXXX #3##	Humanities/Fine Arts General Education Elective	3
PSTR 1340	Plated Desserts	3
HAMG 1324	Hospitality Human Resources Management	3
<b>Semester Total</b>		<b>12</b>

<b>Second Semester</b>		<b>Credits</b>
SPCH #3##	Speech Elective	3
XXXX #3##	General Education Elective	3
CHEF 1302	Principles of Healthy Cuisine	3
XXXX #3##	Social/Behavioral Sciences General Education Elective	3
CHEF 1364	Practicum-CulinaryArts/Chef Training**OR	
CHEF 1381	Cooperative Education-Culinary Arts/Chef Training**	3
<b>Semester Total</b>		<b>15</b>
<b>Program Total</b>		<b>66</b>

*\*Student Success Course*

*\*\*Capstone*

## Culinary Arts

### CERTIFICATE

*TSI testing is required prior to first enrollment.*

#### First Semester

		<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking*	2
CHEF 1301	Basic Food Preparation	3
CHEF 2201	Intermediate Food Preparation	2
CHEF 2231	Advanced Food Preparation	2
CHEF 1305	Sanitation and Safety	3
RSTO 1325	Hospitality Purchasing Management	3
<b>Semester Total</b>		<b>15</b>

<b>Second Semester</b>		<b>Credits</b>
CHEF 1313	Food Service Operation/Systems	3
CHEF 1314	A' La Carte Cooking	3
CHEF 2302	Saucier	3
CHEF 1310	Garde Manger	3
XXXX #3##	Department Approved Elective	3
<b>Semester Total</b>		<b>15</b>

<b>Third Semester</b>		<b>Credits</b>
RSTO 2301	Principles of Food and Beverage Control	3
PSTR 1340	Plated Desserts	3
CHEF 1345	International Cuisine	3
CHEF 1341	American Regional Cuisine	3
CHEF 1364	Practicum-CulinaryArts/Chef Training** OR	
CHEF 1381	Cooperative Education-Culinary Arts/Chef Training**	3
<b>Semester Total</b>		<b>15</b>
<b>Program Total</b>		<b>45</b>

*\*Student Success Course*

*\*\*Capstone*

## Baking and Pastry

### AAS

*TSI testing is required prior to first enrollment.*

#### FIRST YEAR

<b>First Semester</b>		<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking*	2
PSTR 1301	Fundamentals of Baking	3
PSTR 1305	Breads and Rolls	3
PSTR 1310	Pies, Tarts, Teacakes and Cookies	3
CHEF 1305	Sanitation and Safety	3
<b>Semester Total</b>		<b>14</b>

# Hospitality and Tourism

## Second Semester Credits

XXXX #3##	Math/Natural Science General Education Elective OR	
MATH 1314	College Algebra.....	3
PSTR 1312	Laminated Dough, Pate a Choux and Donuts .....	3
PSTR 2301	Chocolates.....	3
PSTR 2331	Advanced Pastry Shop .....	3
RSTO 1325	Purchasing for Hospitality Operations.....	3

**Semester Total 15**

## Third Semester Credits

XXXX #3##	Social/Behavioral Science General Education Elective ...	3
CHEF 1313	Food Service Operation/Systems .....	3
PSTR 1340	Plated Desserts.....	3
PSTR 2350	Wedding Cakes.....	3
XXXX #3##	Department Approved Elective .....	3

**Semester Total 15**

## SECOND YEAR

### First Semester Credits

XXXX #3##	Humanities/Fine Arts General Education Elective .....	3
PSTR 1306	Cake Decorating I .....	3
SPAN #3##	Conversational Spanish for the Restaurant Trades .....	3
XXXX #3##	Department Approved Elective .....	3

**Semester Total 12**

### Second Semester Credits

SPCH #3##	Speech Elective .....	3
XXXX #3##	General Education Elective.....	3
XXXX #3##	Department Approved Elective .....	3
PSTR 1364	Practicum-CulinaryArts/Chef Training** OR	
PSTR 1381	Cooperative Education-Baking and Pastry Arts/Baker/ Pastry Chef** OR	
PSTR 2307	Cake Decorating II** .....	3

**Semester Total 12**

**Program Total 68**

*\*Student Success Course*

*\*\*Capstone*

## Baking and Pastry

### CERTIFICATE

*TSI testing is required prior to first enrollment.*

### First Semester Credits

LEAD 1200	Workforce Development with Critical Thinking* .....	2
PSTR 1301	Fundamentals of Baking .....	3
PSTR 1305	Breads and Rolls.....	3
PSTR 1310	Pies, Tarts, Teacakes and Cookies .....	3
CHEF 1305	Sanitation and Safety.....	3

**Semester Total 14**

## Second Semester Credits

CHEF 1313	Food Service Operation/Systems .....	3
PSTR 1306	Cake Decorating I .....	3
PSTR 2331	Advanced Pastry Shop .....	3
PSTR 1312	Laminated Dough, Pate a Choux and Donuts .....	3
RSTO 2301	Principles of Food and Beverage Control .....	3

**Semester Total 15**

## Third Semester Credits

PSTR 2301	Chocolates.....	3
PSTR 1340	Plated Desserts.....	3
PSTR 2350	Wedding Cakes.....	3
PSTR 1364	Practicum-Baking and Pastry Arts/Baker/Pastry Chef**OR	
PSTR 1381	Cooperative Education-Baker/Pastry Chef** OR	
PSTR 2307	Cake Decorating II** .....	3

**Semester Total 12**

**Program Total 41**

*\*Student Success Course*

*\*\*Capstone*

## Baker

The Baker Marketable Skills Achievement Award (MSA) is designed to train students in bread making, breakfast pastries, and American style cakes. The hands-on instruction focuses on using the latest technology, techniques, and raw food materials to prepare students for today's contemporary bakery.

## MSA

*(Marketable Skills Achievement Award)*

### First Semester Credits

CHEF 1305	Sanitation and Safety.....	3
PSTR 1305	Breads and Rolls.....	3
PSTR 1312	Laminated Dough, Pate Choux and Donuts .....	3
PSTR 1301	Fundamentals of Baking .....	3

**Semester Total 12**

**Program Total 12**

# Hospitality and Tourism

## Cake Decorator

The Cake Decorator Marketable Skills Achievement Award (MSA) prepares students with the knowledge and technical skills required for employment in bake shops of restaurants, bakeries, hotels, hospitals, country clubs, and large scale baking operations. The hands-on instruction is taught in state-of-the-art pastry kitchen using the latest technology and techniques to prepare students for an exciting career in the food industry.

### MSA

*(Marketable Skills Achievement Award)*

<b>First Semester</b>		<b>Credits</b>
CHEF 1305	Sanitation and Safety.....	3
PSTR 1301	Fundamentals of Baking.....	3
PSTR 1310	Pies, Tarts, Teacakes and Cookies.....	3
PSTR 2350	Wedding Cakes.....	3
<b>Semester Total</b>		<b>12</b>
<b>Program Total</b>		<b>12</b>

## Pastry Cook

The Pastry Cook Marketable Skills Achievement Award (MSA) is designed to prepare students for challenging positions in contemporary bakeshops of restaurants, hotels, country clubs, hospitals, and large scale baking operations. The hands-on instruction is taught in state-of-the-art pastry kitchen using the latest technologies, techniques, and formulas.

### MSA

*(Marketable Skills Achievement Award)*

<b>First Semester</b>		<b>Credits</b>
CHEF 1305	Sanitation and Safety.....	3
PSTR 1310	Pies, Tarts, Teacakes and Cookies.....	3
PSTR 1340	Plated Desserts.....	3
PSTR 2331	Advanced Pastry Shop.....	3
<b>Semester Total</b>		<b>12</b>
<b>Program Total</b>		<b>12</b>

## HOTEL/RESTAURANT MANAGEMENT

The Hotel/Restaurant Management program is designed to prepare graduates for entry-level management positions in the hospitality industry. Students acquire a broad base of knowledge and skills for a successful career in a challenging service business environment. The program focuses on courses such as front office procedures, hospitality marketing, beverage management, facilities management, and hospitality financial management. All of these courses are uniquely designed for the hospitality service industry.

Program offerings include an AAS in Hotel/Restaurant Management and certificate options in both hotel management and restaurant management. These specialty areas are designed for individuals working in the industry who wish to upgrade their skills or for students who are seeking initial certification with the ultimate goal of earning the AAS in Hotel/Restaurant Management.

### Program Outcomes

Students will be able to

- Evaluate functional systems (accounting, finance, marketing and management) in the lodging and travel industry.
- Apply human, financial, technical and facilities resources management into food service/lodging and travel operations.
- Demonstrate problem solving and critical thinking by applying skills and knowledge to different contexts in the hospitality and travel industry.
- Apply communication skills effectively involving diverse individuals in the hospitality and travel industry.

*For more information call 713.718.6072 or e-mail ezat.moradi@hccs.edu.*



# Hospitality and Tourism

## Hotel/Restaurant Management

### AAS

*TSI testing is required prior to first enrollment.*

#### FIRST YEAR

##### First Semester Credits

LEAD 1200	Workforce Development with Critical Thinking*	2
HAMG 1321	Introduction to Hospitality Industry	3
ENGL 1301	Composition I	3
CHEF 1305	Sanitation and Safety	3
SOCI 1301	Introduction to Sociology OR	
ECON 2302	Principles of Economics (Micro)	3

**Semester Total 14**

##### Second Semester Credits

RSTO 1325	Purchasing for Hospitality Operations	3
HAMG 1313	Front Office Procedures	3
XXXX #3##	Computer Applications Elective***	3
XXXX #3##	Humanities/Fine Arts General Education Elective	3
ACNT 1303	Introduction to Accounting I	3

**Semester Total 15**

##### Third Semester Credits

HAMG 1324	Hospitality Human Resources Management	3
HAMG 2337	Hospitality Facilities Management	3
XXXX #3##	Approved Program-Related Elective	3
XXXX #3##	Math/Natural Science General Education Elective	3

**Semester Total 12**

#### SECOND YEAR

##### First Semester Credits

HAMG 2332	Hospitality Financial Management	3
HAMG 2380	Cooperative Education-Hospitality Administration/Management, General	3
RSTO 2301	Principles of Food and Beverage Control	3
XXXX #3##	Approved Program-Related Elective	3
PSYC 2301	Introduction to Psychology OR	
PSYC 2302	Applied Psychology	3

**Semester Total 15**

##### Second Semester Credits

TRVM 1327	Special Events Design	3
RSTO 1491	Special Topics in Food and Beverage/Restaurant Operations Manager	4
HAMG 1340	Hospitality Legal Issues	3
HAMG 2381	Cooperative Education-Hospitality Administration/Management, General	3
HAMG 2307	Hospitality Marketing and Sales**	3

**Semester Total 16**

**Program Total 72**

*\*Student Success Course*

*\*\*Capstone*

*\*\*\*Electives may be chosen from the following courses: ITSC 1309, POFI 1301, or BCIS 1405.*

## Hotel Management

The Hotel Management certificate introduces students to the basic management techniques and administrative practices and procedures of the hotel industry. Individuals completing this course of study are qualified for entry-level management positions within the industry. The certificate program focuses on the following areas of study: principles of food and beverage control, hospitality human resource management, hospitality financial management, hospitality marketing, guest room maintenance, front office procedures and facilities management.

All courses in this certificate apply to the AAS degree in Hotel/Restaurant Management.

Upon completion of CHEF 1305, Safety and Sanitation, students are eligible to take the National Restaurant Association Education Foundation ServSafe Certification exam. After receiving a passing grade on the exam, students are awarded the ServSafe Health Certificate that is valid for five years.

*For more information call 713.718.6072 or e-mail ezat.moradi@hccs.edu.*

### CERTIFICATE

*TSI testing is required prior to first enrollment.*

##### First Semester Credits

LEAD 1200	Workforce Development with Critical Thinking*	2
HAMG 1321	Introduction to Hospitality Industry	3
RSTO 2301	Principles of Food and Beverage Control	3
HAMG 2332	Hospitality Financial Management	3
HAMG 1313	Front Office Procedures	3
HAMG 1324	Hospitality Human Resources Management	3

**Semester Total 17**

# Hospitality and Tourism

<b>Second Semester</b>			<b>Credits</b>
ENGL	1301	Composition I.....	3
ACNT	1303	Introduction to Accounting I.....	3
TRVM	1327	Special Events Design.....	3
HAMG	1342	Guest Room Maintenance.....	3
HAMG	2380	Cooperative Education-Hospitality Administration/ Management, General.....	3
HAMG	2337	Hospitality Facilities Management**.....	3
<b>Semester Total</b>			<b>18</b>
<b>Program Total</b>			<b>35</b>

\*Student Success Course  
\*\*Capstone

<b>Second Semester</b>			<b>Credits</b>
RSTO	2301	Principles of Food and Beverage Control.....	3
RSTO	1491	Special Topics in Food and Beverage/Restaurant Operations Manager.....	4
ENGL	1301	Composition I.....	3
HAMG	2380	Cooperative Education-Hospitality Administration/ Management, General.....	3
HAMG	1324	Hospitality Human Resources Management**.....	3
<b>Semester Total</b>			<b>16</b>
<b>Program Total</b>			<b>30</b>

\*Student Success Course  
\*\*Capstone

## Restaurant Management

The Restaurant Management certificate introduces students to the basic management techniques and administrative practices and procedures of the restaurant and food service industry. Individuals completing this course of study are qualified for entry-level management positions within the industry. This certificate program focuses on the following areas of study: food preparation, food purchasing, food and beverage cost control, sanitation and safety, human resource management, beverage management, hospitality marketing and dining room management services.

All courses in this certificate apply to the AAS degree in Hotel/Restaurant Management.

Upon completion of CHEF 1305, Safety and Sanitation, students are eligible to take the National Restaurant Association Education Foundation ServSafe Certification exam. After receiving a passing grade on the exam, students are awarded the ServSafe Health Certificate that is valid for five years.

For more information call 713.718.6072 or e-mail ezat.moradi@hccs.edu.

### CERTIFICATE

*TSI testing is required prior to first enrollment.*

<b>First Semester</b>			<b>Credits</b>
LEAD	1200	Workforce Development with Critical Thinking*.....	2
HAMG	1321	Introduction to Hospitality Industry.....	3
CHEF	1305	Sanitation and Safety.....	3
TRVM	1327	Special Events Design.....	3
RSTO	1325	Purchasing for Hospitality Operations.....	3
<b>Semester Total</b>			<b>14</b>

## TRAVEL AND TOURISM

The AAS degree in Travel and Tourism is designed to provide students with specialized business skills and practical work experience. The degree program focuses on courses such as Travel Automation, Ticketing Forms and Procedures, Travel and Tourism Sales and Marketing, Travel Industry Management, Travel Destination, Group Tour Operations, International Fare Construction, and Special Events Design. These and other courses in the curriculum are uniquely designed for the travel service industry. The application of classroom theory and the importance of working with others are emphasized through the program's cooperative work experience.

### Program Outcomes

Students will be able to

- Evaluate functional systems (accounting, finance, marketing and management) in the lodging and travel industry.
- Apply human, financial, technical and facilities resource management into food service/lodging and travel operations.
- Demonstrate problem solving and critical thinking by applying skills and knowledge to different contexts in the hospitality and travel industry.
- Apply communication skills effectively involving diverse individuals in the hospitality and travel industry.

For more information call 713.718.6072 or 713.718.6101 or e-mail ezat.moradi@hccs.edu.

# Hospitality and Tourism

## Travel and Tourism

### AAS

*TSI testing is required prior to first enrollment.*

#### FIRST YEAR

<b>First Semester</b>		<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking*	2
TRVM 1300	Introduction to Travel and Tourism	3
ENGL 1301	Composition I	3
TRVM 1308	Travel Destination I-Western Hemisphere	3
XXXX #4##	Foreign Language Elective	4
<b>Semester Total</b>		<b>15</b>

<b>Second Semester</b>		<b>Credits</b>
TRVM 1313	Ticketing Forms and Procedures	3
TRVM 1306	Travel Automation I	3
TRVM 2305	Travel Industry Management	3
MRKG 1311	Principles of Marketing	3
XXXX #3##	Social/Behavioral Science General Education Elective	3
SPCH #3##	Speech Elective	3
<b>Semester Total</b>		<b>18</b>

#### SECOND YEAR

<b>First Semester</b>		<b>Credits</b>
TRVM 1341	Travel Destination II-Eastern Hemisphere	3
TRVM 1345	Travel and Tourism Sales and Marketing	3
TRVM 1348	International Fare Construction	3
TRVM 1323	Group Tour Operation	3
TRVM 2380	Cooperative Education I-Tourism and Travel Services Management	3
<b>Semester Total</b>		<b>15</b>

<b>Second Semester</b>		<b>Credits</b>
TRVM 1327	Special Events Design	3
TRVM 1391	Special Topics in Travel Retail Sales	3
XXXX #3##	Math/Natural Science General Education Elective	3
XXXX #3##	Humanities/Fine Arts General Education Elective	3
TRVM 2381	Cooperative Education II-Tourism and Travel Services Management	3
TRVM 2335	Travel Automation II**	3
<b>Semester Total</b>		<b>18</b>
<b>Program Total</b>		<b>66</b>

*\*Student Success Course*

*\*\*Capstone*

## Travel and Tourism

The Travel and Tourism certificate provides entry-level skills for those students who wish to start working in a travel agency. All courses in this certificate apply to the AAS Degree in Travel and Tourism.

### CERTIFICATE

*TSI testing is required prior to first enrollment.*

<b>First Semester</b>		<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking*	2
TRVM 1300	Introduction to Travel and Tourism	3
TRVM 1308	Travel Destinations I-Western Hemisphere	3
TRVM 1313	Ticketing Forms and Procedures	3
TRVM 1327	Special Events Design	3
<b>Semester Total</b>		<b>14</b>

<b>Second Semester</b>		<b>Credits</b>
TRVM 2380	Cooperative Education I-Tourism and Travel Services Management	3
TRVM 1306	Travel Automation I**	3
<b>Semester Total</b>		<b>6</b>
<b>Program Total</b>		<b>20</b>

*\*Student Success Course*

*\*\*Capstone*

# Human Services and Social Sciences

**Cosmetology (12.0401, 12.0408, 12.0412, 12.0413)**

**Human Service Technology (51.1501, 51.1502)**

**Sign Language/Interpretation & Translation (16.1603)**

A Career Cluster is a grouping of occupations and broad industries based on commonalities. The Human Services and Social Sciences career cluster is concerned with providing knowledge and skills related to families and human needs. This includes the following HCC programs: Cosmetology, Human Services and Sign Language/ Interpretation & Translation.

All new semester hour students, who have earned less than 12 semester hours of college level credit, are required to take a first-year student success course in their first term at HCC. Through research and experience, Houston Community College has determined that many life and career management skills are necessary for students to make the most of their college investment. A student success course is designed to prepare students for the demands of college and for success in the world of work. The course emphasizes setting priorities, time management, effective listening, note-taking, concentration techniques, and retention of information, book analysis, comprehension techniques, and test-taking skills. This course also incorporates units that are designed to facilitate the use of library databases in conducting research, planning and setting educational objectives, lifelong career assessment, decision-making, financial aid, tutoring, and student support services, enabling the student to maximize the use of college resources.

Every HCC Career and Technology Education program contains a "capstone," an experience for the student to "put it all together." The capstone is a learning experience resulting in a consolidation of a student's educational experience and certifies mastery of entry level workplace competencies. The capstone experience must occur during the last semester of the student's educational program. The capstone consists of an external learning experience or an advanced course especially designed to help students synthesize knowledge and skills or other licensure as appropriate.

## COSMETOLOGY/BARBER STYLIST

The Cosmetology program provides the theory and practical instruction designed to prepare students for employment as a licensed cosmetologist. Students who successfully complete the entire curriculum are qualified to sit for the examination given by the Texas Department of Licensing and Regulation (T.D.L.R.) P.O. Box 12157 Austin, TX 78711. Those who are approved by the State are licensed as cosmetologists and are eligible for placement.

The Barber/Stylist program is designed to provide technical and practical instruction in the art of barbering. The educational goal of the barbering course of study is to prepare students for the state licensing examination and for profitable employment as class "A" barbers. Students who successfully complete the entire curriculum are qualified to sit for the examination given by the Texas Department of Licensing and Regulation (T.D.L.R.) P. O. Box 12157 Austin, TX 78711.

Due to Texas Department of Licensing and Regulation (T.D.L.R.) requirements limiting the number of students permitted at each location, students must have instructor approval before registering in any cosmetology/barber stylist course. Students may not go through the College registration process without specific instructor approval. Enrolled students are required to purchase tools, books, and uniforms. Students must maintain strong attendance. Students absent more than two days in a semester are dropped from the program.

In addition, please note that a student may only earn one Marketable Skills Achievement Award (MSA) per academic year.

### Program Outcomes

Students will be able to

- Project a positive attitude and a sense of personal integrity and self-confidence.
- Practice effective communication skills, visual poise, and proper grooming.
- Respect the need to deliver worthy service for value received in an employer-employee relationship.
- State the benefits of prioritizing time efficiently.
- List safety and sanitations procedures for use of equipment, implements, and treatments.

# Human Services and Social Sciences

- Demonstrate basic manipulative skills in the areas of hairstyling, hair shaping, hair coloring, texture services, scalp and hair conditioning, skin and makeup, manicure and pedicures and body treatments.
- Demonstrate basic analytical skills to determine proper makeup, hairstyle, and color application for the client's overall image.
- Apply learned theory, technical information and related matter to assure sound judgments, decisions, and procedures.
- Apply learned theory, manipulative skills and analytical skills to obtain licensure and competency in entry-level positions in cosmetology.

For more information call 713.718.7501 or e-mail [hilda.sustaita@hccs.edu](mailto:hilda.sustaita@hccs.edu).

## Barber/Stylist

The Barber/Stylist program is designed to provide technical and practical instruction covering all practices constituting the art of barbering. The educational goal of the barbering course of study is to prepare students for the state licensing examination and for profitable employment as class "A" barbers. Students who successfully complete the entire curriculum are qualified to sit for the examination given by the Texas Department of Licensing and Regulation (T.D.L.R.) P. O. Box 12157 Austin, TX 78711.

### CERTIFICATE

*TSI testing is required prior to first enrollment.*

<b>First Semester</b>		<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking*	2
BARB 1307	Introduction to Hair Design	3
BARB 1402	Barber Styling I	4
BARB 1404	Introduction to Barber Styling	4
<b>Semester Total</b>		<b>13</b>

<b>Second Semester</b>		<b>Credits</b>
BARB 1442	Barber Styling II	4
BARB 2402	Barber Styling III	4
BARB 2431	Advanced Barber Styling I	4
BARB 1491	Special Topics in Barber/Hairstylist	4
<b>Semester Total</b>		<b>16</b>

## Third Semester

		<b>Credits</b>
BARB 2441	Advanced Barber Styling II	4
BARB 2432	Barber Law and Shop Management I	4
BARB 2470	Preparation for the State Licensing Examination	4
BARB 2444	Barber Law and Shop Management II**	4
<b>Semester Total</b>		<b>16</b>
<b>Program Total</b>		<b>45</b>

\*Student Success Course

\*\*Capstone

## Barber/Stylist Management Entrepreneur

### CERTIFICATE

*TSI testing is required prior to first enrollment.*

#### FIRST YEAR

<b>First Semester</b>		<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking*	2
BUSG 2309	Small Business Management/Entrepreneurship	3
POFT 1301	Business English	3
BARB 2432	Barber Law and Shop Management I	4
<b>Semester Total</b>		<b>12</b>

#### Second Semester

		<b>Credits</b>
BUSG 1373	Entrepreneurship and Economic Development	3
HRPO 1311	Human Relations	3
MRKG 1311	Principles of Marketing OR	
ACNT 1303	Introduction to Accounting OR	
ACNT 2301	Principles of Accounting I	3
BARB 2444	Barber Law and Shop Management II**	4
<b>Semester Total</b>		<b>13</b>
<b>Program Total</b>		<b>25</b>

\*Student Success Course

\*\*Capstone

# Human Services and Social Sciences

## Cosmetology Operator

The Houston Community College Cosmetology Operator program is designed for students to obtain basic fundamentals as well as advanced techniques, people skills and product knowledge using current salon technology that meets the state licensure requirements and provides entry level skills to students who desire to have a career in the cosmetology profession. A career in cosmetology can take the trained professional to all parts of the nation and the world. This field allows individuals the opportunity to open their own business as well. A student in the Cosmetology Operator program may earn a vocational certificate and/or an Associate of Applied Science degree.

### AAS

*TSI testing is required prior to first enrollment.*

#### FIRST YEAR

<b>First Semester</b>		<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking*	2
ENGL 1301	Composition I	3
CSME 1410	Introduction to Haircutting and Related Theory	4
CSME 1405	Fundamentals of Cosmetology	4
POFI 1301	Computer Applications I	3
<b>Semester Total</b>		<b>16</b>

<b>Second Semester</b>		<b>Credits</b>
XXXX #3##	Humanities/Fine Arts General Education Elective	3
XXXX #3##	Math/Natural Science General Education Elective	3
CSME 1453	Chemical Reformation and Related Theory	4
CSME 2401	The Principles of Hair Coloring and Related Theory	4
<b>Semester Total</b>		<b>14</b>

<b>Third Semester</b>		<b>Credits</b>
CSME 1491	Special Topics in Cosmetology/Cosmetologist, General..	4
CSME 2539	Advanced Hair Design	5
CSME 2343	Salon Development	3
<b>Semester Total</b>		<b>12</b>

#### SECOND YEAR

<b>First Semester</b>		<b>Credits</b>
CSME 2337	Advanced Cosmetology Techniques	3
CSME 2410	Advanced Haircutting and Related Theory	4
GOVT 2302	American Government II	3
SPCH 1321	Business and Professional Speaking OR	
SPCH 1315	Public Speaking	3
PSYC 2301	Introduction to Psychology OR	
PSYC 2302	Applied Psychology OR	
PSYC 2303	Business Psychology	3
<b>Semester Total</b>		<b>16</b>

#### Second Semester

		<b>Credits</b>
CSME 1551	Artistry of Hair, Theory and Practice	5
XXXX #3##	Program Related Elective	3
CSME 2541	Preparation for the State Licensing Examination**	5
<b>Semester Total</b>		<b>13</b>
<b>Program Total</b>		<b>71</b>

*\*Student Success Course*

*\*\*Capstone*

## Cosmetology Operator - Level II

### CERTIFICATE

*TSI testing is required prior to first enrollment.*

<b>First Semester</b>		<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking*	2
CSME 1405	Fundamentals of Cosmetology	4
CSME 1410	Introduction to Haircutting and Related Theory	4
CSME 1453	Chemical Reformation and Related Theory	4
<b>Semester Total</b>		<b>14</b>

<b>Second Semester</b>		<b>Credits</b>
CSME 2401	The Principles of Hair Coloring and Related Theory	4
CSME 2337	Advanced Cosmetology Techniques	3
CSME 2539	Advanced Hair Design	5
CSME 1491	Special Topics in Cosmetology/Cosmetologist, General..	4
<b>Semester Total</b>		<b>16</b>

<b>Third Semester</b>		<b>Credits</b>
CSME 2343	Salon Development	3
CSME 2410	Advanced Haircutting and Related Theory	4
CSME 1551	Artistry of Hair, Theory and Practice	5
CSME 2541	Preparation for the State Licensing Examination**	5
<b>Semester Total</b>		<b>17</b>
<b>Program Total</b>		<b>47</b>

*\*Student Success Course*

*\*\*Capstone*

# Human Services and Social Sciences

## Cosmetology Instructor

The Cosmetology Instructor program is designed to allow students to earn the Cosmetology Instructor license from the Texas Department of Licensing and Regulation (T.D.L.R.). To enroll in this program, students must have a valid operator's license and three years experience in salon work.

Due to the Texas Department of Licensing and Regulation (T.D.L.R.) requirements limiting the number of students allowed at each location, students must obtain the approval of the Department Chair before registering for any cosmetology instructor course. Students are required to purchase tools and books.

### AAS

*TSI testing is required prior to first enrollment.*

#### FIRST YEAR

<b>First Semester</b>		<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking*	2
CSME 1534	Cosmetology Instructor I	5
ENGL 1301	Composition I	3
CSME 1535	Orientation to Instruction	5
XXXX #3##	Computer Applications Elective***	3
PHED #1##	Physical Education Elective	1
<b>Semester Total</b>		<b>19</b>

<b>Second Semester</b>		<b>Credits</b>
XXXX #3##	Math/Science General Education Elective	3
CSME 2514	Cosmetology Instructor II	5
CSME 2515	Cosmetology Instructor III	5
XXXX #3##	Social/Behavioral Science General Education Elective	3
PHED #1##	Physical Education Elective	1
<b>Semester Total</b>		<b>17</b>

#### SECOND YEAR

<b>First Semester</b>		<b>Credits</b>
CSME 2544	Cosmetology Instructor IV	5
XXXX #3##	Humanities/Fine Arts General Education Elective	3
BMGT 1301	Supervision	3
CSME 2545	Instructional Theory and Clinic Operation**	5
<b>Semester Total</b>		<b>16</b>

## Second Semester

		<b>Credits</b>
BUSG 2309	Small Business Management	3
GOVT 2302	American Government	3
SPCH 1321	Business and Professional Speaking OR	
SPCH 1315	Public Speaking	3
PSYC 2301	Introduction to Psychology OR	
PSYC 2302	Applied Psychology OR	
PSYC 2303	Business Psychology	3
<b>Semester Total</b>		<b>12</b>
<b>Program Total</b>		<b>64</b>

*\*Student Success Course*

*\*\*Capstone*

*\*\*\*Electives may be chosen from the following courses: JTSC 1309, POFI 1301, or BCIS 1405*

## Cosmetology Instructor

### CERTIFICATE

*TSI testing is required prior to first enrollment.*

<b>First Semester</b>		<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking*	2
CSME 1534	Cosmetology Instructor I	5
CSME 1535	Orientation to the Instruction of Cosmetology	5
CSME 2514	Cosmetology Instructor II	5
<b>Semester Total</b>		<b>17</b>

<b>Second Semester</b>		<b>Credits</b>
CSME 2515	Cosmetology Instructor III	5
CSME 2544	Cosmetology Instructor IV	5
CSME 2545	Instructional Theory and Clinic Operation**	5
<b>Semester Total</b>		<b>15</b>
<b>Program Total</b>		<b>32</b>

*\*Student Success Course*

*\*\*Capstone*

# Human Services and Social Sciences

## Facial Specialist

The Facial Specialist program is designed to provide students with the knowledge and technical skills required for successful entry into the facial/esthetic profession. After satisfactory completion of all courses and meeting the 750 clock hour requirement students are eligible to take the Texas Department of Licensing and Regulation (T.D.L.R.) Facialist/Esthetic Specialty Examination.

### CERTIFICATE

*TSI testing is required prior to first enrollment.*

<b>First Semester</b>		<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking*	2
CSME 1491	Special Topics in Cosmetology/Cosmetologist, General..	4
CSME 1420	Orientation to Facial Specialist .....	4
CSME 1421	Principles of Facial and Skin Care Technology I.....	4

**Semester Total 14**

<b>Second Semester</b>		<b>Credits</b>
CSME 1447	Principles of Skin Care/Facials and Related Theory.....	4
CSME 1545	Principles of Facial and Skin Care Technology II.....	5
CSME 2531	Principles of Facial and Skin Care Technology III** .....	5

**Semester Total 14**

**Program Total 28**

*\*Student Success Course*

*\*\*Capstone*

## Styling/Salon Management Entrepreneur

The Styling/Salon Management Entrepreneur certificate program prepares students with the concepts, principles, and skills necessary to establish a cosmetology salon. The certificate is designed for students who have experience in cosmetology and desire to obtain the skills necessary for the administration of a styling salon, facial or nail boutique. The certificate focuses on entrepreneurial business management skills, interpersonal communication and supervision, as well as human relations.

### CERTIFICATE

*TSI testing is required prior to first enrollment.*

<b>First Semester</b>		<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking*	2
BUSG 2309	Small Business Management/Entrepreneurship.....	3
BUSG 1373	Entrepreneurship and Economic Development .....	3
POFI 1301	Computer Applications I.....	3
BMGT 1301	Supervision .....	3

**Semester Total 14**

## Second Semester

		<b>Credits</b>
HRPO 1311	Human Relations .....	3
MRKG 1311	Principles of Marketing.....	3
ACNT 1303	Introduction to Accounting OR	
ACNT 2301	Principles of Accounting I.....	3
CSME 2343	Salon Development** .....	3

**Semester Total 12**

**Program Total 26**

*\*Student Success Course*

*\*\*Capstone*

## Hair Weaving and Braiding

The Hair Weaving and Braiding Marketable Skills Achievement Award (MSA) prepares the student with the training and skills necessary to work as a specialist in hair weaving and braiding in the natural hair care industry or a styling salon. Students are trained in hair additions, wigs and hairpieces, basic hair weaving including hair weaving repair and removal of weft, sizing and finishing hair ends by hand or the use of mechanical equipment.

### MSA

*(Marketable Skills Achievement Award)*

## FIRST YEAR

<b>First Semester</b>		<b>Credits</b>
CSME 1452	Orientation to Hair Weaving and Braiding .....	4
CSME 1557	Applications of Hair Weaving and Braiding.....	5

**Semester Total 9**

**Program Total 9**



# Human Services and Social Sciences

## HUMAN SERVICE TECHNOLOGY

The Human Service Technology program is designed for students interested in the broad field of human services. This degree equips students for employment as technicians in a wide range of human service facilities offering services to varied populations. Lectures place a strong emphasis on ethics and multiculturalism. Awards in this program are approved by the Council for Standards in Human Services Education (2118 Plum Grove Rd., #297 Rolling Meadows, IL 60008, www.cshse.org), the Department of State Health Services, Substance Abuse Services, (PO Box 149347, Austin, Texas 78714-9347, 1.888.963.7111, http://www.dshs.state.tx.us/sa) and the National Association for Activities Directing.

Classes are offered both during the day or in the evening. Students can be enrolled full-time or part-time. Classes taken under the certificate program transfer into the associate degree program. Students must write at the ENGL 0310 level, must read at the GUST 0342 level and must have mathematical reasoning skills at the MATH 0308 level.

Students participate in clinical experiences in various affiliated hospitals and human service agencies in the area. Currently there are over 65 affiliates. Students are required to purchase liability insurance through the HCC blanket policy before beginning practicum rotations. All students have weekly supervision during clinical training by the staff.

Individuals interested in the program should attend an Essential Requirements (ER) session at Coleman College for Health Sciences. Go online or call 713.718.5539 for the dates, times and location of the sessions.

In addition, please note that a student may only earn one Marketable Skills Achievement Award (MSA) per academic year.

### Program Outcomes

Students will be able to

- Identify various roles of a human service professional and scope of practice.
- Assess an individual's stage of change and apply appropriate intervention techniques.
- Demonstrate basic listening skills utilizing motivational interviewing principles.
- Assess identified individual's needs and identify appropriate referral sources to meet those needs.
- Demonstrate cultural competency in the development of professional ethics.

For more information call 713.718.5539 or e-mail [virginia.stehr@hccs.edu](mailto:virginia.stehr@hccs.edu).

## Human Service Technology

### AAS

*TSI testing is required prior to first enrollment.*

### FIRST YEAR

#### First Semester

	<b>Credits</b>
HPRS 1201 Introduction to Health Professions*	2
ENGL 1301 Composition I	3
PSYC 2301 Introduction to Psychology	3
SCWK 1321 Orientation to Social Services	3
DAAC 1417 Basic Counseling Skills	4
POFI 1301 Computer Applications I	3
<b>Semester Total</b>	<b>18</b>

#### Second Semester

	<b>Credits</b>
ENGL 1302 Composition II	3
CMSW 1313 Assessment and Service Delivery	3
DAAC 2354 Dynamics of Group Counseling	3
PSYC 2316 Psychology of Personality	3
XXXX #3## Directed Elective***	3
<b>Semester Total</b>	<b>15</b>

#### Third Semester

	<b>Credits</b>
CMSW 1266 Practicum-Clinical and Medical Social Work	2
PSYC 2314 Human Growth and Development: Lifespan	3
XXXX #3## Humanities/Fine Arts General Education Elective	3
<b>Semester Total</b>	<b>8</b>

### SECOND YEAR

#### First Semester

	<b>Credits</b>
CMSW 1267 Practicum-Clinical and Medical Social Work	2
SOCI 1301 Introduction to Sociology	3
DAAC 1311 Counseling Theories	3
XXXX #3## Directed Elective***	3
XXXX #3## Academic Elective (GOVT, MATH, HIST)	3
<b>Semester Total</b>	<b>14</b>

#### Second Semester

	<b>Credits</b>
CMSW 1353 Family Intervention Strategies	3
BIOL 2401 Anatomy and Physiology I****	4
XXXX #3## Directed Elective***	3
CMSW 2266 Practicum-Clinical and Medical Social Work**	2
<b>Semester Total</b>	<b>12</b>
<b>Program Total</b>	<b>67</b>

\*Student Success Course

\*\*Capstone

\*\*\*Electives may be chosen from the following courses:

CHLT 1401, CHLT1302, CHLT 1342, CMSW 1309, CMSW 2303, DAAC 1304, DAAC 1305, DAAC 1319, DAAC 2306, DAAC 2353, GERS 1301

\*\*\*\*BIOL 1406 is strongly recommended prior to BIOL 2401

# Human Services and Social Sciences

## Chemical Dependency Counselor

As of September 1, 2004, an associate degree from a Behavioral Science program is required to become a Licensed Chemical Dependency Counselor (LCDC) in the State of Texas. Students are qualified for employment at a clinical training institute after completing the Chemical Dependency Counselor certificate. For complete information on other requirements to become a LCDC, contact the Department of State Health Services, Substance Abuse Services at 1.888.963.7111, or visit the web site @ <http://www.dshs.state.tx.us/sa>.

For more information call 713.718.5539 or e-mail [virginia.stehr@hccs.edu](mailto:virginia.stehr@hccs.edu).

### CERTIFICATE

*TSI testing is required prior to first enrollment.*

<b>First Semester</b>		<b>Credits</b>
HPRS 1201	Introduction to Health Professions*	2
DAAC 1304	Pharmacology of Addiction	3
DAAC 1417	Basic Counseling Skills	4
CMSW 1313	Assessment and Service Delivery	3
<b>Semester Total</b>		<b>12</b>
<b>Second Semester</b>		<b>Credits</b>
DAAC 1319	Introduction to the Studies of Alcohol and Other Drugs	3
DAAC 1305	Co-occurring Disorders	3
XXXX #3##	Directed Elective***	3
XXXX #3##	Directed Elective***	3
<b>Semester Total</b>		<b>12</b>
<b>Third Semester</b>		<b>Credits</b>
DAAC 2267	Practicum-Substance Abuse/Addiction Counseling**	2
<b>Semester Total</b>		<b>2</b>
<b>Program Total</b>		<b>26</b>

\*Student Success Course

\*\*Capstone

\*\*\*Electives may be chosen from the following courses: CMSW 1353, DAAC 1311, or DAAC 2354

## Human Service Technology Certified Prevention Specialist

The Certified Prevention Specialist Marketable Skills Achievement Award (MSA) completes the educational requirement of the Texas Certification Board of Addiction Professionals (TCBAP), Certified Prevention Specialist. In order to obtain the complete certification, a student must take an additional 2000 hours of field work and pass a written exam. For complete requirements, go to the TCBAP website, <http://www.tcbap.org>. The Department of State Health Services (DSHS) requires the Prevention Certification in order to administer prevention programs funded by DSHS.

### MSA

*(Marketable Skills Achievement Award)*

#### FIRST YEAR

<b>First Semester</b>		<b>Credits</b>
DAAC 2306	Substance Abuse Prevention I	3
DAAC 1304	Pharmacology of Addiction	3
<b>Semester Total</b>		<b>6</b>
<b>Second Semester</b>		<b>Credits</b>
DAAC 2353	Substance Abuse Prevention II	3
<b>Semester Total</b>		<b>3</b>
<b>Third Semester</b>		<b>Credits</b>
DAAC 1264	Practicum	2
<b>Semester Total</b>		<b>2</b>
<b>Program Total</b>		<b>11</b>

## Human Service Technology Community Health Worker

Community Health Workers are individuals who work either for pay or as volunteers in association with the local health care system in both urban and rural environments and usually share ethnicity, language, socioeconomic status and life experiences with the community members they serve. In various settings, Community Health Workers (CHWs) have been identified by many titles such as community health advisors, lay health advocates, "promotores(as)" outreach educators, community health representatives, peer health promoters, patient navigators, and peer health educators. CHWs offer interpretation and translation services, provide culturally appropriate health education and information, assist people in receiving the care they need, give informal counseling and guidance on health behaviors, advocate for individual and community health needs, and provide some direct services such as first aid and blood pressure screening.

# Human Services and Social Sciences

The Community Health Worker Marketable Skills Achievement Award (MSA) meets the certification standards for the Department of State Health Services for Community Health Worker. For more information on DSHS, Community Health Worker certification, go to: <http://www.dshs.state.tx.us/chpr/chw/default.shtm> or call 512.458.7111.

## MSA

(Marketable Skills Achievement Award)

### FIRST YEAR

<b>First Semester</b>		<b>Credits</b>
CHLT 1302	Wellness and Health Promotion.....	3
CHLT 1401	Introduction fo Community Health.....	4
<b>Semester Total</b>		<b>7</b>

<b>Second Semester</b>		<b>Credits</b>
CHLT 1291	Special Topics in Community Health Liaison .....	2
CHLT 1342	Community Health Field Methods.....	3
<b>Semester Total</b>		<b>5</b>

<b>Third Semester</b>		<b>Credits</b>
CHLT 1266	Practicum (or Field Experience) - Community Health Services/Liaison/Counseling.....	2
<b>Semester Total</b>		<b>2</b>
<b>Program Total</b>		<b>14</b>

## Grand-Aide Medical Worker

The Grand-Aide Medical Worker certificate combines courses from the Community Health Care Worker certificate and limited courses from the Medical Assistant program. The certificate will provide training for students to serve as liaisons between patients and health professionals, therefore improving medical and social outcomes in communities. The Grand-Aide Medical Worker will provide a "new and valuable tool" in the new paradigm for patient care.

## CERTIFICATE

*TSI testing is required prior to first enrollment.*

<b>Prerequisite</b>		<b>Credits</b>
HPRS 1201	Introduction to Health Professions*.....	2
<b>Prerequisite Total</b>		<b>2</b>

<b>First Semester</b>		<b>Credits</b>
CHLT 1401	Introduction to Community Health.....	4
CHLT 1302	Wellness and Health Promotion.....	3
CHLT 1342	Community Health Field Methods.....	3
<b>Semester Total</b>		<b>10</b>

<b>Second Semester</b>		<b>Credits</b>
MDCA 1213	Medical Terminology .....	2
MDCA 1371	Ambulatory Care and Emergency Procedures .....	3
MDCA 1291	Special Topics in Medical Assistant .....	2
<b>Semester Total</b>		<b>7</b>

<b>Third Semester</b>		<b>Credits</b>
MDCA 1165	Practicum (or Field Experience) - Medical/Clinical Assistant** .....	1
<b>Semester Total</b>		<b>1</b>
<b>Program Total</b>		<b>20</b>

\*Student Success Course

\*\*Capstone

## SIGN LANGUAGE/INTERPRETATION & TRANSLATION

The curriculum for the AAS degree in Interpreting Training/American Sign Language Program is a two year course of study that prepares students for employment in the interpreting profession. The Interpreter Training Program is designed to prepare students to be eligible to take the entry-level state certification exam with the Board for Evaluation of Interpreters as a sign language interpreter. (DARS/DHHS/BEI, P. O. Box 12904, Austin, TX 78711-2904, 512.451.8494, tcdhh@state.tx.us).

Students must attain an overall GPA of 2.0 in all work attempted at HCC, however, students enrolled in the Interpreter Training Program must maintain a cumulative GPA of 3.0 in all American Sign Language classes as well as interpreter training classes. Students will be tested on Benchmarks for each segment of American Sign Language class and Interpreting classes. (See Program Benchmarks)

### Program Outcomes

Students will be able to

- Develop receptive and expressive skills in American Sign Language and Fingerspelling.
- Develop knowledge and awareness of the differences between the deaf culture/deaf community and the hearing community.
- Accurately interpret and transliterate between ASL and English in a variety of settings: face-to-face, small group settings, monologue and/or large group settings.
- Formulate effective interpretations both consecutively and simultaneously.

# Human Services and Social Sciences

- Demonstrate communicative competency in English and in ASL through effective communication in a variety of settings with speakers of varying age, gender, and ethnicity.
- Apply professional standards, practices, and ethics, not limited to the tenets of the Code of Professional Conduct, to their work.

For more information call 713.718.7616 or e-mail michael.lee@hccs.edu or 713.718.6845 or e-mail britny.greensage1@hccs.edu.

## Program Benchmarks

The Interpreter Training Program at Houston Community College has in place a series of benchmarks to assure that students are progressing appropriately through the American Sign Language and Interpreting curriculum. Each benchmark assessment is an opportunity to assess where students are in their development of American Sign Language and Interpreting to identify potential problems early so that tutoring can occur if it is needed. Each of these imperative checkpoints is briefly described below.

**American Sign Language Assessment**-The ASL Benchmark Assessment will be administered as the final exam for SGNL 1401 (ASL I), SGNL 1402 (ASL II), SGNL 2301 (ASL III), and SGNL 2402 (ASL IV), therefore the benchmark is weighted heavily in calculating the students' grade for the course. Students must pass each ASL Benchmark Assessment with a "B" or better prior to registering for the next ASL course. If a student does not pass the final benchmark assessment, remediation/tutoring will be required and the ASL Benchmark Assessment will be administered a second time prior to the start of the next semester.

**Mid-Program Evaluation** – The mid-program evaluation consists of three parts. The first is a written exam over course content for the core departmental courses taken during the first year. This is followed by a written exam that assesses students' ability to watch a signed discourse and answer questions based on that stimulus. Finally, students are asked to demonstrate their ability to express themselves in American Sign Language. Students are required to have completed the following courses prior to sitting for the mid-program evaluation: SGNL 1401 (ASL I), SGNL 1402 (ASL II), SGNL 2301 (ASL III), SGNL 2402 (ASL IV), SLNG 1317 (Introduction to the Deaf Community),

SLNG 1311 (Fingerspelling and Numbers), SLNG 1307 (Intra-lingual Skills), and SLNG 1321 (Introduction to the Interpreting Profession).

**English Proficiency Exam** – The English Proficiency Exam is administered at the end of the semester by Board for Evaluation of Interpreters (BEI) while the student is registered for SLNG 1248-Vocabulary Development for Interpreters. When the student receives their TEP exam results from BEI, they must turn in a copy of test results to the ITP department.

**Benchmark Evaluation for Students at the conclusion of Interpreting I, Interpreting II, and Interpreting III.** – The Benchmark Evaluation for Students is meant to serve as a mock evaluation experience. Interpreting I, II, and III Benchmark Evaluation is geared to the students expected skill level at the end of the semester. This evaluation serves as the final exam for the course and is weighted heavily in calculating the students' grade for the course. The Benchmark Evaluation is intended to ensure that students have mastered the necessary skills to move on to the next higher interpreting course.

**Exit Evaluation** – The exit evaluation is a comprehensive exam taken as the final exam during the internship. The purpose of this comprehensive exam is to assess students' mastery of the entire curriculum. This exam is similar to the course content written exam in the mid-program evaluation with the exception that this exam also includes core courses taken after the mid-program evaluation.

## Sign Language-Interpreting Transliteration Technology

### AAS

*TSI testing is required prior to first enrollment.*

#### FIRST YEAR

<b>First Semester</b>		<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking*	2
SGNL 1401	American Sign Language (ASL): Beginning I****	4
SGNL 1402	American Sign Language (ASL): Beginning II****	4
SLNG 1311	Fingerspelling and Numbers	3
ENGL 1301	Composition I	3
<b>Semester Total</b>		<b>16</b>

<b>Second Semester</b>		<b>Credits</b>
SGNL 2301	American Sign Language (ASL): Intermediate I****	3
SGNL 2302	American Sign Language (ASL): Intermediate II****	3
SLNG 1317	Introduction to the Deaf Community	3
SLNG 1321	Introduction to the Interpreting Profession	3
SLNG 1248	Vocabulary Development for Interpreters	2
<b>Semester Total</b>		<b>14</b>

# Human Services and Social Sciences

<b>Third Semester</b>		<b>Credits</b>
SLNG 2401	Interpreting I.....	4
SLNG 1307	Intra-lingual Skills Development For Interpreters.....	3
DRAM 1351	Acting I.....	3
<b>Semester Total</b>		<b>10</b>

## SECOND YEAR

<b>First Semester</b>		<b>Credits</b>
SLNG 2402	Interpreting II.....	4
XXXX #3##	Math/Natural Science General Education Elective.....	3
SPCH 1315	Public Speaking.....	3
PSYC 2301	Introduction to Psychology.....	3
<b>Semester Total</b>		<b>13</b>

<b>Second Semester</b>		<b>Credits</b>
SLNG 2431	Interpreting III.....	4
SLNG 1391	Special Topics in Sign Language Interpreting.....	3
SLNG 2315	Interpreting in Educational Settings.....	3
SLNG 1347	Deaf Culture.....	3
<b>Semester Total</b>		<b>13</b>

<b>Third Semester</b>		<b>Credits</b>
SLNG 2586	Internship- Sign Language Interpretation and Translation**.....	5
<b>Semester Total</b>		<b>5</b>
<b>Program Total</b>		<b>71</b>

\*Student Success Course

\*\*Capstone.

\*\*\*\*To be taken consecutively in 8 week semesters.

## Sign Language- American Sign Language/ Deaf Studies

Students who are Deaf Education majors can earn a certificate in American Sign Language Studies. Courses taken at HCC Interpreter Training Program can transfer to any university in Texas that has a Deaf Education Program. Students wishing to complete an AAS in Interpreting/ Transliteration can apply to the program after successful passing of the mid-point exam.

### CERTIFICATE

*TSI testing is required prior to first enrollment.*

#### FIRST YEAR

<b>First Semester</b>		<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking*.....	2
SGNL 1401	American Sign Language (ASL): Beginning I.....	4
SLNG 1317	Introduction to the Deaf Community.....	3
SLNG 1311	Fingerspelling and Numbers.....	3
<b>Semester Total</b>		<b>12</b>

SGNL 1402	American Sign Language (ASL): Beginning II.....	4
SLNG 1347	Deaf Culture.....	3
SPCH 1315	Public Speaking.....	3
ENGL 1301	Composition I.....	3
<b>Semester Total</b>		<b>13</b>

SGNL 2301	American Sign Language (ASL): Intermediate I.....	3
SLNG 1321	Introduction to the Interpreting Profession.....	3
PSYC 2301	Introduction to Psychology.....	3
SLNG 1248	Vocabulary Development for Interpreters.....	2
<b>Semester Total</b>		<b>11</b>

#### SECOND YEAR

<b>First Semester</b>		<b>Credits</b>
XXXX #3##	Math/Science General Education Elective.....	3
DRAM 1351	Acting I.....	3
SLNG 1307	Intra-lingual Skills Development For Interpreters.....	3
SGNL 2302	American Sign Language (ASL): Intermediate II**.....	3
<b>Semester Total</b>		<b>12</b>
<b>Program Total</b>		<b>48</b>

\*Student Success Course

\*\*Capstone

# Information Technology

**Computer Programming (11.0201, 11.0202)**  
**Computer Systems Networking & Telecommunications (11.0901)**  
**Digital Gaming & Simulation (10.0304)**  
**Geographic Information Science (45.0702)**

A Career Cluster is a grouping of occupations and broad industries based on commonalities. The Information Technology career cluster is concerned with providing knowledge and skills related to the design, development, support and management of hardware, software, multimedia, and systems integration services. This includes the following HCC programs: Computer Programming, Computer Systems Networking and Telecommunications, Digital Gaming and Simulation and Geographic Information Science. Students intending to transfer to a four-year university rather than entering the workforce should consult a counselor for an AA or AS transfer degree plan.

All new semester hour students, who have earned less than 12 semester hours of college level credit, are required to take a first-year student success course in their first term at HCC. Through research and experience, Houston Community College has determined that many life and career management skills are necessary for students to make the most of their college investment. A student success course is designed to prepare students for the demands of college and for success in the world of work. The course emphasizes setting priorities, time management, effective listening, note-taking, concentration techniques, and retention of information, book analysis, comprehension techniques, and test-taking skills. This course also incorporates units that are designed to facilitate the use of library databases in conducting research, planning and setting educational objectives, lifelong career assessment, decision-making, financial aid, tutoring, and student support services, enabling the student to maximize the use of college resources.

Every HCC Career and Technology Education program contains a “capstone,” an experience for the student to “put it all together.” The capstone is a learning experience resulting in a consolidation of a student’s educational experience and certifies mastery of entry level workplace competencies. The capstone experience must occur during the last semester of the student’s educational program. The capstone consists of an external learning experience or an advanced course especially designed to help students synthesize knowledge and skills or other licensure as appropriate.

## COMPUTER SCIENCE TECHNOLOGY

Houston Community College’s Computer Science Technology program offers Associate of Applied Science (AAS) degrees and certificates that help students develop the knowledge, communication and creative skills, critical thinking, and technical competencies required in the modern workplace.

### What kind of training will I need?

The program graduate will be able to secure entry-level work with a computer-related associate degree; other jobs require a bachelor’s degree in computer science or information systems. IT professionals can also demonstrate their skills and expertise through voluntary computer certification.

The Computer Science Technology Department at Houston Community College (HCC) has two distinct programs in the Career and Technical Education (CTE) field that offer Associate of Applied Science (AAS) degrees, certificates and Marketable Skills Achievement Awards (MSA):

- **Computer Systems Networking and Telecommunications**
- **Computer Programming (Applications Development)**

In addition, please note that a student may only earn one Marketable Skills Achievement Award (MSA) per academic year.

### Transfer Path to Four-Year Degree

The Associate of Science (AS) transfer degree is designed to prepare computer science majors for transfer to a four-year institution with junior standing. The AS degree provides transferring students 50-60 semester credits when admitted to a four-year institution. This transfer degree will satisfy some, but not all, of the general education requirements at the receiving institution.

Department website: <http://csci.hccs.edu>. Some courses are offered online.

Completing any of the above programs accomplishes the following objectives:

- Increases students’ value on the job;
- Earns the students’ credentials for proof of concentrated efforts;
- Helps explore a career or career change;

# Information Technology

- Updates and strengthens students' current computing knowledge and skills; and
- Helps students pursue a personal interest or hobby.

By graduation time, students will have learned to be good communicators, team players, and will have the skills to respond to the complexities of evolving hardware, software and integrated systems. Depending on the area of specialization graduates can work as:

- PC Support Specialists (Help Desk)
- Network Administrators (Microsoft, Linux)
- Programmers or Software testers
- Oracle Database Administrators
- Unified Communications Cisco Specialists
- Network Security Specialists

## Prerequisites

The curriculum is continually evolving to keep pace with the changing needs of business and technology. Students seeking a degree or certificate in computer science must be college ready. College ready simply means academically prepared to take ENGL 1301, Composition I and MATH 1314, College Algebra. Many professionals from industry may meet prerequisites through equivalent experience. Do not allow the lack of a prerequisite to hold you back. Make sure you contact the department chair or counselor.

## COMPUTER PROGRAMMING (APPLICATIONS DEVELOPMENT)

This option is best suited for persons who want to focus on software analysis, development, and implementation. It prepares Information Technology (IT) students and professionals in developing software products and services for industry and government through software analysis, design, and architecture; system verification; data storage and retrieval.

The Texas Higher Education Coordinating Board (THECB) allows students to earn only one **AAS** in Computer Programming-Applications Development. Students may choose from one of the following four specializations: Java, Microsoft C#, Database Administration or Visual Basic.NET.

## Program Outcomes

Students will be able to:

- Design and write computer programs that are correct, simple, clear, efficient, well organized, and well documented;
- Apply important data structures and algorithms;
- Identify the hardware and software aspects of computer systems that support application software development; and
- Communicate ideas and results using good judgment.

For more information call 713.718.5294 or 713.718.5731 (SW) or 713.718.6457 (CE) or e-mail [csci@hccs.edu](mailto:csci@hccs.edu).

## Applications Development - Visual Basic .NET Specialization

The AAS in Applications Development-Visual Basic .NET Specialization prepares students with skills to produce high quality sustainable codes through all stages of a software life cycle: project planning and estimating, gathering requirements, functional specifications, use case tools, design specifications, coding, testing, integrating, and maintenance. .NET is the Microsoft web services strategy to connect information, people, systems, and devices through software. Integrated across the microsoft platform, .NET technology provides students the ability to quickly build, deploy, manage, and use connected, security-enhanced solutions with web services.

## AAS

*TSI testing is required prior to enrollment.*

### FIRST YEAR

<b>First Semester</b>		<b>Credits</b>
LEAD	1200 Workforce Development with Critical Thinking*	2
ENGL	1301 Composition I	3
MATH	1314 College Algebra	3
BCIS	1405 Business Computer Application	4
COSC	1436 Programming Fundamentals I	4
<b>Semester Total</b>		<b>16</b>

<b>Second Semester</b>		<b>Credits</b>
ENGL	1302 Composition II	3
MATH	1324 Finite Mathematics with Applications	3
ITSE	1432 Introduction to Visual Basic .NET	4
ITSE	1346 Database Theory and Design	3
<b>Semester Total</b>		<b>13</b>

# Information Technology

<b>Third Semester</b>		<b>Credits</b>
XXXX #3##	Humanities/Fine Arts General Education Elective .....	3
SPCH 1311	Fundamentals of Speech OR	
SPCH 1315	Public Speaking OR	
SPCH 1321	Business and Professional Speaking.....	3
<b>Semester Total</b>		<b>6</b>

## SECOND YEAR

<b>First Semester</b>		<b>Credits</b>
ENGL 2311	Technical and Industrial Correspondence and Report Writing .....	3
ACCT 2301	Principles of Accounting I.....	3
ITSE 1350	System Analysis and Design OR	
XXXX #3##	Department Approved Elective.....	3
ITSE 1447	Programming with Visual Basic .NET .....	4
ITSE 1356	Extensible Markup Language (XML).....	3
<b>Semester Total</b>		<b>16</b>

<b>Second Semester</b>		<b>Credits</b>
SOCI 1301	Introduction to Sociology.....	3
ACCT 2302	Principles of Accounting II.....	3
ITSE 2434	Advanced Visual Basic.NET Programming.....	4
INEW 1340	ASP .NET Programming .....	3
ITSE 1380	Cooperative Education-Computer Programming** .....	3
<b>Semester Total</b>		<b>16</b>
<b>Program Total</b>		<b>67</b>

\*Student Success Course

\*\*Capstone

## Microsoft Visual Basic .NET

The Microsoft Visual Basic .NET Marketable Skills Achievement Award (MSA) provides experienced information technology professionals (professionals who have been employed continuously in a job related to the award for at least two of the past four years prior to enrollment) the opportunity to enhance their skills and/or learn new skills related to the information technology field. Students must have significant recent work experience (usually two years or more) coupled with appropriate entrance level educational backgrounds. Prerequisite courses may be needed to successfully complete the beginning course(s). Students interested in applying should contact the Computer Science Technology department prior to starting classes.

## MSA

(Marketable Skills Achievement Award)

<b>First Semester</b>		<b>Credits</b>
ITSE 1432	Introduction to Visual Basic .NET Programming .....	4
ITSE 1447	Programming with Visual Basic .NET .....	3
<b>Semester Total</b>		<b>7</b>

<b>Second Semester</b>		<b>Credits</b>
ITSE 2434	Advanced Visual Basic .NET Programming.....	4
INEW 1340	ASP .NET Programming .....	3
<b>Semester Total</b>		<b>7</b>
<b>Program Total</b>		<b>14</b>

## Applications Development- Microsoft C# Specialization

The AAS in Applications Development-Microsoft C# Specialization prepares students with skills to produce high quality sustainable codes through all stages of a software life cycle: project planning and estimating, gathering requirements, functional specifications, use case tools, design specifications, coding, testing, integrating, and maintenance. Microsoft C# (C Sharp) is an object-oriented programming language developed by Microsoft as part of their .NET initiative.

## AAS

TSI testing is required prior to first enrollment.

## FIRST YEAR

<b>First Semester</b>		<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking* .....	2
ENGL 1301	Composition I .....	3
MATH 1314	College Algebra.....	3
BCIS 1405	Business Computer Applications .....	4
COSC 1436	Programming Fundamentals I (with C#) .....	4
<b>Semester Total</b>		<b>16</b>

<b>Second Semester</b>		<b>Credits</b>
ENGL 1302	Composition II.....	3
MATH 1324	Finite Mathematics with Applications .....	3
COSC 1437	Programming Fundamentals II (with C#) .....	4
ITSE 1346	Database Theory and Design .....	3
<b>Semester Total</b>		<b>13</b>

<b>Third Semester</b>		<b>Credits</b>
XXXX #3##	Humanities/Fine Arts General Education Elective .....	3
SPCH 1311	Fundamentals of Speech OR	
SPCH 1315	Public Speaking OR	
SPCH 1321	Business and Professional Speaking.....	3
<b>Semester Total</b>		<b>6</b>



# Information Technology

## SECOND YEAR

### First Semester

	<b>Credits</b>
ENGL 2311 Technical and Industrial Correspondence and Report Writing.....	3
XXXX #3## Department Approved Business Elective.....	3
XXXX #3## Department Approved Elective OR	
ITSE 1350 System Analysis and Design.....	3
ITSE 1430 Introduction to C# Programming.....	4
ITSE 1356 Extensible Markup Language (XML).....	3
<b>Semester Total</b>	<b>16</b>

### Second Semester

	<b>Credits</b>
SOCI 1301 Introduction to Sociology.....	3
XXXX #3## Department Approved Business Elective.....	3
ITSE 2453 Advanced C# Programming.....	4
INEW 1340 ASP. NET Programming .....	3
ITSE 1380 Cooperative Education-Computer Programming** .....	3
<b>Semester Total</b>	<b>16</b>
<b>Program Total</b>	<b>67</b>

\*Student Success Course

\*\*Capstone

## Microsoft C#

The Microsoft C# Marketable Skills Achievement Award (MSA) provides experienced information technology professionals (professionals who have been employed continuously in a job related to the award for at least two of the past four years prior to enrollment) the opportunity to enhance their skills and/or learn new skills related to the information technology field. Students must have significant recent work experience (usually two years or more) coupled with appropriate entrance level educational backgrounds. Prerequisite courses may be needed to successfully complete the beginning course(s). Students interested in applying should contact the Computer Science Technology department prior to starting classes.

## MSA

(Marketable Skills Achievement Award)

### First Semester

	<b>Credits</b>
ITSE 1430 Introduction to C# Programming.....	4
ITSE 1356 Extensible Markup Language (XML).....	3
<b>Semester Total</b>	<b>7</b>

### Second Semester

	<b>Credits</b>
ITSE 2453 Advanced C# Programming.....	4
INEW 1340 ASP. NET Programming .....	3
<b>Semester Total</b>	<b>7</b>
<b>Program Total</b>	<b>14</b>

## Applications Development-Java Specialization

The AAS in Applications Development-Java Specialization prepares students with skills to produce high quality sustainable code through all stages of a software life cycle: project planning and estimating, gathering requirements, functional specifications, use case tools, design specifications, coding, testing, integrating, and maintenance. Java is a high-level object-oriented programming language and software development platform. Students learn Java to develop platform-independent applications that can run on a single computer or be distributed among servers and clients in a network. Java is also used to build small application modules (applets) for use on a web page.

## AAS

TSI testing is required prior to first enrollment.

## FIRST YEAR

### First Semester

	<b>Credits</b>
LEAD 1200 Workforce Development with Critical Thinking* .....	2
ENGL 1301 Composition I.....	3
MATH 1314 College Algebra.....	3
BCIS 1405 Business Computer Applications .....	4
COSC 1436 Programming Fundamentals I (with Java) .....	4
<b>Semester Total</b>	<b>16</b>

### Second Semester

	<b>Credits</b>
ENGL 1302 Composition II.....	3
MATH 1324 Finite Mathematics with Applications .....	3
COSC 1437 Programming Fundamentals II (with Java) .....	4
ITSE 1346 Database Theory and Design .....	3
<b>Semester Total</b>	<b>13</b>

### Third Semester

	<b>Credits</b>
XXXX #3## Humanities/Fine Arts General Education Elective .....	3
SPCH 1311 Fundamentals of Speech OR	
SPCH 1315 Public Speaking OR	
SPCH 1321 Business and Professional Speaking.....	3
<b>Semester Total</b>	<b>6</b>

## SECOND YEAR

### First Semester

	<b>Credits</b>
ENGL 2311 Technical and Industrial Correspondence and Report Writing.....	3
XXXX #3## Department Approved Business Elective.....	3
ITSE 1350 System Analysis and Design OR	
XXXX #3## Department Approved Elective .....	3
ITSE 1345 Introduction to Oracle SQL .....	3
ITSE 1356 Extensible Markup Language (XML).....	3
<b>Semester Total</b>	<b>15</b>

# Information Technology

<b>Second Semester</b>			<b>Credits</b>
SOCI	1301	Introduction to Sociology.....	3
XXXX	#3##	Department Approved Business Elective.....	3
INEW	2418	Web Programming Using JavaServer Pages and Servlets.....	4
INEW	2438	Advanced Java Programming.....	4
ITSE	1380	Cooperative Education-Computer Programming**.....	3
<b>Semester Total</b>			<b>17</b>
<b>Program Total</b>			<b>67</b>

\*Student Success Course

\*\*Capstone

## Java

The Java Marketable Skills Achievement Award (MSA) provides experienced information technology professionals (professionals who have been employed continuously in a job related to the award for at least two of the past four years prior to enrollment) the opportunity to enhance their skills and/or learn new skills related to the information technology field. Students must have significant recent work experience (usually two years or more) coupled with appropriate entrance level educational backgrounds. Prerequisite courses may be needed to successfully complete the beginning course(s). Students interested in applying should contact the Computer Science Technology department prior to starting classes.

## MSA

(Marketable Skills Achievement Award)

<b>First Semester</b>			<b>Credits</b>
ITSE	2417	Java Programming.....	4
INEW	2418	Web Programming Using JavaServer Pages and Servlets.....	4
<b>Semester Total</b>			<b>8</b>
<b>Second Semester</b>			<b>Credits</b>
INEW	2438	Advanced Java Programming.....	4
ITSE	1345	Introduction to Oracle SQL.....	3
<b>Semester Total</b>			<b>7</b>
<b>Program Total</b>			<b>15</b>

\*Student Success Course

\*\*Capstone

## Database Administration Specialization

The AAS in Database Administration Specialization prepares students to be responsible for on-going maintenance and support of the Oracle databases within the computing environment. These databases are built/located on the UNIX/Linux and Windows SQL Server platforms. The critical business applications rely on these databases for accurate data in a timely manner. The graduate will be responsible for maintaining the integrity and performance of the data delivered to each application.

### Program Outcomes

Students will be able to:

- Design and create a relational database;
- Administer a relational database and database management system;
- Develop applications that access database from a relational database;
- Develop object oriented applications;
- Work in a Linux and Windows computing environment; and
- Work in the Oracle or Microsoft SQL Server/MySQL database environments.

## AAS

TSI testing is required prior to first enrollment.

### FIRST YEAR

<b>First Semester</b>			<b>Credits</b>
LEAD	1200	Workforce Development with Critical Thinking*.....	2
ENGL	1301	Composition I.....	3
MATH	1314	College Algebra.....	3
BCIS	1405	Business Computer Applications.....	4
COSC	1436	Programming Fundamentals I.....	4
<b>Semester Total</b>			<b>16</b>
<b>Second Semester</b>			<b>Credits</b>
ENGL	1302	Composition II.....	3
SOCI	1301	Introduction to Sociology.....	3
COSC	1437	Programming Fundamentals II OR	
ITSE	2354	Advanced Oracle PL/SQL.....	3-4
ITSE	1346	Database Theory and Design.....	3
ITSE	1345	Introduction to Oracle SQL.....	3
<b>Semester Total</b>			<b>15-16</b>

# Information Technology

<b>Third Semester</b>		<b>Credits</b>
ITSC 1307	UNIX Operating System I (using Linux).....	3
SPCH 1311	Fundamentals of Speech OR	
SPCH 1315	Public Speaking OR	
SPCH 1321	Business and Professional Speaking.....	3
<b>Semester Total</b>		<b>6</b>

## SECOND YEAR

<b>First Semester</b>		<b>Credit</b>
XXXX #3##	Humanities/Fine Arts General Education Elective .....	3
ITSC 1458	UNIX System Administration I OR	
ITNW 1425	Fundamentals of Networking Technologies .....	4
MATH 1324	Finite Mathematics with Applications .....	3
XXXX #3##	Department Approved Elective OR	
ITSE 1350	System Analysis and Design.....	3
ITSE 2456	Oracle Database Administration I .....	4
<b>Semester Total</b>		<b>17</b>

<b>Second Semester</b>		<b>Credits</b>
ENGL 2311	Technical and Industrial Correspondence and Report Writing.....	3
ITSE 2444	Oracle Database Structure and Data Warehousing.....	4
ITSE 2458	Oracle Database Administration II .....	4
ITSE 1380	Cooperative Education-Computer Programming**.....	3
<b>Semester Total</b>		<b>14</b>
<b>Program Total</b>		<b>68-69</b>

## Database Administration

The Oracle Database Administration Marketable Skills Achievement Award (MSA) provides experienced information technology professionals (professionals who have been employed continuously in a job related to the award for at least two of the past four years prior to enrollment) the opportunity to enhance their skills and/or learn new skills related to the information technology field. Students must have significant recent work experience (usually two years or more) coupled with appropriate entrance level educational backgrounds. Prerequisite courses may be needed to successfully complete the beginning course(s). Students interested in applying should contact the Computer Science Technology department prior to starting classes.

## MSA

(Marketable Skills Achievement Award)

<b>First Semester</b>		<b>Credits</b>
ITSE 2354	Advanced Oracle PL/SQL.....	3
ITSE 2456	Oracle Database Administration I (10g).....	4
<b>Semester Total</b>		<b>7</b>

<b>Second Semester</b>		<b>Credits</b>
ITSE 2458	Oracle Database Administration II (10g).....	4
<b>Semester Total</b>		<b>4</b>
<b>Program Total</b>		<b>11</b>

## COMPUTER SYSTEMS NETWORKING AND TELECOMMUNICATIONS

Computer Systems Networking and Telecommunications is a growing field that will only get bigger as businesses embrace and rely on remote communications and wireless technology. A Networking Technology degree from HCC is a great way to get started in the Networking field.

The Networking program has three specializations to give students the specific knowledge and skills needed for today's job market:

- **Network and Computer Systems Administration (MCITP)**
- **Network Systems and Computer Security**
- **Network Systems and Unified Communication**

The Texas Higher Education Coordinating Board (THECB) allows students to earn only one **AAS** in Computer Systems Networking and Telecommunications. Students may choose from one of the following three specializations: Network and Computer Systems Administration (MCITP), Network Systems and Computer Security, or Network Systems and Unified Communication.

In addition, the Computer Systems Networking and Telecommunications offers the PC Support certificate and AAS degree, the UNIX/Linux AAS degree and the UNIX/Linux Marketable Skills Achievement Award.

# Information Technology

## Program Outcomes

Students will be able to:

- Install and configure workstations, servers and networked printers;
- Install and configure internetworking devices such as switches and routers;
- Install and configure a variety of network operating systems and provide for interoperability between them;
- Administer an organization's computer network infrastructure;
- Understand network security issues and use appropriate tools to insure network integrity;
- Understand fundamental networking theory, terminology, and industry recognized standards; and
- Use appropriate library and information resources to research network management issues and tools and support lifelong technical learning.

## Network and Computer Systems Administration (MCITP)

A server administrator is responsible for the operations and day-to-day management of an infrastructure of servers for an enterprise organization. Windows server administrators manage the infrastructure, Web and IT application servers. The Windows server administrators use scripts and batch files written by others or those that they occasionally write themselves to accomplish tasks on a regular basis. They conduct most server management tasks remotely by using Terminal Server or administration tools installed on their local workstation.

A server administrator's primary tasks include:

- Managing the server operating system, file, and directory services;
- Software distribution and updates;
- Profiling and monitoring assigned servers; and
- Troubleshooting.

## AAS

*TSI testing is required prior to first enrollment.*

### FIRST YEAR

First Semester		Credits
LEAD 1200	Workforce Development with Critical Thinking*	2
ENGL 1301	Composition I.....	3
MATH 1314	College Algebra.....	3
BCIS 1405	Business Computer Application.....	4
ITMT 1371	Windows 7 Configuration.....	3
<b>Semester Total</b>		<b>15</b>

Second Semester		Credits
ENGL 1302	Composition II.....	3
MATH 1324	Finite Mathematics with Applications.....	3
ITSC 1425	Personal Computer Hardware OR	
CPMT 1411	Introduction to Computer Maintenance.....	4
ITNW 1425	Fundamentals of Networking Technologies OR	
ITNW 1358	Network + OR	
ITCC 1401	Cisco Exploration 1 - Network Fundamentals.....	4
ITMT 2302	Windows Server 2008: Active Directory Configuration ....	3
<b>Semester Total</b>		<b>17</b>

Third Semester		Credits
COSC 1436	Programming Fundamentals I.....	4
SPCH 1311	Fundamentals of Speech OR	
SPCH 1315	Public Speaking OR	
SPCH 1321	Business and Professional Speaking.....	3
<b>Semester Total</b>		<b>7</b>

### SECOND YEAR

First Semester		Credits
SOCI 1301	Introduction to Sociology.....	3
XXXX #3##	Humanities/Fine Arts General Education Elective .....	3
ITSC 1319	Internet/Web Page Development.....	3
ITMT 2301	Windows Server 2008: Network Infrastructure Configuration.....	3
ITSY 1342	Information Technology Security .....	3
<b>Semester Total</b>		<b>15</b>

Second Semester		Credits
ENGL 2311	Technical and Industrial Correspondence and Report Writing.....	3
XXXX #3##	Approved Business Elective .....	3
ITMT 2351	Windows Server 2008 Server Administrator .....	3
ITNW 1380	Cooperative Education-Computer Systems Networking and Telecommunications**.....	3
<b>Semester Total</b>		<b>12</b>
<b>Program Total</b>		<b>66</b>

\*Student Success Course

\*\*Capstone

# Information Technology

## Network and Computer Systems Administration Specialization

The certificate in Network and Computer Systems Administration Specialization is designed to help students learn the basics of Networking and Telecommunications. The courses taken in this certificate apply toward the AAS degree in Network Computer Systems Administration.

### CERTIFICATE

*TSI testing is required prior to first enrollment.*

<b>First Semester</b>			<b>Credits</b>
LEAD	1200	Workforce Development with Critical Thinking*	2
ENGL	1301	Composition I	3
MATH	1314	College Algebra	3
BCIS	1405	Business Computer Application	4
ITMT	1371	Windows 7 Configuration	3
<b>Semester Total</b>			<b>15</b>

<b>Second Semester</b>			<b>Credits</b>
XXXX	#3##	Humanities/Fine Arts General Education Elective	3
ITSC	1425	Personal Computer Hardware OR	
CPMT	1411	Introduction to Computer Maintenance	4
ITNW	1425	Fundamentals of Networking Technologies OR	
ITNW	1358	Network + OR	
ITCC	1401	Cisco Exploration I - Network Fundamentals	4
ITMT	2302	Windows Server 2008 Active Directory Configuration**	3
<b>Semester Total</b>			<b>14</b>
<b>Program Total</b>			<b>29</b>

\*Student Success Course

\*\*Capstone

## Network and Computer Systems Administration

The Network and Computer Systems Administration Marketable Skills Achievement Award (MSA) provides experienced IT professionals interested in enhancing their skills to take few courses in specialized areas of Software Development or Networking to receive HCC Certificate. The courses prepare individuals to take vendor certification exams for CCNA and MCITP in Security and Computer programming. For further information, contact the department @ 713.718.6776.

### MSA

*(Marketable Skills Achievement Award)*

<b>First Semester</b>			<b>Credits</b>
ITMT	1371	Windows 7 Configuration	3
ITMT	2302	Windows Server 2008 Active Directory Configuration	3
<b>Semester Total</b>			<b>6</b>

<b>Second Semester</b>			<b>Credits</b>
ITMT	2301	Windows Server 2008 Network Infrastructure Configuration	3
ITMT	2351	Windows Server 2008 Server Administrator	3
<b>Semester Total</b>			<b>6</b>
<b>Program Total</b>			<b>12</b>

## Network Systems and Computer Security Specialization

The goal of the Network Systems and Computer Security Specialization is to train and educate students in the various technical areas associated with Computer Network Operations that encompasses Computer Network Defense, Computer Network Exploitation, and Computer Network Attacks.

Students will be able to:

- Understand the security fundamentals required to help safeguard computer networks;
- Implement wireless network security protections;
- Identify and counteract attacks on workstations, servers, and other networking devices;
- Identify vulnerabilities, discuss their resolutions, and generate vulnerability reports
- Install and utilize various security industry accepted tools.
- Install and configure firewalls and Virtual Private Networks.

### AAS

*TSI testing is required prior to first enrollment.*

#### FIRST YEAR

<b>First Semester</b>			<b>Credits</b>
LEAD	1200	Workforce Development with Critical Thinking*	2
ENGL	1301	Composition I	3
MATH	1314	College Algebra	3
BCIS	1405	Business Computer Application	4
ITNW	1425	Fundamentals of Networking Technologies OR	

# Information Technology

ITNW	1358	Network + OR	
ITCC	1401	Cisco Exploration 1 - Network Fundamentals.....	4
<b>Semester Total</b>			<b>16</b>

<b>Second Semester</b>			<b>Credits</b>
ENGL	1302	Composition II.....	3
MATH	1324	Finite Mathematics with Applications.....	3
XXXX	#3##	Humanities/Fine Arts General Education Elective.....	3
ITSY	1342	Information Technology Security.....	3
ITSC	1307	UNIX Operating System I OR	
ITMT	1371	Windows 7 Configuration.....	3
<b>Semester Total</b>			<b>15</b>

<b>Third Semester</b>			<b>Credits</b>
COSC	1436	Programming Fundamentals I.....	4
SPCH	1311	Fundamentals of Speech OR	
SPCH	1315	Public Speaking OR	
SPCH	1321	Business and Professional Speaking.....	3
<b>Semester Total</b>			<b>7</b>

## SECOND YEAR

<b>First Semester</b>			<b>Credit</b>
SOCI	1301	Introduction to Sociology.....	3
ITSC	1319	Internet/Web Page Development.....	3
ITSY	2300	Operating System Security.....	3
ITSC	1425	Personal Computer Hardware OR	
CPMT	1411	Introduction to Computer Maintenance.....	4
ITMT	2302	Windows Server 2008 Active Directory Configuration OR	
ITSC	1458	UNIX System Administration I.....	4
<b>Semester Total</b>			<b>16</b>

<b>Second Semester</b>			<b>Credits</b>
ENGL	2311	Technical and Industrial Correspondence and Report Writing.....	3
ITSY	2330	Intrusion Detection.....	3
XXXX	#3##	Approved Business Elective.....	3
ITSY	2343	Computer System Forensics.....	3
ITNW	1380	Cooperative Education - Computer Systems Networking and Telecommunications**.....	3
<b>Semester Total</b>			<b>15</b>
<b>Program Total</b>			<b>69</b>

\*Student Success Course

\*\*Capstone

## Network Systems and Computer Security Specialization

The Network Systems and Computer Security Specialization certificate is designed to help students learn the basics of Networking and Telecommunications. The courses taken in this certificate apply toward the AAS degree in Network Systems and Computer Security.

### CERTIFICATE

*TSI testing is required prior to first enrollment.*

<b>First Semester</b>			<b>Credits</b>
LEAD	1200	Workforce Development with Critical Thinking*.....	2
ENGL	1301	Composition I.....	3
MATH	1314	College Algebra.....	3
ITSY	1342	Information Technology Security.....	3
ITNW	1425	Fundamentals of Networking Technologies OR	
ITNW	1358	Network + OR	
ITCC	1401	Cisco Exploration 1 - Network Fundamentals.....	4
ITSC	1307	UNIX Operating System I OR	
ITMT	1371	Windows 7 Configuration.....	3
<b>Semester Total</b>			<b>18</b>

<b>Second Semester</b>			<b>Credits</b>
ITSC	1425	Personal Computer Hardware OR	
CPMT	1411	Introduction to Computer Maintenance.....	4
XXXX	#3##	Humanities/Fine Arts General Education Elective.....	3
ITSY	2300	Operating System Security.....	3
ITSY	2330	Intrusion Detection.....	3
<b>Semester Total</b>			<b>13</b>
<b>Program Total</b>			<b>31</b>

# Information Technology

## Network Systems and Computer Security

The Network and Computer Systems Administration Marketable Skills Achievement Award (MSA) provides experienced IT professionals interested in enhancing their skills to take few courses in specialized areas of Software Development or Networking to receive HCC Certificate. The courses prepare individuals to take vendor certification exams for CCNA and MCITP in Security and Computer programming. For further information, contact the department @ 713.718.6776.

### MSA

(Marketable Skills Achievement Award)

<b>First Semester</b>		<b>Credits</b>
ITSY 1342	Information Technology Security .....	3
ITSY 2300	Operating System Security .....	3
<b>Semester Total</b>		<b>6</b>
<b>Second Semester</b>		<b>Credits</b>
ITSY 2330	Intrusion Detection .....	3
ITSY 2343	Computer System Forensics.....	3
<b>Semester Total</b>		<b>6</b>
<b>Program Total</b>		<b>12</b>

## Network Systems and Unified Communication Specialization

The AAS in Network Systems and Unified Communication Specialization encompasses several communication systems or models including the handling of voice, fax, and regular text messages as objects in a single mailbox that a user can access either with a regular e-mail client or by telephone collaboration, and interaction systems; real-time and near real-time communications; and transactional applications.

Students will be able to:

- Help employees access and share video on the desktop, on the road, and on-demand, as easily as making a phone call;
- Facilitate better team interactions, dynamically bringing together individuals, virtual workgroups, and teams; and
- Make mobile devices extensions of the corporate network so mobile workers can be productive anywhere.

### AAS

TSI testing is required prior to first enrollment.

#### FIRST YEAR

<b>First Semester</b>		<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking* .....	2
ENGL 1301	Composition I .....	3
MATH 1314	College Algebra.....	3
BCIS 1405	Business Computer Application .....	4
ITCC 1401	Cisco Exploration 1 - Network Fundamentals.....	4
<b>Semester Total</b>		<b>16</b>

<b>Second Semester</b>		<b>Credits</b>
ENGL 1302	Composition II.....	3
MATH 1324	Finite Mathematics with Applications .....	3
XXXX #3##	Humanities/Fine Arts General Education Elective .....	3
ITCC 1404	Cisco Exploration 2 - Routing Protocols and Concepts ...	4
ITSC 1307	UNIX Operating System I OR	
ITMT 1371	Windows 7 Configuration .....	3
<b>Semester Total</b>		<b>16</b>

<b>Third Semester</b>		<b>Credits</b>
COSC 1436	Programming Fundamentals I.....	4
SPCH 1311	Fundamentals of Speech OR	
SPCH 1315	Public Speaking OR	
SPCH 1321	Business and Professional Speaking.....	3
<b>Semester Total</b>		<b>7</b>

#### SECOND YEAR

<b>First Semester</b>		<b>Credit</b>
SOCI 1301	Introduction to Sociology.....	3
ITSC 1319	Internet/Web Page Development.....	3
ITCC 2408	Cisco Exploration 3 - LAN Switching and Wireless.....	4
ITCC 1408	Introduction to Voice over Internet Protocol (VoIP).....	4
ITMT 2302	Windows Server 2008 Active Directory Configurations OR	
ITSC 1458	UNIX System Administration I.....	4
<b>Semester Total</b>		<b>18</b>

<b>Second Semester</b>		<b>Credits</b>
ENGL 2311	Technical and Industrial Correspondence and Report Writing .....	3
ITCC 2359	Advanced Voice Over Internet Protocol (VoIP).....	3
ITCC 2410	Cisco Exploration 4 - Accessing the WAN .....	4
ITNW 1380	Cooperative Education - Computer Systems Networking and Telecommunications**.....	3
<b>Semester Total</b>		<b>13</b>
<b>Program Total</b>		<b>70</b>

\*Student Success Course

\*\*Capstone

# Information Technology

## Network Systems and Unified Communication Specialization

The Network Systems and Unified Communication Specialization certificate is designed to help students learn the basics of Networking and Telecommunications. The courses taken in this certificate apply toward the AAS degree in Network Systems and Unified Communication.

### CERTIFICATE

*TSI testing is required prior to first enrollment.*

<b>First Semester</b>			<b>Credits</b>
LEAD	1200	Workforce Development with Critical Thinking*	2
ENGL	1301	Composition I	3
MATH	1314	College Algebra	3
ITCC	1401	Cisco Exploration 1 - Network Fundamentals	4
ITSC	1307	UNIX Operating System I OR	
ITMT	1371	Windows 7 Configuration	3
<b>Semester Total</b>			<b>15</b>

<b>Second Semester</b>			<b>Credits</b>
ITSC	1319	Internet/Web Page Development	3
XXXX	#3##	Humanities/Fine Arts General Education Elective	3
ITCC	1404	Cisco Exploration 2 - Routing Protocols and Concepts	4
ITCC	1408	Introduction to Voice over Internet Protocol (VoIP)	4
<b>Semester Total</b>			<b>14</b>
<b>Program Total</b>			<b>29</b>

\*Student Success Course

\*\*Capstone

## Network Systems and Unified Communication

The Network and Computer Systems Administration Marketable Skills Achievement Award (MSA) provides experienced IT professionals interested in enhancing their skills to take few courses in specialized areas of Software Development or Networking to receive HCC Certificate. The courses prepare individuals to take vendor certification exams for CCNA and MCITP in Security and Computer programming. For further information, contact the department @ 713.718.6776.

### MSA

*(Marketable Skills Achievement Award)*

<b>First Semester</b>			<b>Credits</b>
ITCC	1401	Cisco Exploration 1 - Network Fundamentals	4
ITCC	1404	Cisco Exploration 2 - Routing Protocols and Concepts	4
ITCC	2408	Cisco Exploration 3 - LAN Switching and Wireless	4
<b>Semester Total</b>			<b>12</b>
<b>Program Total</b>			<b>12</b>

### PC Support

The PC Support (Help Desk) AAS degree program prepares individuals to implement, support, and troubleshoot computer and information technology systems and obtain employment as an IT professional.

Computer support specialists provide technical assistance, support, and advice to computer users. Troubleshooting is at the core of this IT career, as these professionals are called upon constantly to interpret problems, communicate solutions, and educate users about the latest technologies. They are also responsible for the daily administration and maintenance of computer hardware, software, systems, and networks.

### Program Outcomes

Students will be able to:

- Evaluate computer problems for clients in person, via telephone or from remote location;
- Provide assistance concerning the use of computer hardware and software, including printing, installation, word processing, electronic mail, and operating systems;
- Identify major hardware or software problems or defective products to vendors or technicians for service;
- List requirements for new systems or modifications;
- Develop training materials and procedures, or train users in the proper use of hardware or software.



# Information Technology

## AAS

*TSI testing is required prior to first enrollment.*

### FIRST YEAR

<b>First Semester</b>		<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking*	2
ENGL 1301	Composition I	3
MATH 1314	College Algebra	3
BCIS 1405	Business Computer Application	4
ITNW 1425	Fundamentals of Networking Technologies	4
<b>Semester Total</b>		<b>16</b>

<b>Second Semester</b>		<b>Credits</b>
ENGL 1302	Composition II	3
MATH 1324	Finite Mathematics with Applications	3
COSC 1436	Programming Fundamentals I	4
ITSC 1321	Intermediate PC Operating Systems OR	
ITMT 1371	Windows 7 Configuration	3
XXXX #3##	Humanities/Fine Arts General Education Elective	3
<b>Semester Total</b>		<b>16</b>

<b>Third Semester</b>		<b>Credits</b>
ITSC 2321	Integrated Software Applications II (Adv. Word)	3
SPCH 1311	Fundamentals of Speech OR	
SPCH 1315	Public Speaking OR	
SPCH 1321	Business and Professional Speaking	3
<b>Semester Total</b>		<b>6</b>

### SECOND YEAR

<b>First Semester</b>		<b>Credits</b>
XXXX #3##	Approved Business Elective	3
ITSC 1425	Personal Computer Hardware OR	
CPMT 1411	Introduction to Computer Maintenance	4
ITSC 1307	UNIX Operating System I	3
ITSW 2334	Advanced Spreadsheets	3
<b>Semester Total</b>		<b>13</b>

<b>Second Semester</b>		<b>Credits</b>
SOCI 1301	Introduction to Sociology	3
ENGL 2311	Technical and Industrial Correspondence and Report Writing	3
XXXX #3##	Approved Business Elective	3
ITSW 2337	Advanced Database	3
ITSC 1380	Cooperative Education-Computer and Information Sciences**	3
<b>Semester Total</b>		<b>15</b>
<b>Program Total</b>		<b>66</b>

*\*Student Success Course*

*\*\*Capstone*

## PC Support

The PC Support certificate helps students develop skills to communicate with users, managers, customers, vendors, and others relating to business applications and microcomputers. Students can also perform data entry operations using microcomputers as stand-alone computers or as terminals to networked applications. The courses taken in this certificate apply toward the AAS degree in PC Support.

### CERTIFICATE

*TSI testing is required prior to first enrollment.*

<b>First Semester</b>		<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking*	2
ENGL 1301	Composition I	3
MATH 1314	College Algebra	3
BCIS 1405	Business Computer Application	4
ITNW 1425	Fundamentals of Networking Technologies	4
<b>Semester Total</b>		<b>16</b>

<b>Second Semester</b>		<b>Credits</b>
SPCH 1311	Fundamentals of Speech OR	
SPCH 1315	Public Speaking OR	
SPCH 1321	Business and Professional Speaking	3
ITSC 1425	Personal Computer Hardware OR	
CPMT 1411	Introduction to Computer Maintenance	4
ITSC 1321	Intermediate PC Operating Systems	3
ITSW 2334	Advanced Spreadsheets	3
ITSW 2337	Advanced Database**	3
<b>Semester Total</b>		<b>16</b>
<b>Program Total</b>		<b>32</b>

*\*Student Success Course*

*\*\*Capstone*

# Information Technology

## UNIX/Linux

The AAS degree in UNIX/Linux for system administration is designed to give students the knowledge and skills needed for an entry-level job in Linux systems-related positions. Students will learn to comprehend the theory behind the system, and develop proficiency in system administration.

This degree like any of the above, requires core subjects such as English, math, etc., but the major related courses that prepare students for the job market include:

- General Network Operating Systems
- Linux installation and configuration
- Linux administration
- Linux Networking
- Linux Security
- Linux Shell scripting

## AAS

*TSI testing is required prior to first enrollment.*

### FIRST YEAR

<b>First Semester</b>		<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking*	2
ENGL 1301	Composition I	3
MATH 1314	College Algebra	3
BCIS 1405	Business Computer Application	4
ITNW 1425	Fundamentals of Networking Technologies	4
<b>Semester Total</b>		<b>16</b>

<b>Second Semester</b>		<b>Credits</b>
ENGL 1302	Composition II	3
MATH 1324	Finite Mathematics with Applications	3
COSC 1436	Programming Fundamentals I	4
ITSC 1307	UNIX Operating System I	3
ITSC 1425	Personal Computer Hardware OR	
CPMT 1411	Introduction to Computer Maintenance	4
<b>Semester Total</b>		<b>17</b>

<b>Third Semester</b>		<b>Credits</b>
SPCH 1311	Fundamentals of Speech OR	
SPCH 1315	Public Speaking OR	
SPCH 1321	Business and Professional Speaking	3
XXXX #3##	Humanities/Fine Arts General Education Elective	3
<b>Semester Total</b>		<b>6</b>

## SECOND YEAR

<b>First Semester</b>		<b>Credits</b>
ITSC 1342	Shell Programming	3
ENGL 2311	Technical and Industrial Correspondence and Report Writing	3
ITSC 1458	UNIX System Administration I	4
XXXX #3##	Approved Business Elective	3
SOCI 1301	Introduction to Sociology	3
<b>Semester Total</b>		<b>16</b>

<b>Second Semester</b>		<b>Credits</b>
XXXX #3##	Approved Business Elective	3
XXXX #4##	Department Approved Elective	4
ITSC 1447	UNIX System Administration II	4
ITSC 1380	Cooperative Education-Computer and Information Sciences**	3
<b>Semester Total</b>		<b>14</b>
<b>Program Total</b>		<b>69</b>

\*Student Success Course

\*\*Capstone

## UNIX/Linux

The UNIX/Linux Marketable Skills Achievement Award (MSA) provides experienced information technology professionals (professionals who have been employed continuously in a job related to the award for at least two of the past four years prior to enrollment) the opportunity to enhance their skills and/or learn new skills related to the information technology field. Students must have significant recent work experience (usually two years or more) coupled with appropriate entrance level educational backgrounds. Prerequisite courses may be needed to successfully complete the beginning course(s). Students interested in applying should contact the Computer Science Technology department prior to starting classes.

## MSA

*(Marketable Skills Achievement Award)*

<b>First Semester</b>		<b>Credits</b>
ITSC 1307	UNIX Operating System I	3
ITSC 1458	UNIX System Administration I	4
<b>Semester Total</b>		<b>7</b>

<b>Second Semester</b>		<b>Credits</b>
ITSC 1342	Shell Programming	3
ITSC 1447	UNIX System Administration II	4
<b>Semester Total</b>		<b>7</b>
<b>Program Total</b>		<b>14</b>

# Information Technology

## IBM Enterprise Server

*This certificate will be deactivated at the end of December 2011.  
No new students will be admitted into the program.*

HCC and IBM recognize technology's important role in adult education and job training by providing hands-on experience with today's technologies for job-seekers to secure and retain employment. IBM zSeries Enterprise Servers are used for classroom teaching and learning. Students completing the certificate program can look forward to a variety of employment opportunities as System Programmers, Network Technicians, or System Operators.

### CERTIFICATE

*TSI testing is required prior to first enrollment.*

<b>Prerequisite Semester</b>		<b>Credits</b>
ITSC 1301	Introduction to Computers.....	3
<b>Prerequisite Total</b>		<b>3</b>
<b>First Semester</b>		<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking*.....	2
ITSC 1370	Introduction to Enterprise Server.....	3
ITSC 1316	Linux Installation and Configuration.....	3
<b>Semester Total</b>		<b>8</b>
<b>Second Semester</b>		<b>Credits</b>
ITSC 1302	Computer Control Language.....	3
ITSE 1402	Computer Programming (CICS).....	4
<b>Semester Total</b>		<b>7</b>
<b>Third Semester</b>		<b>Credits</b>
ITSE 2337	Assembly Language Programming**.....	3
<b>Semester Total</b>		<b>3</b>
<b>Program Total</b>		<b>21</b>

\*Student Success Course

\*\*Capstone

## DIGITAL GAMING AND SIMULATION

The gaming and simulation industry is not a "future" industry nor is it a "future" market. It is here now, and it has an impact on all individuals. Computer and video game software sales are steadily growing. The industry wants skilled artists, programmers, and designers to meet the employment needs of this rapidly growing industry.

The Digital Gaming and Simulation program offers career training that leads to employment in the industry as a game artist, a programmer and/or a designer. Students use state-of-the-art technologies to help reach their personal and professional goals.

The game artist develops skills in 2D and 3D art, modeling and animation, illustration, graphic design, layout, and interface design in the development of games. The game programmer develops skills in design, programming, performance diagnostics, optimization, and game libraries in the development of games. The game designers develop skills to manage the flow of information to the clientele of the game and/or simulation project, and interactive writing. The artists, programmers and designers work together in teams to develop games and/or simulations as a requirement for completing the program.

All students interested in entry into this program should be ready to take college English (ENGL 1301, Composition I) and college Math (MATH 1314, College Algebra). Entry into all GAME courses requires departmental approval. Students are required to maintain a "C" or better grade in all GAME courses to get credit for the course for the program.

### Program Outcomes

Students will be able to:

- Prepare a design document for a solo game.
- Develop a game or simulation based on the solo design documentation.
- Jointly develop the design documentation for a team project.
- Develop a game or simulation based on the team design documentation.

*For more information call 713.718.6743 or e-mail reni.abraham@hccs.edu or visit the department's website at: <http://swc2.hccs.edu/digiGame>.*

# Information Technology

## Degree Programs Offered

- Associates of Applied Science (AAS)
- Digital Gaming and Simulation for Artists
- Digital Gaming and Simulation for Programmers
- Digital Gaming and Simulation for Game Designers

## Certificate - Level I

- Digital Gaming and Simulation for Artists
- Digital Gaming and Simulation for Programmers

## Certificate - Level II

- Digital Gaming and Simulation for Artists
- Digital Gaming and Simulation for Programmers

## Enhanced Skills Certificate

- Level Design

The certificates are designed to be stepping stones toward completing the AAS degree.

## Digital Gaming and Simulation for Artists

The game artist degree and certificates prepare students to enter the game and/or simulation industry with skills in traditional art and hands-on experience developing games and simulations using the latest software and hardware tools.

## AAS

*TSI testing is required prior to first enrollment.*

### FIRST YEAR

<b>First Semester</b>		<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking*	2
ENGL 1301	Composition I	3
GAME 1306	Design and Creation of Games	3
GAME 1371	Introduction to 2D Game Art	3
GAME 1372	Game Programming for Non-Programmers	3
GAME 1336	3D Game Modeling	3
<b>Semester Total</b>		<b>17</b>

<b>Second Semester</b>		<b>Credits</b>
GAME 1302	Interactive Storyboarding	3
GAME 1375	Principles of Game Concept Art	3
GAME 2312	Interactive Audio	3
GAME 2336	Lighting, Shading and Texture	3
GAME 2378	Techniques of Game Art	3
<b>Semester Total</b>		<b>15</b>

### Third Semester

GAME 1304	Level Design	3
GAME 1374	Introduction to 3D Game Animation	3
<b>Semester Total</b>		<b>6</b>

## SECOND YEAR

### First Semester

		<b>Credits</b>
GAME 2332	Project Development I	3
GAME 1314	Character Sculpting	3
GAME 2325	3D Animation II - Character Setup	3
ARTS 2323	Life Drawing I	3
XXXX #3##	Social/Behavioral Science General Education Elective	3
<b>Semester Total</b>		<b>15</b>

### Second Semester

		<b>Credits</b>
GAME 2334	Project Development II	3
ARTS 2324	Life Drawing II	3
GAME 2308	Portfolio for Game Development	3
XXXX #3##	Math/Natural Science General Education Elective	3
GAME 2372	Emerging Game Technology	3
<b>Semester Total</b>		<b>15</b>

### Third Semester

		<b>Credits</b>
GAME 2386	Internship-Animation, Interactive Technology, Video Graphics and Special Effects**	3
<b>Semester Total</b>		<b>3</b>
<b>Program Total</b>		<b>71</b>

\*Student Success Course

\*\*Capstone

## Digital Gaming and Simulation for Artists

### CERTIFICATE - LEVEL I

*TSI testing is required prior to first enrollment.*

### FIRST YEAR

<b>First Semester</b>		<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking*	2
ENGL 1301	Composition I	3
GAME 1306	Design and Creation of Games	3
GAME 1371	Introduction to 2D Game Art	3
GAME 1372	Game Programming for Non-Programmers	3
GAME 1336	3D Game Modeling	3
<b>Semester Total</b>		<b>17</b>

### Second Semester

		<b>Credits</b>
GAME 1212	Game Theory	2
GAME 1302	Interactive Storyboarding	3
GAME 1375	Principles of Game Concept Art	3
GAME 2312	Interactive Audio	3
GAME 2378	Techniques of Game Art	3
<b>Semester Total</b>		<b>14</b>

# Information Technology

<b>Third Semester</b>		<b>Credits</b>
GAME 1304	Level Design .....	3
GAME 1374	Introduction to 3D Game Animation .....	3
GAME 2332	Project Development I** .....	3
<b>Semester Total</b>		<b>9</b>
<b>Program Total</b>		<b>40</b>

\*Student Success Course

\*\*Capstone

## Digital Gaming and Simulation for Artists

### CERTIFICATE - LEVEL II

TSI testing is required prior to first enrollment.

#### FIRST YEAR

<b>First Semester</b>		<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking* .....	2
ENGL 1301	Composition I .....	3
GAME 1306	Design and Creation of Games .....	3
GAME 1371	Introduction to 2D Game Art .....	3
GAME 1372	Game Programming for Non-Programmers .....	3
GAME 1336	3D Game Modeling .....	3
<b>Semester Total</b>		<b>17</b>

<b>Second Semester</b>		<b>Credits</b>
GAME 1212	Game Theory .....	2
GAME 1302	Interactive Storyboarding .....	3
GAME 1375	Principles of Game Concept Art .....	3
GAME 2312	Interactive Audio .....	3
GAME 2378	Techniques of Game Art .....	3
<b>Semester Total</b>		<b>14</b>

<b>Third Semester</b>		<b>Credits</b>
GAME 1304	Level Design .....	3
GAME 1374	Introduction to 3D Game Animation .....	3
<b>Semester Total</b>		<b>6</b>

#### SECOND YEAR

<b>First Semester</b>		<b>Credits</b>
GAME 2332	Project Development I .....	3
GAME 1314	Character Sculpting .....	3
GAME 2325	3D Animation II - Character Setup .....	3
ARTS 2323	Life Drawing I .....	3
XXXX #3##	Social/Behavioral Science General Education Elective ...	3
<b>Semester Total</b>		<b>15</b>

<b>Second Semester</b>		<b>Credits</b>
GAME 2308	Portfolio for Game Development .....	3
GAME 2334	Project Development II** .....	3
<b>Semester Total</b>		<b>6</b>
<b>Program Total</b>		<b>58</b>

\*Student Success Course

\*\*Capstone

## Digital Gaming and Simulation for Programmers

The game programmer degree and certificates prepare students to enter the game and simulation industry with skills in structured and object-oriented programming, scripting languages and hands-on experience in game development using specialized software and hardware tools.

### AAS

TSI testing is required prior to first enrollment.

#### FIRST YEAR

<b>First Semester</b>		<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking* .....	2
ENGL 1301	Composition I .....	3
GAME 1306	Design and Creation of Games .....	3
GAME 1371	Introduction to 2D Game Art .....	3
COSC 1436	Programming Fundamentals I .....	4
MATH 1314	College Algebra .....	3
<b>Semester Total</b>		<b>18</b>

<b>Second Semester</b>		<b>Credits</b>
GAME 1336	3D Game Modeling .....	3
GAME 2312	Interactive Audio .....	3
GAME 2347	Advanced Game Programming .....	3
GAME 2302	Mathematical Applications for Game Development .....	3
XXX #3##	Social/Behavioral Science General Education Elective ...	3
<b>Semester Total</b>		<b>15</b>

<b>Third Semester</b>		<b>Credits</b>
GAME 1304	Level Design .....	3
GAME 2373	2D Game Programming .....	3
<b>Semester Total</b>		<b>6</b>

#### SECOND YEAR

<b>First Semester</b>		<b>Credits</b>
GAME 2332	Project Development I .....	3
GAME 2341	Game Scripting .....	3
GAME 2342	Game Development Using C++ .....	3
GAME 2319	Game Engine .....	3
XXXX #3##	Humanities/Fine Arts General Education Elective .....	3
<b>Semester Total</b>		<b>15</b>

<b>Second Semester</b>		<b>Credits</b>
GAME 2334	Project Development II .....	3
GAME 2344	Direct X Programming .....	3
GAME 2308	Portfolio for Game Development .....	3
XXXX #3##	Math/Science General Education Elective .....	3
GAME 2372	Emerging Game Technology .....	3
<b>Semester Total</b>		<b>15</b>

# Information Technology

<b>Third Semester</b>		<b>Credits</b>
GAME 2386	Internship-Animation, Interactive Technology, Video Graphics and Special Effects**	3
<b>Semester Total</b>		<b>3</b>
<b>Program Total</b>		<b>72</b>

\*Student Success Course

\*\*Capstone

## Digital Gaming and Simulation for Programmers

### **CERTIFICATE - LEVEL I**

*TSI testing is required prior to first enrollment.*

#### **FIRST YEAR**

<b>First Semester</b>		<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking*	2
ENGL 1301	Composition I	3
GAME 1306	Design and Creation of Games	3
GAME 1371	Introduction to 2D Game Art	3
COSC 1436	Programming Fundamentals I	4
MATH 1314	College Algebra	3
<b>Semester Total</b>		<b>18</b>

<b>Second Semester</b>		<b>Credits</b>
GAME 1212	Game Theory	2
GAME 1336	3D Game Modeling	3
GAME 2312	Interactive Audio	3
GAME 2347	Advanced Game Programming	3
GAME 2302	Mathematical Applications for Game Development	3
GAME 1304	Level Design	3
<b>Semester Total</b>		<b>17</b>

<b>Third Semester</b>		<b>Credits</b>
GAME 2342	Game Development Using C++	3
GAME 2332	Project Development I**	3
<b>Semester Total</b>		<b>6</b>
<b>Program Total</b>		<b>41</b>

\*Student Success Course

\*\*Capstone

## Digital Gaming and Simulation for Programmers

### **CERTIFICATE - LEVEL II**

*TSI testing is required prior to first enrollment.*

#### **FIRST YEAR**

<b>First Semester</b>		<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking*	2
ENGL 1301	Composition I	3
GAME 1306	Design and Creation of Games	3
GAME 1371	Introduction to 2D Game Art	3
COSC 1436	Programming Fundamentals I	4
MATH 1314	College Algebra	3
<b>Semester Total</b>		<b>18</b>

<b>Second Semester</b>		<b>Credits</b>
GAME 1212	Game Theory	2
GAME 1336	3D Game Modeling	3
GAME 2312	Interactive Audio	3
GAME 2347	Advanced Game Programming	3
GAME 2302	Mathematical Applications for Game Development	3
<b>Semester Total</b>		<b>14</b>

#### **SECOND YEAR**

<b>First Semester</b>		<b>Credits</b>
GAME 2332	Project Development I	3
GAME 2341	Game Scripting	3
GAME 2342	Game Development Using C++	3
GAME 2319	Game Engine	3
<b>Semester Total</b>		<b>12</b>

<b>Second Semester</b>		<b>Credits</b>
GAME 1304	Level Design	3
GAME 2344	Direct X Programming	3
GAME 2308	Portfolio for Game Development	3
GAME 2334	Project Development II**	3
<b>Semester Total</b>		<b>12</b>
<b>Program Total</b>		<b>56</b>

\*Student Success Course

\*\*Capstone

# Information Technology

## Digital Gaming and Simulation for Game Designers

The game designer AAS degree prepares students to enter the gaming and simulation industry with skills in research, testing, detailed documentation, bug reporting, blogging, and managing forums.

### AAS

*TSI testing is required prior to first enrollment.*

#### FIRST YEAR

<b>First Semester</b>		<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking*	2
ENGL 1301	Composition I	3
GAME 1306	Design and Creation of Games	3
GAME 1371	Introduction to 2D Game Art	3
GAME 1372	Game Programming for Non-Programmers	3
GAME 1336	3D Game Modeling	3
<b>Semester Total</b>		<b>17</b>

<b>Second Semester</b>		<b>Credits</b>
GAME 1212	Game Theory	2
GAME 1302	Interactive Storyboarding	3
GAME 2312	Interactive Audio	3
GAME 2373	2D Game Programming	3
GAME 1335	Interactive Writing I	3
<b>Semester Total</b>		<b>14</b>

<b>Third Semester</b>		<b>Credits</b>
GAME 1304	Level Design	3
GAME 2338	Game Testing	3
<b>Semester Total</b>		<b>6</b>

#### SECOND YEAR

<b>First Semester</b>		<b>Credits</b>
GAME 2332	Project Development I	3
GAME 2305	Interactive Writing II	3
XXXX #3##	Math/Science General Education Elective	3
SOCI 1301	Introduction to Sociology	3
XXXX #3##	Humanities/Fine Arts General Education Elective	3
<b>Semester Total</b>		<b>15</b>

<b>Second Semester</b>		<b>Credits</b>
GAME 2334	Project Development II	3
GAME 2336	Lighting, Shading and Texture	3
GAME 2308	Portfolio for Game Development	3
XXXX #3##	Foreign Language	3
GAME 2372	Emerging Game Technology	3
<b>Semester Total</b>		<b>15</b>

### Third Semester

		<b>Credits</b>
GAME 2386	Internship-Animation, Interactive Technology, Video Graphics and Special Effects**	3
<b>Semester Total</b>		<b>3</b>
<b>Program Total</b>		<b>70</b>

\*Student Success Course

\*\*Capstone

## Digital Gaming and Simulation-Level Design

The Level Design certificate prepares students to create levels, challenges or missions for games and/or simulations. Upon completion of any AAS in Digital Gaming and Simulation and the Enhanced Skills Certificate courses, students are awarded the Enhanced Skills Certificate in Level Design.

### ENHANCED SKILLS CERTIFICATE

GAME 1304	Level Design	3
GAME 2304	Level Design II	3
GAME 2371	Level Design III	3
<b>Semester Total</b>		<b>9</b>
<b>Program Total</b>		<b>9</b>

# Information Technology

## **GEOGRAPHIC INFORMATION SCIENCE**

Geographic Information Science works in partnership with industry to provide quality workforce education in the new, rapidly expanding fields of Geographic Information Systems (GIS) and Global Positioning Systems (GPS). The programs use up-to-date technology and afford students a wide variety of employment opportunities in the corporate world and government agencies. GIS specialists work with GIS computer programs that enable the user to create maps and other graphics that can be “layered” with other data.

In addition, please note that a student may only earn one Marketable Skills Achievement Award (MSA) per academic year.

### **Program Outcomes**

Students will be able to:

- Demonstrate understanding of the global natural and cultural environments and the geographic methods by which they are studied.
- Recognize, evaluate, and analyze critical issues that deal with diversity of people, places, and events globally as well as within specific geographic regions.
- Interpret maps and mapped data utilizing basic map elements, including scales, common coordinate systems, and map symbols.
- Use a computer effectively to research, map and analyze geographic information and communicate geographic information.
- Compare and contrast common geographic technologies such as geographic information systems (GIS) and the global positioning system (GPS).

For more information e-mail [getachew.haile@hccs.edu](mailto:getachew.haile@hccs.edu).

## **Geographic Information Science**

### **AAS**

*This AAS degree will be deactivated as of September 1, 2011.  
New students will not be admitted into the program.*

## **Geographic Information Science Analyst**

### **CERTIFICATE**

*TSI Testing is required prior to first enrollment.*

<b>First Semester</b>		<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking*	2
GISC 1411	Introduction to GIS.....	4
MATH 1314	College Algebra.....	3
BCIS 1405	Business Computer Applications.....	4
<b>Semester Total</b>		<b>13</b>

<b>Second Semester</b>		<b>Credits</b>
COSC 1436	Programming Fundamentals I.....	4
GISC 1401	Cartography and Geography in GIS/GPS.....	4
GISC 1421	Introduction to Raster-Based GIS.....	4
ITSE 1345	Introduction to Oracle SQL.....	3
<b>Semester Total</b>		<b>15</b>

<b>Third Semester</b>		<b>Credits</b>
GISC 1491	Special Topics in Cartography.....	4
<b>Semester Total</b>		<b>4</b>

### **SECOND YEAR**

<b>First Semester</b>		<b>Credits</b>
GISC 2250	Scripting for Geographic Information Systems (GIS).....	2
GISC 2411	Geographic Information Systems (GIS) Applications.....	4
GISC 2401	Data Acquisition and Analysis in GIS.....	4
GISC 2364	Practicum (or Field Experience) Cartography OR	
GISC 2380	Cooperative Education-Cartography.....	3
GISC 2359	Web-Served Geographic Information Systems (GIS)** ...	3
<b>Semester Total</b>		<b>16</b>
<b>Program Total</b>		<b>48</b>

*\*Student Success Course*

*\*\*Capstone*



# Information Technology

## GIS Technician

Students may complete the GIS certificate or may apply for up to 15 hours of advanced placement of GIS credit based on successful completion of 36 months of work experience reviewed by the program chair.

### CERTIFICATE

*TSI Testing is required prior to first enrollment.*

<b>First Semester</b>		<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking*	2
GISC 1411	Introduction to GIS	4
MATH 1314	College Algebra	3
BCIS 1405	Business Computer Applications	4
<b>Semester Total</b>		<b>13</b>
<b>Second Semester</b>		<b>Credits</b>
COSC 1436	Programming Fundamentals I	4
GISC 1401	Cartography and Geography in GIS/GPS	4
GISC 1421	Introduction to Raster-Based GIS	4
ITSE 1345	Introduction to Oracle SQL	3
<b>Semester Total</b>		<b>15</b>
<b>Third Semester</b>		<b>Credits</b>
GISC 2364	Practicum (or Field Experience) Cartography OR	
GISC 2380	Cooperative Education-Cartography**	3
<b>Semester Total</b>		<b>3</b>
<b>Program Total</b>		<b>31</b>

\*Student Success Course

\*\*Capstone

## Geographic Information Science

The series of courses provides students with the skill sets necessary to independently perform project-based work using Geographic Information Systems Technology. This training is designed to lead to immediate employment opportunities in traditional GIS workplaces and in related fields that employ GIS technology.

### MSA

*(Marketable Skills Achievement Award)*

<b>First Semester</b>		<b>Credits</b>
GISC 1411	Introduction to Geographic Information Systems (GIS) ...	4
GISC 1401	Cartography and Geography in Geographical Information Systems (GIS) and Global Positioning Systems	4
<b>Semester Total</b>		<b>8</b>
<b>Second Semester</b>		<b>Credits</b>
GISC 2411	Geographic Information Systems (GIS) Applications, OR	
GISC 2401	Data Acquisition and Analysis in Geographic Information Systems (GIS)	4
<b>Semester Total</b>		<b>4</b>
<b>Program Total</b>		<b>12</b>

# Manufacturing

**Machining Technology (48.0503)**  
**Manufacturing Engineering Technology (15.0613)**  
**Welding Technology (48.0508)**

A Career Cluster is a grouping of occupations and broad industries based on commonalities. The Manufacturing career cluster is concerned with providing knowledge and skills related to planning, managing and performing the processing of materials into intermediate or final products and related professional and technical support activities such as production planning and control, maintenance and manufacturing/process engineering. This includes the following HCC programs: Machining Technology, Manufacturing Engineering Technology and Welding Technology.

All new semester hour students, who have earned less than 12 semester hours of college level credit, are required to take a first-year student success course in their first term at HCC. Through research and experience, Houston Community College has determined that many life and career management skills are necessary for students to make the most of their college investment. A student success course is designed to prepare students for the demands of college and for success in the world of work. The course emphasizes setting priorities, time management, effective listening, note-taking, concentration techniques, and retention of information, book analysis, comprehension techniques, and test-taking skills. This course also incorporates units that are designed to facilitate the use of library databases in conducting research, planning and setting educational objectives, lifelong career assessment, decision-making, financial aid, tutoring, and student support services, enabling the student to maximize the use of college resources.

Every HCC Career and Technology Education program contains a "capstone," an experience for the student to "put it all together." The capstone is a learning experience resulting in a consolidation of a student's educational experience and certifies mastery of entry level workplace competencies. The capstone experience must occur during the last semester of the student's educational program. The capstone consists of an external learning experience or an advanced course especially designed to help students synthesize knowledge and skills or other licensure as appropriate.

## MACHINING TECHNOLOGY

The Machining Technology program is designed to meet the industry's continued and growing need for trained machine operators and programmers. The program prepares students for employment in machine shops, manufacturing facilities and in the maintenance of industrial plants. The AAS degree in Machining Technology is designed to develop competent support technicians for employment in the field of machine shop and related occupations. The curricula are based on the National Institute for Metalworking Skills (NIMS) recommendation to provide a broad-based education with opportunities for specific employment and personal interest goals.

The laboratories have more than twenty pieces of equipment such as manual lathes, drilling and milling machines, hydraulic and pneumatic trainers. Additionally, a computer lab is equipped with sixty personal computers with up-to-date training materials.

### Program Outcomes

Students will be able to:

- Demonstrate knowledge of safety rules and regulations.
- Demonstrate the proper use/selection and maintenance of hand and power tools and measuring instruments.
- Interpret and decode information found in blueprints, specifications, and applicable documents related to machining projects.
- Exhibit knowledge in the proper use, selection, and applications of machine equipment and measuring instruments.
- Fabricate parts and components utilizing information provided in blueprints and specifications.

*For more information call 713.718.6898 or 713.718.6822 or e-mail [james.neal@hccs.edu](mailto:james.neal@hccs.edu).*

# Manufacturing

## Machining Technology

### AAS

*TSI testing required prior to first enrollment.*

#### FIRST YEAR

<b>First Semester</b>		<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking*	2
TECM 1301	Industrial Mathematics	3
MCHN 1302	Print Reading for Machining Trades	3
ENTC 1347	Safety and Ergonomics	3
MCHN 1308	Basic Lathe	3
MCHN 1313	Basic Milling Operations	3
<b>Semester Total</b>		<b>17</b>

<b>Second Semester</b>		<b>Credits</b>
ITSC 1309	Integrated Software Applications	3
MCHN 2433	Advanced Lathe Operations	4
MCHN 2437	Advanced Milling Operations	4
MCHN 1320	Precision Tools and Measurements	3
<b>Semester Total</b>		<b>14</b>

#### SECOND YEAR

<b>First Semester</b>		<b>Credits</b>
ENGL 1301	Composition I	3
MCHN 2303	Fundamentals of Computer Numerical Controls (CNC) Machine Controls	3
HYDR 1345	Hydraulics and Pneumatics	3
XXXX #3##	Humanities/Fine Arts General Education Elective	3
XXXX #3##	Math/Natural Science General Education Elective	3
<b>Semester Total</b>		<b>15</b>

<b>Second Semester</b>		<b>Credits</b>
ENGL 1302	Composition II OR	3
ARTS 1316	Foundation Drawing I	3
XXXX #3##	Social/Behavioral Science General Education Elective	3
MCHN 1305	Metals and Heat Treatment	3
MCHN 2447	Specialized Tools and Fixtures	4
MCHN 1370	Lean Manufacturing - Machinists**	3
<b>Semester Total</b>		<b>16</b>
<b>Program Total</b>		<b>62</b>

\*Student Success Course  
\*\*Capstone

## Basic Machining Technology

### CERTIFICATE

*TSI testing required prior to first enrollment.*

<b>First Semester</b>		<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking*	2
TECM 1301	Industrial Mathematics	3
MCHN 1302	Print Reading for Machining Trades	3
ENTC 1347	Safety and Ergonomics	3
MCHN 1308	Basic Lathe	3
MCHN 1313	Basic Milling Operations*	3
<b>Semester Total</b>		<b>17</b>
<b>Program Total</b>		<b>17</b>

\*Student Success Course  
\*\*Capstone  
\*\*\*Pending approval from the Texas Higher Education Coordinating Board (THECB).

## Machining Technology\*\*\*

### CERTIFICATE

*TSI testing required prior to first enrollment.*

<b>First Semester</b>		<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking*	2
TECM 1301	Industrial Mathematics	3
MCHN 1302	Print Reading for Machining Trades	3
MCHN 1308	Basic Lathe	3
MCHN 1313	Basic Milling Operations	3
ENTC 1347	Safety and Ergonomics	3
<b>Semester Total</b>		<b>17</b>

<b>Second Semester</b>		<b>Credits</b>
ITSC 1309	Integrated Software Applications	3
MCHN 2433	Advanced Lathe Operations	4
MCHN 2437	Advanced Milling Operations	4
MCHN 1320	Precision Tools and Measurements**	3
<b>Semester Total</b>		<b>14</b>
<b>Program Total</b>		<b>31</b>

\*Student Success Course  
\*\*Capstone

# Manufacturing

## MANUFACTURING ENGINEERING TECHNOLOGY

The Manufacturing Engineering Technology program is designed to develop competent technicians for employment in the field of manufacturing engineering and related occupations. It prepares students for real world manufacturing techniques including computer methods, and mechanical, electronic, hydraulic, and pneumatic systems.

Houston Community College currently offers one certificate in Manufacturing Engineering Technology that can be completed in two semesters. It prepares students for entry level work in the Manufacturing and related industries. The program also offers an AAS in Manufacturing Engineering Technology for students who wish to further their education. The AAS degree in Manufacturing Engineering Technology is designed to develop competent technicians and CNC operators for employment in various manufacturing fields. The program has several State-of-the Art laboratories with modern equipment. The computer labs are constantly updated to provide the latest software including AutoCAD, FeatureCAM, SolidWorks, and Automation Studio.

### Program Outcomes

Students will be able to:

- Demonstrate knowledge of safety rules and regulations.
- Demonstrate the proper use/selection and maintenance of hand and power tools and measuring instruments.
- Interpret and decode information found in blueprints, specifications, and applicable documents related to manufacturing projects.
- Exhibit knowledge in the proper selection, use, and application of manufacturing equipment and measuring instruments.
- Fabricate parts and components utilizing information provided in blueprints and specifications.

For more information call 713.718.6898 or e-mail [max.saravia@hccs.edu](mailto:max.saravia@hccs.edu)

## Manufacturing Engineering Technology

### AAS

*TSI testing required prior to first enrollment.*

### FIRST YEAR

<b>First Semester</b>		<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking*	2
TECM 1301	Industrial Mathematics	3
MCHN 1302	Print Reading for Machining Trades	3
ENTC 1347	Safety and Ergonomics	3
INMT 1345	Computer Numerical Controls	3
MCHN 1338	Basic Machine Shop I	3
<b>Semester Total</b>		<b>17</b>

<b>Second Semester</b>		<b>Credits</b>
ITSC 1309	Integrated Software Applications I	3
HYDR 1345	Hydraulics and Pneumatics	3
INMT 1343	Computer Aided Design/Computer Aided Manufacturing (CAD/CAM)	3
MCHN 2331	Operation of CNC Turning Centers	3
<b>Semester Total</b>		<b>12</b>

### SECOND YEAR

<b>First Semester</b>		<b>Credits</b>
ENGL 1301	Composition I	3
ELPT 1311	Basic Electrical Theory	3
ENTC 2331	Manufacturing Materials	3
ELPT 1341	Motor Control	3
INCR 1302	Physics of Instrumentation	3
<b>Semester Total</b>		<b>15</b>

<b>Second Semester</b>		<b>Credits</b>
XXXX #3##	Math/Natural Science General Education Elective	3
ENGL 1302	Composition II OR	3
ARTS 1316	Foundation Drawing I	3
XXXX #3##	Social/Behavioral Science General Education Elective	3
ELPT 1355	Electronic Applications	3
ELMT 1301	Programmable Logic Controllers	3
<b>Semester Total</b>		<b>15</b>

<b>Third Semester</b>		<b>Credits</b>
INMT 1317	Industrial Automation	3
ENTC 2314	Facility Operation and Maintenance I OR	3
INMT 1311	Computer Integrated Manufacturing	3
XXXX #3##	Humanities/FineArts General Education Elective	3
INMT 1370	Lean Manufacturing - Manufacturing Engineering**	3
<b>Semester Total</b>		<b>12</b>
<b>Program Total</b>		<b>71</b>

\*Student Success Course

\*\*Capstone

# Manufacturing

## Manufacturing Engineering Technology

### CERTIFICATE

*TSI testing required prior to first enrollment.*

<b>First Semester</b>		<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking*	2
TECM 1301	Industrial Mathematics	3
MCHN 1302	Print Reading for Machining Trades	3
ENTC 1347	Safety and Ergonomics	3
INMT 1345	Computer Numerical Controls	3
MCHN 1338	Basic Machine Shop I	3
<b>Semester Total</b>		<b>17</b>

<b>Second Semester</b>		<b>Credits</b>
ITSC 1309	Integrated Software Applications I	3
HYDR 1345	Hydraulics and Pneumatics	3
INMT 1343	Computer Aided Design/Computer Aided Manufacturing (CAD/CAM)	3
MCHN 2331	Operation of CNC Turning Centers**	3
<b>Semester Total</b>		<b>12</b>
<b>Program Total</b>		<b>29</b>

*\*Student Success Course*

*\*\*Capstone*

## Manufacturing Processes

### CERTIFICATE

*This certificate will be deactivated as of September 1, 2011.*

*New students will not be admitted into the program.*

## Manufacturing Engineering Technology-Plastic Engineering Technology Specialization

The Plastic Engineering Technology program prepares students for high performance employment in plastic manufacturing. This program trains students to operate and program the equipment used within plastic manufacturing environments.

### AAS

*TSI testing required prior to first enrollment.*

#### **FIRST YEAR**

<b>First Semester</b>		<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking*	2
TECM 1301	Industrial Mathematics	3
PLTC 1301	Introduction to Plastics	3
ENGL 1301	Composition I	3
ENTC 2331	Manufacturing Materials	3
<b>Semester Total</b>		<b>14</b>

<b>Second Semester</b>		<b>Credits</b>
XXXX #3##	Humanities/Fine Arts General Education Elective	3
XXXX #3##	Math/Natural Science General Education Elective	3
PLTC 1303	Plastics Composites	3
PLTC 1306	Plastic Quality Control	3
INMT 1343	Computer Aided Design/Computer Aided Manufacturing (CAD/CAM)	3
<b>Semester Total</b>		<b>15</b>

#### **SECOND YEAR**

<b>First Semester</b>		<b>Credits</b>
ENGL 1302	Composition II OR	3
ARTS 1316	Foundation Drawing I	3
HYDR 1345	Hydraulics and Pneumatics	3
PLTC 1445	Plastic Processes I	4
XXXX #3##	Social/Behavioral Science General Education Elective	3
ENTC 1347	Safety and Ergonomics	3
<b>Semester Total</b>		<b>16</b>

<b>Second Semester</b>		<b>Credits</b>
INMT 1311	Computer Integrated Manufacturing	3
PLTC 1343	Mold Design and Maintenance	3
INMT 1317	Industrial Automation	3
PLTC 2446	Plastic Processes II	4
PLTC 2331	Troubleshooting Plastic Processes**	3
<b>Semester Total</b>		<b>16</b>
<b>Program Total</b>		<b>61</b>

*\*Student Success Course*

*\*\*Capstone*

# Manufacturing

## Plastic Engineering Technology

### CERTIFICATE

*TSI testing required prior to first enrollment.*

<b>First Semester</b>		<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking*	2
PLTC 1301	Introduction to Plastics	3
TECM 1301	Industrial Mathematics	3
HYDR 1345	Hydraulics and Pneumatics	3
ENTC 2331	Manufacturing Materials	3
<b>Semester Total</b>		<b>14</b>

<b>Second Semester</b>		<b>Credits</b>
PLTC 1303	Plastics Composites	3
PLTC 1306	Plastic Quality Control	3
INMT 1343	Computer Aided Design/Computer Aided Manufacturing (CAD/CAM)	3
INMT 1317	Industrial Automation	3
PLTC 1445	Plastic Processes I	4
<b>Semester Total</b>		<b>16</b>

<b>Third Semester</b>		<b>Credits</b>
INMT 1311	Computer Integrated Manufacturing	3
PLTC 1343	Mold Design and Maintenance**	3
<b>Semester Total</b>		<b>6</b>
<b>Program Total</b>		<b>36</b>

\*Student Success Course

\*\*Capstone

## WELDING TECHNOLOGY

The Welding Technology program is designed to offer students the necessary skills for entry level positions in the welding industry. There is an increasing demand for skilled welders in the fields of MIG (Metal Inert Gas), TIG (Tungsten Inert Gas), and Pipe welding.

Houston Community College offers two certificates in welding, the Basic Welding Helper certificate which can be completed in one semester and prepares students for entry level work, and the Advanced Welding certificate which enhances the skills learned in the helper certificate by providing more advanced training in advanced MIG, TIG, and Pipe welding techniques.

Students successfully completing any of the certificates listed may apply a maximum of 21 semester hours towards an AAS degree in Construction Technology – Craft Management Specialization. For certificates with fewer than 21 semester hours, additional courses in Construction Technology, Business Administration, or other related disciplines may be required.

### Program Outcomes

Students will be able to:

- Demonstrate knowledge of safety rules and regulations.
- Demonstrate proper use/selection of hand and power tools and maintenance of measuring instruments.
- Interpret and decode information found in blueprints, specifications, and applicable documents related to welding projects.
- Exhibit knowledge in the proper selection, use, and application of welding apparatus' and equipment.
- Fabricate parts and components using information provided in blueprints and specifications.

For more information call 713.718.6899 or e-mail

[james.owens@hccs.edu](mailto:james.owens@hccs.edu)

# Manufacturing

## Basic Welding Helper

### CERTIFICATE

*TSI testing required prior to first enrollment.*

<b>First Semester</b>		<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking*	2
TECM 1301	Industrial Mathematics	3
WLDG 1421	Welding Fundamentals	4
WLDG 1313	Introduction to Blueprint Reading for Welders	3
WLDG 1407	Introduction to Welding Using Multiple Process**	4
<b>Semester Total</b>		<b>16</b>
<b>Program Total</b>		<b>16</b>

*\*Student Success Course*

*\*\*Capstone*

## Advanced Welding

### CERTIFICATE

*TSI testing required prior to first enrollment.*

<b>First Semester</b>		<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking*	2
TECM 1301	Industrial Mathematics	3
WLDG 1421	Introduction to Welding Fundamentals	4
WLDG 1313	Introduction to Blueprint Reading for Welders	3
WLDG 1407	Introduction to Welding Using Multiple Processes	4
<b>Semester Total</b>		<b>16</b>
<b>Second Semester</b>		<b>Credits</b>
WLDG 1430	Introduction to Metal Arc Welding (GMAC)	4
WLDG 1434	Introduction to Gas Tungsten Arc TIG Welding (GTAW)	4
WLDG 1435	Introduction to Pipe Welding	4
<b>Semester Total</b>		<b>12</b>
<b>Third Semester</b>		<b>Credits</b>
WLDG 2447	Advanced Gas Metal Arc Welding (GMAW)	4
WLDG 2451	Advanced Gas Tungsten Arc TIG Welding (GTAW)	4
WLDG 2453	Advanced Pipe Welding**	4
<b>Semester Total</b>		<b>12</b>
<b>Program Total</b>		<b>40</b>

*\*Student Success Course*

*\*\*Capstone*

# Science, Technology, Engineering and Mathematics

**Biotechnology (41.0101)**  
**Chemical Engineering Technology (41.0301)**  
**Chemical Laboratory Technology (41.0301)**  
**Drafting & Design Engineering Technology (15.1301)**  
**Electronics Engineering Technology (15.0303)**  
**Instrumentation and Controls Engineering Technology (15.0404)**  
**Petroleum Engineering Technology (15.0903)**  
**Process Technology (41.0301)**

A Career Cluster is a grouping of occupations and broad industries based on commonalities. The Science, Technology, Engineering and Mathematics career cluster is concerned with providing knowledge and skills related to planning, managing, and providing scientific research and professional and technical services (e.g., physical science, social science, engineering) including laboratory and testing services, and research and development services. This includes the following HCC programs: Biotechnology, Chemical Engineering Technology, Chemical Laboratory Technology, Electronics Engineering Technology, Drafting & Design Engineering Technology, Instrumentation and Controls Engineering Technology, Petroleum Engineering Technology, and Process Technology.

All new semester hour students, who have earned less than 12 semester hours of college level credit, are required to take a first-year student success course in their first term at HCC. Through research and experience, Houston Community College has determined that many life and career management skills are necessary for students to make the most of their college investment. A student success course is designed to prepare students for the demands of college and for success in the world of work. The course emphasizes setting priorities, time management, effective listening, note-taking, concentration techniques, and retention of information, book analysis, comprehension techniques, and test-taking skills. This course also incorporates units that are designed to facilitate the use of library databases in conducting research, planning and setting educational objectives, lifelong career assessment, decision-making, financial aid, tutoring, and student support services, enabling the student to maximize the use of college resources.

Every HCC Career and Technology Education program contains a "capstone," an experience for the student to "put it all together." The capstone is a learning experience resulting in a consolidation of a student's educational experience and certifies mastery of entry level workplace competencies. The capstone experience must occur during the last semester of the student's educational program. The capstone

consists of an external learning experience or an advanced course especially designed to help students synthesize knowledge and skills or other licensure as appropriate.

## BIOTECHNOLOGY

Biotechnology is a field with wide applications in the areas such as medicine, pharmaceuticals, biosafety, forensics, biomanufacturing, agriculture, and environmental science.

The Biotechnology program offers an Associate in Applied Science (AAS) degree as well as a Certificate of Completion. Students acquire the hands-on technical skills, competencies, education and technical training to enable them to work in diverse and relevant biotechnology industries. These include medical research labs, pharmaceutical companies, bio-analytical service laboratories, diagnostic centers, forensic labs, corporate R & D units, food processing, environmental, and agricultural lab services, biomanufacturing organizations, biofuels producing companies, and other consumer goods manufacturers.

### Program Outcomes

Students will be able to

- Prepare and maintain biological and relevant chemical materials and stock cultures.
- Perform assays and experiments.
- Perform data analysis and communicate results.
- Handle and dispose of hazardous materials.
- Enter and manage laboratory information electronically.
- Demonstrate effective interpersonal skills applicable to the biotechnology relevant industries.
- Apply scientific method and good experimental design in scientific experiments.
- Demonstrate lab safety procedures.
- Demonstrate standard lab techniques such as pipetting and measurements (mass/ volume).
- Demonstrate proper use of lab equipment such as pH meters, spectrophotometers, chromatographic systems, electrophoresis apparatus, compound microscope, and other equipment.
- Demonstrate basic bio-manufacturing and biofuels production operating procedures.

For more information call 713.718.5251 or e-mail [morteza.sameei@hccs.edu](mailto:morteza.sameei@hccs.edu)



# Science, Technology, Engineering and Mathematics

## Biotechnology

### AAS

*TSI testing is required prior to first enrollment.*

#### FIRST YEAR

<b>First Semester</b>		<b>Credits</b>
ENGR 1201	Introduction to Engineering*	2
BITC 1311	Introduction to Biotechnology	3
BITC 1402	Biotechnology Laboratory Methods and Techniques	4
MATH 1314	College Algebra	3
SCIT 1414	Applied General Chemistry I OR	
CHEM 1411	General Chemistry I	4
<b>Semester Total</b>		<b>16</b>

<b>Second Semester</b>		<b>Credits</b>
BITC 2411	Biotechnology Laboratory Instrumentation	4
BIOL 1406	General Biology I	4
ENGL 1301	Composition I	3
BITC 1370	Introduction to Biochemistry	3
<b>Semester Total</b>		<b>14</b>

<b>Third Semester</b>		<b>Credits</b>
SCIT 2401	Applied Organic Chemistry I OR	
CHEM 2423	Organic Chemistry I	4
XXXX #3##	Social/Behavioral Science General Education Elective	3
<b>Semester Total</b>		<b>7</b>

#### SECOND YEAR

<b>First Semester</b>		<b>Credits</b>
BITC 2431	Cell Culture Techniques	4
BITC 2441	Molecular Biology Techniques	4
BIOL 2420	Microbiology	4
BIOL 2401	Anatomy and Physiology I OR	
SCIT 1407	Applied Human Anatomy and Physiology I	4
<b>Semester Total</b>		<b>16</b>

<b>Second Semester</b>		<b>Credits</b>
BITC 2445	Medical Biotechnology	4
XXXX #3##	Humanities/Fine Arts General Education Elective	3
BITC 2386	Internship-Biological Technology/Technician OR	
BITC 1491	Special Topics in Biological Technology/Technician	4
BITC 2472	Immunological Methods and Techniques**	4
<b>Semester Total</b>		<b>14</b>
<b>Program Total</b>		<b>67</b>

*\*Student Success Course*

*\*\*Capstone*

## Biotechnology

### CERTIFICATE

*TSI testing is required prior to first enrollment.*

<b>First Semester</b>		<b>Credits</b>
ENGR 1201	Introduction to Engineering*	2
BITC 1311	Introduction to Biotechnology	3
ENGL 1301	Composition I	3
MATH 1314	College Algebra	3
CHEM 1411	General Chemistry I OR	
SCIT 1414	Applied General Chemistry I	4
<b>Semester Total</b>		<b>15</b>

<b>Second Semester</b>		<b>Credits</b>
BITC 1402	Biotechnology Laboratory Methods and Techniques	4
BITC 1370	Introduction to Biochemistry	3
BIOL 1406	General Biology I	4
<b>Semester Total</b>		<b>11</b>

<b>Third Semester</b>		<b>Credits</b>
BITC 1491	Special Topics in Biological Technology/Technician	4
BITC 2411	Biotechnology Laboratory Instrumentation**	4
<b>Semester Total</b>		<b>8</b>
<b>Program Total</b>		<b>34</b>

*\*Student Success Course*

*\*\*Capstone*

## CHEMICAL ENGINEERING TECHNOLOGY

Chemical Engineering Technologists work closely with chemical engineers in designing equipment and developing commercial production facilities. They assist in evaluating and redesigning equipment, processes in the energy and petroleum industries, manufacturing plants, and environmental control. Their knowledge and skills may also be applied to resolving process and production problems, assisting in designing new plants and processes, evaluating plant performance, replacing or installing new plant equipment, and training and supervising production unit operators.

The program prepares graduates to work in production, process development and environmental control for industries that include: petroleum, chemical, petrochemical, food and beverages, bioprocessing and biomanufacturing, pharmaceuticals, and pulp and paper. Career opportunities also exist in engineering design, computer-based process simulation, technical sales, field operations and related environmental work. Graduates can work in process operations, troubleshooting and maintenance as well.

# Science, Technology, Engineering and Mathematics

## Program Outcomes

Students will be able to

- Apply mathematical, scientific and engineering technology principles and methodologies to solve chemical and process engineering technology problems.
- Apply safety, health, and environmental rules and regulations as they apply in the chemical process industries.
- Use applied research and development skills and competencies while addressing chemical engineering technology challenges.
- Handle, store, and transport chemical material.
- Operate, monitor, and control continuous and batch reaction processes and process analyzers.
- Identify and describe chemical engineering technology related plant equipment associated with flow, level, temperature, pH, and level control operations.
- Perform various process control and design operations including optimization sizing, and monitoring of instrumentation controls systems.
- Perform analytical techniques in solving problems related to operations of plant chemical processes.
- Provide routine and preventive maintenance and service to process equipment and instruments associated with chemical engineering technology procedures.
- Perform various soil analysis techniques and illustrate how special equipment is used in these procedures.

For more information call 713.718.5251 or e-mail [morteza.sameei@hccs.edu](mailto:morteza.sameei@hccs.edu)

## Chemical Engineering Technology

### AAS

*TSI testing is required prior to first enrollment.*

### FIRST YEAR

<b>First Semester</b>		<b>Credits</b>
ENGR 1201	Introduction to Engineering*	2
CTEC 1391	Special Topics in Chemical Technology/Technician	3
PTAC 1308	Safety, Health, and Environment I	3
ENGL 1301	Composition I	3
MATH 1314	College Algebra	3
<b>Semester Total</b>		<b>14</b>

### Second Semester

		<b>Credits</b>
SCIT 1414	Applied General Chemistry I OR	
CHEM 1411	General Chemistry I	4
SCIT 1418	Applied Physics I OR	
PHYS 1401	College Physics I	4
MATH 1325	Elements of Calculus with Applications	3
PTAC 1332	Process Instrumentation I	3
<b>Semester Total</b>		<b>14</b>

### Third Semester

		<b>Credits</b>
CTEC 1470	Principles of Pipeline Technology	4
SCIT 2401	Applied Organic Chemistry I OR	
CHEM 2423	Organic Chemistry I	4
PTAC 1410	Process Technology I-Equipment	4
<b>Semester Total</b>		<b>12</b>

## SECOND YEAR

### First Semester

		<b>Credits</b>
SCIT 1543	Applied Analytical Chemistry	5
SOCI 1301	Introduction to Sociology	3
CTEC 2470	Process Control and Design	4
PTAC 2420	Process Technology II-Systems	4
<b>Semester Total</b>		<b>16</b>

### Second Semester

		<b>Credits</b>
CTEC 2386	Internship - Chemical Technology/Technician OR	
CTEC 1391	Special Topics in Chemical Technology/Technician	3
PTAC 2446	Process Troubleshooting	4
XXXX #3##	Humanities/Fine Arts General Education Elective	3
CTEC 2445	Unit Operations**	4
<b>Semester Total</b>		<b>14</b>
<b>Program Total</b>		<b>70</b>

\*Student Success Course

\*\*Capstone

## CHEMICAL LABORATORY TECHNOLOGY

Competent and skilled chemical laboratory technicians are in high demand in the ever-growing chemical and related industries. The Chemical Laboratory Technology program combines laboratory experience with extensive theoretical background providing students with the knowledge, competencies and skills required to work alongside professional chemists and other related scientists in various industrial and research settings.

Program graduates are exposed to a broad range of employment opportunities in high demand industries that include petroleum and natural gas, petrochemicals, refining, food and beverages, agriculture, environmental science, government-related laboratories, water/wastewater treatment and purification municipal facilities,

# Science, Technology, Engineering and Mathematics

pharmaceuticals, plastics and chemical plants other than petrochemical. Graduates enjoy excellent salaries and frequently advance to more challenging and responsible positions.

The Chemical Laboratory Technology curriculum at HCC is based on the Voluntary Industry Skill Standards developed by the American Chemical Society in association with industry chemists and chemical laboratory technicians. These standards identify the competencies and skills that are necessary for chemical laboratory technicians to be proficient and productive in order to ensure safety during their daily operations. Students receive a solid foundation in chemical applications, synthetic and instrumentation techniques and hands-on experience with the types of equipment and procedures currently used in industrial and governmental settings.

## Program Outcomes

- Operate and maintain safe and clean chemistry based laboratories adhering to safety, health, and environmental regulations.
- Employ industry standard practices in sampling and handling chemical material.
- Demonstrate the use of instruments in measuring physical properties of chemical substances.
- Operate bench lab equipment and apply industry based practices and techniques in performing chemical analysis of molecules.
- Demonstrate proficient use of analytical instruments such as GC, HPLC, FTIR, UV/VIS, TOC, AA, DCS, TGA, Polarography, and Colorimetric to perform a wide range of industry based analysis of compounds.
- Plan, design, conduct, assess, and evaluate chemistry based experiments and interpret results
- Construct scale up reaction apparatus and perform synthesis of chemical compounds
- Apply computer skills and competencies as they apply to the production and product separation and purification skills and competencies, while addressing chemical technology challenges

For more information call 713.718.5251 or e-mail [morteza.sameei@hccs.edu](mailto:morteza.sameei@hccs.edu)

## Chemical Laboratory Technology

### AAS

*TSI testing is required prior to first enrollment.*

### FIRST YEAR

<b>First Semester</b>		<b>Credits</b>
ENGR 1201	Introduction to Engineering*	2
CTEC 1213	Introduction to Chemical Technology	2
ENGL 1301	Composition I	3
MATH 1314	College Algebra	3
XXXX #3##	Department Approved Elective	3
PSYC 2301	Introduction to Psychology OR	
PSYC 2303	Business Psychology	3
<b>Semester Total</b>		<b>16</b>

<b>Second Semester</b>		<b>Credits</b>
SCIT 1414	Applied General Chemistry I OR	
CHEM 1411	General Chemistry I	4
BIOL 1406	General Biology I OR	
PHYS 1401	College Physics	4
MATH 1342	Statistics	3
XXXX #3##	Humanities/Fine Arts General Education Elective	3
<b>Semester Total</b>		<b>14</b>

<b>Third Semester</b>		<b>Credits</b>
SCIT 1543	Applied Analytical Chemistry	5
SCIT 1415	Applied General Chemistry II OR	
CHEM 1412	General Chemistry II	4
<b>Semester Total</b>		<b>9</b>

### SECOND YEAR

<b>First Semester</b>		<b>Credits</b>
CTEC 1441	Applied Instrumental Analysis I	4
SCIT 2401	Applied Organic Chemistry I OR	
CHEM 2423	Organic Chemistry I	4
XXXX #4##	Department Approved Program-Related Elective	4
<b>Semester Total</b>		<b>12</b>

<b>Second Semester</b>		<b>Credits</b>
SCIT 2402	Applied Organic Chemistry II OR	
CHEM 2425	Organic Chemistry II	4
XXXX #3##	Department Approved Program-Related Elective	3
CTEC 2381	Cooperative Education OR	
CTEC 2386	Internship OR	
CTEC 2333	Comprehensive Studies in Chemical Technology	3
CTEC 2431	Applied Instrumental Analysis II**	4
<b>Semester Total</b>		<b>14</b>
<b>Program Total</b>		<b>65</b>

\*Student Success Course

\*\*Capstone

# Science, Technology, Engineering and Mathematics

## Chemical Laboratory Technology

### CERTIFICATE

*TSI testing is required prior to first enrollment.*

<b>First Semester</b>		<b>Credits</b>
ENGR 1201	Introduction to Engineering*	2
CTEC 1213	Introduction to Chemical Technology	2
MATH 1314	College Algebra	3
SCIT 1414	Applied General Chemistry I OR	
CHEM 1411	General Chemistry I	4
<b>Semester Total</b>		<b>11</b>

<b>Second Semester</b>		<b>Credits</b>
SCIT 2401	Applied Organic Chemistry I OR	
CHEM 2423	Organic Chemistry I	4
SCIT 1543	Applied Analytical Chemistry I	5
<b>Semester Total</b>		<b>9</b>

<b>Third Semester</b>		<b>Credits</b>
SCIT 2402	Applied Organic Chemistry II OR	
CHEM 2425	Organic Chemistry II	4
CTEC 1441	Applied Instrumental Analysis I**	4
<b>Semester Total</b>		<b>8</b>
<b>Program Total</b>		<b>28</b>

\*Student Success Course

\*\*Capstone

## Polymer Technology Specialization

The Houston area has a need for chemical technicians who have additional knowledge in polymers, including: synthesis, characterization, and applications. Shell, Dow, DuPont, Bayer Corporation, GoodYear Rubber and Tire, Lubrizol, Akzo Nobel, Schlumberger, ExxonMobil, and Nalco Chemical Company are among some of the companies that have expressed strong interest in incorporating polymer science education, competencies, and skills into the Chemical Laboratory Technology curriculum.

### Program Outcomes

Students will be able to

- Operate and maintain safe and clean polymer chemistry based laboratories adhering to safety, health, and environmental regulations.
- Employ industry standard practices in sampling and handling chemical polymers.
- Demonstrate the use of instruments such as DCS and TGA in measuring physical properties of polymers.

- Operate bench lab equipment and apply industry based practices and techniques in performing chemical analysis of polymers.
- Demonstrate proficient use of analytical instruments such as FTIR and UV/VIS to perform industry based analysis of polymers.
- Plan, design, conduct, assess, and evaluate chemistry based experiments associated in polymers synthesis and interpret results.
- Construct reaction apparatus and perform scale up synthesis of polymers.

For more information call 713.718.5251 or e-mail [morteza.sameei@hccs.edu](mailto:morteza.sameei@hccs.edu)

### CERTIFICATE

*TSI testing is required prior to first enrollment.*

#### FIRST YEAR

<b>First Semester</b>		<b>Credits</b>
ENGR 1201	Introduction to Engineering*	2
CTEC 1213	Introduction to Chemical Technology	2
MATH 1314	College Algebra	3
CHEM 1411	General Chemistry I OR	
SCIT 1414	Applied General Chemistry I	4
<b>Semester Total</b>		<b>11</b>

<b>Second Semester</b>		<b>Credits</b>
CHEM 2423	Organic Chemistry I OR	
SCIT 2401	Applied Organic Chemistry I	4
CTEC 2441	Polymers I	4
SCIT 1543	Applied Analytical Chemistry	5
<b>Semester Total</b>		<b>13</b>

<b>Third Semester</b>		<b>Credits</b>
CTEC 1441	Applied Instrumental Analysis I	4
CTEC 2443	Polymers II**	4
<b>Semester Total</b>		<b>8</b>
<b>Program Total</b>		<b>32</b>

\*Student Success Course

\*\*Capstone

# Science, Technology, Engineering and Mathematics

## DRAFTING AND DESIGN ENGINEERING TECHNOLOGY

The Drafting and Design Engineering Technology program offers the technical training necessary for students choosing a drafting/design career in the fields of architecture, construction, manufacturing, and engineering. This program provides a strong academic and technical base, giving the graduate the needed skills and knowledge for immediate employment and the foundation for professional growth. It also provides professional growth for the experienced drafter/designer needing academic enrichment and knowledge of computer-aided drafting technology.

Advanced placement credit (21 credit hours max) is available to students who can provide written documentation of a minimum of two years, continuous related industry experience within the past ten years. This advanced placement credit is awarded after the student completes 9 semester hours at HCC.

The Texas Higher Education Coordinating Board (THECB) allows students to earn only one **AAS** in Drafting and Design Engineering Technology. Students must choose one of the following four specializations: General Computer-Aided Design Drafting, Building Design Drafting, Mechanical Design, or Piping Design Drafting.

Likewise the THECB allows students to earn only one **Certificate** in Computer-Aided Drafting. Students must choose from one of the following five specializations: Computer-Aided Drafting-General Drafting, Architectural Drafting, Civil Drafting, Machine Drafting or Pipe Drafting.

### Program Outcomes

Students will be able to

- Apply related academic skills in writing a technical report describing the problem and solution with calculations to resolve a drafting and design problem.
- Demonstrate interpersonal and technical skills to solve problems as members of a multi-disciplinary team.
- Demonstrate competent technical vocabulary and CAD 2D and 3D drafting skills applicable to a variety of engineering disciplines, including mechanical, electrical, architectural, and civil engineering.
- Assemble a project plan from the transformation of an idea through the construction process to completion.
- Create an employment portfolio including sample plans, a cover letter and resume.

For more information call 713.718.5255 or 713.718.5219 or e-mail [marvin.griffin@hccs.edu](mailto:marvin.griffin@hccs.edu).

## Drafting and Design Engineering Technology-General Computer-Aided Design Drafting\*\*\*

### AAS

*TSI testing is required prior to first enrollment.*

### FIRST YEAR

<b>First Semester</b>		<b>Credits</b>
ENGR 1201	Introduction to Engineering* OR	
LEAD 1200	Workforce Development with Critical Thinking*	2
DFTG 1305	Technical Drafting .....	3
ENGL 1301	Composition I .....	3
MATH 1314	College Algebra .....	3
PSYC 2301	Introduction to Psychology .....	3
DFTG 1309	Basic Computer-Aided Drafting .....	3
<b>Semester Total</b>		<b>17</b>

<b>Second Semester</b>		<b>Credits</b>
DFTG 2319	Intermediate Computer-Aided Drafting .....	3
DFTG 1358	Electrical/Electronics Drafting .....	3
ENGL 2311	Technical and Industrial Correspondence and Report Writing .....	3
DFTG 1333	Mechanical Drafting .....	3
DFTG 2317	Descriptive Geometry .....	3
<b>Semester Total</b>		<b>15</b>

<b>Third Semester</b>		<b>Credits</b>
MATH 1316	Plane Trigonometry .....	3
<b>Semester Total</b>		<b>3</b>

### SECOND YEAR

<b>First Semester</b>		<b>Credits</b>
DFTG 2332	Advanced CAD (3D Modeling) .....	3
DFTG 2302	Machine Drafting .....	3
DFTG 2323	Pipe Drafting .....	3
XXXX #3##	Humanities/Fine Arts General Education Elective .....	3
DFTG 1310	Specialized Basic Computer Aided Drafting (CAD) .....	3
<b>Semester Total</b>		<b>15</b>

<b>Second Semester</b>		<b>Credits</b>
DFTG 2330	Civil Drafting .....	3
ARCE 1352	Structural Drafting .....	3
DFTG 2308	Instrumentation Drafting .....	3
DFTG 1317	Architectural Drafting-Residential .....	3
DFTG 2335	Advanced Technologies in Mechanical Design and Drafting** .....	3
<b>Semester Total</b>		<b>15</b>
<b>Program Total</b>		<b>65</b>

*\*Student Success Course*

*\*\*Capstone (Department approval prior to enrollment in a capstone class)*

*\*\*\*Pending approval from the Texas Higher Education Coordinating Board (THECB).*

# Science, Technology, Engineering and Mathematics

## Computer-Aided Drafting-General Drafting\*\*\*

### CERTIFICATE

*TSI testing is required prior to first enrollment.*

#### FIRST YEAR

<b>First Semester</b>		<b>Credits</b>
ENGR 1201	Introduction to Engineering* OR	
LEAD 1200	Workforce Development with Critical Thinking*	2
DFTG 1305	Technical Drafting	3
DFTG 1309	Basic Computer-Aided Drafting	3
MATH 1314	College Algebra	3
DFTG 1310	Specialized Basic Computer-Aided Drafting	3
<b>Semester Total</b>		<b>14</b>

<b>Second Semester</b>		<b>Credits</b>
DFTG 1358	Electrical/Electronics Drafting	3
DFTG 2319	Intermediate Computer-Aided Drafting	3
DFTG 1333	Mechanical Drafting	3
DFTG 1317	Architectural Drafting-Residential	3
DFTG 2308	Instrumentation Drafting	3
<b>Semester Total</b>		<b>15</b>

#### SECOND YEAR

<b>First Semester</b>		<b>Credits</b>
ARCE 1352	Structural Drafting	3
DFTG 2323	Pipe Drafting	3
DFTG 2330	Civil Drafting	3
DFTG 1329	Electro-Mechanical Drafting	3
DFTG 2332	Advanced CAD (3D Modeling)**	3
<b>Semester Total</b>		<b>15</b>
<b>Program Total</b>		<b>44</b>

*\*Student Success Course*

*\*\*Capstone (Department approval prior to enrollment in a capstone class)*

*\*\*\*Pending approval from the Texas Higher Education Coordinating Board (THECB).*

## Drafting and Design Engineering Technology-Building Design Drafting Specialization\*\*\*

### AAS

*TSI testing is required prior to first enrollment.*

#### FIRST YEAR

<b>First Semester</b>		<b>Credits</b>
ENGR 1201	Introduction to Engineering* OR	
LEAD 1200	Workforce Development with Critical Thinking*	2
ENGL 1301	Composition I	3
DFTG 1305	Technical Drafting	3
DFTG 1309	Basic Computer-Aided Drafting	3
MATH 1314	College Algebra	3
ARCE 1303	Architectural Materials and Methods of Construction	3
<b>Semester Total</b>		<b>17</b>

<b>Second Semester</b>		<b>Credits</b>
DFTG 2319	Intermediate Computer-Aided Drafting	3
DFTG 1317	Architectural Drafting-Residential	3
PSYC 2301	Introduction to Psychology	3
MATH 1316	Plane Trigonometry	3
ARCE 1352	Structural Drafting	3
<b>Semester Total</b>		<b>15</b>

#### SECOND YEAR

<b>First Semester</b>		<b>Credits</b>
XXXX #3##	Humanities/Fine Arts General Education Elective	3
DFTG 2300	Intermediate Architectural Drafting-Residential	3
SRVY 1301	Introduction to Surveying	3
ENGL 2311	Technical and Industrial Correspondence and Report Writing	3
DFTG 1392	Special Topics in Architectural Drafting and Architectural CAD/CADD	3
<b>Semester Total</b>		<b>15</b>

<b>Second Semester</b>		<b>Credits</b>
ARCE 1342	Codes, Specifications, and Contract Documents	3
ARCE 2352	Mechanical and Electrical Systems	3
DFTG 1376	Revit Residential	3
DFTG 2330	Civil Drafting	3
DFTG 2328	Architectural Drafting-Commercial**	3
<b>Semester Total</b>		<b>15</b>
<b>Program Total</b>		<b>62</b>

*\*Student Success Course*

*\*\*Capstone (Department approval prior to enrollment in a capstone class)*

*\*\*\*Pending approval from the Texas Higher Education Coordinating Board (THECB).*

# Science, Technology, Engineering and Mathematics

## Computer-Aided Drafting-Architectural Drafting Specialization\*\*\*

### CERTIFICATE

*TSI testing is required prior to first enrollment.*

#### FIRST YEAR

<b>First Semester</b>		<b>Credits</b>
ENGR 1201	Introduction to Engineering* OR	
LEAD 1200	Workforce Development with Critical Thinking.....	2
DFTG 1305	Technical Drafting .....	3
DFTG 1309	Basic Computer-Aided Drafting .....	3
SRVY 1301	Introduction to Surveying .....	3
MATH 1314	College Algebra.....	3
<b>Semester Total</b>		<b>14</b>

<b>Second Semester</b>		<b>Credits</b>
ARCE 1352	Structural Drafting.....	3
DFTG 1317	Architectural Drafting-Residential .....	3
DFTG 2319	Intermediate Computer-Aided Drafting .....	3
DFTG 2330	Civil Drafting.....	3
<b>Semester Total</b>		<b>12</b>

#### SECOND YEAR

<b>First Semester</b>		<b>Credits</b>
DFTG 2328	Architectural Drafting-Commercial.....	3
DFTG 2300	Intermediate Architectural Drafting-Residential.....	3
DFTG 1376	Revit Residential.....	3
ARCE 2352	Mechanical and Electrical Systems**.....	3
<b>Semester Total</b>		<b>12</b>
<b>Program Total</b>		<b>38</b>

*\*Student Success Course*

*\*\*Capstone (Department approval prior to enrollment in a capstone class)*

*\*\*\*Pending approval from the Texas Higher Education Coordinating Board (THECB).*

## Drafting and Design Engineering Technology-Electro-Mechanical Design Specialization

*The Drafting and Design Engineering Technology-Electro-Mechanical Design Specialization AAS and Certificate will be deactivated as of January 1, 2012.*

*New students will not be admitted into the program.*

## Drafting and Design Engineering Technology-Mechanical Design Drafting Specialization\*\*\*

### AAS

*TSI testing is required prior to first enrollment.*

#### FIRST YEAR

<b>First Semester</b>		<b>Credits</b>
ENGR 1201	Introduction to Engineering* OR	
LEAD 1200	Workforce Development with Critical Thinking*.....	2
DFTG 1305	Technical Drafting .....	3
ENGL 1301	Composition I.....	3
MATH 1314	College Algebra.....	3
PSYC 2301	Introduction to Psychology.....	3
DFTG 1309	Basic Computer-Aided Drafting .....	3
<b>Semester Total</b>		<b>17</b>

<b>Second Semester</b>		<b>Credits</b>
DFTG 1333	Mechanical Drafting .....	3
DFTG 2319	Intermediate Computer-Aided Drafting .....	3
XXXX #3##	Humanities/Fine Arts General Education Elective .....	3
DFTG 1329	Electro-Mechanical Drafting.....	3
MATH 1316	Plane Trigonometry.....	3
<b>Semester Total</b>		<b>15</b>

#### SECOND YEAR

<b>First Semester</b>		<b>Credits</b>
DFTG 1310	Specialized Basic Computer Aided Drafting (CAD) .....	3
DFTG 2317	Descriptive Geometry .....	3
DFTG 1358	Electrical/Electronics Drafting .....	3
DFTG 2302	Machine Drafting.....	3
DFTG 2308	Instrumentation Drafting.....	3
<b>Semester Total</b>		<b>15</b>

<b>Second Semester</b>		<b>Credits</b>
DFTG 2370	Intermediate Computer-Aided Drafting-Microstation.....	3
DFTG 2306	Machine Design .....	3
DFTG 2335	Advanced Technologies in Mechanical Design and Drafting (Solid Modeling) .....	3
DFTG 2305	Printed Circuit Board Design.....	3
ENGL 2311	Technical and Industrial Correspondence and Report Writing.....	3
<b>Semester Total</b>		<b>15</b>

<b>Third Semester</b>		<b>Credits</b>
DFTG 2358	Advanced Machine Design** .....	3
<b>Semester Total</b>		<b>3</b>
<b>Program Total</b>		<b>65</b>

*\*Student Success Course*

*\*\*Capstone (Department approval prior to enrollment in a capstone class)*

*\*\*\*Pending approval from the Texas Higher Education Coordinating Board (THECB).*

# Science, Technology, Engineering and Mathematics

## Computer-Aided Drafting-Machine Drafting Specialization\*\*\*

### CERTIFICATE

*TSI testing is required prior to first enrollment.*

#### FIRST YEAR

<b>First Semester</b>		<b>Credits</b>
ENGR 1201	Introduction to Engineering* OR	
LEAD 1200	Workforce Development with Critical Thinking*	2
DFTG 1305	Technical Drafting	3
DFTG 1309	Basic Computer-Aided Drafting	3
MATH 1314	College Algebra	3
DFTG 1310	Specialized Basic Computer-Aided Drafting	3
<b>Semester Total</b>		<b>14</b>

<b>Second Semester</b>		<b>Credits</b>
DFTG 2319	Intermediate Computer-Aided Drafting	3
DFTG 1333	Mechanical Drafting	3
DFTG 1329	Electro-Mechanical Drafting	3
DFTG 1358	Electrical/Electronics Drafting	3
<b>Semester Total</b>		<b>12</b>

#### SECOND YEAR

<b>First Semester</b>		<b>Credits</b>
DFTG 2308	Instrumentation Drafting	3
DFTG 2302	Machine Drafting	3
DFTG 2306	Machine Design	3
DFTG 2335	Advanced Technologies in Mechanical Design and Drafting (Solid Modeling)**	3
<b>Semester Total</b>		<b>12</b>
<b>Program Total</b>		<b>38</b>

*\*Student Success Course*

*\*\*Capstone (Department approval prior to enrollment in a capstone class)*

*\*\*\*Pending approval from the Texas Higher Education Coordinating Board (THECB).*

## Drafting and Design Engineering Technology-Piping Design Drafting Specialization\*\*\*

### AAS

*TSI testing is required prior to first enrollment.*

#### FIRST YEAR

<b>First Semester</b>		<b>Credits</b>
ENGR 1201	Introduction to Engineering* OR	
LEAD 1200	Workforce Development with Critical Thinking*	2
DFTG 1305	Technical Drafting	3
ENGL 1301	Composition I	3
MATH 1314	College Algebra	3
PSYC 2301	Introduction to Psychology	3
DFTG 1309	Basic Computer-Aided Drafting	3
<b>Semester Total</b>		<b>17</b>

<b>Second Semester</b>		<b>Credits</b>
DFTG 2319	Intermediate Computer-Aided Drafting	3
DFTG 2323	Pipe Drafting	3
XXXX #3##	Humanities/Fine Arts General Education Elective	3
DFTG 1333	Mechanical Drafting	3
DFTG 2317	Descriptive Geometry	3
<b>Semester Total</b>		<b>15</b>

<b>Third Semester</b>		<b>Credits</b>
MATH 1316	Plane Trigonometry	3
<b>Semester Total</b>		<b>3</b>

#### SECOND YEAR

<b>First Semester</b>		<b>Credits</b>
DFTG 1310	Specialized Basic Computer Aided Drafting (CAD)	3
DFTG 2308	Instrumentation Drafting	3
ENGL 2311	Technical and Industrial Correspondence and Report Writing	3
DFTG 2330	Civil Drafting	3
DFTG 2302	Machine Drafting	3
<b>Semester Total</b>		<b>15</b>

<b>Second Semester</b>		<b>Credits</b>
DFTG 2306	Machine Design	3
ARCE 1352	Structural Drafting	3
DFTG 2340	Solid Modeling Design	3
DFTG 2345	Advanced Pipe Drafting	3
DFTG 2373	Piping Design Management Systems**	3
<b>Semester Total</b>		<b>15</b>
<b>Program Total</b>		<b>65</b>

*\*Student Success Course*

*\*\*Capstone (Department approval prior to enrollment in a capstone class)*

*\*\*\*Pending approval from the Texas Higher Education Coordinating Board (THECB).*



# Science, Technology, Engineering and Mathematics

## Computer-Aided Drafting-Pipe Drafting Specialization\*\*\*

### CERTIFICATE

*TSI testing is required prior to first enrollment.*

#### FIRST YEAR

<b>First Semester</b>		<b>Credits</b>
ENGR 1201	Introduction to Engineering* OR	
LEAD 1200	Workforce Development with Critical Thinking* .....	2
DFTG 1305	Technical Drafting .....	3
DFTG 1309	Basic Computer-Aided Drafting .....	3
MATH 1314	College Algebra.....	3
DFTG 1310	Specialized Basic Computer-Aided Drafting.....	3
<b>Semester Total</b>		<b>14</b>

<b>Second Semester</b>		<b>Credits</b>
DFTG 2319	Intermediate Computer-Aided Drafting .....	3
DFTG 2323	Pipe Drafting .....	3
ARCE 1352	Structural Drafting.....	3
DFTG 1333	Mechanical Drafting .....	3
<b>Semester Total</b>		<b>12</b>

<b>Third Semester</b>		<b>Credits</b>
DFTG 2302	Machine Drafting.....	3
DFTG 2308	Instrumentation Drafting.....	3
DFTG 1396	Special Topics: Smart Plant 3D OR	
DFTG 2371	Advanced Technologies in Process Plant Design-Autoplant .....	3
DFTG 2345	Advanced Pipe Drafting** .....	3
<b>Semester Total</b>		<b>12</b>
<b>Program Total</b>		<b>38</b>

*\*Student Success Course*

*\*\*Capstone (Department approval prior to enrollment in a capstone class)*

*\*\*\*Pending approval from the Texas Higher Education Coordinating Board (THECB).*

## Computer-Aided Drafting-Civil Drafting Specialization\*\*\*

### CERTIFICATE

*TSI testing is required prior to first enrollment.*

#### FIRST YEAR

<b>First Semester</b>		<b>Credits</b>
ENGR 1201	Introduction to Engineering* OR	
LEAD 1200	Workforce Development with Critical Thinking* .....	2
DFTG 1305	Technical Drafting .....	3
DFTG 1309	Basic Computer-Aided Drafting .....	3
SRVY 1301	Introduction to Surveying .....	3
MATH 1314	College Algebra.....	3
<b>Semester Total</b>		<b>14</b>

#### Second Semester

		<b>Credits</b>
DFTG 2319	Intermediate Computer Aided Drafting.....	3
DFTG 2321	Topographical Drafting.....	3
SRVY 1341	Land Surveying.....	3
ARCE 1352	Structural Drafting.....	3
DFTG 1310	Specialized Basic Computer-Aided Drafting.....	3

**Semester Total 15**

#### Third Semester

		<b>Credits</b>
DFTG 2327	Landscape Drafting.....	3
SRVY 2348	Plane Surveying.....	3
DFTG 1393	Special Topics in Civil Drafting and Civil Engineering.....	3
DFTG 2330	Civil Drafting** .....	3

**Semester Total 12**

**Program Total 41**

*\*Student Success Course*

*\*\*Capstone (Department approval prior to enrollment in a capstone class)*

*\*\*\*Pending approval from the Texas Higher Education Coordinating Board (THECB).*

## Computer-Aided Drafting-Designer (Certificates and MSA)

*The Computer-Aided Drafting-Designer certificates and MSA will be deactivated as of January 1, 2012. New students will not be admitted into the following certificate and MSA programs:*

- Computer-Aided Drafting-Designer-Architectural Drafting Specialization
- Computer-Aided Drafting-Designer-Piping Drafting
- Computer- Aided Drafting-Designer-Mechanical Drafting Specialization
- Computer-Aided Drafting-Designer-Electro-Mechanical Drafting Specialization
- Computer-Aided Drafting-Designer-Basic Piping Drafting MSA

# Science, Technology, Engineering and Mathematics

## ELECTRONICS ENGINEERING TECHNOLOGY

In addition to a solid core of academic and technical courses, the Electronics Engineering Technology program requires a focus specialization in one of the following areas to complete the AAS degree: Biomedical Electronics, Computer Engineering Technology and Electrical Power Technology.

Graduates of this program may secure entry-level employment in positions such as electronics technician, field service representative, technical writer, sales representative, computer technician and network technician.

Areas of employment may include research and development, servicing and maintenance, manufacturing and sales. Job responsibilities may require technicians to install and test newly designed equipment, operate and maintain complex electronic systems, write servicing or operating manuals, as well as represent manufacturers and wholesale/retail establishments.

The AAS in Electronics Engineering Technology is accredited by Engineering Technology Accreditation Commission of the Accreditation Board for Engineering and Technology (ETAC/ABET) 111 Market Place, Suite 1050, Baltimore, MD 21202, [www.abet.org](http://www.abet.org). The Electronics Engineering Technology department is a certified test site by the International Association for Radio, Telecommunications and Electromagnetics, Inc., (iNARTE), 840 Queen Street, New Bern, NC 28560, 252.727.0200.

All of the Electronics Engineering Technology AAS degrees are approved for Tech Prep. Qualified high school students may earn up to six credit hours toward the AAS degree through Tech Prep or dual credit. See an HCC counselor for information.

Students may transfer credits for the following courses to an Engineering Technology program at a four-year university in Texas: CETT 1403, DC Circuits; CETT 1405, AC Circuits; CETT 1425, Digital Fundamentals; CETT 1429, Solid State Devices; CETT 1457, Solid State Circuits.

## Major Programs Offered

### Electronics Engineering Technology AAS Degrees

- Biomedical Electronics Specialization
- Computer Engineering Technology Specialization
- Electrical Power Technology Specialization

### Electronics Engineering Technology Certificates

- Basic Electronics Certificate
- Computer Servicing/Networks Certificate

### Program Objectives

Electronics Engineering Technology students will

- Be well educated in the basic principles of their discipline, including the ability to analyze systems, interpret data, and present results.
- Possess the state of the art knowledge in the discipline, including the ability to design and conduct experiments.
- Demonstrate strong communication skills, able to work in teams, and understand professional and ethical responsibility.
- Be knowledgeable of current technologies and recognize the need to engage in life long learning.
- Be able to integrate mathematics, science, humanities, and social sciences into their primary work.
- Manage time, and take pride in professional quality of work.

### Program Outcomes

Students must demonstrate that they have achieved the following outcomes upon graduation:

- An appropriate mastery of the knowledge, techniques, skills and modern tools of their disciplines;
- An ability to apply current knowledge and adapt to emerging applications of mathematics, science, engineering and technology;
- An ability to conduct, analyze and interpret experiments and apply experimental results to improve processes;
- An ability to apply creativity in the design of systems, components or processes appropriate to program objectives;
- An ability to function effectively on teams;
- An ability to identify, analyze and solve technical problems;

# Science, Technology, Engineering and Mathematics

- An ability to communicate effectively;
- A recognition of the need for, and an ability to engage in lifelong learning;
- An ability to understand professional, ethical and social responsibilities;
- A respect for diversity and a knowledge of contemporary professional, societal and global issues, and
- A commitment to quality, timeliness, and continuous improvement.

For more information call 713.718.5251 or email [morteza.sameei@hccs.edu](mailto:morteza.sameei@hccs.edu)

## Biomedical Electronics Specialization

The Biomedical Technology field has a growing need for technicians trained to maintain, troubleshoot, and repair medical equipment for health care facilities or research institutions. The Biomedical Electronics specialization includes a one-semester internship in a medical center, hospital, or medical equipment manufacturer, ensuring exposure to the latest equipment.

### AAS

*TSI testing is required prior to first enrollment.*

#### FIRST YEAR

<b>First Semester</b>		<b>Credits</b>
ENGR 1201	Introduction to Engineering*	2
CPMT 1303	Introduction to Computer Technology	3
MATH 1314	College Algebra	3
CETT 1403	DC Circuits	4
CETT 1425	Digital Fundamentals	4
<b>Semester Total</b>		<b>16</b>

<b>Second Semester</b>		<b>Credits</b>
ENGL 1301	Composition I	3
MATH 1316	Plane Trigonometry	3
CETT 1405	AC Circuits	4
CETT 1429	Solid State Devices	4
XXXX #3##	Social/Behavioral Science General Education Elective	3
<b>Semester Total</b>		<b>17</b>

<b>Third Semester</b>		<b>Credits</b>
CPMT 1449	Computer Networking Technology	4
PHYS 1401	College Physics I	4
<b>Semester Total</b>		<b>8</b>

## SECOND YEAR

<b>First Semester</b>		<b>Credits</b>
BIOM 1309	Applied Biomedical Equipment Technology	3
XXXX #3##	Humanities/Fine Arts General Education Elective	3
ENGL 2311	Technical and Industrial Correspondence and Report Writing	3
CETT 1331	Programming for Discrete Electronic Devices	3
CETT 1457	Linear Integrated Circuits	4
<b>Semester Total</b>		<b>16</b>

<b>Second Semester</b>		<b>Credits</b>
BIOM 2331	Biomedical Clinical Instrumentation	3
MDCA 1313	Medical Terminology	3
BIOM 2489	Internship-Biomedical Technology/Technician**	4
<b>Semester Total</b>		<b>10</b>
<b>Program Total</b>		<b>67</b>

\*Student Success Course

\*\*Capstone

## Electrical Power Technology Specialization

Electrical Power Technology prepares students for jobs in power, oil and gas, and other power related services. In this specialization students learn about electrical machines (generators, motors, transformers) in single and multi-phase systems.

### AAS

*TSI testing is required prior to first enrollment.*

#### FIRST YEAR

<b>First Semester</b>		<b>Credits</b>
ENGR 1201	Introduction to Engineering*	2
CPMT 1303	Introduction to Computer Technology	3
MATH 1314	College Algebra	3
CETT 1403	DC Circuits	4
CETT 1425	Digital Fundamentals	4
<b>Semester Total</b>		<b>16</b>

<b>Second Semester</b>		<b>Credits</b>
ENGL 1301	Composition I	3
MATH 1316	Plane Trigonometry	3
CETT 1405	AC Circuits	4
CETT 1429	Solid State Devices	4
XXXX #3##	Social/Behavioral Science Elective	3
<b>Semester Total</b>		<b>17</b>

<b>Third Semester</b>		<b>Credits</b>
CETT 1321	Electronic Fabrication	3
PHYS 1401	College Physics I	4
<b>Semester Total</b>		<b>7</b>

# Science, Technology, Engineering and Mathematics

## SECOND YEAR

### First Semester Credits

ENGL 2311	Technical and Industrial Correspondence and Report Writing	3
CETT 1331	Programming for Discrete Electronic Devices	3
RBTC 1301	Programmable Logic Controllers	3
CPMT 1449	Computer Networking Technology	4
XXXX #3##	Humanities/Fine Arts General Education Elective	3
<b>Semester Total</b>		<b>16</b>

### Second Semester Credits

XXXX #4##	Program Related Elective	4
CETT 1445	Microprocessor	4
ELPT 1451	Electrical Machines**	4
<b>Semester Total</b>		<b>12</b>
<b>Program Total</b>		<b>68</b>

\*Student Success Course

\*\*Capstone

## Computer Engineering Technology Specialization

Computer Engineering Technology is perhaps the most flexible of the specializations offered. In this program you learn practical skills needed for immediate employment as an electronics technician, or to continue to higher levels of education. The basic theory and skills learned allow the individual to grow in the ever changing field of electronics technology.

### AAS

TSI testing is required prior to first enrollment.

#### FIRST YEAR

### First Semester Credits

ENGR 1201	Introduction to Engineering*	2
CPMT 1303	Introduction to Computer Technology	3
MATH 1314	College Algebra	3
CETT 1403	DC Circuits	4
CETT 1425	Digital Fundamentals	4
<b>Semester Total</b>		<b>16</b>

### Second Semester Credits

ENGL 1301	Composition I	3
MATH 1316	Plane Trigonometry	3
CETT 1405	AC Circuits	4
CETT 1429	Solid State Devices	4
XXXX #3##	Social/Behavioral Science General Education Elective	3
<b>Semester Total</b>		<b>17</b>

## Third Semester

### Credits

CETT 1321	Electronic Fabrication	3
ENGL 2311	Technical and Industrial Correspondence and Report Writing	3
<b>Semester Total</b>		<b>6</b>

## SECOND YEAR

### First Semester Credits

CETT 1331	Programming for Discrete Electronic Devices	3
PHYS 1401	College Physics I	4
CETT 1445	Microprocessor	4
XXXX #3##	Humanities/Fine Arts General Education Elective	3
<b>Semester Total</b>		<b>14</b>

### Second Semester Credits

CPMT 1449	Computer Networking Technology	4
XXXX #4##	Program-Related Elective	4
CETT 1457	Linear Integrated Circuits**	4
<b>Semester Total</b>		<b>12</b>
<b>Program Total</b>		<b>65</b>

\*Student Success Course

\*\*Capstone

## Telecommunications Specialization

### AAS

This AAS degree will be deactivated as of September 1, 2012.

New students will not be admitted into the program.

## Telecommunications Specialization

### CERTIFICATE

This certificate will be deactivated as of September 1, 2012.

New students will not be admitted into the program.

## Basic Electronics

### CERTIFICATE

TSI testing is required prior to first enrollment.

### First Semester Credits

ENGR 1201	Introduction to Engineering*	2
CPMT 1303	Introduction to Computer Technology	3
CETT 1321	Electronic Fabrication	3
CETT 1403	DC Circuits	4
<b>Semester Total</b>		<b>12</b>

# Science, Technology, Engineering and Mathematics

<b>Second Semester</b>			<b>Credits</b>
CETT	1405	AC Circuits.....	4
CETT	1425	Digital Fundamentals.....	4
CETT	1429	Solid State Devices**.....	4
<b>Semester Total</b>			<b>12</b>
<b>Program Total</b>			<b>24</b>

\*Student Success Course

\*\*Capstone

## Computer Servicing/Networks

### CERTIFICATE

*TSI testing is required prior to first enrollment.*

<b>First Semester</b>			<b>Credits</b>
ENGR	1201	Introduction to Engineering*.....	2
CPMT	1303	Introduction to Computer Technology.....	3
CETT	1403	DC Circuits.....	4
CETT	1425	Digital Fundamentals.....	4
<b>Semester Total</b>			<b>13</b>

<b>Second Semester</b>			<b>Credits</b>
XXXX	#4##	Program-Related Elective.....	4
CPMT	1411	Introduction to Computer Maintenance.....	4
CPMT	1449	Computer Networking Technology**.....	4
<b>Semester Total</b>			<b>12</b>
<b>Program Total</b>			<b>25</b>

\*Student Success Course

\*\*Capstone

## INSTRUMENTATION AND CONTROLS ENGINEERING TECHNOLOGY

The Instrumentation and Controls Engineering Technology program prepares individuals to install, calibrate, troubleshoot and maintain process control equipment and systems. A wide variety of equipment is learned, from traditional pneumatics to digital devices using different protocols.

### Program Outcomes

Students will be able to

- Demonstrate proficiency in the communications, sensor and controls depended applications.
- Implement safety best practices in the sensors and controls operations.
- Demonstrate basic analysis of sensors and controls systems by selecting basic electrical and electronic fundamental functions.
- Name, install, calibrate, troubleshoot and repair basic industrial instrumentation equipment.
- Perform advanced measurements and operate/specify/maintain/troubleshoot sampling systems and analyzers.
- Operate, maintain and troubleshoot microcomputers, PLCs, data communications and DCS systems.
- Perform basic instrumentation drafting and design.
- Perform process control, applications evaluation and calibration of electro-pneumatic depended processes.

For more information call 713.718.5251 or e-mail [morteza.sameei@hccs.edu](mailto:morteza.sameei@hccs.edu).

## Instrumentation and Controls Engineering Technology

### AAS

*TSI testing is required prior to first enrollment.*

### FIRST YEAR

<b>First Semester</b>			<b>Credits</b>
ENGR	1201	Introduction to Engineering*.....	2
INTC	1312	Introduction to Instrumentation and Safety Technology.....	3
PTAC	1308	Safety, Health and Environment.....	3
CETT	1403	DC Circuits.....	4
MATH	1314	College Algebra.....	3
<b>Semester Total</b>			<b>14-15</b>

# Science, Technology, Engineering and Mathematics

<b>Second Semester</b>			<b>Credits</b>
INTC	1456	Instrumentation Calibration.....	4
SPCH	#3##	Speech Elective .....	3
MATH	1316	Trigonometry.....	3
INTC	1441	Principles of Automatic Control.....	4
CPMT	1449	Computer Networking Technology OR.....	
ITNW	1425	Fundamentals of Networking Technologies OR.....	
ITCC	1401	Exploration - Networking Fundamentals.....	4
<b>Semester Total</b>			<b>18</b>

## SECOND YEAR

<b>First Semester</b>			<b>Credits</b>
INTC	1343	Application of Industrial Automatic Control .....	3
INTC	2330	Instrumentation Systems Troubleshooting.....	3
ENGL	1301	Composition I.....	3
XXXX	#3##	Program-Related Elective .....	3
PHYS	1401	College Physics .....	4
<b>Semester Total</b>			<b>16</b>

<b>Second Semester</b>			<b>Credits</b>
XXXX	#3##	Humanities/Fine Arts General Education Elective .....	3
XXXX	#3##	Social/Behavioral Science General Education Elective.....	3
RBTC	1301	Programmable Logic Controllers .....	3
INTC	2370	Linking Process Control Systems .....	3
INTC	2336	Distributed Control and Programmable Logic OR.....	
INTC	2380	Cooperative Education-Instrumentation Technology/Technician**.....	3
<b>Semester Total</b>			<b>15</b>
<b>Program Total</b>			<b>63-64</b>

\*Student Success Course

\*\*Capstone

## Instrumentation and Controls Engineering Technology

### CERTIFICATE

*TSI testing is required prior to first enrollment.*

#### FIRST YEAR

<b>First Semester</b>			<b>Credits</b>
ENGR	1201	Introduction to Engineering*.....	2
INTC	1312	Introduction to Instrumentation and Safety Technology.....	3
PTAC	1308	Safety, Health and Environment .....	3
ELPT	1311	Basic Electrical Theory OR.....	
CETT	1403	DC Circuits.....	3-4
MATH	1314	College Algebra.....	3
<b>Semester Total</b>			<b>14-15</b>

<b>Second Semester</b>			<b>Credits</b>
INTC	1456	Instrumentation Calibration.....	4
INTC	1441	Principles of Automatic Control.....	4
MATH	1316	Trigonometry.....	3
<b>Semester Total</b>			<b>11</b>

<b>Third Semester</b>			<b>Credits</b>
INTC	1343	Application of Industrial Automatic Control .....	3
RBTC	1301	Programmable Logic Controllers .....	3
INTC	2370	Linking Process Control Systems .....	3
INTC	2336	Distributed Control and Programmable Logic**.....	3
<b>Semester Total</b>			<b>12</b>
<b>Program Total</b>			<b>37-38</b>

\*Student Success Course

\*\*Capstone

## Solar Energy Technology-Photovoltaic

The Solar Energy Technology Photovoltaic (PV) and Thermal (TH) certificate programs provide students with the basic knowledge of solar technology, manufacturing and services. These certificate programs prepare students to work as installers, maintenance technicians, and constructors of solar panels and related technologies. These certificate programs support the following areas: Solar Photovoltaic (PV), Solar Thermal (TH), Concentrating Solar Power, and Market Transformation. Upon completion, graduates will be able to take the National Association of Board Certified Energy Practitioners (NABCEP) examination.

The Solar Energy Technology program is endorsed and supported by the Texas Renewable Energy Education Consortium (TREEC).

### Program Outcomes

Students will be able to

- Install photovoltaic and/or thermal systems according to applied codes and standards.
- Identify and explain drawings and schematics associated with solar panels and follow instructions regarding their operations and functionality.
- Practice performing routine solar systems troubleshooting and maintenance.
- Demonstrate safety procedures when installing panels on various types of roofs such as conventional, tile, cement, metallic, and concrete.
- Recognize, identify, and describe various solar panels and their methods of manufacturing.
- Explain the differences between off-grid and on the grid operations.

# Science, Technology, Engineering and Mathematics

- Describe various instruments such as: inverters, measuring devices, panels, cabling, batteries and calibration instruments associated with solar electrical power generation and heat other than panels and collectors.
- Assemble basic and complex solar PH and Solar TH systems.

## CERTIFICATE

*TSI testing is required prior to first enrollment.*

### FIRST YEAR

<b>First Semester</b>		<b>Credits</b>
ENGR 1201	Introduction to Engineering*	2
SOLR 1370	Principles of Solar Photovoltaic	3
SOLR 1371	Solar Safety Operations	3
MATH 1314	College Algebra	3
SOLR 1372	Off-Grid Solar Energy	3
<b>Semester Total</b>		<b>14</b>

<b>Second Semester</b>		<b>Credits</b>
SCIT 1418	Applied Physics	4
SOLR 1470	PV Installation Maintenance and Troubleshooting	4
ELPT 1457	Industrial Wiring	4
SOLR 1373	Solar Energy Systems	3
<b>Semester Total</b>		<b>15</b>

<b>Third Semester</b>		<b>Credits</b>
ELPT 1364	Practicum (or Field Experience) - Electrical and Power Transmission Installation/Installer, General OR	
ELPT 1391	Special Topics in Electrical and Power Transmission Installer, General	3
SOLR 1471	Photovoltaic Electrical Systems	4
<b>Semester Total</b>		<b>7</b>
<b>Program Total</b>		<b>36</b>

\*Student Success Course  
\*\*Capstone

## Solar Energy Technology - Thermal

### CERTIFICATE

*TSI testing is required prior to first enrollment.*

### FIRST YEAR

<b>First Semester</b>		<b>Credits</b>
ENGR 1201	Introduction to Engineering*	2
SOLR 1371	Solar Safety Operations	3
SOLR 1374	Principles of Solar Thermal Technology	3
MATH 1314	College Algebra	3
<b>Semester Total</b>		<b>11</b>

<b>Second Semester</b>		<b>Credits</b>
SCIT 1418	Applied Physics	4
SOLR 1372	Off-Grid Solar Energy	3
CNBT 1302	Mechanical, Plumbing & Electrical Systems in Construction I	3
<b>Semester Total</b>		<b>10</b>

<b>Third Semester</b>		<b>Credits</b>
ELPT 1364	Practicum (or Field Experience) - Electrical and Power Transmission Installation/Installer, General OR	
ELPT 1391	Special Topics in Electrical and Power Transmission Installer, General	3
SOLR 1472	Solar Thermal Installation Maintenance and Troubleshooting	4
<b>Semester Total</b>		<b>7</b>
<b>Program Total</b>		<b>28</b>

\*Student Success Course  
\*\*Capstone

## Wind Energy Technology

The Wind Energy Technology certificate program prepares students in operating and maintaining the systems that make a wind turbine (electrical or pneumatic) function, communicating automation among wind turbine instruments, and controlling hydraulic systems. Students will complete their internship summer semester at TSTC West Texas working on a full-scale, 60 cycle, 2 megawatt turbine built by the DeWind Corporation.

Students will demonstrate applied knowledge in DC Circuits and AC Circuits, Wind Turbine Materials and Electro-Mechanical Equipment, Digital Fundamentals, Industrial Automation, Programmable Logic Controllers, Basic Fluid Power (Hydraulics and Pneumatics), Wind Business, and Wind Turbine Troubleshooting and Repair. Students will become proficient in Supervisory Control and Data Acquisition (SCADA).

The Wind Energy Technology program is endorsed and supported by the Texas Renewable Energy Education Consortium (TREEC).

### Program Outcomes

Students will be able to

- Demonstrate applied knowledge in DC and AC circuits as they are associated with wind turbines,
- Describe and operate wind turbine materials and electro-mechanical equipment,
- Explain digital fundamentals, industrial automation, and programmable logic controllers as they are implemented in the operation of wind turbines,

# Science, Technology, Engineering and Mathematics

- Analyze the basic fluid power (Hydraulics and Pneumatics) needed for hub operations,
- Recognize fundamentals related to wind business,
- Demonstrate and compose wind turbine troubleshooting and repair practices.
- Recognize and identify Supervisory Control and Data Acquisition (SCADA) parameters

## CERTIFICATE

*TSI testing is required prior to first enrollment.*

### FIRST YEAR

<b>First Semester</b>		<b>Credits</b>
ENGR 1201	Introduction to Engineering*	2
CETT 1402	Electricity Principles	4
WIND 1300	Introduction to Wind Energy	3
CETT 1409	DC-AC Circuits	4
MATH 1314	College Algebra	3
<b>Semester Total</b>		<b>16</b>

<b>Second Semester</b>		<b>Credits</b>
WIND 2310	Wind Turbine Materials and Electro-Mechanical Equipment	3
ELMT 1305	Basic Fluid Power	3
SCIT 1418	Applied Physics	4
ENGL 1301	Composition I	3
WIND 1302	Wind Safety	3
<b>Semester Total</b>		<b>16</b>

<b>Third Semester</b>		<b>Credits</b>
WIND 2459	Wind Power Delivery System	4
<b>Semester Total</b>		<b>4</b>
<b>Program Total</b>		<b>36</b>

\*Student Success Course

\*\*Capstone

## PETROLEUM ENGINEERING TECHNOLOGY

Petroleum Engineering Technology is a program designed to prepare individuals to work as Petroleum Engineering Technicians in the oil and gas and related industries. The petroleum industry hires these highly skilled individuals for multiple field and office positions. This challenging program is designed to train petroleum engineering technicians in all areas of down and mid stream operations. Students complete an intense core curriculum in areas that include hydrocarbon safety, drilling, petroleum geology, oil and gas exploration and production, reservoir operations, well head completions, petroleum data management operations

and analysis, natural gas production, and economics. In conjunction with these courses, students employ the latest computer software in E&P, operations, data mining, and geological mapping.

The curriculum is based upon the core duties and related tasks identified by industry organizations such as BP (primarily), Shell, Chevron/Texaco, ExxonMobil, Bechtel Corporation, Conoco, Halliburton and others. Graduates of Petroleum Engineering Technology are employed in process design, data entry and evaluation, well operations, environmental control, plant engineering, geological surveys, engineering sales, research and development, and manufacturing. Common industries for employment include: power, gas processing, refineries, petrochemical processing, oil and gas mining, manufacturing, drilling and exploration services.

### Program Outcomes

Students will be able to

- Maintain hydrocarbon safety, health, and environmental standards in the oil and gas fields of operations including reservoirs, wells, and offshore installations.
- Describe and illustrate basic geological concepts, surveys, and maps relevant to the exploration and production.
- Perform petroleum data analysis associate with exploration & production, well completions and facilities operations.
- Explain data acquisition by in using relevant software.
- Demonstrate use of equipment in basic well completion operations and analyze their field performance.
- Explain basic exploration and production best practices and identify parameters responsible for oil and gas reservoir size and performance.
- Describe natural gas production and enhanced oil recovery.
- Define and evaluate basic reservoir engineering best practices for enhanced recovery.
- Employ software and IT techniques in describing and performing basic petroleum operations.
- Identify basic petrochemicals and describe their technology of production.

For more information call 713.718.5251 or e-mail [morteza.sameei@hccs.edu](mailto:morteza.sameei@hccs.edu).



# Science, Technology, Engineering and Mathematics

## Petroleum Engineering Technology

### AAS

TSI testing is required prior to first enrollment.

#### FIRST YEAR

<b>First Semester</b>		<b>Credits</b>
ENGR 1201	Introduction to Engineering*	2
PTRT 1301	Introduction to Petroleum Industry	3
MATH 1314	College Algebra	3
ENGL 1301	Composition I	3
PTRT 1470	Petroleum Data Management I-Exploration	4
PTAC 1308	Safety, Health, and Environment I	3
<b>Semester Total</b>		<b>18</b>

<b>Second Semester</b>		<b>Credits</b>
CTEC 1401	Applied Petrochemical Technology	4
PTRT 1471	Exploration and Production I	4
PTRT 1370	Petroleum Geology	3
PTRT 1472	Petroleum Data Management II-Drilling and Production	4
<b>Semester Total</b>		<b>15</b>

<b>Third Semester</b>		<b>Credits</b>
PTRT 2380	Cooperative Education-Petroleum Technology/ Technician	3
<b>Semester Total</b>		<b>3</b>

#### SECOND YEAR

<b>First Semester</b>		<b>Credits</b>
PTRT 1473	Exploration and Production II	4
MATH 1325	Elements of Calculus with Applications	3
PTRT 2370	Petroleum Operations	3
XXXX #3##	Humanities/Fine Arts General Education Elective	3
<b>Semester Total</b>		<b>13</b>

<b>Second Semester</b>		<b>Credits</b>
PTRT 2331	Well Completions	3
PTRT 2371	Principles of Reservoir Engineering	3
PTRT 2423	Natural Gas Production	4
<b>Semester Total</b>		<b>10</b>

<b>Third Semester</b>		<b>Credits</b>
XXXX #3##	Approved Social/Behavioral Science General Education Elective	3
PTRT 2372	Internship/Petroleum Technology/Technician	3
PTRT 2470	Petroleum Data Management III-Facilities and Performance**	4
<b>Semester Total</b>		<b>10</b>
<b>Program Total</b>		<b>69</b>

\*Student Success Course

\*\*Capstone

## Petroleum Engineering Technology

### CERTIFICATE

TSI testing is required prior to first enrollment.

#### FIRST YEAR

<b>First Semester</b>		<b>Credits</b>
ENGR 1201	Introduction to Engineering*	2
PTRT 1301	Introduction to Petroleum Industry	3
MATH 1314	College Algebra	3
ENGL 1301	Composition I	3
PTRT 1470	Petroleum Data Management I-Exploration	4
PTAC 1308	Safety, Health, and Environment I	3
<b>Semester Total</b>		<b>18</b>

<b>Second Semester</b>		<b>Credits</b>
CTEC 1401	Applied Petrochemical Technology	4
PTRT 1370	Petroleum Geology	3
PTRT 1471	Exploration and Production I	4
<b>Semester Total</b>		<b>15</b>

<b>Third Semester</b>		<b>Credits</b>
PTRT 1472	Petroleum Data Management II-Drilling and Production	4
PTRT 2380	Cooperative Education-Petroleum Technology/Technician**	3
<b>Semester Total</b>		<b>3</b>
<b>Program Total</b>		<b>36</b>

\*Student Success Course

\*\*Capstone

# Science, Technology, Engineering and Mathematics

## PROCESS TECHNOLOGY

The Process Technology program educates and trains technicians who control and monitor various industrial and plant processes. Areas of employment include: petrochemicals and refining, food and beverage processing, pharmaceuticals and biomanufacturing, paper and pulp, oil and gas exploration, energy and power generation, water and waste water treatment, chemical and agricultural manufacturing, environmental safety, and brewing and distilling process industries.

Process technicians ensure safety, health and other environmental practices and standards in all areas of plant activities. They also provide routine and preventive maintenance and service to process equipment, systems, and other plant units. They may also monitor and operate manufacturing instrumentation. Process technicians generally interface with other technical personnel such as chemical laboratory technicians in inspecting, troubleshooting, repairing and testing process related equipment.

### Program Outcomes

Students will be able to

- Operate separation systems and equipment.
- Describe and operate heat exchange systems and equipment.
- Analyze plant reaction systems.
- Control waste treatment and/or destruction systems.
- Operate and maintain utility systems such as waste water treatment associated with flow-level temperature and pressure.
- Manipulate chemical materials and implement safe handling and storage.
- Troubleshoot process abnormalities and equipment malfunctions.
- Maintain safety, health, and environmental standards in the plant.
- Provide routine and preventive maintenance and service to process equipment and instruments.
- Evaluate and calibrate plant equipment and systems for inventory processes.

For more information call 713.718.5251 or e-mail [morteza.sameei@hccs.edu](mailto:morteza.sameei@hccs.edu).

## Process Technology

### AAS

*TSI testing is required prior to first enrollment.*

#### FIRST YEAR

##### First Semester

	<b>Credits</b>
ENGR 1201 Introduction to Engineering* .....	2
PTAC 1302 Introduction to Process Technology .....	3
ENGL 1301 Composition I .....	3
MATH 1314 College Algebra .....	3
SOCI 1301 Introduction to Sociology .....	3
PTAC 1308 Safety, Health and Environment I .....	3

**Semester Total 17**

##### Second Semester

	<b>Credits</b>
SCIT 1418 Applied Physics OR	
PHYS 1401 College Physics .....	4
SCIT 1414 Applied General Chemistry I OR	
CHEM 1411 General Chemistry I .....	4
PTAC 1410 Process Technology I-Equipment .....	4
PTAC 1332 Process Instrumentation I .....	3

**Semester Total 15**

#### SECOND YEAR

##### First Semester

	<b>Credits</b>
SPCH 1311 Fundamentals of Speech .....	3
PTAC 2314 Principles of Quality .....	3
PTAC 2420 Process Technology II-Systems .....	4
PTAC 1354 Industrial Processes .....	3
BMGT 1301 Supervision .....	3

**Semester Total 16**

##### Second Semester

	<b>Credits</b>
PTAC 2446 Process Troubleshooting .....	4
PTAC 1350 Industrial Economics .....	3
XXXX #3## Approved Humanities/Fine Arts General Education Elective .....	3
PTAC 2438 Process Technology III-Operations** OR	
CTEC 2445 Unit Operations** .....	4

**Semester Total 14**

**Program Total 62**

*\*Student Success Course*

*\*\*Capstone*

# Science, Technology, Engineering and Mathematics

## Process Technology-Process Operator

### **CERTIFICATE**

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*TSI testing is required prior to first enrollment.*

<b>First Semester</b>		<b>Credits</b>
ENGR 1201	Introduction to Engineering* .....	2
PTAC 1302	Introduction to Process Technology .....	3
MATH 1314	College Algebra .....	3
PTAC 1308	Safety, Health and Environment I .....	3
PTAC 1410	Process Technology I-Equipment .....	4
<b>Semester Total</b>		<b>15</b>

<b>Second Semester</b>		<b>Credits</b>
PTAC 1332	Process Instrumentation I .....	3
PTAC 2420	Process Technology II-Systems .....	4
PTAC 2314	Principles of Quality .....	3
SCIT 1414	Applied General Chemistry I OR	
CHEM 1411	General Chemistry I .....	4
<b>Semester Total</b>		<b>14</b>

<b>Third Semester</b>		<b>Credits</b>
PTAC 2438	Process Technology III-Operations OR	
CTEC 2445	Unit Operations .....	4
PTAC 2446	Process Troubleshooting** .....	4
<b>Semester Total</b>		<b>8</b>
<b>Program Total</b>		<b>37</b>

*\*Student Success Course*

*\*\*Capstone*

# Transportation, Distribution and Logistics

**Automotive Technology (47.0604)**  
**Heavy Vehicle & Truck Repair (47.0613)**  
**Logistics (52.0203) See Business**  
**Administration for Logistics**

A Career Cluster is a grouping of occupations and broad industries based on commonalities. The Transportation, Distribution and Logistics career cluster is concerned with providing knowledge and skills related to planning, management, and movement of people, materials, and goods by road, pipeline, air, rail and water and related professional and technical support services such as transportation infrastructure planning and management, logistics services, mobile equipment and facility maintenance. This includes the following HCC programs: Automotive Technology and Heavy Vehicle & Truck Repair.

All new semester hour students, who have earned less than 12 semester hours of college level credit, are required to take a first-year student success course in their first term at HCC. Through research and experience, Houston Community College has determined that many life and career management skills are necessary for students to make the most of their college investment. A student success course is designed to prepare students for the demands of college and for success in the world of work. The course emphasizes setting priorities, time management, effective listening, note-taking, concentration techniques, and retention of information, book analysis, comprehension techniques, and test-taking skills. This course also incorporates units that are designed to facilitate the use of library databases in conducting research, planning and setting educational objectives, lifelong career assessment, decision-making, financial aid, tutoring, and student support services, enabling the student to maximize the use of college resources.

Every HCC Career and Technology Education program contains a "capstone," an experience for the student to "put it all together." The capstone is a learning experience resulting in a consolidation of a student's educational experience and certifies mastery of entry level workplace competencies. The capstone experience must occur during the last semester of the student's educational program. The capstone consists of an external learning experience or an advanced course especially designed to help students synthesize knowledge and skills or other licensure as appropriate.

## AUTOMOTIVE TECHNOLOGY

The technological changes in the automotive industry require that the automotive technician receives state-of-the-art instruction. The technician is required to not only analyze high-tech electronic and mechanical systems, but is also required to keep updated on changing materials and construction techniques used in vehicles. Using meters, testing equipment and procedures, the automotive technician must determine what component parts or systems are malfunctioning and make the appropriate repairs. Skilled automotive technicians are in great demand and command high salaries for their expertise. The Automotive Technology program and curriculum are certified by the National Automotive Technicians Education Foundation (NATEF), 101 Blue Seal Drive, SE, Suite 101, Leesburg, VA 20175, 703.669.6650 Fax: 703.669.6125, [www.natef.org](http://www.natef.org).

Students receiving the AAS degree can look forward to a variety of employment opportunities in the automotive industry as repair technicians, service writers, service managers, shop foremen, and/or business owners. All instructors are certified by the National Institute for Automotive Service Excellence (ASE), 101 Blue Seal Drive, SE, Suite 101, Leesburg, VA 20175, [www.ase.com](http://www.ase.com).

**Please note that a student may only earn one Marketable Skills Achievement Award (MSA) per academic year.**

### Program Outcomes

Students will be able to

- Demonstrate competency in automotive brake and suspension service procedures.
- Demonstrate competency in automotive automatic and manual transmission service and related systems.
- Demonstrate competency in automotive engine repair and replacement service procedures.
- Demonstrate competency in automotive electrical and electronic systems service and procedure.
- Demonstrate competency in automotive air-conditioning service and repair.
- Demonstrate professional work habits and technical skills necessary for success in the automotive repair industry.

*For more information call 713.718.8100 or e-mail [carl.clark@hccs.edu](mailto:carl.clark@hccs.edu).*

# Transportation, Distribution and Logistics

## Automotive Technician

Classes in the AAS Automotive Technician program are taught in "blocks." Students must register for all classes in a given semester at the same time. Any registration other than "blocks" of instruction requires departmental approval. This policy does not pertain to evening (6:00 p.m. to 10:00 p.m.) classes. **Students are required to purchase textbooks and tools.**

### AAS

*TSI testing is required prior to first enrollment.*

#### FIRST YEAR

<b>First Semester</b>		<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking*	2
AUMT 1305	Introduction to Automotive Technology	3
AUMT 1310	Automotive Brake Systems	3
AUMT 1316	Automotive Suspension and Steering Systems	3
AUMT 2328	Automotive Service	3
<b>Semester Total</b>		<b>14</b>

<b>Second Semester</b>		<b>Credits</b>
AUMT 1345	Automotive Climate Control Systems	3
AUMT 2437	Automotive Electronics	4
AUMT 2321	Automotive Electrical Diagnosis and Repair	3
AUMT 1307	Automotive Electrical Systems	3
XXXX #3##	Math/Science General Education Elective	3
<b>Semester Total</b>		<b>16</b>

<b>Third Semester</b>		<b>Credits</b>
AUMT 2317	Automotive Engine Performance Analysis I	3
AUMT 2334	Automotive Engine Performance Analysis II	3
AUMT 1319	Automotive Engine Repair	3
AUMT 1306	Automotive Engine Removal and Installation	3
<b>Semester Total</b>		<b>12</b>

#### SECOND YEAR

<b>First Semester</b>		<b>Credits</b>
AUMT 2325	Automatic Transmission and Transaxle	3
AUMT 2209	Automotive Drive Train and Axle Theory	2
AUMT 2223	Automotive Automatic Transmission and Transaxle Theory	2
AUMT 2313	Automotive Drive Train and Axles	3
AUMT 2455	Automotive Engine Machining	4
<b>Semester Total</b>		<b>14</b>

#### Second Semester

		<b>Credits</b>
SPCH 1311	Fundamentals of Speech	3
ENGL 1301	Composition I	3
XXXX #3##	Social/Behavioral Science General Education Elective	3
XXXX #3##	Humanities/Fine Arts General Education Elective	3
AUMT 2380	Cooperative Education - Auto/Automotive Mechanic/Technician**	3
<b>Semester Total</b>		<b>15</b>
<b>Program Total</b>		<b>71</b>

\*Student Success Course

\*\*Capstone

## Automotive Technician

The Automotive Technician certificate program provides students with the same automotive technology core as the AAS degree and in some instances, the same employment opportunities including repair technician, service writer, service manager, shop foreman, and business owner. The certificate program does not include the academic classes which are required for the degree. The program is NATEF certified, and all instructors are certified by the National Institute for Automotive Service Excellence (ASE).

### CERTIFICATE

*TSI testing is required prior to first enrollment.*

#### FIRST YEAR

<b>First Semester</b>		<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking*	2
AUMT 1305	Introduction to Automotive Technology	3
AUMT 1310	Automotive Brake Systems	3
AUMT 1316	Automotive Suspension and Steering Systems	3
AUMT 2328	Automotive Service	3
<b>Semester Total</b>		<b>14</b>

<b>Second Semester</b>		<b>Credits</b>
AUMT 1307	Automotive Electrical Systems	3
AUMT 1345	Automotive Climate Control Systems	3
AUMT 2437	Automotive Electronics	4
AUMT 2321	Automotive Electrical Diagnosis and Repair	3
<b>Semester Total</b>		<b>13</b>

# Transportation, Distribution and Logistics

## Third Semester

		<b>Credits</b>
AUMT 2317	Automotive Engine Performance Analysis I.....	3
AUMT 2334	Automotive Engine Performance Analysis II.....	3
AUMT 1319	Automotive Engine Repair.....	3
AUMT 1306	Automotive Engine Removal and Installation.....	3
AUMT 1380	Cooperative Education - Auto/Automotive Mechanic/Technician**.....	3
<b>Semester Total</b>		<b>15</b>
<b>Program Total</b>		<b>42</b>

\*Student Success Course

\*\*Capstone

## Light Automotive Maintenance Technician

The Light Automotive Maintenance Technician Marketable Skills Achievement Award (MSA) is designed to provide students with basic knowledge in servicing practices, shop safety, rules, basic shop tools, test equipment, and gasoline engines and systems basics.

### MSA

(Marketable Skills Achievement Award)

#### FIRST YEAR

##### First Semester

		<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking.....	2
AUMT 1305	Introduction to Automotive Technology.....	3
AUMT 1310	Automotive Brake Systems.....	3
AUMT 1316	Automotive Suspension and Steering Systems.....	3
AUMT 2328	Automotive Service.....	3
<b>Semester Total</b>		<b>14</b>
<b>Program Total</b>		<b>14</b>

## Autobody/Collision Repair Technician

The Autobody/Collision Repair Technician certificate program prepares individuals to apply technical knowledge and skills to repair, reconstruct and finish automobile bodies, fenders, and external features. The program includes instruction in structure analysis, damage repair, non-structural analysis, mechanical and electrical components, plastics and adhesives, painting and refinishing techniques, and damage analysis and estimating.

Classes in the Autobody/Collision Repair Technician certificate are taught in "blocks." Students must register for all classes in a given semester at the same time. Any registration other than "blocks" of instruction requires departmental approval.

### CERTIFICATE

*TSI testing is required prior to first enrollment.*

#### FIRST YEAR

##### First Semester

		<b>Credits</b>
LEAD 1200	Workforce Development with Critical Thinking*.....	2
ABDR 1441	Structural Analysis and Damage Repair I.....	4
ABDR 1431	Basic Refinishing.....	4
ABDR 1207	Collision Repair Welding.....	2
ABDR 1215	Vehicle Trim and Hardware.....	2
<b>Semester Total</b>		<b>14</b>

##### Second Semester

		<b>Credits</b>
ABDR 1458	Intermediate Refinishing.....	4
ABDR 1442	Structural Analysis and Damage Repair II.....	4
ABDR 2441	Major Collision Repair and Panel Replacement.....	4
<b>Semester Total</b>		<b>12</b>

##### Third Semester

		<b>Credits</b>
ABDR 2449	Advanced Refinishing.....	4
ABDR 1291	Special Topics in Auto/Automotive Body Repairer.....	2
ABDR 2431	Structural Analysis and Damage Repair III.....	4
ABDR 1280	Cooperative Education - Autobody/Collision and Repair Technology/Technician**.....	2
<b>Semester Total</b>		<b>12</b>
<b>Program Total</b>		<b>38</b>

\*Student Success Course

\*\*Capstone

# Transportation, Distribution and Logistics

## HEAVY VEHICLE & TRUCK REPAIR

The Heavy Vehicle & Truck Repair program provides skilled and knowledgeable entry-level employees to heavy equipment industries all over Texas. Employers actively seek HCC Heavy Vehicle & Truck Repair graduates to work as engine or maintenance specialists and field technicians.

With the increased use of highly sophisticated pneumatic, hydraulic, and electronic systems on heavy equipment today, successful students find many opportunities for employment. Cooperative work opportunities within the industry allow students to experience different types of jobs before graduating.

**Please note that a student may only earn one Marketable Skills Achievement Award (MSA) per academic year.**

### Program Outcomes

Students will be able to

- Demonstrate competency in heavy vehicle/truck brake and suspension service procedures.
- Demonstrate competency in heavy vehicle/truck transmission and driveline service.
- Demonstrate competency in heavy vehicle/truck engine repair and replacement procedures.
- Demonstrate competency in heavy vehicle/truck electrical and electronic systems service and procedures.
- Demonstrate competency in heavy vehicle/truck air-conditioning service and repair.
- Demonstrate professional work habits and technical skills necessary for success in the heavy vehicle/truck repair industry.

For more information call 713.718.8100 or e-mail [michael.cleveland@hccs.edu](mailto:michael.cleveland@hccs.edu).

### Heavy Vehicle & Truck Repair

Classes in the Heavy Vehicle & Truck Repair certificate program are taught in "blocks." Students must register for all five of the first semester classes at the same time. Any registration other than "blocks" of instruction requires departmental approval. **Students are required to purchase textbooks and tools.**

## CERTIFICATE

*TSI testing is required prior to first enrollment.*

### First Semester Credits

LEAD 1200	Workforce Development with Critical Thinking*	2
DEMR 1301	Shop Safety and Procedures	3
DEMR 1317	Basic Brake Systems	3
DEMR 1310	Diesel Engine Testing and Repair I	3
DEMR 2312	Diesel Engine Testing and Repair II	3

**Semester Total 14**

### Second Semester Credits

AUMT 1307	Automotive Electrical Systems	3
AUMT 1345	Automotive Climate Control Systems	3
AUMT 2321	Automotive Electrical Diagnosis and Repair	3
AUMT 2437	Automotive Electronics	4

**Semester Total 13**

### Third Semester Credits

DEMR 1329	Preventative Maintenance	3
DEMR 1316	Basic Hydraulics	3
DEMR 1330	Steering and Suspension I	3
DEMR 1342	Power Train Applications I	3
DEMR 1381	Cooperative Education - Diesel Mechanics Technology/Technician**	3

**Semester Total 15**

**Program Total 42**

\*Student Success Course

\*\*Capstone

## Diesel Preventative Maintenance

### MSA

*(Marketable Skills Achievement Award)*

### FIRST YEAR

#### First Semester Credits

LEAD 1200	Workforce Development with Critical Thinking	2
DEMR 1301	Shop Safety and Procedures	3
DEMR 1317	Basic Brake Systems	3
DEMR 1310	Diesel Engine Testing and Repair I	3
DEMR 2312	Diesel Engine Testing and Repair II	3

**Semester Total 14**

**Program Total 14**

# Division of Extended Learning

HCC is an open-admission, public institution of higher education offering opportunities for academic advancement, workforce training, career development and lifelong learning. Our goal is to prepare individuals in our diverse communities for life and work in a global and technological society.

To determine what Houston needs and wants, we are conducting critical economic analyses of the metropolitan areas—then moving to meet those needs by delivering high-quality educational opportunities.

In addition to offering more individual classes tied directly to the needs of Houston’s economic sectors, the HCC School of Continuing Education will offer more on-line courses and more certificate programs that will launch our students—you—into high-pay, high-demand jobs.

HCC’s School of Continuing Education is your pathway to a brighter tomorrow for you and your family.

“The Houston community college school of continuing education faculty and staff are committed to providing outstanding instruction and services to our community in such areas as business, languages, technology, construction, transportation, public safety and health. Our goal is to take our students from the classroom to the workplace in less than a year.”

Kathy Housel,  
Director, School Of Continuing Education

## Content Areas

Business	713.718.7947
Health Careers	713.718.7583
Information Technology	713.718.7641
Languages	713.718.7581
Construction	281.491.2330
Transportation	713.718.8200
Public Safety	713.718.8363

## Instructional Areas

School of Continuing Education	713.718.5303
Online Continuing Education	713.718.5149
Corporate College	713.718.5304
Adult Education Programs	713.718.5400
Apprenticeship Programs	713.718.6827
Corrections Education Programs	713.718.8738

## Registration for Continuing Education Courses

If you need assistance contact any of the Continuing Education offices or dial the HCC Support Center at 713.718.8800.

- Online Registration
- Phone/Fax Registration
- In Person
- By Mail

### Online

First time students (Students who have never taken a class at HCC)

#### To Apply:

Go to Continuing Education Admissions to apply.

HCC Employees: Contact the Support Center at 713.718.8800 to activate a student account and receive a web log-in ID.

Returning Students (Students who have taken a class at HCC)

#### Go to Online Registration

Payment for Online Registration must be done at the time of registration. Credit Card (Visa, Mastercard, or American Express) accepted for payment.

#### Phone/Fax Registration

Complete the Continuing Education Enrollment Form. Contact the appropriate Continuing Education office for assistance. Fax the completed form with credit card information to the college location of your choice. A Credit Card (Visa, Mastercard, or American Express) is required for Phone/Fax registration.

#### Walk-In Registration

Go to any Continuing Education office and complete an Enrollment Form. Some programs require department consent. The form can then be taken to the nearest registration office. Credit Card (Visa, Mastercard, or American Express) and checks are accepted. To find the nearest office to you, call 713.718.5303.

A \$20 returned check/declined credit card fee will be assessed and a \$30 reinstatement fee (\$15 Drop Fee, \$15 Add Fee) will be charged to the student to re-enroll. Notices mailed to the name and addresses on record are considered delivered.



# Division of Extended Learning

## Mail Registration

Complete the Continuing Education Enrollment Form and mail the completed form with payment information to the college location of your choice. Contact the appropriate Continuing Education office for assistance. Credit Card (Visa, Mastercard, or American Express) and checks are accepted via mail.

A \$20 returned check/declined credit card fee will be assessed and a \$30 reinstatement fee (\$15 Drop Fee, \$15 Add Fee) will be charged to the student to re-enroll. Notices mailed to the name and addresses on record are considered delivered.

## Course Fees

Tuition and fees are indicated by each course listing. When noted, materials and texts are extra. Prices are subject to change without notice.

## Attendance

Continuing Education courses have attendance requirements and also require satisfactory completion of the course objectives in order for students to receive a certificate of successful completion.

## Continuing Education Units (CEUs)

One CEU is 10 contact hours of successful participation/completion in an organized continuing education experience under responsible sponsorship, capable direction and qualified instruction. CEUs are not substituted for college credit hours, but rather are a means of reporting continuing education activities. Transcripts listing CEU credits satisfactorily completed are available on request. CEUs are recognized internationally as a measure of substantial professional education and training.

## Notification of Class Changes

Every effort is made to begin and hold class at the designated time. Each class is contingent on the required minimum number of students. Occasionally, extenuating circumstances arise requiring a cancellation or delay. In such cases, we attempt to notify all students by telephone.

Houston Community College reserves the right, when necessary, to cancel classes, alter schedules, or substitute instructors.

Students are not notified if a class has made. Students are contacted only in the event of a class cancellation or change.

## Refund policy

For continuing education courses with fewer than 360 contact hours, full refund will be made if a student withdraws prior to the first class date, or in the case of college error or class cancellation.

Refunds are processed as soon as possible. They are generally mailed four to six weeks following the last day to apply for a refund.

Any refund mailed to the name and address on record is considered delivered. The Stop Payment Fee to reissue a refund check mailed to an incorrect address is \$20. Tuition and fees paid directly to the institution by a sponsor, grants, loans, donor, or scholarship shall be refunded to the source rather than directly to the student. Fees paid by other third parties, such as friends or relatives, will be refunded directly to the student.

## Change of Schedule

A Program Adjustment Form must be initiated through the campus office of Continuing Education for all class changes.

## Disclaimer

This schedule has been carefully prepared to assure that all information is accurate and as complete as possible. However, the college reserves the right to make changes, which may result in deviations from the information in the schedule content.

## Certificate of Completion

Certification is awarded upon successful completion of required courses and submission of official HCC transcript to the appropriate HCC School of Continuing Education. Successful certificate completion requires 80% attendance and achievement of learning objectives in all designated courses.

Participants may also elect to take any individual course separate from certificate requirements.

## Eligibility for Enrollment

Continuing Education courses are open to individuals 17 years of age or older. Kids College accepts younger students.

## Senior Tuition Waiver

Seniors age 55 and over may enroll in specified courses and receive a \$10 tuition discount waiver per continuing education course. Proof of age will be required.

# Division of Extended Learning

## School of Continuing Education

The Houston Community College School of Continuing Education faculty and staff are committed to providing outstanding instruction and services to our community in such areas as business, languages, information technology, construction, transportation, health. We are proud of the expertise our faculty brings to the classroom. Whether changing careers or updating your skills, the School of Continuing Education can help you achieve your goals.

## Business

### Non-Profit Certificate

This certificate will provide students with a thorough knowledge of nonprofit organizations.

### Paralegal Certificate

This program focuses on developing the critical reasoning, analytical skills and legal knowledge essential to succeed in today's paralegal and law-related occupations.

### E-Marketing Certificate

This program is a marketing curriculum to provide students with the knowledge and credentials to find in-demand jobs. Student will learn how to grow, market and measure website content using the latest web strategies

### Child Development Associate

This series of three courses is a study of normal child growth and development from conception to adolescence.

### Human Resource Certificate

These courses will help to enhance and expand professional skills for a broad range of positions in the field of HR.

### Accounting Clerk Certificate

This certificate will prepare you for employment in positions such as asst. bookkeeper, accounts receivable clerk, and other entry level accounting positions. .

### Certified Associate in Project Management

This program is designed for those with minimum exposure in the field of Project Management. Upon completion, you will be ready to sit for the CAPM exam.

### Professional Development

Training skills for business professionals including topics in leadership, accounting, starting a business and much more.

## Multi-Family Property Management

This program provides an in-depth introduction to the apartment industry for new leasing professionals as well as those individuals looking to learn more about residential property management.

## Real Estate Property Management Scholarships

There are several scholarships available for this program.

## Writing

Writing skills for business and grants.

## Health Careers

### Electronic Medical Record Specialist

The Electronic Medical Record Specialist is designed to prepare individuals to work in medical offices and clinics with EMR.

### Intravenous Therapy

Intravenous Therapy is designed for the healthcare professional who desires to review and apply venipuncture skills to the techniques of intravenous therapy. The student will learn basic IV therapy theory and technologies and the proper techniques in performing venipuncture and IV therapy. Information regarding fluids, electrolytes, blood products, cardiovascular systems physiology, medications, risks and complications in IV therapy will be discussed.

### Telemetry Technician

The Telemetry Technician is trained to monitor the heart's electrical activity within the medical setting. Preparation for licensure/certification.

### Certified Medication Aide

Training in the preparation and administration of designated medications by non-licensed nursing personnel employed in licensed health care agencies.

### Certified Nurse Aide - CNA

This program will provide the skills, knowledge, and abilities essential to provide basic care to residents of long-term care facilities.

### Clinical Care Specialist/Patient Care Technician

A Clinical Care Specialist, also known as a Patient Care Technician Level Two, is a multi-skilled healthcare worker trained to perform basic nursing tasks and phlebotomy.

# Division of Extended Learning

## **Electrocardiography (EKG) Technician**

The EKG Technician program provides specific training in Introductory Electrocardiography, Intermediate Electrocardiography and Electrocardiography Clinical.

## **HIPAA - Health Insurance Portability and Accountability Act**

The HCC HIPAA training can help you understand the new Federal guidelines on health privacy and security.

## **Health Information Specialist - HIS**

This program will provide the skills and knowledge that are required of all clerical health care professionals..

## **Mammography Certification Training**

Provides training for the registered X-Ray Technologist to enter the advanced imaging field of mammography

## **Medical Billing Clerk**

This certification is designed to train health information personnel to analyze medical records and assign codes for the indexing of diagnoses and procedures.

## **Medical Receptionist**

Training for entry-level operational position in a medical facility.

## **Phlebotomy Technician**

The Phlebotomy program is a certificate program where students will learn theory and principle related to obtaining blood specimens from patients.

## **Information Technology**

### **.NET Programming Training**

Learn how to use the latest and most productive programming development tools.

### **A+ Computer Repair & Network Cabling**

Training toward industry certification in computer support and repair.

### **Network+**

Learn to manage, maintain, troubleshoot, install, operate and configure basic network infrastructures.

### **Cisco Networking Certifications**

Network training in preparation for the CCNA and CCNP exam.

### **Desktop Support and Networking Specialist Program**

Desktop Support and Networking Specialist Program includes preparation for the A+ certification and CCNA certification.

## **Microsoft Certification Training**

Training for certifications in Microsoft based technology systems such as MCSA/MCSE and MCITP.

## **PDMS (Plant Design Management System)**

Learn Piping and Equipment Design, Basic Structural, and Drawing Production.

## **ERP (Enterprise Resource Planning)**

ERP system comprises of a number of fully integrated modules, which covers virtually every aspect of the business management. Training in FICO (financials), Production Planning, Security, Logistics with Materials Management and Production Planning, and End-User. SAP software is used.

## **Languages**

### **Spanish Communication Skills for the Workplace**

Introductory courses are for students who want to learn the Spanish language for better communication with business customers, and Spanish-speaking communities. Improve your listening, speaking, reading, writing skills in the Spanish language. The courses include an online practice!

### **English Language Skills for the Workplace**

Courses that provide non-native speakers with English Language Skills preparation from Basic to Level 5 (Beginners to Advanced).

### **Spanish Communication Skills for the Workplace - Introductory I, II, & III**

### **Workplace English**

Workplace English courses make it possible for English language learners to enroll in technical or skills trainings at HCC. Students must place at an intermediate level of English to qualify.

- For Air Conditioning Technicians
- For Automotive Technicians
- For Certified Nurse Aides
- For Computer Support Specialists
- For Cosmetology
- For Drawing and Drafting
- For House Wiring
- For Industry Safety
- For Welding Technicians

# Division of Extended Learning

## Construction

### **Air Conditioning, Refrigeration, Heating (HVAC)**

This Program prepares students in those subjects necessary to troubleshoot, analyze and repair AC equipment. EPA certification and safety preparation as an AC technician is part of the course. Course is also taught in a bilingual format.

### **Building Maintenance**

Individuals seeking training as Building Maintenance Technicians will attain those building codes and safety skills in apartment maintenance trades of carpentry, electrical, plumbing and air conditioning.

### **Green Environment**

Courses in support of the Green Initiative includes; Residential Weatherization, Residential Energy Audit and Solar Panel Installation.

### **OSHA Safety Courses**

The safety program is designed to provide a variety of training in safety, to include ten (10) Hour Construction Safety and the 30 Hour OSHA General Safety programs.

### **Pipefitting Trade**

Training for these craftsmen includes safety, installation and repair of low and high pressure pipe systems used in manufacturing, electrical generation, and HVAC systems.

### **Plumbing Trade**

Plumbers are trained to install and repair plumbing and gas pipeline systems in homes, commercial and industrial buildings in accordance with established safety regulations.

### **Residential Wiring**

Students are introduced to the safety codes, proper construction and installation techniques used in residential and commercial wiring installation.

### **Sheet Metal Trade**

Sheet Metal tradesmen are trained to safely use specialized tools and equipment necessary to measure, cut, bend, shape and fasten pieces of sheet metal to make duck work for HVAC systems.

### **Stationary Engineering**

Stationary Engineers and Boiler Operators control and maintain electrical power, water systems, heating, ventilation and air condition systems in malls, buildings and commercial facilities in accordance with established safety procedures.

## Welding

Students will learn to use various welding, soldering, brazing, and cutting equipment to fabricate items by melting and fusing metals together to form a permanent bond. The type of weld or welding process used is determined by the type of metals being joined and the conditions under which the welding is done. Welding certification and safety preparation is a part of the training.

## Transportation

### **Commercial Truck Driving Center**

The Truck Driving Course prepares for entry-level employment in the industry.

There are also courses in Freight Broker Training and Adult Driver Education

## Public Safety

### **Basic Peace Officer Licensing Certificate**

Basic Peace Officer Licensing Certificate prepares students for a career as a Texas Peace Officer..

### **Fire Training Academy**

The HCC fire service prepares students for a career as a fire fighter.

## Corporate College

The Corporate College is your one-stop education and training services provider. We offer high-quality, competitively priced, and relevant workforce training and development solutions in an increasingly diverse, global, and technological world. Our customers include commercial business, industry, government, and non-profit organizations. Our overriding goal is to deliver the training products and services you need, when you need it, where you need it, at a fair and reasonable price.

We offer proven training and development courses and services that help you improve business performance, retain valued employees, and achieve a competitive advantage.

# Division of Extended Learning

## Free One Hour Training Needs Analysis

### Training Courses Customized to meet your needs

- Foreign Language and English As A Second Language
- Leadership, Management, Supervisory training
- Employee Development
- Desktop PC Applications
- Customer Service
- Basic business and technical skills

### Other Training Services

- WorkKeys employee testing/assessment
- Research grant opportunities
- Online Learning
- Training Consulting, and
- Executive Coaching

### Our education partners include:

- Command Spanish
- Element K
- AchieveGlobal
- Skills Soft
- Coastal Training Technologies
- ITC Learning Corp
- Thinking Media
- Teknimedia
- Gatlin Education
- 360 Training

### Our customers include:

- Anheuser Busch
- Houston Chronicle
- CenterPoint Energy
- Men's Warehouse
- Christus St. Joseph Hospital
- Schlumberger
- Goodman Manufacturing
- The Methodist Hospital
- Halliburton
- Texas Children's Hospital

To learn more, please call 713.718.5304 today to speak with an Account Executive.

## Adult Education Program

The HCC Adult Education program provides ESL/ABE/ASE classes that are tuition-free to the public. HCC is the fiscal agent for the Houston Literacy Consortium. As such, it provides monitoring, guidance and support for subcontracted community-based organization (CBO) partners in the consortium. HCC offers classes to the general public at more than 50 sites throughout the geographic area of HISD. These courses are also offered through the community partners in the Houston Literacy Consortium.

### Eligibility Criteria

*(For ABE, ASE and ESL)*

Eligibility for the Adult Education Program is based on the following:

- individual has obtained 17 years of age
- has not completed the GED
- is not enrolled in secondary school
- has limited English language skills

Exceptions to the eligibility criteria are made on a case-by-case basis. All exceptions must be cleared through the program's administrative office.

### Grant supported Adult Basic Education (ABE)

Adults with fewer than 8 years of formal education or with basic reading, language or math difficulties may benefit from ABE classes prior to entry into the ASE program. ABE develops basic literacy, general reading, writing, mathematics and decision-making skills as well as application of these skills in real life. There is no cost to students. Call 713.718.5400.

### Grant supported Adult Secondary education(ASE)

The GED program helps adults prepare for five General Education Development (GED) tests (a high school equivalency exam).

The five GED tests include:

- Writing
- Social Studies
- Science
- Reading
- Mathematics

# Division of Extended Learning

Students enrolled in Adult Secondary Education classes pay a \$25 materials usage fee per semester. Adult Secondary Education Students score at the 9th grade or higher in math, reading and language portions of the Test of Adult Basic Education (TABE). Call 713.718.5400 for information.

## **English-as-a-Second-Language (ESL) program options**

Houston Community College serves a wide variety of non-native English speakers in its English-as-a-Second-Language (ESL) programs. Appropriate placement into one of these programs is based on the educational background, scheduling needs, and goals and objectives of the student.

## **Grant Supported Adult Education English Second Language (AE-ESL)**

This program is designed for adult students with limited English skills in speaking, reading, and writing. Basic literacy as well as beginning, intermediate, and advanced classes are offered. Students who need a flexible schedule may benefit from the student-centered instructional format utilized by ESL. Students do not receive college credit for these courses. There is no cost to the students.

- serves non-English speaking students eligible for program services according to TEA guidelines
- assesses student placement and progress using the Basic English Skills Test (BEST)
- offers classes directly by HCC in various college and community locations
- offers basic literacy, beginning, intermediate, and advanced levels
- schedules a variety of flexible classes
- collaborates with several community partner organizations to offer ESL
- does not give college credit to students
- hires degreed faculty who complete a minimum of twelve hours of professional development annually
- registers students on-site at each instructional location
- makes class locations and schedules available through the HCC Literacy Hotline: 713.718.5400
- actively transitions students into further education, training or employment

## **English Language Skills Program (CE-ELS)**

This program is designed for a wide variety of adult students. Some students may have less than a high school education while others have earned degrees in their native country and some may have studied English before. Students who need a short-term commitment or desire a fast-track method of acquiring English Language Skills may benefit from the new English Language Skills Program (CE-ELS).

Our courses are organized to follow successful completion from one level to another. The level-based courses focus on English Language communication skills that include listening, speaking, reading and writing. Students do not receive college credit for these courses.

- places students after a written test, listening test, and oral interview
- offers two (2) six week sessions, per semester
- prepares students for developmental college classes and workforce programs
- enhances English language skills for personal enrichment and for the workplace
- has a flexible part-time schedule; students study English 8-10 hours per week
- offers courses at beginning, low-intermediate, intermediate, and advanced levels
- offers courses for specific purposes (example: Workplace English for Nursing Assistants)
- does not give college credits; students earn Continuing Education units
- uses COMG course prefix in the HCC Continuing Education Schedule of Classes
- registers students at all HCC campuses when schedules are available

# Division of Extended Learning

## Adult High School (AHS)

The Adult High School (AHS) program is designed for students, seventeen years or older, who are in need of high school credit to graduate. This is a part-time rather than a full-time program; therefore only two half-credit courses can be taken per term unless a student attends multiple campuses during the week and on weekends.

Two types of students attend the AHS. One type is no longer enrolled in school and only needs two credits or less to graduate. These students earn transfer credit and their former high school ultimately awards the diploma once all state requirements are satisfied. Students must verify that their school will accept transfer credit before enrolling.

The other type of student is enrolled in school full-time during the day and needs transfer credit for a remedial course or to makeup credit for courses lacking for graduation. These students must obtain approval from their school of attendance before being allowed to enroll in AHS classes.

Students in need of more than two credits should consider a GED rather than a high school diploma because the time required and cost would be excessive.

A non-refundable tuition of \$175 is charged for each half-credit course. Forms of payment are check, money order or credit card.

Registration may be done online or in person at the campus where classes are offered. For more information call 713.718.7611.

## Online Continuing Education offers:

- Over 500 Online Continuing Education courses
- Professional and Licensure Certification testing
- Authorized Testing Center for MOS, IC3

## Instructor-Facilitated Online Courses – 6 weeks Classes

### Over 300 courses available. (In partnership with ed2go)

- Accounting and Business
- Allied Health
- Comptia Certifications
- Computer Application
- Hospitality & Restaurant
- Human Resources
- Languages
- Legal
- Microsoft and IC3

- Non Profit Management
- OSHA, Industrial Technology
- Project Management & Six Sigma
- Real Estate
- Small Business Management
- Start Your Own Business
- Teaching
- Technology, Multimedia, and The Web
- Test Preparation
- Writing and Publishing

## Annual Online Course Bundles Subscriptions

*(In partnership with Element K)*

The annual Online Course Bundles Subscriptions provide you access to an entire library of courses in a specific area. You have access 24/7 over the Internet and can complete as many of the courses as are listed in the library within 12 months.

### Computer Software Applications

Microsoft Office 2007, 2003 and Windows VISTA, Lotus Notes, Quicken, Quatro Pro, Visio, WordPerfect, Others

### Comptia Certifications

A+ Certification Prep; i-Net Certification Prep, Network + Certification Prep, Security + Certification Prep

### Web Design and Media

Adobe, Dreamweaver®, Fireworks, Flash, FreeHand, GoLive, Illustrator, others

### Programming and Web Development

ColdFusion, HTML, Java, Oracle, Visual Basic, Visual C#, Visual C+, XML

### Project Management

Project Management Concepts, Microsoft Project, Project Costs Analysis, Human Resource, Project Integration, Project Scope, Project +, others

### Business Management

Financial Basics for Non-Financial Managers, Intercultural Business Etiquette, Managing Company Change, Setting Performance Goals and Expectations, Solving Problems As A Team, Time Management, Understanding and Using Contracts, many more

# Division of Extended Learning

## Telephony

TCP/IP, Voice over IP, XDSL, Wireless, CDMA, ISDN, SONET, and many more

## The HCC ACT Center currently delivers these computer-based assessments:

- American Board of Ophthalmology (ABO)
- American Board for Certification in Orthotics, Prosthetics, and Pedorthics (ABCOPP)
- Association of Social Work Boards (ASWB)
- Automotive Service Excellence (ASE)
- Boston University (BU)
- Center for Advance Process Technology (CAPT)
- Codes and Standards Assessments (CSA)
- COMPASS® Internet Version Remote Testing
- National Assistant at Surgery Council (NASC)
- National Athletic Trainers Association Board of Certification (NATA/BOC)
- National Inspection Testing and Certification Corporation (NITC)
- Nuclear Medicine Technology Certification Board, Inc. (NMT)
- Professional Association of Health Care Office Management (PAHCOM)
- The Commission on Dietetic Registration for the American Dietetic Association (ADA)
- U.S. Department of State, Foreign Service Officers Test (FSOT)

General Information: 713.718.5149 fax: 713.718.5120

## Accelerated Teacher Certification Program (ATCP)

Accelerated Teachers Certification Program is a state-approved comprehensive program that prepares individuals seeking Texas State Teacher Certification. Training will include pedagogy and professional responsibilities and education in various content areas. Training will also reflect the state teacher proficiencies and TExES (Texas Examinations of Educator Standards) competencies. Service to three different levels of teaching experience including individuals on emergency certification, individuals adding a subject area to their certification, and individuals who are seeking certification.

### Areas of certification include:

- Bilingual Generalist (EC-4)
- English as a Second Language Supplemental (EC-12)
- English Language Arts & Reading/Social Studies (4-8)
- English Language Arts & Reading/Social Studies
- Generalist (EC-4 or 4-8)
- History (8-12)
- Life Science (8-12)
- Mathematics (4-8 or 8-12)
- Physical Education (EC-12)
- Physical Science (8-12)
- Science (4-8 or 8-12)
- Social Studies (4-8 or 8-12)
- Special Education (EC-12)

For information call 713.718.8185 or visit our website at <http://acp.hccs.edu>.



# Division of Extended Learning

## Apprenticeship Training

### What is Apprenticeship?

Apprenticeship is an effective job training system for skilled trade and craft workers that combines structured on-the-job training supervised by experienced journey workers designed to prepare individuals for occupations in skilled trades and crafts with related technical instruction. It combines on-the-job training under the supervision of experienced journey workers with related classroom instruction. Apprentices who successfully complete the prescribed number of training hours in an apprenticeship program become certified skilled craft workers. All programs must be registered with the Bureau of Apprenticeship and Training of the U.S. Department of Labor.

### What does Apprenticeship offer?

Apprentices have the opportunity to "earn while they learn." People who complete apprenticeship programs are highly skilled craft workers and hold good jobs with good pay. Statistics show that apprenticeship program graduates earn higher wages, have more stable work records, and are promoted sooner and more often than workers who have not been trained through apprenticeship programs. Their skills are a source of personal satisfaction, employment security, and long term career opportunities. Apprenticeships provide employers with systematic training to develop more informed, productive, and motivated employees. Because of their investment in their workers, employers with apprenticeship programs experience less employee turnover and absenteeism. Workers develop the up-to-date skills and skill levels necessary for increasing company productivity and customer satisfaction.

### What is needed to qualify for Apprenticeship?

Qualifications vary according to the program. However, all apprenticeship programs require applicants to meet minimum age requirements and be physically able to perform the essential functions of the job. In addition, most program sponsors require a high school diploma or equivalent certificate (GED), and/or the completion of some mathematics and science courses. Some construction and manufacturing trades require considerable physical stamina, or some related work experience.

HCC is working with all of the apprenticeship training programs to provide students the option of obtaining credit toward a college certificate or associate degree for their classroom training and on-the-job training. If you are interested in the credit option, please contact the Dean of Career Technology Development at HCC-Central, 713.718.6215.

# Course Descriptions

## Academic Courses

*Will transfer to baccalaureate programs*

Course	AA-Academic Course Area Title
ACCT	Accounting
AFSC	Air Force Science
AGRI	Agriculture
ANTH	Anthropology
ARAB	Arabic
ARTS	Studio Art/Art History
ASTR	Astronomy
BCIS	Business Computer Applications
BIOL	Biology
CHEM	Chemistry
CHIN	Chinese
COMM	Communications
COSC	Computer Science
CRJ	Criminal Justice
DANC	Dance
DRAM	Drama
ECON	Economics
EDUC	Teacher Education
ENGL	English
ENVR	Environmental Science
ESOL	Intensive English
ENGR	Engineering
FORE	Forestry
FREN	French
GEOG	Geography
GEOL	Geology
GERM	German
GOVT	Government
GUST	Guided Studies
HIST	History
JAPN	Japanese
KORE	Korean
PHED	Physical Education
MATH	Mathematics
MLSC	Military Science
MUAP	Music Applied Performance
MUSI	Music
PHED	Physical Education
PHIL	Philosophy
PHYS	Physics
PSYC	Psychology
READ	Reading (Developmental)
RUSS	Russian
SGNL	Sign Language
SOCI	Sociology
SPAN	Spanish
SPCH	Speech
TECA	Teacher Education
VIET	Vietnamese

## Career and Technology Education Courses

*May or may not transfer to baccalaureate programs. Check with HCC Counselors*

Course	Career and Technical Program Titles
ACNT	Accounting
MUSC	Audio Recording
RTVB	Audio Recording
ABDR	Automotive Technology
AUMT	Automotive Technology
PSTR	Baker/Pastry Arts
BITC	Biotechnology
BUSG	Business Administration
BUSG	Business, General
BMGT	Business Management
MART	Business Management
MRKG	Business Management
BMGT	Business Technology - PeopleSoft
MRMT	Business Technology
POFI	Business Technology - Microsoft Office Technology
POFL	Business Technology - Legal
POFM	Business Technology
POFT	Business Technology
CTEC	Chemical Laboratory Technology
SCIT	Chemical Laboratory Technology
CDEC	Child Development
MUSC	Commercial Music
CTMT	Computed Tomography
INEW	Computer Science Technology
ITCC	Computer Science Technology
ITMT	Computer Science Technology
ITNW	Computer Science Technology
ITSC	Computer Science Technology
ITSE	Computer Science Technology
ITSW	Computer Science Technology
ITSY	Computer Science Technology
CNBT	Construction Technology
BARB	Cosmetology
CSME	Cosmetology
CJLE	Criminal Justice - Law Enforcement
CJSA	Criminal Justice - Law Enforcement Administration
CJCR	Criminal Justice - Corrections
CHEF	Culinary Arts
PSTR	Culinary Arts
DNTA	Dental Assisting
DHYG	Dental Hygiene
DMSO	Diagnostic Medical Sonography
ARTC	Digital Communication
ARTV	Digital Communication
IMED	Digital Communication
PHTC	Digital Communication
GAME	Digital Gaming and Simulation

**[Quick search for course descriptions click here](#)**

# Course Descriptions

DFTG .....	Drafting/Design Engineering Technology	SOLR .....	Instrumentation and Controls Engineering Technology
BIOM .....	Electronic Engineering Technology	WIND .....	Instrumentation and Controls Engineering Technology
CETT .....	Electronic Engineering Technology	IBUS .....	International Business
CPMT .....	Electronics Engineering Technology	INDS .....	Interior Design
EECT .....	Electronics Engineering Technology	SLNG .....	Interpreting/Translating Technology
ITCC .....	Electronics Engineering Technology	LMGT .....	Logistics and Global Supply Chain Management
ITSY .....	Electronics Engineering Technology	MCHN .....	Machining Technology
LOTT .....	Electronics Engineering Technology	ENTC .....	Manufacturing Engineering Technology
EMSP .....	Emergency Medical Services	HYDR .....	Manufacturing Engineering Technology
FSHD .....	Fashion Design	INMT .....	Manufacturing Engineering Technology
FSHN .....	Fashion Merchandising	PLTC .....	Manufacturing Engineering Technology
FLMC .....	Filmmaking	MRKG .....	Marketing
RTVB .....	Filmmaking	ECRD .....	Medical Assistant
BNKG .....	Finance (Banking)	MDCA .....	Medical Assistant
BUSG .....	Finance (Banking)	BIOS .....	Medical Laboratory Technician
IBUS .....	Finance (Banking)	MLAB .....	Medical Laboratory Technician
FIRS .....	Fire Services	MUSB .....	Music Business
FIRT .....	Fire Technology	MUSC .....	Music
GISC .....	Geographic Information Science	MUSP .....	Music Performance
FITT .....	Health and Fitness Instructor	NMTT .....	Nuclear Medicine Technology
HITT .....	Health Information Technology	RNSG .....	Nursing
HPRS .....	Health Information Technology	OTHA .....	Occupational Therapy Assistant
HART .....	Heating/Air Condition. and Refrigeration Technology	LGLA .....	Paralegal Technology
RBPT .....	Heating/Air Condition. and Refrigeration Technology	POFL .....	Paralegal Technology
DEM R .....	Heavy Vehicle & Truck Repair	PTRT .....	Petroleum Engineering Technology
HLAB .....	Histologic Technician	PHRA .....	Pharmacy Technician
FMKT .....	Horticulture	PTHA .....	Physical Therapist Assistant
HALT .....	Horticulture	PTAC .....	Process Technology
HAMG .....	Hotel/Restaurant Management	RADR .....	Radiography
HRPO .....	Human Resources Management	RELE .....	Real Estate
CHLT .....	Human Service Technology	RSPT .....	Respiratory Therapist
DAAC .....	Human Service Technology	RSTO .....	Restaurant Management
CMSW .....	Human Service Technology	DYTC .....	Surgical Technology
GERS .....	Human Service Technology	NUPC .....	Surgical Technology
RECT .....	Human Service Technology	PLAB .....	Surgical Technology
SCWK .....	Human Service Technology	SCIT .....	Surgical Technology
CSIR .....	Industrial Electricity	SRGT .....	Surgical Technology
ELMT .....	Industrial Electricity	TRVM .....	Travel and Tourism
ELPT .....	Industrial Electricity	VTHT .....	Veterinary Paramedic
INCR .....	Industrial Electricity	VNSG .....	Vocational Nursing
INTC .....	Instrumentation and Controls Engineering Technology	WLDG .....	Welding
RBTC .....	Instrumentation and Controls Engineering Technology		

# Course Descriptions

## **ABDR 1207 Auto Body Welding**

**Prerequisites:** Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0308 in math.

**Credit:** 2 (4 lab)

A study of industry and standard welding and cutting procedures.

## **ABDR 1215 Vehicle Trim and Hardware**

**Prerequisites:** Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0308 in math.

**Credit:** 2 (2 lecture, 1 lab)

An in depth study of vehicle trim and glass service.

## **ABDR 1280 Cooperative Education**

### **-Autobody/Collision and Repair Technology/Technician**

**Prerequisites:** ABDR 1431, 1441, 1207, 1215, 1458, 1442, 2441; Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0308 in math.

**Credit:** 2 (1 lecture, 10 lab)

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

## **ABDR 1291 Special Topics in Auto/ Automotive Body Repairer**

**Prerequisites:** Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0308 in math.

**Credit:** 2 (1 lecture, 2 lab)

Advanced techniques in blending, matching and application in the refinishing process, including custom applications.

## **ABDR 1431 Basic Refinishing**

**Prerequisites:** Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0308 in math.

**Credit:** 4 (2 lecture, 4 lab)

An introduction to current refinishing products, shop safety, and equipment used in the automotive refinishing industry. Emphasis on surface preparation, masking techniques, and refinishing of trim and replacement parts.

## **ABDR 1441 Structural Analysis and Damage Repair I**

**Prerequisites:** Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0308 in math.

**Credit:** 4 (2 lecture, 4 lab)

Expanded training in the roughing and shaping procedures on automotive sheet metal necessary to make satisfactory body repairs. Emphasis on the alignment of component parts such as doors, hood, front-end assemblies, and deck lids.

## **ABDR 1442 Structural Analysis and Damage Repair II**

**Prerequisites:** ABDR 1441; Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0308 in math.

**Credit:** 4 (2 lecture, 4 lab)

Continuation of general repair and replacement procedures for damaged structural parts and collision damage.

## **ABDR 1458 Intermediate Refinishing**

**Prerequisites:** Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0308 in math.

**Credit:** 4 (2 lecture, 4 lab)

Expanded training in mixing and spraying of automotive topcoats. Emphasis on formula ingredient, reducing, thinning, and special spraying techniques. Introduction to partial panel refinishing techniques and current industry paint removal techniques.

## **ABDR 2431 Structural Analysis and Damage Repair III**

**Prerequisites:** Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0308 in math.

**Credit:** 4 (2 lecture, 4 lab)

Advanced concepts in the application of theories of auto body repair and replacement of major body units.

## **ABDR 2441 Major Collision Repair and Panel Replacement**

**Prerequisites:** Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0308 in math.

**Credit:** 4 (2 lecture, 4 lab)

Instruction in preparation of vehicles for major repair processes. This course covers interpreting information from damage reports, planning repair sequences, selecting appropriate tools, and organizing removed parts for reinstallation.

## **ABDR 2449 Advanced Refinishing**

**Prerequisites:** Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0308 in math.

**Credit:** 4 (2 lecture, 4 lab)

Skill development in multi-stage refinishing techniques. Further development in identification of problems and solutions in color matching and partial panel refinishing.

## **ACCT 2301 Principles of Accounting I**

**Prerequisites:** Department Approval

**Credit:** 3 (3 lecture)

This course covers the fundamentals of financial accounting, including double-entry accounting and the accounting cycle. Other topics include cash, receivables, inventories, plant assets, liabilities, partnerships, corporation, investments, statement of cash flows and interpretation of financial statements.

## **ACCT 2302 Principles of Accounting II**

**Prerequisites:** ACCT 2301

**Credit:** 3 (3 lecture)

This course covers the fundamentals of managerial accounting including manufacturing operations and planning and control. Other topics include budgets, introduction to cost accounting, cost control techniques, methods of measuring performance and financial statement analysis.

## **ACNT 1303 Introduction to Accounting I**

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (3 lecture)

A study of analyzing, classifying, and recording business transactions in a manual and computerized environment. Emphasis on understanding the complete accounting cycle and preparing financial statements, bank reconciliations, and payroll. Coverage also includes the fundamental principles of double-entry bookkeeping, financial statements, trial balances, worksheets, special journals, adjusting entries and closing entries.

## **ACNT 1304 Introduction to Accounting II**

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (3 lecture)

A study of accounting for merchandising, notes payable, notes receivable, valuation of receivables and equipment, and valuation of inventories in a manual and computerized environment.

## **ACNT 1305 Forensic Accounting**

**Prerequisites:** ACNT 2331; Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (3 lecture)

Accounting fraud and examination designed to provide a basic understanding of the impact that fraud has on an organization. (This course is intended to help students understand the role of the Forensic Accountant. Upon completion of this course the students will learn special skills in accounting, auditing, finance, quantitative methods, certain areas of the law, research, and investigative skills to collect, analyze, and evaluate evidential matter and to interpret and communicate findings. Finance and quantitative skills will be addressed since they are especially important to Forensic Accountants who calculate damages. The complexity of Forensic Accounting has gained considerable attention over the past five years and will continue to gain momentum.)

## **ACNT 1313 Computerized Accounting Applications**

**Prerequisites:** ACNT 1303 and ITSC 1309; Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (2 lecture, 2 lab)

A study of utilizing the computer to develop and maintain accounting record-keeping systems, make management decisions, record daily business transactions, and generate financial statements using Peachtree or QuickBooks.

# Course Descriptions

## **ACNT 1329 Payroll and Business Tax Accounting**

**Prerequisites:** ACNT 1303; **Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (3 lecture)**

A study of payroll procedures, taxing entities, and reporting requirements of local, state, and federal taxing authorities in a manual and computerized environment.

## **ACNT 1331 Federal Income Tax: Individual**

**Prerequisites:** ACCT 2302; **Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (3 lecture)**

A study of the laws currently implemented by the IRS, providing a working knowledge of preparing taxes for the individual.

## **ACNT 1347 Federal Income Tax for Partnerships and Corporations**

**Prerequisites:** ACCT 2302; **Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (3 lecture)**

Introduction to the tax laws as currently implemented by the Internal Revenue Service providing a working knowledge of preparing taxes for a partnership, sub chapter S, and corporation.

## **ACNT 1382 Cooperative Education—Accounting Technician**

**Prerequisites:** Department Program Approval; **Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (1 lecture/seminar and 20-hours a week employment)**

Career related activities encountered in the student's area of specialization are offered through a cooperative agreement between the college, employer, and student. Under supervision of the college and the employer, the student combines classroom learning with work experience. Directly related to a technical discipline, specific learning objectives guide the student through the paid work experience. Blend of academic and work-related activities in student's major.

## **ACNT 1391 Special Topics in Accounting:**

### **Ethics for Accountants**

**Prerequisites:** ACNT 2331; **Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (3 lecture)**

This course will prepare the accounting student for a variety of ethical situations they will face in the workplace. Students will develop their understanding of and identifying ethical situations and resolving ethical conflict by researching, writing and roll playing actual cases. This course will also help them develop analytical skills and good communication. They will be encouraged to give reasons and explanations for potential resolutions; in doing this, they will gain a foundation for making ethical judgments in their professional conduct.)

## **ACNT 1391 Special Topics in Accounting:**

### **Fraud Examinations**

**Prerequisites:** ACNT 2331; **Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (3 lecture)**

This course is intended to help students understand organizational fraud, causes and how to prevent fraud. The course will provide students with the knowledge of accounting procedures encompassed in fraud examinations. Topics will also cover the professional responsibilities of the accountant in light of recent litigations and revised fraud standards.

## **ACNT 1391 Special Topics in Accounting:**

### **Oil and Gas Accounting**

**Prerequisites:** ACCT 2302; **Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (3 lecture)**

An introduction to particularities of recording and reporting cost and revenues incident to creation and realization of mineral interests.

## **ACNT 1391 Special Topics in Accounting:**

### **Tax and Accounting Research**

**Prerequisites:** **Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 2 (2 lecture)**

Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

## **ACNT 1392 Special Topics in Accounting:**

### **Small Business Accounting**

**Prerequisites:** ACCT 2302; **Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (3 lecture)**

A course on how to start and operate a small business. Topics include essential management skills and how to prepare a business plan and marketing strategies. Practical guidance is provided for selecting and maintaining a cost-effective accounting system, records retention, budgets and cash flow projections.

## **ACNT 1491 Special Topics in Accounting:**

### **Technical Writing and Research for Accountants**

**Prerequisites:** **Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 4 (4 lecture)**

This course is intended to develop the necessary skills for effective accounting and tax research in the 21st Century. Professional accountants use online and electronic accounting, auditing and tax research tools. This class will use the "Research Institute of America" as its primary provider of tools to learn and execute professional research techniques, it includes the following databases: WGL Electronic Tax Payroll and Accounting Tax Library RIAAcademic Advantage Essentials Library PPC FASB Reference Material on Checkpoint AICPA on CheckPoint PPC GASB Reference Material on Checkpoint The Research of America databases may be accessed from HCC's

library. Proper tax and accounting research requires critical thinking skills and the ability to produce professional results. Other databases and techniques will be discussed in the class as well as the Research of America database. This class will address the technical skills necessary for professional research and will address CPA Exam related research issues.

## **ACNT 2303 Intermediate Accounting I**

**Prerequisites:** ACCT 2302; **Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (3 lecture)**

Critical analysis of general accepted accounting principles, concepts, and theory underlying the preparation of financial statements. Emphasis on current theory and practice. Covers the theoretical and practical basis for financial statements, present value applications, and the theory and practice of accounting for cash, receivables, inventories, liabilities, long-term investments, depreciable and depletable property, and intangible assets.

## **ACNT 2304 Intermediate Accounting II**

**Prerequisites:** ACNT 2303; **Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (3 lecture)**

Continued in-depth analysis of generally accepted accounting principles underlying the preparation of financial statements including comparative analysis and statement of cash flows. Topics also included are bonds, leases, pension plans, corporate paid-in-capital, special purpose securities, retained earnings, tax allocation, inflation accounting, funds statement, and financial statement analysis.

## **ACNT 2309 Cost Accounting**

**Prerequisites:** ACCT 2302; **Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (3 lecture)**

A study of budgeting and cost control systems including a detailed study of manufacturing cost accounts and reports, job order costing, and process costing. Includes introduction to alternative costing methods such as activity-based and just-in-time costing. Coverage also includes historical cost systems, work-in-process inventories, material and labor control, multiple products, budgeting, applying overhead, standard costs, direct costing, evaluating profit performance, and distribution costs.

## **ACNT 2330 Government and Non-Profit Accounting**

**Prerequisites:** ACCT 2302; **Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (3 lecture)**

Basic concepts and techniques of fund accounting, financial reporting for governmental and not-for-profit entities. Accounting cycle for funds and account groups and related financial statements.

# Course Descriptions

## **ACNT 2331 Internal Control and Auditing**

**Prerequisites:** ACCT 2302; **Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (3 lecture)**

A study of internal control and auditing standards and processing used by internal auditors, managers, and independent public accountants.

## **ACNT 2332 Accounting Information**

### **Systems**

**Prerequisites:** ACCT 2302; **Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (3 lecture)**

A study of the role of accounting information systems and related subsystems, including data collection, retrieval, manipulation, filtering and sorting of data.

## **ACNT 2333 Advanced Accounting**

**Prerequisites:** ACNT 2304; **Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (3 lecture)**

Methods of measuring and communicating economic information, including consolidated statements, partnerships, real estate, foreign operations, and fund units.

## **ACNT 2382 Cooperative Education–**

### **Accounting Technician**

**Prerequisites:** Department Approval; **Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (1 lecture/seminar and 20-hours a week employment)**

Continuation of ACNT 1382. Career related activities encountered in the student's area of specialization are offered through a cooperative agreement between the college, employer, and student. Under supervision of the college and the employer, the student combines classroom learning with work experience. Directly related to a technical discipline, specific learning objectives guide the student through the paid work experience. Blend of academic and work-related activities in student's major.

## **AFSC 1201 Foundations of the**

### **US Air Force I**

**Prerequisites:** Contact UH Air Force ROTC

**Credit: 2 (2 lecture, 1 lab)**

Overall roles and missions of the USAF; career fields available. Emphasis on military customs and courtesies, appearance standards, core values, written and personal communication. Introduction to American military history. Cooperative program with the University of Houston Air Force ROTC department.

## **AFSC 1202 Foundations of the**

### **US Air Force II**

**Prerequisites:** AFSC 1201.

**Credit: 2 (2 lecture, 1 lab)**

Continuation of AFSC 1201. Cooperative program with the University of Houston Air Force ROTC department.

## **AFSC 2201 Evolution of Air Power I**

**Prerequisites:** AFSC 1202.

**Credit: 2 (2 lecture, 1 lab)**

Key historical events and milestones in the development of air power as a primary instrument of United States national security. Core values and competencies of leaders in the United States Air Force. Tenets of leadership and ethics. Cooperative program with the University of Houston Air Force ROTC department.

## **AFSC 2202 Evolution of Air Power II**

**Prerequisites:** AFSC 2201.

**Credit: 2 (2 lecture, 1 lab)**

Continuation of AFSC 2201. Cooperative program with the University of Houston Air Force ROTC department.

## **AGRI 1131 The Agricultural Industry**

**Credit: 1 (1 lecture)**

An overview of world agriculture, nature of the industry and resource conservation, insight regarding career opportunities in agriculture and natural resources.

## **AGRI 1307 Agronomy**

**Credit: 3 (2 lecture, 2 lab)**

Principles and practices in development, production, and management of field crops, plant breeding, plant diseases, soils, insect control, and weed control.

## **AGRI 1309 Computers in Agriculture**

**Credit: 3 (2 lecture, 2 lab)**

Use of computers in agricultural applications. Introduction to programming languages, word processing, electronic spreadsheets and agricultural software.

## **AGRI 1311 Dairying**

**Credit: 3 (2 lecture, 2 lab)**

Survey of dairy industries: dairy breeds, standards for selecting and culling, herd replacements, feeding, management, physiology, and health maintenance. Food value of milk, tests for composition and quality, use and processing of market milk and dairy products.

## **AGRI 1319 General Animal Science**

**Credit: 3 (2 lecture, 2 lab)**

Scientific methods of animal selection, reproduction, nutrition, management, and marketing of beef cattle, swine, sheep, goats, and horses. Evaluation and processing of meat, wool, and mohair. Importance of livestock and meat industries.

## **AGRI 1325 Marketing of Agricultural**

### **Products**

**Credit: 3 (3 lecture)**

Introductory course covering the operations involved in the movement of agricultural commodities from producer to consumer. Essential marketing functions of buying, selling, transporting, storing, financing, standardizing, pricing and risk bearing.

## **AGRI 1327 Poultry Science**

**Credit: 3 (2 lecture, 2 lab)**

Introduction to the poultry industry. Practices and principles in production and marketing of turkeys, layers, broilers, and specialized fowl. Management, automated equipment, product technology, incubation, and production economics are included.

## **AGRI 1329 Principles of Food Science**

**Credit: 3 (3 lecture)**

Technological and scientific aspects of modern industrial food supply systems. Food classification, nutritional considerations, modern processing, and quality control.

## **AGRI 2301 Agricultural Power Units**

**Credit: 3 (2 lecture, 2 lab)**

Fundamentals of internal combustion engines: gasoline, diesel, and liquefied petroleum. Maintenance and adjustments of the electrical, ignition, fuel, lubricating, and cooling systems.

## **AGRI 2303 Agricultural Construction**

**Credit: 3 (2 lecture, 2 lab)**

Selection, use, and maintenance of hand and power tools, arc and oxyacetylene welding, construction materials and principles.

## **AGRI 2313 Entomology**

**Credit: 3 (2 lecture, 2 lab)**

Principal orders of insects, relation of anatomy and physiology of insects to control methods: development habits and economic importance of more common insects with control methods for injurious species.

## **AGRI 2317 Introduction to Agricultural**

### **Economics**

**Credit: 3 (3 lecture)**

Characteristics of our economic system and basic economic concepts. Survey of the farm and ranch, its organizational and management structure, and operation within the marketing system. Functional and institutional aspects of agricultural finance and government farm programs.

## **AGRI 2321 Livestock Evaluation**

**Credit: 3 (2 lecture, 2 lab)**

Instruction in selecting, evaluating, and judging of beef cattle, sheep, swine and horses. The course will include the judging of both breeding and marketing animals with decisions being supported by oral reasons.

## **AGRI 2330 Wildlife Conservation and**

### **Management**

**Credit: 3 (3 lecture)**

Principles and practices used in the production and improvement of wildlife resources for aesthetic, ecological, and recreational uses of public and private lands.

## **AGRI 2335 Dendrology, (see FORE 1314)**

## **AGRI 2336 Arboriculture - (see FORE**

**2309)**

## **ANTH 2301 Introduction to Physical**

### **Anthropology**

**Prerequisites:** **Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).**

**Credit: 3 (3 lecture)**

Introduction to Physical Anthropology explores the relationship between culture and biology through the methods, theory and research of biological anthropology. Students learn about basic mechanisms of genetic change in populations and the relationships between humans and the

# Course Descriptions

other primates. The appearance of humans and their bipedal ancestors approximately four million years ago and their culture history through the Paleolithic age are examined in detail. Students learn about biological variation and adaptation in human populations, responses to the environment, race, and other issues and their applications. Core Curriculum Course.

## **ANTH 2302 Introduction to Archaeology**

**Prerequisites:** Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).

**Credit:** 3 (3 lecture)

Introduction to Archaeology provides a survey of the basic methods, theory and research of scientific archaeology. Human cultures and behaviors are identified and interpreted from material remains of over 2.5 million years of the human past. Students learn how anthropologists build cultural history from artifacts and material evidence of human activity, reconstruct past life ways, and explain similarities and differences of human cultures. Core Curriculum Course.

## **ANTH 2346 General Anthropology**

**Prerequisites:** Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).

**Credit:** 3 (3 lecture)

This introductory survey of the four subfields of anthropology focuses on the cultural and biological diversity of humans including hominid prehistory, the emergence of Paleolithic cultures, and the agricultural and urban revolutions from an anthropological perspective. Past and present human adaptations and culture are surveyed and analyzed using the comparative and holistic approach of biological anthropology, archaeology, linguistics and ethnology. Core Curriculum Course.

## **ANTH 2351 Cultural Anthropology**

**Prerequisites:** Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).

**Credit:** 3 (3 lecture)

This course focuses on culture, the ways people live and give meaning, form and organization to their lives as they adapt to various environments and conditions both in and beyond the borders of the U.S. Study of the descriptions and analysis of cultural diversity provide the basis for evaluating cultural components of everyday life including recognition of ethnocentrism, intercultural communication and understanding local and 'global' culture in a multicultural and transforming world. Core Curriculum Course.

## **ANTH 2389 Academic Cooperative in Anthropology**

**Prerequisites:** Must be placed into college-level reading and college-level writing.

**Credit:** 3 (1 lecture, 16 lab)

An instructional program designed to integrate on-campus study with practical hands-on experience in anthropology. In conjunction with class seminars, the individual student will set specific goals and objectives in the study of human culture and social behavior and/or institutions and processes.

## **ARAB 1411 Beginning Arabic I**

**Prerequisites:** Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).

**Credit:** 4 (3 lecture, 2 lab)

Fundamental skills in listening comprehension, speaking, reading, and writing. Includes basic vocabulary, grammatical structures, and culture. Core Curriculum Course.

## **ARAB 1412 Beginning Arabic II**

**Prerequisites:** ARAB 1411 or department approval. Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).

**Credit:** 4 (3 lecture, 2 lab)

Continuation of ARAB 1411. Further development of listening comprehension, speaking, reading, and writing skills, and cultural awareness. More advanced grammar. Transfers as foreign language credit. Core Curriculum Course.

## **ARAB 2311 Intermediate Arabic I**

**Prerequisites:** ARAB 1412 or departmental approval. Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).

**Credit:** 4 (3 lecture, 2 lab)

Further development of listening, speaking, reading and writing skills and cultural awareness acquired in Beginning Arabic. Introduction of more complex language structures. Oral and written practice based on selected readings. Class conducted mainly in Arabic. Core Curriculum Course.

## **ARAB 2312 Intermediate Arabic II**

**Prerequisites:** ARAB 2311 or departmental approval. Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).

**Credit:** 4 (3 lecture, 2 lab)

Continuation of ARAB 2311, but with special emphasis on written communication. Readings, discussions and compositions. Class conducted mainly in Arabic. Core Curriculum Course

## **ARCE 1303 Architectural Materials and Methods of Construction**

**Prerequisites:** Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (2 lecture, 4 lab)

Properties, specifications, vendor references, and uses of materials as related to architectural systems of structures.

## **ARCE 1342 Codes, Specifications and Contract Documents**

**Prerequisites:** Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (2 lecture, 4 lab)

Study of ordinances, codes, and legal documents as they relate to specifications and drawing. Discussion of owner-architect-contractor responsibilities, duties, and legal relationships.

## **ARCE 1352 Structural Drafting**

**Prerequisites:** Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (2 lecture, 4 lab)

A study of structural systems including concrete foundations and frames, wood framing and trusses, and structural steel framing systems. Includes detailing of concrete, wood, and steel to meet industry standards including the American Institute of Steel Construction and The American Concrete Institute.

## **ARCE 2352 Mechanical and Electrical Systems**

**Prerequisites:** Must be placed into GUST 0341 in reading, ENGL 0310 or 0349 in writing and MATH 0306 in math.

**Credit:** 3 (2 lecture, 4 lab)

The properties of building materials (assemblies), specifications, codes, vendor references, and uses of mechanical, plumbing, conveying, and electrical systems as they relate to architecture for residential and commercial construction.

## **ARTC 1302 Digital Imaging I (Photoshop)**

**Prerequisites:** Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (2 lecture, 4 lab)

Digital imaging using raster image editing and/or image creation software: scanning, resolution, file formats, output devices, color systems, and image-acquisitions.

## **ARTC 1305 Basic Graphic Design**

**Prerequisites:** Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (2 lecture, 4 lab)

Graphic design with emphasis on the visual communication process. Topics include basic terminology and graphic design principles.

## **ARTC 1309 Basic Illustration**

**Prerequisites:** Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (2 lecture, 4 lab)

Introduction to drawing techniques as they pertain to the commercial illustration industry.

# Course Descriptions

## **ARTC 1317 Design Communication I**

**Prerequisites:** ARTC 1325 and ARTC 1305 or Department Approval; **Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 4 lab)**

Study of design development relating to graphic design terminology, tools and media, and layout and design concepts. Topics include integration of type, images and other design elements, and developing computer skills in industry standard computer programs.

## **ARTC 1321 Illustration Techniques I**

**Prerequisites:** ARTC 1309 or Department Approval; **Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 4 lab)**

A study of illustration techniques in various media. Emphasis on creative interpretation and the discipline of draftsmanship for visual communication of ideas.

## **ARTC 1325 Introduction to Computer Graphics**

**Prerequisites:** **Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 4 lab)**

A survey of computer design concepts, terminology, processes, and procedures. Topics include computer graphics hardware, electronic images, electronic publishing, vector-based graphics, and interactive multimedia.

## **ARTC 1353 Computer Illustration (illustrator)**

**Prerequisites:** ARTC 1325 or Department Approval; **Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 4 lab)**

Use of the tools and transformation options of an industry-standard vector drawing program to create complex illustrations or drawings.

## **ARTC 2305 Digital Imaging II**

**Prerequisites:** Department Approval; **Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 4 lab)**

Principles of digital image processing and electronic painting. Emphasis on bit-mapped or raster-based image marking and the creative aspects of electronic illustration for commercial or fine art applications.

## **ARTC 2311 History of Communication Graphics**

**Prerequisites:** ARTC 1302, 1305, 1325; **Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Corequisite:** ARTC 1353

**Credit: 3 (3 lecture)**

Survey of the evolution of graphic arts as it relates to the history of art. Topics include formal, stylistic, social, political, economic, and historical aspects. Emphasis on the art movement, schools of thought, individuals, and technology as they interrelate with graphic arts.

## **ARTC 2313 Digital Publishing II (InDesign)**

**Prerequisites:** ARTC 1305, ARTC 1325 and ETWR 1302, or Department Approval; **Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 4 lab)**

Includes layout procedures from thumbnails and roughs to final comprehensive and print output. Emphasis on design principles for the creation of advertising and publishing materials and techniques for efficient planning and documenting projects.

## **ARTC 2317 Typographic Design**

**Prerequisites:** ARTC 1302, 1305, 1353, or Department Approval; **Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Corequisites:** ARTC 2313 or Department Approval

**Credit: 3 (2 lecture, 4 lab)**

Exploration of typographic design including computer generated letterforms as elements of design. Includes theory and techniques of traditional, contemporary, and experimental typography.

## **ARTC 2335 Portfolio Development for Graphic Design**

**Prerequisites:** Department Approval; **Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 4 lab)**

Preparation of a portfolio comprised of completed graphic design class projects. Evaluation and demonstration of portfolio presentation methods based on the student's specific area of study.

## **ARTC 2347 Design Communication II**

**Prerequisites:** Department Approval; **Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 4 lab)**

An advanced study of the design process and art direction. Emphasis on form and content through the selection, creation, and integration of typographic, photographic, illustrative, and design elements.

## **ARTC 2348 Digital Publishing III**

**Prerequisites:** Department Approval; **Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 4 lab)**

A project-based page layout course from concept to completion addressing design problems, preflight of files, color separations, and trapping techniques.

## **ARTS 1301 Art Appreciation**

**Prerequisites:** **Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).**

**Credit: 3 (3 lecture)**

This introduction to the visual arts is designed for the general student. The course explores what is art, who makes it, and why it is made. Core Curriculum Course.

## **ARTS 1303 Art History I**

**Prerequisites:** **Must be placed into college-level reading and college-level writing.**

**Credit: 3 (3 lecture)**

This course examines painting, sculpture, architecture and related arts covering the Paleolithic through Gothic periods. Also covered is the art of non-western cultures. This course satisfies the fine arts or cross-cultural component of the HCC core.

## **ARTS 1304 Art History II**

**Prerequisites:** **Must be placed into college-level reading and college-level writing.**

**Credit: 3 (3 lecture)**

This course examines painting, sculpture, architecture and related arts from the Early Renaissance through the Twentieth Century. Also covered is the art of non-western cultures. ARTS 1303 is not a prerequisite. This course satisfies the fine arts or cross-cultural component of the HCC core.

## **ARTS 1311 Foundation Design I (2-D Design)**

**Prerequisites:** None

**Credit: 3 (2 lecture, 4 lab)**

This beginning studio course explores the fundamentals of two-dimensional design: line, shape, texture, value, color and composition. A variety of media will be used. Recommended but not required as a first studio course. This course satisfies the fine arts component of the HCC core.

## **ARTS 1312 Foundation Design II (3-D Design)**

**Prerequisites:** ARTS 1311

**Credit: 3 (2 lecture, 4 lab)**

A beginning studio course that explores the fundamentals of three-dimensional design: line, plane, mass, surface, light and color in space. A variety of media will be used. Recommended but not required to be taken before Sculpture, Ceramics or Jewelry. This course satisfies the fine arts component of the HCC core.

## **ARTS 1316 Foundation Drawing I**

**Prerequisites:** None

**Credit: 3 (2 lecture, 4 lab)**

This beginning drawing course develops students' observation skills through experimentation with various approaches, styles, techniques, and media. Recommended but not required to be taken before Life Drawing, Painting or Printmaking. Foundation Drawing I is a pre-requisite for Foundation Drawing II. This course satisfies the fine arts component of the HCC core.

## **ARTS 1317 Foundation Drawing II**

**Prerequisites:** ARTS 1316

**Credit: 3 (2 lecture, 4 lab)**

This studio course builds upon the skills learned in Drawing I. Emphasis will be upon further media experimentation and development of a personal style. Foundation Drawing I is a prerequisite. This course satisfies the fine arts component of the HCC core.



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## **ARTS 2316 Painting I**

**Prerequisites:** None

**Credit:** 3 (2 lecture, 4 lab)

A studio course which explores painting media with an emphasis on color, composition, subject matter and technique. Painting I is a prerequisite for Painting II. This course satisfies the fine arts component of the HCC core.

## **ARTS 2317 Painting II**

**Prerequisites:** ARTS 2316

**Credit:** 3 (2 lecture, 4 lab)

This studio course builds upon skills developed in Painting I with an emphasis on the development of personal style, subject matter, and individual expression. Painting I is a prerequisite for Painting II. This course satisfies the fine arts component of the HCC core.

## **ARTS 2323 Life Drawing I**

**Prerequisites:** None

**Credit:** 3 (2 lecture, 4 lab)

A drawing course focusing on the human form. Various media and techniques will be explored while drawing from a live model. Life Drawing I is a prerequisite for Life Drawing II. This course satisfies the fine arts component of the HCC Core.

## **ARTS 2324 Life Drawing II**

**Prerequisites:** ARTS 2323

**Credit:** 3 (2 lecture, 4 lab)

This studio course builds upon skills developed in Life Drawing I, emphasizing personal style and individual expression. Further experimentation with various media and techniques will be explored while drawing from a live model. Life Drawing I is a prerequisite for Life Drawing II. This course satisfies the fine arts component of the HCC core.

## **ARTS 2326 Sculpture I**

**Prerequisites:** None

**Credit:** 3 (2 lecture, 4 lab)

This studio course will introduce the student to various materials, processes and elements of design. Media may include plaster, wood, clay, and found materials. Sculpture I is a prerequisite for Sculpture II. This course satisfies the fine arts component of the HCC core.

## **ARTS 2327 Sculpture II**

**Prerequisites:** ARTS 2326

**Credit:** 3 (2 lecture, 4 lab)

A studio course which builds upon fundamentals learned in Sculpture I with an emphasis on materials and site selection, scale, and individual expression. Sculpture I is a prerequisite for Sculpture II. This course satisfies the fine arts component of the HCC core.

## **ARTS 2333 Printmaking I**

**Prerequisites:** None

**Credit:** 3 (2 lecture, 4 lab)

An introduction to and exploration of various relief printing, monoprinting, and intaglio processes. Printmaking I is a prerequisite for Printmaking II. This course satisfies the fine arts component of the HCC core.

## **ARTS 2334 Printmaking II**

**Prerequisites:** ARTS 2333

**Credit:** 3 (2 lecture, 4 lab)

This course builds upon Printmaking I fundamentals and introduces additional print processes and combinations of those processes to allow individual expression. Printmaking I is a prerequisite for Printmaking II. This course satisfies the fine arts component of the HCC core.

## **ARTS 2336 Fiber Arts I**

**Credit:** 3 (2 lecture, 4 lab)

Structure and design of woven and non-woven fiber forms.

## **ARTS 2341 Art Metals I**

**Prerequisites:** None

**Credit:** 3 (2 lecture, 4 lab)

Fundamentals of jewelry construction including design, fabrication, surface treatment, and stone setting. Art Metals I is a prerequisite for Art Metals II. This course satisfies the fine arts component of the HCC core.

## **ARTS 2342 Art Metals II**

**Prerequisites:** ARTS 2341

**Credit:** 3 (2 lecture, 4 lab)

A continuation of ARTS 2341 with emphasis on individual expression, design and further material exploration. Art Metals I is a prerequisite for Art Metals II. This course satisfies the fine arts component of the HCC core.

## **ARTS 2346 Ceramics I**

**Prerequisites:** None

**Credit:** 3 (2 lecture, 4 lab)

This studio course is an introduction to arts, using the clay medium. Sculptural approaches to clay (slab, pinch, coil wheel) as well as surface treatment will be investigated. Glaze making and kiln technology will be introduced. Ceramics I is a prerequisite for Ceramics II. This course satisfies the fine arts component of the HCC core.

## **ARTS 2347 Ceramics II**

**Prerequisites:** ARTS 2346

**Credit:** 3 (2 lecture, 4 lab)

This studio course builds on knowledge acquired in Ceramics I. Emphasis will be on form and surface experimentation, as well as development of personal expression. Traditional and nontraditional uses of clay will be explored. Ceramics I is a prerequisite for Ceramics II. This course satisfies the fine arts component of the HCC core.

## **ARTS 2348 Digital Arts I**

**Prerequisites:** None

**Credit:** 3 (2 lecture, 4 lab)

This studio course is an introduction to art using the computer. Digital approaches to imagery will be investigated using various tools (possibilities include cameras, scanners, printers, etc.) and software. Emphasis will be placed on creating original images as well as manipulating existing images. This course satisfies the fine arts component of the HCC core.

## **ARTS 2349 Digital Arts II**

**Prerequisites:** ARTS 2348 or ARTS 2344

**Credit:** 3 (2 lecture, 4 lab)

This studio art course builds upon the skills learned in Digital Arts I. Emphasis will be upon further media experimentation and development of a personal style. Digital Arts I is a prerequisite for Digital Arts II. This course satisfies the fine arts component of the HCC core.

## **ARTS 2356 Photography I**

**Prerequisites:** None

**Credit:** 3 (2 lecture, 4 lab)

An introduction to basic photographic processes including black and white film processing and printing. The student will examine various aesthetic approaches to photographing as well as some history of photography. This course will emphasize aesthetic aspects of photography such as design and composition, as well as content. Photography I is a prerequisite for Photography II. This course satisfies the fine arts component of the HCC core.

## **ARTS 2357 Photography II**

**Prerequisites:** ARTS 2356

**Credit:** 3 (2 lecture, 4 lab)

This course will build on previously acquired skills of black and white film exposure, processing and printing and guide students in developing personal outlooks toward specific applications of the photographic process. Photography I is a prerequisite for Photography II. This course satisfies the fine arts component of the HCC core.

## **ARTS 2366 Watercolor I**

**Prerequisites:** None

**Credit:** 3 (2 lecture, 4 lab)

A studio course that explores watercolor media with an emphasis on color, composition, self-expression, and technique. This course satisfies the fine arts component of the HCC core.

## **ARTS 2367 Watercolor II**

**Prerequisites:** ARTS 2366

**Credit:** 3 (2 lecture, 4 lab)

This studio course builds upon skills developed in Watercolor I with an emphasis on the development of personal style, subject matter, and individual expression. Watercolor I is a prerequisite for Watercolor II. This course satisfies the fine arts component of the HCC core.

## **ARTV 1341 3-D Animation I**

**Prerequisites:** ARTV 1345; **Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit:** 3 (2 lecture, 4 lab)

Intermediate level 3-D course introducing animation tools and techniques used to create movement. Emphasis on using the principles of animation.

## **ARTV 1345 3-D Modeling and Rendering I**

**Prerequisites:** ARTC 1302 or Department Approval; **Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit:** 3 (2 lecture, 4 lab)

Techniques of three-dimensional (3-D) modeling utilizing industry standard software. Includes the creation and modification of 3-D geometric shapes, use of a variety of rendering techniques, camera, light sources, texture, and surface mapping.

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## **ARTV 1351 Digital Video**

**Prerequisites:** IMED 1301; **Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 4 lab)**

Producing and editing video and sound for multimedia or web productions. Emphasizes capture, editing, and outputting of video using a desktop digital video workstation.

## **ARTV 2301 2-D Animation I (FLASH)**

**Prerequisites:** IMED 1316, IMED 1341, ITSE 2313, or Department Approval; **Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 4 lab)**

Skill development in the use of software to develop storyboards and two-dimensional animation including creating, importing, and sequencing media elements to create multimedia presentation. Emphasis on conceptualization, creativity, and visual aesthetics.

## **ARTV 2330 2-D Animation II**

**Prerequisites:** Department Approval; **Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 4 lab)**

Advanced study of technical aspects of animation. Emphasizes aesthetic design and completion of an animation project.

## **ARTV 2341 Advanced Digital Video**

**Prerequisites:** **Must be placed into college-level reading, writing and math.**

**Credit: 3 (2 lecture, 4 lab)**

Advanced digital video techniques for post-production. Emphasizes integration of special effects and animation for film, video, and the Internet. Exploration of new and emerging compression and video streaming technologies.

## **ARTV 2345 3-D Modeling and Rendering II**

**Prerequisites:** ARTC 1302 and ARTV 1345; **Must be placed into college-level reading, writing and math.**

**Credit: 3 (2 lecture, 4 lab)**

A studio course focused on advanced 3-D modeling and rendering techniques using industry standard software. modeling techniques, camera settings, lighting, and surfacing to develop detailed environments.

## **ASTR 1303 Stars and Galaxies**

**Prerequisites:** **Must be placed into GUST 0341 (or higher) in reading and placed into MATH 0312 (or take MATH 0308 as a co-requisite).**

**Credit: 3 (3 lecture)**

An introduction to the present cosmological theories about the structure and evolution of the universe. A comparison with previous models since antiquity. A study of the celestial sphere and the constellations, the motions in the sky. A study of gravity, light, radiation, optics, telescopes and spacecraft. A survey of the stars, clusters, galaxies, superclusters, their properties, structure and evolution. Core Curriculum Course.

## **ASTR 1304 Solar System Astronomy**

**Prerequisites:** **Must be placed into GUST 0341 (or higher) in reading and placed into MATH 0312 (or take MATH 0308 as a co-requisite).**

**Credit: 3 (3 lecture)**

An introduction to present theories about the structure and evolution of the solar system, compared to other models and theories since antiquity. A survey of the Sun, planets, moons, rings, asteroids, comets and debris in our solar system. The possibility of life in the Universe. Core Curriculum Course.

## **ASTR 1403 Stars and Galaxies**

**Prerequisites:** **Must be placed into GUST 0341 (or higher) in reading and placed into MATH 0312 (or take MATH 0308 as a co-requisite).**

**Credit: 4 (3 lecture, 3 lab)**

An introduction to the present cosmological theories about the structure and evolution of the universe. A comparison with previous models since antiquity. A study of the celestial sphere and the constellations, the motions in the sky. A study of gravity, light, radiation, optics, telescopes and spacecraft. A survey of the stars, clusters, galaxies, superclusters, their properties, structure and evolution. Laboratory includes an introduction to observational techniques using telescopes, in-class projects/exercises on spectroscopy, stellar positions, solar heating, planetary motions, solar and astrophotography, star clusters, galaxies, and cosmology. Core Curriculum Course.

## **ASTR 1404 Solar System Astronomy**

**Prerequisites:** **Must be placed into GUST 0341 (or higher) in reading and placed into MATH 0312 (or take MATH 0308 as a co-requisite).**

**Credit: 4 (3 lecture, 3 lab)**

An introduction to present theories about the structure and evolution of the solar system, compared to other models and theories since antiquity. A survey of the Sun, planets, moons, rings, asteroids, comets and debris in our solar system. The possibility of life in the Universe. Laboratory topics include planetary, lunar and solar observations with telescopes and/or the naked eye; measurements of the gravitational constant, gravitational acceleration and the speed of light; analysis of spectra and spacecraft images; and impact cratering simulations. Core Curriculum Course.

## **AUMT 1305 Introduction to Automotive Technology**

**Prerequisites:** **Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0308 in math.**

**Credit: 3 (2 lecture, 2 lab)**

An introduction to the automotive industry including automotive history, safety practices, shop equipment and tools, vehicle subsystems, service publications, fasteners, professional responsibilities, and automotive maintenance. May be taught manufacturer specific.

## **AUMT 1306 Automotive Engine Removal and Installation**

**Prerequisites:** **Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0308 in math.**

**Credit: 3 (2 lecture, 4 lab)**

Fundamentals of engine inspection, removal and installation procedures. May be taught manufacturer specific.

## **AUMT 1307 Automotive Electrical Systems**

**Prerequisites:** **Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0308 in math.**

**Credit: 3 (2 lecture, 4 lab)**

An overview of automotive electrical systems including topics in operational theory, testing, diagnosis, and repair of batteries, charging and starting systems, and electrical accessories. Emphasis on electrical schematic diagrams and service manuals. May be taught manufacturer specific.

## **AUMT 1310 Automotive Brake Systems**

**Prerequisites:** **Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0308 in math.**

**Credit: 3 (2 lecture, 4 lab)**

Operation and repair of drum/disc type brake systems. Emphasis on safe use of modern equipment. Topics include brake theory, diagnosis, and repair of power, manual, anti-lock brake systems, and parking brakes. May be taught with manufacturer specific instructions.

## **AUMT 1316 Automotive Suspension and Steering Systems**

**Prerequisites:** **Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0308 in math.**

**Credit: 3 (2 lecture, 4 lab)**

A study of automotive suspension and steering systems including tire and wheel problem diagnosis, component repair, and alignment procedures. May be taught manufacturer specific.

## **AUMT 1319 Automotive Engine Repair**

**Prerequisites:** **Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0308 in math.**

**Credit: 3 (2 lecture, 4 lab)**

Fundamentals of engine operation, diagnosis and repair including lubrication systems and cooling systems. Emphasis on overhaul of selected engines, identification and inspection, measurements, and disassembly, repair, and reassembly of the engine. May be taught manufacturer specific.

## **AUMT 1345 Automotive Heating and Air Conditioning**

**Prerequisite/Corequisite:** AUMT 1307

**Prerequisites:** **Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0308 in math.**

**Credit: 3 (2 lecture, 4 lab)**

Theory of automotive air conditioning and heating systems. Emphasis on the basic refrigeration cycle and diagnosis and repair of system malfunctions. Covers EPA guidelines for refrigerant handling and new refrigerant replacements. May be taught manufacturer specific.

# Course Descriptions

## AUMT 1380 Cooperative Education- Automobile/Automotive Mechanics Technology/Technician

**Prerequisites:** Department Approval; Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0308 in math.

**Credit:** 3 (1 lecture, 20 lab)

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

## AUMT 2209 Automotive Drive Train and Axle Theory

**Prerequisites:** Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0308 in math.

**Credit:** 2 (2 lecture, 1 lab)

A study of automotive clutches, clutch operation devices, manual transmissions/transaxles, and differentials. Emphasis on theory and diagnosis of transmission/transaxle and drive line components.

## AUMT 2223 Theory of Automatic Transmission and Transaxle

**Prerequisites:** Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0308 in math.

**Credit:** 2 (2 lecture, 1 lab)

Theory of operation, hydraulic principles, and related circuits of modern automatic transmissions and transaxles. Discussion of diagnosing and repair techniques.

## AUMT 2313 Automotive Drive Train and Axles

**Prerequisites:** Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0308 in math.

**Credit:** 3 (2 lecture, 4 lab)

A study of automotive clutches, clutch operation devices, manual transmissions/transaxles, and differentials with emphasis on the diagnosis and repair of transmissions/transaxles and drive lines. May be taught with manufacturer specific instructions.

## AUMT 2317 Automotive Engine Performance Analysis I

**Prerequisites:** Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0308 in math.

**Credit:** 3 (2 lecture, 4 lab)

Theory, operation, diagnosis, and repair of basic engine dynamics, ignition systems, and fuel delivery systems. Use of basic engine performance diagnostic equipment. May be taught with manufacturer specific instructions.

## AUMT 2321 Automotive Electrical Diagnosis and Repair

**Prerequisite/Corequisite:** AUMT 1307  
**Prerequisites:** Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0308 in math.

**Credit:** 3 (2 lecture, 4 lab)

Repair of automotive electrical subsystems, lighting, instrumentation, and accessories. Emphasis on accurate diagnosis and proper repair methods using various troubleshooting skills and techniques. May be taught manufacturer specific.

## AUMT 2325 Automatic Transmission and Transaxle

**Prerequisites:** Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0308 in math.

**Credit:** 3 (2 lecture, 4 lab)

A study of the operation, hydraulic principles, and related circuits of modern automatic transmissions and automatic transaxles. Diagnosis, disassembly, and assembly procedures with emphasis on the use of special tools and proper repair techniques. May be taught manufacturer specific.

## AUMT 2328 Automotive Service

**Prerequisites:** Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0308 in math.

**Credit:** 3 (2 lecture, 4 lab)

Mastery of automotive vehicle service and component systems repair. Emphasis on mastering current automotive competencies covered in related courses. May be taught manufacturer specific.

## AUMT 2334 Automotive Engine Performance Analysis II

**Prerequisites:** Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0308 in math.

**Credit:** 3 (2 lecture, 4 lab)

A study of diagnosis and repair of emission systems, computerized engine performance systems, and advanced ignition and fuel systems; and proper use of advanced engine performance diagnostic equipment. May be taught manufacturer specific.

## AUMT 2380 Cooperative Education-Auto/ Automotive Technician

**Prerequisites:** Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0308 in math.

**Credit:** 3 (1 lecture, 20 lab)

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

## AUMT 2437 Automotive Electronics

**Prerequisite/Corequisite:** AUMT 1307

**Prerequisites:** Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0308 in math.

**Credit:** 4 (2 lecture, 4 lab)

Topics address electrical principles, semiconductor and integrated circuits, digital fundamentals, microcomputer systems, and electrical test equipment as applied to automotive technology. May be taught manufacturer specific.

## AUMT 2455 Automotive Engine Machining

**Prerequisites:** Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0308 in math.

**Credit:** 4 (2 lecture, 4 lab)

In-depth coverage of precision engine rebuilding, cylinder reconditioning, and crack repair. Instruction in machines and equipment necessary to complete an engine repair. May be taught with manufacturer specific instructions.

## BARB 1307 Introduction to Hair Design

**Prerequisites:** Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (1 lecture, 8 lab)

Introduction to hair styling with emphasis on the fundamentals of haircutting and related skills.

## BARB 1402 Barber Styling I

**Prerequisites:** Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 4 (2 lecture, 8 lab)

Continued development in haircutting techniques and implementation of basic styling. Introduction of products and procedures used in chemical reformation.

## BARB 1404 Introduction to Barber Styling

**Prerequisites:** Must be placed into college-level reading, college-level writing and MATH 0306 in math.

**Credit:** 4 (2 lecture, 8 lab)

Basic techniques for hair cutting. Introduction to the related skills of shampooing and treatments and of trimming beards and mustaches.

## BARB 1442 Barber Styling II

**Prerequisites:** Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 4 (2 lecture, 8 lab)

Continuation of Barber Styling I with emphasis on intermediate hands-on application of skills.

## BARB 1491 Special Topics in Barber/ Hairstylist: Client Relations Barber Stylist

**Prerequisites:** Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 4 (3 lecture, 3 lab)

This course is designed to introduce the student to the principles of client relations dealing with diverse populations of clients and attitudes and behaviors pertinent to the occupation of barbering and relevant to the professional development of the student. This course is a 3 lecture and 3 lab hours (96 contact hours) course. Upon successful completion of the course, the student will be awarded 4 semester credit hours.

# Course Descriptions

## BARB 2402 Barber Styling III

**Prerequisites:** Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 4 (2 lecture, 8 lab)

Continued skill development in haircutting and styling. Emphasizes advanced techniques in chemical procedures. Introduction to hairpieces and facials.

## BARB 2431 Advanced Barber Styling I

**Prerequisites:** Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 4 (2 lecture, 8 lab)

Advanced skills in all areas of haircutting and hairstyling. Continued training in advanced skincare. Introduction to haircoloring applications.

## BARB 2432 Barber Law and Shop

### Management I

**Prerequisites:** Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 4 (2 lecture, 8 lab)

Introduction to Texas barber law and business management.

## BARB 2441 Advanced Barber Styling II

**Prerequisites:** Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 4 (2 lecture, 8 lab)

Continuation of Advanced Barber Styling I with further refinement of all skills and theory for licensure.

## BARB 2444 Barber Law and Shop

### Management II

**Prerequisites:** Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 4 (2 lecture, 8 lab)

Continuation of Barber Law and Shop Management I. Includes advanced business management and preparation for the State Board Examination for a barber license.

## BARB 2470 Preparation for the State

### Licensing Examination

**Prerequisites:** Must be placed into college-level reading, college-level writing and MATH 0306 in math.

**Credit:** 4 (2 lecture, 8 lab)

This course is an in depth preparation of the student to successfully pass the theory and practical skills licensing examination for a class A barber. Topics include sanitation, disinfection, hair coloring, hair cutting, shampooing, conditioning, chair styling, chemical reformation and shaving services.

## BCIS 1405 Business Computer

### Applications

**Prerequisites:** Must be at college-level skills in reading, writing, and mathematics (i.e. no remediation needed) and have had high school computer literacy or equivalent.

**Credit:** 4 (3 lecture, 3 lab)

Computer terminology, hardware, software, operating systems, and information systems relating to the business environment. The main focus of this course is on business applications of software, including word processing, spreadsheets, databases, presentation graphics, and business-oriented utilization of the Internet.

## BIOL 1108 Introductory Biology

### Laboratory I

**Prerequisite/Corequisite:** BIOL 1308

**Credit:** 1 (3 lab)

Selected laboratory experiments related to topics in BIOL 1308 (Introductory Biology I) for non-majors.

## BIOL 1109 Introductory Biology

### Laboratory II

**Prerequisite/Corequisite:** BIOL 1309

**Credit:** 1 (3 lab)

Selected laboratory experiments related to topics in BIOL 1309 (Introductory Biology I) for non-majors.

## BIOL 1308 Introductory Biology I

**Prerequisites:** Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

**Credit:** 3 (3 lecture)

Topics include basic chemistry, cell morphology and physiology, photosynthesis and respiration, cell division, and classical and molecular genetics. Core Curriculum Course. Note: Only one of BIOL 1308 or BIOL 1406 can be used toward associate degree natural science requirements. Only one of the two will count as Natural Science core; the other may count as an elective in the degree plan.

## BIOL 1309 Introductory Biology II

**Prerequisites:** BIOL 1308, Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

**Credit:** 3 (3 lecture)

Topics include evolution, classification and ecological relationships, and organ systems of animals and plants. Core Curriculum Course. Note: Only one of BIOL 1309 or BIOL 1407 can be used toward associate degree natural science requirements. Only one of the two will count as Natural Science core; the other may count as an elective in the degree plan.

## BIOL 1322 Basic Nutrition

**Prerequisites:** Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).

**Credit:** 3 (3 lecture)

A course designed to teach the fundamentals of nutrition based on basic nutrition principles. Scientific standard recommendations of levels of nutrient intake for a healthy population are discussed. Sources and functions of carbohydrates, proteins, fats, vitamins and minerals are also studied. (cross listed with HECO 1322). Core curriculum course

## BIOL 1406 General Biology I

**Prerequisites:** Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).

**Credit:** 4 (3 lecture, 3 lab)

Discussions focus on biological chemistry, biological processes, cellular morphology, metabolism, genetics and molecular biology. Note: Only one of BIOL 1308 or BIOL 1406 can be used toward associate degree natural science requirements. Only one of the two will count as Natural Science core; the other may count as an elective in the degree plan.

## BIOL 1407 General Biology II

**Prerequisites:** BIOL 1406, Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).

**Credit:** 4 (3 lecture, 3 lab)

Topics include evolution, classification and ecological relationships, and organ systems of animals and plants. Core Curriculum Course. Note: Only one of BIOL 1309 or BIOL 1407 can be used toward associate degree natural science requirements. Only one of the two will count as Natural Science core; the other may count as an elective in the degree plan.

## BIOL 1411 General Botany

**Prerequisites:** Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).

**Credit:** 4 (3 lecture, 3 lab)

Plant science including survey of the plant kingdom, photosynthesis, respiration, anatomy, reproduction, ecology, and vascular plant taxonomy. Core Curriculum Course.

## BIOL 1413 General Zoology

**Prerequisites:** Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).

**Credit:** 4 (3 lecture, 3 lab)

A general overview of the animal kingdom including principles, life histories, and classification. Emphasis is placed on the vertebrates. Core Curriculum Course.

## BIOL 2401 Anatomy and Physiology I

**Prerequisites:** While BIOL 1406 is not a required prerequisite for 2401, 1406 is highly recommended for success in 2401. Also, must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite). **Credit:** 4 (3 lecture, 3 lab)

Study of the structure and function of human cells, tissues, and organ systems including integumentary skeletal, muscular, and nervous systems. Core Curriculum Course.

## BIOL 2402 Anatomy and Physiology II

**Prerequisites:** BIOL 2401

**Credit:** 4 (3 lecture, 3 lab)

Continuation of BIOL 2401 including the circulatory, respiratory, digestive, excretory, reproductive and endocrine systems. Core Curriculum Course.

# Course Descriptions

## **BIOL 2406 Environmental Biology**

**Prerequisites:** Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).

**Credit: 4 (3 lecture, 3 lab)**

Human interaction with and effect upon plant and animal communities. Conservation, pollution, energy, and other contemporary ecological problems. Core Curriculum Course.

## **BIOL 2416 Genetics**

**Prerequisites:** BIOL 1406; Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).

**Credit: 4 (3 lecture, 3 lab)**

Study of the principles of molecular and classical genetics and the function and transmission of hereditary material. May include population genetics and genetic engineering. Core Curriculum Course.

## **BIOL 2420 Microbiology**

**Prerequisites:** BIOL 1406; Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).

**Credit: 4 (3 lecture, 3 lab)**

Study of microorganisms including morphology, metabolism, taxonomy, culture techniques, microbial genetics, immunology, bacteriology, virology, mycology, parasitology, and diseases. Core Curriculum Course.

## **BIOL 2428 Comparative Anatomy**

**Prerequisites:** BIOL 1407; Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).

**Credit: 4 (3 lecture, 3 lab)**

Comparative studies of the evolution of the vertebrate body including morphology, physiology, embryology, taxonomy, and paleontology. Core Curriculum Course.

## **BIOM 1309 Applied Biomedical Equipment Technology**

**Prerequisites:** CETT 1403, CETT 1425 or Department Approval. Must be placed into college-level reading, writing and math.

**Credit: 3 (2 lecture, 3 lab)**

Introduction to biomedical instrumentation as related to anatomy and physiology. Detailed coverage of anatomical systems that use medical equipment for monitoring, diagnosis, and treatment.

## **BIOM 2331 Biomedical Clinical Instrumentation**

**Prerequisites:** CETT 1403, CETT 1425, or Department Approval. Must be placed into college-level reading, writing and math.

**Credit: 3 (2 lecture, 3 lab)**

A study of theory, application, and principles of operation of instruments commonly used in a medical laboratory.

## **BIOM 2489 Internship-Biomedical Technology/Technician**

**Prerequisites:** 30 credit hours of CETT courses and Department Approval; Must be placed into college-level reading, writing and math.

**Credit: 4 (20 lab)**

A work-based learning experience that enables the student to apply specialized occupational theory, skills and concepts. A learning plan is developed by the college and the employer.

## **BIOS 1470 Introduction to Biosafety and Biotechnology**

**Prerequisites:** Must be placed into college-level reading, writing and math.

**Credit: 4 (3 lecture, 3 lab)**

Topics address the current development of the fields of biosafety and biotechnology. Covers the applications of biosafety and biotechnology as these relate to medical and pharmaceutical research, and health care entities. Explores biotechnology and nanotechnology unique applications, workplace environment, and occupational safety. Describes controlling mechanisms used in biotechnology and biosafety to assure a protective workplace environment.

## **BIOS 1471 Introduction to Laboratory Safety**

**Prerequisites:** Must be placed into college-level reading, writing and math.

**Credit: 4 (3 lecture, 3 lab)**

Topics include safe handling of biological, chemical, radiation and nano materials in vivo or vitro. Focuses on safety, regulations, and proper materials handling in research, clinical laboratories, and petrochemical industries. Covers the classification levels of laboratories (i.e., Biosafety Level 1, 2, 3 and 4 requirements; topics include laboratory risk identification, medical surveillance requirements as part of an occupational health program, routine safety surveillance activities, identification of appropriate decontamination methods for biological, radiological, chemical or nano particle accidents and spills in research, clinical, and petrochemical laboratories and describing the instruction materials required to educate personnel in all areas of laboratory safety, including biological safety, chemical safety, recombinant DNA research activities and nanosafety.

## **BIOS 2370 Internship - Biosafety**

**Prerequisites:** Must be placed into college-level reading, writing and math.

**Credit: 3 (3 lecture)**

Participation in real-life applications of biosafety and nanosafety measures for research laboratories, clinical laboratories and/or petrochemical laboratory environments. A work based learning experience that enables the student to apply the specialized biosafety and nanosafety skills, knowledge, theory and concepts to laboratory and institutional environment. It includes oversight of biosafety and nanosafety regulations within a facility, including the performance of environmental monitoring for contamination and air quality related to contaminants by biohazard and nano particles among others.

## **BIOS 2470 Industrial Hygiene Sampling Instrumentation Laboratory**

**Prerequisites:** Must be placed into college-level reading, writing and math.

**Credit: 4 (3 lecture, 3 lab)**

Covers applications of industrial hygiene air and environmental sampling instrumentation including biosafety, radiation safety, chemical safety and nanosafety functions for research laboratories, clinical laboratories and/or petrochemical laboratory environments. Safe practices in the use of handling hazardous materials including shipping of infectious substances, radioactive materials, and nanoparticles and disposal of hazardous wastes are also addressed. Topics also include performing the environmental monitoring for contamination and air quality related to contaminants by biohazard and nano particles to gain experience in this area.

## **BITC 1311 Introduction to Biotechnology**

**Prerequisites:** Must be placed into college-level reading, college-level writing and Math 0312.

**Credit: 3 (3 lecture)**

An introduction to biotechnology including career exploration, history and applications of DNA/RNA technology, molecular biology, bioethics, and laboratory safety practices.

## **BITC 1370 Introduction to Biochemistry**

**Prerequisites:** Must be placed into college-level reading, writing and math.

**Credit: 3 (3 lecture)**

The study of the knowledge of the structure, function, and cellular metabolism of various biomolecules. The course will deal with the intra- and intermolecular conversion of biomolecules. Knowledge in this area is directly applicable to the fields of analysis and processing of biomolecules and their pertinence to biotechnology as it relates to biopharmaceuticals, biagnostics, fermentation, and bio-manufacturing.

## **BITC 1402 Biotechnology Laboratory Methods and Techniques**

**Prerequisite/Corequisite:** BITC 1311 or Department Approval; Must be placed into college-level reading, writing and math

**Credit: 4 (3 lecture, 3 lab)**

Laboratory operations, management, equipment, instrumentation, quality control techniques, and safety procedures. Includes laboratory practice in using pH meters, mixing buffers, performing measurements, preparing solutions, and performing separatory techniques.

## **BITC 1491 Special Topics in Biological Technology/Technician**

**Prerequisites:** Must be placed into college-level reading, college-level writing and Math 0312

**Credit: 4 (3 lecture, 3 lab)**

Topics address recently identified current events, skills, knowledges, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

# Course Descriptions

## **BITC 2386 Internship - Biology Technician/Biotechnology Laboratory Technician**

**Prerequisites:** BITC 1402 and Department Approval; **Must be placed into college-level reading, writing and math.**

**Credit: 3 (1 lecture, 20 lab)**

A work-based learning experience that enables the student to apply specialized occupational theory, skills and concepts. A learning plan is developed by the college and the employer.

## **BITC 2411 Biotechnology Laboratory Instrumentation**

**Prerequisites:** BITC 1402 or Department Approval; **Must be placed into college-level reading, writing and math.**

**Credit: 4 (3 lecture, 3 lab)**

Theory, applications, and operation of various analytical instruments. Addresses separation and identification techniques including electrophoresis, spectrophotometry, and chromatography.

## **BITC 2431 Cell Culture Techniques**

**Prerequisites:** BITC 1402 or Department Approval; **Must be placed into college-level reading, writing and math.**

**Credit: 4 (3 lecture, 3 lab)**

Theory and applications of cell culture techniques. Laboratory emphasis on the principles and practices of initiation, cultivation, maintenance, preservation of cell lines and applications.

## **BITC 2441 Molecular Biology Techniques**

**Prerequisites:** BITC 2411 or Department Approval; **Must be placed into college-level reading, writing and math.**

**Credit: 4 (3 lecture, 3 lab)**

In depth coverage of the theory and laboratory techniques in molecular biology with an emphasis on gene expression and regulation, recombinant DNA, and nucleic acids.

## **BITC 2445 Medical Biotechnology**

**Prerequisites:** BITC 1311 or Departmental Approval; **Must be placed into college-level reading, writing and math.**

**Credit: 4 (2 lecture, 4 lab)**

Biotechnology as it applies to medicine and medical research. Includes molecular mechanisms underlying diseases such as cancer, diabetes, heart disease, and AIDS. Covers the applications of biotechnology to the diagnosis and treatment of disease as well as the development of drugs and therapeutic agents. Emphasizes research and medical-related biotechnology methods and laboratory procedures.

## **BITC 2472 Immunological Methods and Techniques**

**Prerequisites:** BITC 1402 or Department Approval; **Must be placed into college-level reading, writing and math.**

**Credit: 4 (3 lecture, 3 lab)**

Study of the principles and practices of modern immunology including the interactions among the various cellular and chemical components of immune response. Emphasis on the techniques used in the biotechnology industry involved in manufacturing of immunotherapeutic agents and biopharmaceuticals. Knowledge in this area is directly applicable to the fields of biopharmaceuticals, bio-diagnostics, fermentation and bio manufacturing.

## **BMGT 1301 Supervision**

**Prerequisites:** **Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (3 lecture)**

A study of the role of the supervisor. Managerial functions as applied to leadership, counseling, motivation, and human skills are examined.

## **BMGT 1313 Principles of Purchasing**

**Prerequisites:** **Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (3 lecture)**

The purchasing process as it relates to such topics as inventory control, price determination, vendor selection, negotiation techniques, and ethical issues.

## **BMGT 1325 Office Management**

**Prerequisites:** **Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (3 lecture)**

Systems, procedures, and practices related to organizing and planning office work, controlling employees' performance, and exercising leadership skills.

## **BMGT 1327 Principles of Management**

**Prerequisites:** **Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (3 lecture)**

Concepts, terminology, principles, theories, and issues in the field of management.

## **BMGT 1331 Production and Operations Management**

**Prerequisites:** **Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (3 lecture)**

Fundamentals of the various techniques used in the practice of production management to include location, design, and resource allocation

## **BMGT 1341 Business Ethics**

**Prerequisites:** **Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (3 lecture)**

Discussion of ethical issues, the development of a moral frame of reference, and the need for an awareness of social responsibility in management practices and business activities. Includes ethical corporate responsibility.

## **BMGT 1370 Introduction to HR/PeopleSoft Applications**

**Prerequisites:** **Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math**

**Credit: 3 (2 lecture, 3 lab)**

A hands-on overview of the major areas of human resources/PeopleSoft, as illustrated by PeopleSoft software applications. Some topics will cover accessing PeopleSoft, navigating the PeopleSoft interface, understanding PeopleSoft panels, using PeopleSoft panels, and creating queries.

## **BMGT 1371 Intermediate HR/PeopleSoft Applications**

**Prerequisites:** **Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 3 lab)**

A continuation of Introduction to Human Resources/PeopleSoft with intermediate PeopleSoft applications. Additional topics will include: understanding PeopleSoft processes, PeopleSoft HRMS (Human Resource Management Systems), PeopleSoft HRMS modules, and advanced query topics.

## **BMGT 2305 Advanced Communication in Management/PeopleSoft Applications (Team Work and Case Studies)**

**Prerequisites:** **BMGT 1371; Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**(Computer Lab required)**

**Credit: 3 (2 lecture, 2 lab)**

Putting it all together/PeopleSoft: group projects, team applications, and implementation of results

## **BMGT 2310 Financial Management/PeopleSoft Applications**

**Prerequisites:** **BMGT 1394; Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**(Computer Lab required)**

**Credit: 3 (2 lecture, 3 lab)**

Emphasis on the development and use of accounting information to support managerial decision-making processes in manufacturing, service, and for-profit settings. Topics include managerial concepts and systems, various analysis for decision making, and planning and control.

## **BMGT 2331 Total Quality Management/PeopleSoft Applications**

**Prerequisites:** **BMGT 2310; Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**(Computer Lab required)**

**Credit: 3 (2 lecture, 3 lab)**

Quality of productivity in organizations using PeopleSoft Applications. Includes planning for quality PeopleSoft reports, implementation of reports, development of reports for business decision-making. Additional topics will include accessing and setting up queries, aggregating totals, using SQR with PeopleSoft, and reporting tables.

## **BNKG 1303 Principles of Bank Operation**

**Prerequisites:** **Must be placed into GUST 0341 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.**

**Credit: 3 (3 lecture)**

Overview of the fundamental banking functions and the role of regulation in the banking industry. Explanation of financial products and services to various markets.

# Course Descriptions

## **BNKG 1305 Teller Training**

**Prerequisites:** Must be placed into GUST 0341 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.

**Credit:** 3 (3 lecture)

Application of the functions related to negotiable instruments, cash control, handling money, and balancing. Explanation of compliance and regulation issues affecting bank tellers.

## **BNKG 1340 Money and Banking**

**Prerequisites:** Must be placed into GUST 0341 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.

**Credit:** 3 (3 lecture)

Monetary policy and its related effects on financial intermediaries. Includes financial markets, regulatory functions, and structures. Addresses investment and funds management.

## **BNKG 1345 Consumer Lending**

**Prerequisites:** Must be placed into GUST 0341 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.

**Credit:** 3 (3 lecture)

A study of the different types of consumer loans. Identify the federal regulations and state laws pertaining to collection and serving of a consumer loan and relate consumer credit to the lending process.

## **BNKG 1349 Commercial Lending**

**Prerequisites:** Must be placed into GUST 0341 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.

**Credit:** 3 (3 lecture)

Overview of the commercial lending market and process with an emphasis on credit analysis, evaluation, federal regulation, and state laws related to business and industrial lending.

## **BNKG 1351 Selling Bank Products and Services**

**Prerequisites:** Must be placed into GUST 0341 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.

**Credit:** 3 (3 lecture)

Characteristics and benefits of bank products and services. Emphasis on the personal selling process and quality customer service. Application of personal selling, cross-selling, and related product benefits to individual customer needs.

## **BNKG 1353 Mortgage Lending**

**Prerequisites:** Must be placed into GUST 0341 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.

**Credit:** 3 (3 lecture)

Overview of the mortgage lending market and process with an emphasis on documentation, credit evaluation, federal regulation, and state laws related to mortgage loans.

## **BNKG 1356 Analyzing Financial Statements I**

**Prerequisites:** ACCT 2301; Must be placed into GUST 0341 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.

**Credit:** 3 (3 lecture)

A study of the process of evaluating financial statements, cash flow, and ratio analysis of individuals and businesses with an emphasis on the relationship of comparative analysis and industry standards.

## **BNKG 1373 Teller Training Lab**

**Prerequisites:** BNKG 1305; Must be placed into GUST 0341 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.

**Credit:** 3 (3 lecture)

An alternate continuation of BNKG 1305 Teller Training, this course affords the student practical, hands-on experience in paying and receiving teller operations. Students develop skills such as cash handling, cash drawer setup, maintenance, security and daily balancing, processing of basic paying and receiving customer transactions, quoting funds availability, implementing security precautions, operating ten-key terminal, and using automated teller machines via daily practice in a lab setting.

## **BNKG 1380 Cooperative Education- Banking and Financial Support Services**

**Prerequisites:** Department Approval; Must be placed into GUST 0341 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.

**Credit:** 3 (1 lecture, 20 lab)

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

## **BNKG 2374 Financial Business Administration**

**Prerequisites:** BNKG 1340; Must be placed into GUST 0341 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.

**Credit:** 3 (3 lecture)

Course emphasizes the managerial responsibility of coordinating the many facets of a financial institution. The course covers administration in a regulatory environment, portfolio mix, and the various changes that are happening in this fast paced industry. Special attention is placed on investment areas in which customers are allowed to participate, which banks must have a working knowledge of but are not allowed to invest in.

## **BNKG 2380 Cooperative Education- Banking and Financial Support Services**

**Prerequisites:** Department Approval; Must be placed into GUST 0341 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math

**Credit:** 3 (1 lecture, 20 lab)

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

## **BNKG 2381 Cooperative Education- Banking and Financial Support Services**

**Prerequisites:** Department Approval; Must be placed into GUST 0341 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.

**Credit:** 3 (1 lecture, 20 lab)

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

## **BUSG 1301 Introduction to Business**

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (3 lecture)

Fundamental business principles including structure, functions, resources, and operational processes.

## **BUSG 1303 Principles of Finance**

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (3 lecture)

Financial dynamics of a business. Includes monetary and credit theory, cash inventory, capital management, and consumer and government finance. Emphasizes the time value of money.

## **BUSG 1370 Personal Financial Planning**

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (3 lecture)

An exploration of financial planning that emphasizes topics of personal interest but also have application to business financial planning topics. Topics include budgeting, bank accounts and account reconciliation, individual retirement accounts, loans, investments, debt management, real estate, insurance, wills, trusts, and taxes.

## **BUSG 1371 Principles of Securities Operations**

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (3 lecture)

An overview of the fundamental functions and the role of regulation in the securities industry. Explanation of securities products and services to a variety of markets.



# Course Descriptions

## **BUSG 1372 Communications for Securities Professionals**

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math

**Credit:** 3 (3 lecture)

An overview of the fundamental functions and the role of regulation in the securities industry. Explanation of securities products and services to a variety of markets.

## **BUSG 1373 Entrepreneurship and Economic Development**

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math

**Credit:** 3 (3 lecture)

Overview of entrepreneurship as an economic development strategy. Includes community support systems for entrepreneurs.

## **BUSG 1374 Business Writing Essentials**

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (3 lecture)

An interactive study of critical business writing elements. The course goal is to help students develop business writing skills to incorporate in their work environments.

## **BUSG 1382 Cooperative Education-Entrepreneurship/Entrepreneurial Studies**

**Prerequisites:** Department Approval: Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math

**Credit:** 3 (1 lecture, 20 lab)

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

## **BUSG 1391 Special Topics in Business. General**

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math

**Credit:** 3 (3 lecture)

Topic addresses recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student.

## **BUSG 2305 Business Law/Contracts**

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math

**Credit:** 3 (3 lecture)

Principles of law which form the legal framework for business activity including applicable statutes, contracts, and agency.

## **BUSG 2309 Small Business Management**

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math

**Credit:** 3 (3 lecture)

A course on how to start and operate a small business. Topics include facts about a small business, essential management skills, how to prepare a business plan, financial needs, marketing strategies, and legal issues.

## **BUSG 2317 Business Law/Commercial**

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (3 lecture)

The relationship of law and business as they relate to commercial transactions.

## **BUSG 2380 Cooperative Education - Business/Commerce. General**

**Prerequisites:** Department Approval; Must be placed into college-level reading, college-level writing and MATH 0312.

**Credit:** 3 (1 lecture, 20 lab)

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

## **BUSG 2381 Cooperative Education- Business/Commerce. General**

**Prerequisite:** Department Approval or BMGT 1301 and BMGT 1303, BUSG 1301; Must be placed into college-level reading, college-level writing and MATH 0312 in math.

**Credit:** 3 (1 lecture, 20 lab)

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

## **BUSI 1301 Introduction to Business**

**Credit:** 3 (3 lecture)

Fundamental business principles including structure, functions, resources, and operational processes.

## **BUSI 2301 Business Law I**

**Credit:** 3 (3 lecture)

Principles of law which form the legal framework for business activity including applicable statutes, contracts, and agency.

## **CDEC 1313 Curriculum Resources for Early Childhood Programs**

**Prerequisites:** Must be placed into GUST 0341 in reading, ENGL 0310 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (2 lecture, 3 lab)

A study of the fundamentals of curriculum design and implementation in developmentally appropriate programs for children.

## **CDEC 1317 Child Development Associate Training I**

**Prerequisites:** Must be placed into GUST 0341 in reading, ENGL 0310 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (2 lecture, 2 lab)

Based on the requirements for the Child Development Associate National Credential (CDA). Topics on CDA overview, general observational skills, and child growth and development overview. The four functional areas of study are creative, cognition, physical and communication.

## **CDEC 1319 Child Guidance**

**Prerequisites:** Must be placed into GUST 0341 in reading, ENGL 0310 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (2 lecture, 2 lab)

An exploration of guidance strategies for promoting prosocial behaviors with individual and groups of children. Emphasis on positive guidance principles and techniques, family involvement, and cultural influences. Practical application through direct participation with children.

## **CDEC 1321 The Infant and Toddler**

**Prerequisites:** Must be placed into GUST 0341 in reading, ENGL 0310 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (2 lecture, 3 lab)

A study of appropriate infant and toddler (birth to 3), including an overview of development, quality care giving routines, appropriate environments, materials and activities, and teaching/guidance techniques.

## **CDEC 1323 Observation and Assessment**

**Prerequisites:** Must be placed into GUST 0341 in reading, ENGL 0310 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (3 lecture)

A study of observation skills, assessment techniques, and documentation of children's development.

## **CDEC 1339 Early Childhood Development 0-3 Years**

**Prerequisites:** Must be placed into GUST 0341 in reading, ENGL 0310 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (2 lecture, 3 lab)

Principles of normal growth and development from conception through three years of age. Emphasizes physical, intellectual, and social/emotional development.

## **CDEC 1356 Emergent Literacy for Early Childhood**

**Prerequisite/Corequisite:** CDEC 1313; Must be placed into GUST 0341 in reading, ENGL 0310 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (2 lecture, 3 lab)

An exploration of principles, methods, and materials for teaching young children language and literacy through a play-based, integrated curriculum.



# Course Descriptions

## CDEC 1358 Creative Arts for Early Childhood

**Prerequisite/Corequisite:** CDEC 1313; **Must be placed into GUST 0341 in reading, ENGL 0310 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 3 lab)**

An exploration of principles, methods, and materials for teaching young children music, movement, visual arts and dramatic play through process-oriented experiences to support divergent thinking.

## CDEC 1359 Children with Special Needs

**Prerequisites: Must be placed into GUST 0341 in reading, ENGL 0310 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 2 lab)**

A survey of information regarding children with special needs including possible causes and characteristics of exceptionality, educational intervention, available resources, referral processes, the advocacy role and legislative issues.

## CDEC 1391 Special Topics in Family Life and Relations Studies: Infants and Toddlers and Their Families

**Prerequisites: Must be placed into GUST 0341 in reading, ENGL 0310 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (3 lecture)**

A study of infants and toddlers and their families. Includes appropriate assessment strategies and communication techniques to be used with families.

## CDEC 1393 Special Topics in Early Childhood Education and Teaching: Parenting

**Prerequisite:** CDEC 1356, 1358 or 2307; **Must be placed into GUST 0341 in reading, ENGL 0310 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (3 lecture)**

A study of the contemporary parenting issues facing both parents and professionals who work with them.

## CDEC 2186 Internship - Child Care Provider/Assistant

**Prerequisite:** Department Approval; **Must be placed into college-level reading, college-level writing and MATH 0308 in math.**

**Credit: 1 (6 lab)**

A work-based learning experience that enables the student to apply specialized occupational theory, skills and concepts. A learning plan is developed by the college and the employer. (Lab hours must be completed in a NAEYC accredited center).

## CDEC 2280 Cooperative Education - Early Childhood Provider/Assistant

**Prerequisite:** Department Approval; **Must be placed into college-level reading, college-level writing and MATH 0308 in math.**

**Credit: 2 (1 lecture, 10 lab)**

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component. (Lab hours must be completed in a NAEYC accredited center).

## CDEC 2307 Math and Science for Early Childhood

**Prerequisite/Corequisite:** CDEC 1313; **Must be placed into GUST 0341 in reading, ENGL 0310 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 3 lab)**

An exploration of principles, methods, and materials for teaching children math and science concepts and process skills through discovery and play.

## CDEC 2322 Child Development Associate Training II

**Prerequisites: Must be placed into GUST 0341 in reading, ENGL 0310 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 2 lab)**

A continuation of the study of the requirements for the Child Development Associate National Credential (CDA). The six functional areas of study include safe, healthy, learning environment, self, social, and guidance.

## CDEC 2324 Child Development Associate Training III

**Prerequisites: Must be placed into GUST 0341 in reading, ENGL 0310 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 2 lab)**

A continuation of the requirements for the Child Development Associate National Credential (CDA). Three of the 13 functional areas of study include family, program management, and professionalism.

## CDEC 2326 Administration of Programs for Children I

**Prerequisites:** CDEC 1356, 1358 or 2307; **Must be placed into GUST 0342 in reading, ENGL 0310 or 0347 in writing and MATH 0308 in math.**

**Credit: 3 (3 lecture)**

Application of management procedures for early child care education programs. Includes planning, operating, supervising, and evaluating programs. Topics cover philosophy, types of programs, policies, fiscal management, regulations, staffing, evaluation, and communication.

## CDEC 2328 Administration of Programs for Children II

**Prerequisites:** CDEC 2326; **Must be placed into GUST 0342 in reading, ENGL 0310 or 0347 in writing and MATH 0308 in math.**

**Credit: 3 (3 lecture)**

An in-depth study of the skills and techniques in managing early care and education programs, including legal and ethical issues, personal management, team building, leadership, conflict resolution, stress management advocacy, professionalism, fiscal analysis and planning parent education/partnerships, and technical applications in programs.

## CDEC 2341 The School Age Child

**Prerequisites: Must be placed into GUST 0342 in reading, ENGL 0310 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 3 lab)**

A study of appropriate programs for the school age child (5 to 13 years), including an overview of development, appropriate environments, materials, and activities and teaching/guidance techniques.

## CDEC 2380 Cooperative Education - Early Childhood Provider/Assistant

**Prerequisites:** Department Approval; **Must be placed into college-level reading, college-level writing and MATH 0308 in math.**

**Credit: 3 (1 lecture, 15 lab)**

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component. (Lab hours must be completed in a NAEYC accredited center).

## CETT 1321 Electronic Fabrication

**Prerequisites: Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math or Department Approval.**

**Credit: 3 (2 Lecture, 4 Lab)**

Formerly CPMT 1407

A study of electronic circuit fabrication techniques including printed circuit boards, wire wrapping, bread boarding, and various soldering techniques.

## CETT 1331 Technical Programming

**Prerequisites:** Department Approval; **Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0312 in math.**

**Credit: 3 (2 lecture, 4 lab)**

Introduction to a high level programming language such as VISUAL BASIC, PASCAL, or "C." Topics include structured programming and problem solving for technical applications. The student will demonstrate knowledge of programming methods by developing and executing programs that solve technical problems.

## CETT 1403 DC Circuits

**Prerequisite/Corequisite:** Math 1314; **Must be placed into college-level reading, writing and math.**

**Credit: 4 (3 lecture, 3 lab)**

A study of the fundamentals of direct current including Ohm's law, Kirchhoff's laws and circuit analysis techniques.

## CETT 1405 AC Circuits

**Prerequisites:** CETT 1403; **Must be placed into college-level reading, writing and math**

**Prerequisite/Corequisite:** MATH 1316 or Departmental Approval

**Credit: 4 (3 lecture, 3 lab)**

A study of the fundamentals of alternating current including series and parallel AC circuits, phasors, capacitive and inductive networks, transformers, and resonance; introduction to filters.

## CETT 1409 DC-AC Circuits

**Prerequisites: Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0308 or Departmental Approval**

**Credit: 4 (2 lecture, 4 lab)**

Fundamentals of DC circuits and AC circuits operation including Ohm's law, Kirchhoff's laws, networks, transformers, resonance, phasors, capacitive and inductive and circuit analysis techniques.

# Course Descriptions

## **CETT 1415 Digital Applications**

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math or Departmental Approval

**Credit:** 4 (2 lecture, 4 lab)

An investigation of combinational and sequential logic elements and circuits with emphasis on design and troubleshooting of combinational and sequential circuits.

## **CETT 1425 Digital Fundamentals**

**Prerequisites:** Must be placed into college-level reading, writing and math.

**Credit:** 4 (3 lecture, 3 lab)

**Prerequisite/Corequisite:** CETT 1403 or Departmental Approval

An entry level course in digital electronics covering number systems, binary mathematics, digital codes, logic gates, Boolean algebra, Karnaugh maps, and combinational logic. Emphasis on circuit logic analysis and troubleshooting digital circuits including counters, registers, code converters, and multiplexers.

## **CETT 1429 Solid State Devices**

**Prerequisite/Corequisite:** CETT 1405; Must be placed into college-level reading, writing and math or Departmental Approval

**Credit:** 4 (3 lecture, 3 lab)

A study of diodes and bipolar semiconductor devices, including analysis of static and dynamic characteristics, biasing-techniques, and thermal considerations of solid state devices.

## **CETT 1445 Microprocessor**

**Prerequisites:** CETT 1425 or Department Approval; Must be placed into college-level reading, writing and math.

**Credit:** 4 (3 lecture, 3 lab)

An introductory course in microprocessor software and hardware, its architecture, timing sequence, operation, and programming, and discussion of appropriate software diagnostic language and tools.

## **CETT 1457 Linear Integrated Circuits**

**Prerequisites:** CETT 1429 or Department Approval; Must be placed into college-level reading, writing and math.

**Credit:** 4 (3 lecture, 3 lab)

Characteristics, operations, stabilization, testing, and feedback techniques of linear integrated circuits. Applications of computation, measurements, instrumentation, and active filtering.

## **CETT 2435 Advanced Microprocessor**

**Prerequisites:** CETT 1445, CETT 1457 or Department Approval; Must be placed into college-level reading, writing and math.

**Credit:** 4 (3 lecture, 3 lab)

An advanced course utilizing the microprocessor in control systems and interfacing. Emphasis on microprocessor hardware and implementation of peripheral interfacing.

## **CHEF 1301 Basic Food Preparation**

**Prerequisites:** Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Corequisites:** CHEF 2201 and 2231

**Credit:** 3 (2 lecture, 4 lab)

A study of the fundamental principles of food preparation and cookery to include Brigade System, cooking techniques, materials handling, heat transfer, sanitation, safety, nutrition, and professionalism.

## **CHEF 1302 Principles of Healthy Cuisine**

**Prerequisites:** CHEF 1301, 1305, 2201 and 2231; Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (2 lecture, 4 lab)

Introduction to the principles of planning, preparation, and presentation of nutritionally balanced meals. Adaptation of basic cooking techniques to lower the fat and caloric content. Alternative methods and ingredients will be used to achieve a healthier cooking style.

## **CHEF 1305 Sanitation and Safety**

**Prerequisites:** Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (3 lecture)

A study of personal cleanliness; sanitary practices in food preparation; causes, investigation, control of illness caused by food contamination (Hazard Analysis Critical Control Points); and work place safety standards.

## **CHEF 1310 Garde Manger**

**Prerequisites:** CHEF 1301, 1305, 2201 and 2231; Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (2 lecture, 4 lab)

A study of specialty foods and garnishes. Emphasis on design, techniques, and display of fine foods.

## **CHEF 1313 Food Service Operation Systems I**

**Prerequisites:** Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (3 lecture)

An overview of the information needs of food and lodging properties. Emphasis on both front, back, and material management utilizing computer systems.

## **CHEF 1314 A la Carte Cooking**

**Prerequisites:** CHEF 1301, 1305, 2201 and 2231; Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (2 lecture, 4 lab)

A course in a la carte or "cooking to order" concepts. Topics include menu and recipe interpretation and conversion, organization of work station, employment of appropriate cooking methods, plating, and saucing principles.

## **CHEF 1341 American Regional Cuisine**

**Prerequisites:** CHEF 1301, 1305, 2201 and 2231; Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (2 lecture, 4 lab)

A study of the development of regional cuisines in the United States with emphasis on the similarities in production and service systems. Application of skills to develop, organize, and build a portfolio of recipe strategies and production systems.

## **CHEF 1345 International Cuisine**

**Prerequisites:** CHEF 1301, 1305, 2201 and 2231; Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (2 lecture, 4 lab)

The study of classical cooking skills associated with the preparation and service of international and ethnic cuisines. Topics include similarities between food production systems used in the United States and other regions of the world.

## **CHEF 1364 Practicum (or Field**

**Experience) - Culinary Arts/Chef Training**

**Prerequisites:** CHEF 1301, 1305, 2201 and 2231, Department Approval; Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (21 Lab)

Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

## **CHEF 1381 Cooperative Education -**

**Culinary Arts/Chef Training**

**Prerequisites:** CHEF 1301, 1305, 2201 and 2231, Department Approval; Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (1 lecture, 20 lab)

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

## **CHEF 1391 Special Topics in Culinary Arts/Chef Training**

**Prerequisites:** CHEF 1301, 1305, 2201 and 2231, Department Approval; Must be placed into GUST 0341 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.

**Credit:** 3 (2 lecture, 4 lab)

Topics address recently identified current events, skills, knowledge's, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

# Course Descriptions

## **CHEF 2201 Intermediate Food Preparation**

**Corequisites:** CHEF 1301 and 2231; **Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 2 (1 lecture, 4 lab)**

Continuation of previous food preparation course. Topics include the concept of precooked food items, as well as scratch preparation. Covers full range of food preparation techniques.

## **CHEF 2231 Advanced Food Preparation**

**Prerequisites: Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Corequisites:** CHEF 1301 and 2201

**Credit: 2 (1 lecture, 4 lab)**

Topics include the concept of pre-cooked food items and the preparation of canapes, hors d'oeuvres, and breakfast items.

## **CHEF 2302 Saucier**

**Prerequisites:** CHEF 1301, 2201 and 2231; **Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 4 lab)**

Instruction in the preparation of stocks, soups, classical sauces, contemporary sauces, accompaniments, and the pairing of sauces with a variety of foods.

## **CHEF 2336 Charcuterie**

**Prerequisites:** CHEF 1310; **Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 4 lab)**

Advanced concepts in the construction of sausages, pates, and related forced meat preparations.

## **CHEM 1305 Introductory Chemistry I**

**Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**

**Credit: 3 (3 lecture)**

General introduction to fundamental principles of chemistry includes atomic structure, chemical formulas, molecules, reactions, and elementary thermodynamics. This course is intended to be preparatory to CHEM 1411 for science majors who have no prior knowledge of chemistry. Core Curriculum Course. Note: Only one of CHEM 1305, CHEM 1405, and/or CHEM 1411 can be used toward associate degree natural science requirements. Only one of the three will count as Natural Science core; the others may count as electives in the degree plan.

## **CHEM 1307 Introductory Chemistry II**

**Prerequisite: CHEM 1305. Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**

**Credit: 3 (3 lecture)**

Continuation of CHEM 1305. The organic chemistry of aliphatic and aromatic hydrocarbons, oxygen and nitrogen-containing organic compounds, and biochemistry is introduced. Core Curriculum Course. Note: Only one of CHEM 1307, CHEM 1407, and/or CHEM 1412 can be used toward associate degree natural science requirements. Only one of the three will count as Natural Science core; the others may count as electives in the degree plan.

## **CHEM 1405 Introductory Chemistry I**

**Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**

**Credit: 4 (3 lecture, 3 lab)**

A general introduction to the properties of matter. Topics include atomic structure, energy, chemical bonding, reactions, gas laws and elementary thermodynamics. This is a preparatory course to CHEM 1411 for science majors who have no prior knowledge of chemistry. Core Curriculum Course. Note: Only one of CHEM 1305, CHEM 1405, and/or CHEM 1411 can be used toward associate degree natural science requirements. Only one of the three will count as Natural Science core; the others may count as electives in the degree plan.

## **CHEM 1407 Introductory Chemistry II**

**Prerequisite: CHEM 1405; Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**

**Credit: 4 (3 lecture, 3 lab)**

Continuation of CHEM 1405. The chemistry of carbon compounds. Topics include aliphatic and aromatic hydrocarbons, alcohols, ethers, aldehydes, ketones, carboxylic acids, acid derivatives, amines and biochemistry is introduced. Core Curriculum Course. Note: Only one of CHEM 1307, CHEM 1407, and/or CHEM 1412 can be used toward associate degree natural science requirements. Only one of the three will count as Natural Science core; the others may count as electives in the degree plan.

## **CHEM 1411 General Chemistry I**

**Prerequisites: One year of high school**

**Chemistry; Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into MATH 0312 (or higher) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).**

**Credit: 4 (3 lecture, 3 lab)**

Science and engineering majors study atomic structure, chemical reactions, thermodynamics, electronic configuration, chemical bonding, molecular structure, gases, states of matter, and properties of solutions. Core Curriculum Course. Note: Only one of CHEM 1305, CHEM 1405, and/or CHEM 1411 can be used toward associate degree natural science requirements. Only one of the three will count as Natural Science core; the others may count as electives in the degree plan.

## **CHEM 1412 General Chemistry II**

**Prerequisites: CHEM 1411; Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into MATH 0312 (or higher) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).**

**Credit: 4 (3 lecture, 3 lab)**

Continuation of CHEM 1411. Topics include solutions, chemical kinetics, equilibrium and equilibrium phenomena in aqueous solution, acids and bases, pH, thermodynamics, electrochemistry, nuclear chemistry, organic chemistry, and biochemistry. Core Curriculum Course. Note: Only one of CHEM 1307, CHEM 1407, and/or CHEM 1412 can be used toward associate degree natural science requirements. Only one of the three will count as Natural Science core; the others may count as electives in the degree plan.

## **CHEM 1413 College Chemistry I**

**Prerequisites: Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into MATH 0312 (or higher) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).**

**Credit: 4 (3 lecture, 3 lab)**

Nursing and allied health science majors study atomic structure, electron configuration, periodic law, radioactivity and its effects on living organisms, chemical bonding, molecules, gases, solutions, solution concentration, acids and bases, and buffers. Core Curriculum Course.

## **CHEM 1414 College Chemistry II**

**Prerequisites: CHEM 1413. Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into MATH 0312 (or higher) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).**

**Credit: 4 (3 lecture, 3 lab)**

Continuation of CHEM 1413. Topics include the organic chemistry of hydrocarbons, alcohols, ethers, aldehydes, ketones, carboxylic acids, esters, amines, and amides; biochemistry topics include amino acids and proteins, enzymes, carbohydrates, and lipids. Core Curriculum Course.

## **CHEM 2423 Organic Chemistry I**

**Prerequisites: CHEM 1412; Must be placed into college-level reading and be placed into MATH 1314 (or higher) and be placed into college-level writing.**

**Credit: 4 (3 lecture, 3 lab)**

Study of compounds of carbon. Topics include alkanes, alkenes, alkynes, alcohols, alkyl halides, stereochemistry, nucleophilic substitution, reaction mechanisms and synthesis. Core Curriculum Course. Study of the properties and behavior of hydrocarbon compounds and their derivatives. Designed for students in science or pre-professional programs.

## **CHEM 2425 Organic Chemistry II**

**Prerequisites: CHEM 2423; Must be placed into college-level reading and be placed into MATH 1314 (or higher) and be placed into college-level writing.**

**Credit: 4 (3 lecture, 3 lab)**

Continuation of CHEM 2423. Topics include aromaticity, benzene and EAS reactions, aldehydes, ketones, carboxylic acids and their derivatives, condensation reactions, amines, phenols, and infrared and NMR spectroscopy. Core Curriculum Course.

## **CHIN 1411 Beginning Chinese I**

**Prerequisites: Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite)**

**Credit: 4 (3 lecture, 2 lab)**

Introduction to Chinese language and culture. Development of basic skills in listening comprehension, speaking, reading, writing, and cultural awareness. Course includes vocabulary building, conversation and grammar. Transfers as foreign language credit. Core Curriculum Course.

# Course Descriptions

## **CHIN 1412 Beginning Chinese II**

**Prerequisites:** Chinese 1411 or satisfactory score on advanced placement examination or at least 2 years of high school Chinese within the last two years. Must be placed into college - level reading (or take GUST 0342 as a co-requisite) and be placed into college level writing (or take ENGL 0310/0349 as a co-requisite)Credit: 4 (3 lecture, 2 lab)

Continuation of Chinese 1411. Further development of listening comprehension, speaking, reading, and writing skills, and cultural awareness. More advanced grammar. Transfers as foreign language credit. Core Curriculum Course.

## **CHLT 1266 Practicum (or Field Experience) - Community Health Services/Liaison/Counseling**

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 038 in math.

**Credit: 2 (14 external hours)**

Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

## **CHLT 1291 Special Topics in Community Health Liaison**

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 038 in math.

**Credit: 2 (2 lecture)**

Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

## **CHLT 1302 Wellness and Health Promotion**

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 038 in math.

**Credit: 3 (3 lecture)**

Overview of wellness theory and its application throughout the life span. Focus is on attitude development, impact of cultural beliefs, and communication of wellness. Includes health behavior theories and approaches to behavior modification.

## **CHLT 1342 Community Health Field Methods**

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 038 in math.

**Credit: 3 (3 lecture)**

Preparation for field work with individuals, families, and groups emphasizing teaching and capacity-building skills. Topics include outreach methods, area canvassing, home visiting, group work, community events, and community organizing.

## **CHLT 1401 Introduction to Community Health**

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.

**Credit: 4 (4 lecture)**

Designed to provide a basic understanding of variables that affect health sectors in the community.

## **CJCR 1304 LE-Probation and Parole**

**Prerequisites:** Must be placed into college-level reading, college-level writing and MATH 0306 in math.

**Credit: 3 (3 lecture)**

A survey of the structure, organization, and operation of probation and parole services. Emphasis on applicable state statutes and administrative guidelines.

## **CJCR 2325 Legal Aspects of Corrections**

**Prerequisites:** Must be placed into college-level reading, college-level writing and MATH 0306 in math.

**Credit: 3 (3 lecture)**

A study of the operation, management, and legal issues affecting corrections. Analysis of constitutional issues involving rights of the convicted, as well as civil liability of correctional agencies and staff.

## **CJLE 1506 Basic Peace Officer I**

**Prerequisites:** Must be placed into college-level reading, college-level writing and MATH 0306 in math.

**Credit: 5 (3 lecture, 7 lab)**

Introduction to fitness and wellness, history of policing, professionalism and ethics, United States Constitution and Bill of Rights, criminal justice system, Texas Penal Code, Texas Code of Criminal Procedure, civil process, and stress management. This course taken in conjunction with Basic Peace Officer II, III, and IV will satisfy the TCLEOSE-approved Basic Peace Officer Training Academy.

## **CJLE 1512 Basic Peace Officer II**

**Prerequisites:** Must be placed into college-level reading, college-level writing and MATH 0306 in math.

**Credit: 5 (3 lecture, 7 lab)**

Basic preparation for a new peace officer. Covers field note taking, report writing, 'use of force' law and concepts, problem solving, multiculturalism, professional policing approaches, patrol procedures, victims of crime, family violence, MHMR, crowd management, HAZMAT, and criminal investigation. This course taken in conjunction with Basic Peace Officer I, III, and IV will satisfy the TCLEOSE-approved Basic Peace Officer Academy.

## **CJLE 1518 Basic Peace Officer III**

**Prerequisites:** Department Approval; Must be placed into college-level reading, college-level writing and MATH 0306 in math.

**Credit: 5 (3 lecture, 7 lab)**

Basic preparation for a new peace officer. Covers laws pertaining to controlled substances, crowd management, personal property, and crime scene investigation. This course taken in conjunction with Basic Peace Officer I, II, and IV will satisfy the TCLEOSE-approved Basic Peace Officer Academy.

## **CJLE 1524 Basic Peace Officer IV**

**Prerequisites:** Must be placed into college-level reading, college-level writing and MATH 0306 in math.

**Credit: 5 (3 lecture, 7 lab)**

Basic preparation for a new peace officer. Should be taken in conjunction with Basic Peace Officer I, II, and III to satisfy the Texas Commission on Law Enforcement (TCLEOSE) approved Basic Peace Officer Training Academy. \*\*\*THIS COURSE MAY BE OFFERED ONLY BY INSTITUTIONS LICENSED AS A POLICE ACADEMY BY TCLEOSE\*\*\*

## **CJLE 2384 Cooperative Education-Criminal Justice/Police Science**

**Prerequisites:** CRIJ 2328, Department Approval; Must be placed into college-level reading, college-level writing and MATH 0306 in math.

**Credit: 3 (1 lecture, 20 lab)**

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

## **CJLE 2420 Texas Peace Officer**

### **Procedures**

**Prerequisites:** Must be placed into college-level reading, college-level writing and MATH 0306 in math.

**Credit: 4 (3 lecture, 4 lab)**

Study of the techniques and procedures used by police officers on patrol. Includes controlled substance identification, handling abnormal persons, traffic collision investigation, note taking and report writing, vehicle operation, traffic direction, crowd control, and jail operations. The student will demonstrate relevant law enforcement techniques and procedures required of Texas peace officers as mandated by the Texas Commission on Law Enforcement Officer Standards and education; identify and explain required forms and documents; and explain the applicable procedures to various situations as they relate to the enforcement of law.

## **CJLE 2421 Texas Peace Officer Law**

**Prerequisites:** Must be placed into college-level reading, college-level writing and MATH 0306 in math.

**Credit: 4 (3 lecture, 4 lab)**

Study of laws directly related to police field work. Topics include Texas Transportation Code, intoxicated driver, Texas Penal Code, elements of crimes, Texas Family Code, Texas Alcoholic Beverage Code, and civil liability. The student will identify relevant sections of Texas law as mandated for this course by the Texas Commission on Law Enforcement Officer Standards and Education, discuss the Texas Penal Code, identify violations of the Texas Family Code and the Texas Alcoholic Beverage Code, define and illustrate civil liability, and discuss the transportation code, intoxicated drivers and elements of crimes.

# Course Descriptions

## **CJLE 2522 Texas Peace Officer Skills**

**Prerequisites:** Must be placed into college-level reading, college-level writing and MATH 0306 in math.

**Credit:** 5 (3 lecture, 4 lab)

Requires the demonstration and practice of the skills of a police officer including patrol, driving, traffic stop skills, use of force, mechanics of arrest, firearm safety, and emergency medical care. The student will evaluate and explain an appropriate response for a situational scenario, demonstrate the proper and effective application of physical skill while using police equipment, and demonstrate other skills expected of Texas peace officer as mandated for this course by the Texas Commission on Law Enforcement Officer Standards and Education.

## **CJSA 1393 Special Topics In Criminal Justice Studies**

**Prerequisites:** Department Approval; Must be placed into college-level reading, college-level writing and MATH 0306 in math.

**Credit:** 3 (3 lecture)

Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

## **CJSA 2364 Practicum-Criminal Justice Studies**

**Prerequisite/Corequisite:** CRJ 2301, Department Approval; Must be placed into college-level reading, college-level writing and MATH 0306 in math.

**Credit:** 3 (21 lab)

Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student. The college with the employer develops and documents an individualized plan for the student. The plan relates the workplace training and experiences to the student's general and technical course of study. The guided external experiences may be paid or unpaid. This course may be repeated if topics and learning outcomes vary. As outlined in the learning plan, the student will master the theory, concepts, and skills involving the tools, materials, equipment, procedures, regulations, laws, and interactions within and among political, economic, environmental, and legal systems associated with the workplace; demonstrate ethical behavior, safety practices, interpersonal and teamwork skills, appropriate verbal and written communications in the workplace.

## **CMSW 1266, 1267, 2266, 2267 Practicum (or Field Experience) - Clinical and Medical Social Work**

**Prerequisites:** Must be placed into college-level reading, college-level writing and MATH 0308 in math.

**Credit:** 2 (14 lab)

Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

## **CMSW 1313 Assessment and Service Delivery**

**Prerequisites:** Must be placed into college-level reading, college-level writing and MATH 0308 in math.

**Credit:** 3 (3 lecture)

A study of interviewing and assessment instruments and approaches for working with multicultural population. Emphasis on service delivery systems. Topics include awareness of commonly used assessments, ethical standards of practice, awareness of multicultural issues and competence in service delivery.

## **CMSW 1353 Family Intervention Strategies**

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.

**Credit:** 3 (3 lecture)

Study of current family intervention strategies.

## **CMSW 2303 Community Organization**

**Prerequisites:** Must be placed into college-level reading, college-level writing and MATH 0308 in math.

**Credit:** 3 (3 lecture)

Addresses community problem-solving and development procedures, including issue development and planning, and the tactics involved in community change.

## **CNBT 1201 Introduction to the Construction Industry**

**Prerequisites:** Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 2 (1 lecture, 2 lab)

Overview of the construction industry. It includes organizational structures and systems, safety regulations and agencies, construction documents, office and field organizations, and the various construction crafts and trades.

## **CNBT 1300 Residential and Light Commercial Blueprint Reading**

**Prerequisites:** Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (2 lecture, 2 lab)

Introductory blueprint reading for residential and light commercial construction.

## **CNBT 1302 Mechanical, Plumbing, and Electrical Systems in Construction**

**Prerequisite:** CNBT 1201 or ELPT 1221 and TECM 1301; Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (3 lecture)

A presentation of the basic mechanical, plumbing, and electrical components in construction and their relationship to the overall building.

## **CNBT 1311 Construction Methods and Materials I**

**Prerequisite/Corequisite:** CNBT 1201, TECM 1301; Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (3 lecture)

Introduction to construction materials and methods and their applications.

## **CNBT 1316 Construction Technology I**

**Prerequisite/Corequisite:** CNBT 1311;

**Prerequisite:** TECM 1301

**Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit:** 3 (2 lecture, 2 lab)

Site preparation, foundation, form work, and framing. Includes safety; tools and equipment; basic site preparation; basic foundations and form work; and basic floor, wall, and framing methods and systems.

## **CNBT 1318 Construction Tools and Techniques**

**Prerequisites/Corequisites:** CNBT 1201, TECM 1301; Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (2 lecture, 2 lab)

Comprehensive study of the selection and use of hand tools, portable and stationary power tools and related construction equipment. Emphasis on safety in the use of tools and equipment.

## **CNBT 1342 Building Codes and Inspections**

**Prerequisites:** TECM 1301, CNBT 1300; Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0308 in math.

**Credit:** 3 (3 lecture)

Building codes and standards applicable to building construction and inspection processes.

## **CNBT 1346 Construction Estimating I**

**Prerequisites/Corequisite:** CNBT 1311;

**Prerequisites:** TECM 1301, CNBT 1300; Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (2 lecture, 2 lab)

Fundamentals of estimating materials and labor costs in construction.

## **CNBT 2335 Computer Aided Construction Scheduling**

**Prerequisites/Corequisites:** ITSC 1309  
**Prerequisites:** CNBT 1346; Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0308 in math.

**Credit:** 3 (2 lecture, 2 lab)

Advanced construction scheduling utilizing computer scheduling software to perform various scheduling procedures.

# Course Descriptions

## **CNBT 2337 Construction Estimating II**

**Prerequisites/Corequisites:** ITSC 1309  
**Prerequisites:** CNBT 1346; **Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0308 in math.**

**Credit: 3 (2 lecture, 2 lab)**

Advanced estimating concepts using computer software programs for construction and crafts.

## **CNBT 2342 Construction Management I**

**Prerequisites:** CNBT 1302, TECM 1301, CNBT 1300, CNBT 1311; **Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0308 in math.**

**Credit: 3 (3 lecture)**

Human relations management skills in motivation on the job site. Topics include written and oral communications, leadership and motivation, problem solving, and decision making.

## **COMM 1307 Introduction to Mass Communication**

**Prerequisites:** **Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).**

**Credit: 3 (3 lecture)**

Analyzes communication theory and mass media in 21st century society. Surveys history, operation, and structure of the American communication system. Identifies major legal, ethical, and sociocultural issues, studies basic communication theory, and the interrelations between media and the individual, media and society, and media and the future. Examines career potential and job prospects in today's and tomorrow's electronic culture. Core curriculum course.

## **COMM 1335 Survey of Radio/TV**

**Credit: 3 (3 lecture)**

A survey and analysis of history and principles of radio and television broadcasting and production, including programming for varied audience segments and sponsorship. Studies history, technology, regulation, audience, and economics of radio, television, and related electronic media. Studies basic skills and theories of image and sound, equips student to communicate through audio/visual media. Includes public cable, closed-circuit television, production workshops, and individualized instructional modules. Field trip and community media guest lectures included.

## **COMM 1336 Television Production I**

**Prerequisites:** COMM 1335

**Credit: 3 (2 lecture, 2 lab)**

A concentrated course in the theory and application of principles, procedures, and techniques of television production. Uses lecture and laboratory setting with supervision by faculty.

## **COMM 1337 Television Production II**

**Prerequisites:** COMM 1335

**Credit: 3 (2 lecture, 2 lab)**

The preparation and directing of television programs with emphasis on the creative application of broadcast principles and informational techniques. Uses lecture and laboratory setting with supervision by faculty.

## **COMM 2129 News Publication III**

**Credit: 1 (1 lecture)**

Work on the staff of one of the college publications. Students are required to work on the staff of at least one of the official college publications for prescribed periods under faculty supervision.

## **COMM 2289 Academic Cooperative**

**Credit: (2 lecture)**

An instructional program designed to integrate on-campus study with practical hands-on work experience. In conjunction with class seminars, the individual student will set specific goals and objectives in the study of communication.

## **COMM 2302 Principles of Journalism**

**Prerequisites:** **Must be placed at college level reading and writing skills.**

**Credit: 3 (3 lecture)**

Exploration of ethical and legal boundaries as well as issues and problems facing today's journalist.

## **COMM 2303 Audio/Radio Production**

**Credit: 3 (3 lecture)**

Concepts and techniques of sound production, including the coordinating and directing processes. Hands-on experience with equipment, sound sources, and direction of talent.

## **COMM 2304 Introduction to Cinematic Production**

**Credit: 3 (3 lecture)**

Basic single-camera production concepts and techniques.

## **COMM 2305 Editing and Layout**

**Credit: 3 (3 lecture)**

Trains students in basic copy editing for publication and in handling production copy from manuscript to finished publication, including photography choice, sizing, cropping and/or handling of various types of graphic illustrations. Covers publication layout (rough, finished), type choice, color, and black/white rendering.

## **COMM 2309 News Editing and Copy**

**Reading I**

**Credit: 3 (2 lecture, 2 lab)**

Trains students in writing newspaper and magazine feature articles and editorials. Examines topic selection and location of background source material, plus market and reader analysis. Discusses freelance market and adapting style to different audiences and publications. (formerly COMM 2310).

## **COMM 2311 Newsgathering and Writing I**

**Prerequisites:** ENGL 1301

**Credit: 3 (2 lecture, 2 lab)**

Provides training in news gathering, news writing, and editing. Develops skills in headline writing, layout, and newspaper production with experience on student newspaper or area print publications. Field trips and careers are explored.

## **COMM 2315 Newsgathering and Editing II**

**Prerequisites:** ENGL 1301, COMM 2311

**Credit: 3 (2 lecture, 2 lab)**

**Continuation of COMM 2311.**

## **COMM 2327 Advertising**

**Credit: 3 (3 lecture)**

Enables student to conceive ideas, tailor and lay out advertisements geared for TV commercials, radio, magazines, and newspapers. Assignments are based on goals, objectives, product/service fact sheets, and marketing considerations. Course integrates vital ingredients that enhance or impede advertising outcomes: product research, consumer behavior, semantics, social science knowledge, copy research and copywriting, visualization, media strategy, advertising agency knowledge, handling of client relations, and preparation of a portfolio. Field trip.

## **COMM 2330 Introduction to Public Relations**

**Credit: 3 (3 lecture)**

Studies principles and practices of public relations. Provides hands-on techniques to influence positive public opinion within and outside of companies. Requires creation of feature and news articles, press releases, press kit, brochure, and brief work plan utilizing the four-step planning process for resolving PR problems. Trains students to write good copy, construct PR goals and objectives, conduct practical research to determine public attitudes and opinion, arrange and conduct press conferences, and develop positive media relationships. (formerly COMM 2328).

## **COMM 2331 Radio and Television**

**Announcing**

**Credit: 3 (2 lecture, 2 lab)**

The development of skills required for efficient announcing, acting, newscasting, and other speaking before microphone and camera. Students write and present radio, TV, audiovisual announcements and assignments. Utilize lectures, lab setting with supervision by faculty.

## **COMM 2332 Radio/Television News**

**Prerequisite: Department Approval**

**Credit: 3 (2 lecture, 2 lab)**

Studies fundamentals of broadcast news. Covers broadcast writing, performing, and standard broadcasting formats. Uses lecture and laboratory setting with supervision by both sponsoring commercial studio and faculty.

## **COMM 2339 Writing for Radio, Television and Film**

**Credit: 3 (3 lecture)**

Writing for production of programs and various documentaries, training materials slide/tape sets, and other situations requiring a production script.

## **COMM 2366 Introduction to Film**

**Credit: 3 (3 lecture)**

Emphasis on the analysis of the visual and aural aspects of selected motion pictures, dramatic aspects of narrative films, and historical growth and sociological effect of film as an art. (Cross-listed as DRAM 2366)

## **COMM 2389 Academic Cooperative**

**Credit: 3 (1 lecture, 8 lab)**

An instructional program designed to integrate on-campus study with practical hands-on work experience. In conjunction with class seminars, the individual student will set specific goals and objectives in the study of communication.

# Course Descriptions

## COSC 1436 Programming Fundamentals I

**Prerequisites:** Must be at college-level skills in reading and writing, place into MATH 1314 College Algebra or higher, and have had high school computer literacy or equivalent.

**Credit:** 4 (3 lecture, 3 lab)

Introduces the fundamental concepts of structured programming. Topics include software development methodology, data types, control structures, functions, arrays, and the mechanics of running, testing, and debugging. This course assumes computer literacy.

## COSC 1437 Programming Fundamentals II

**Prerequisites:** COSC 1436 or ITSE 1402, and MATH 2412 and ENGL 1301.

**Credit:** 4 (3 lecture, 3 lab)

Review of control structures and data types with emphasis on structured data types. Applies the object-oriented programming paradigm, focusing on the definition and use of classes along with the fundamentals of object-oriented design. Includes basic analysis of algorithms, searching and sorting techniques, and an introduction to software engineering.

## COSC 2325 Computer Organization and Machine Language

**Prerequisites:** COSC 1436, MATH 1314 and ENGL 1301.

**Credit:** 3 (2 lecture, 2 lab)

Basic computer organization; machine cycle, digital representation of data and instructions; assembly language programming, assembler, loader, macros, subroutines, and program linkages.

## COSC 2436 Programming Fundamentals III

**Prerequisites:** MATH 2413 and COSC 1437

**Credit:** 4 (3 lecture, 3 lab)

Further applications of programming techniques, introducing the fundamental concepts of data structures and algorithms. Topics include recursion, fundamental data structures (including stacks, queues, linked lists, hash tables, trees, and graphs), and algorithmic analysis.

## CPMT 1303 Introduction to Computer Technology

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math or Department Approval.

**Credit:** 3 (2 lecture, 4 lab)

A fundamental computer course that provides in-depth explanation of the procedures to utilize hardware and software. Emphasis on terminology, acronyms, and hands-on activities.

## CPMT 1411 Introduction to Computer Maintenance

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0306 in math or Department Approval.

**Credit:** 4 (3 lecture, 3 lab)

Identify modules that make up a computer system and its operation; identify each type of computer bus structure; and assemble/setup microcomputer systems, accessory boards, and install/connect associated peripherals.

## CPMT 1449 Computer Networking Technology

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0306 in math or Department Approval.

**Credit:** 4 (3 lecture, 3 lab)

Networking fundamentals, terminology, hardware, software, and network architecture. Includes local and wide area networking concepts and networking installations and operations.

## CRIJ 1301 Introduction to Criminal Justice

**Prerequisites:** Must be placed into college level reading and writing or higher.

**Credit:** 3 (3 lecture)

History, philosophy, and ethical considerations of criminal justice; the nature and impact of crime; and an overview of the criminal justice system, including law enforcement and court procedures. Designated as Criminal Justice Transfer Curriculum.

## CRIJ 1306 The Courts and Criminal Procedure

**Prerequisites:** Must be placed into college-level reading and writing or higher.

**Credit:** 3 (3 lecture)

Study of the judiciary in the American criminal justice system and the adjudication processes and procedures. Designated as Criminal Justice Transfer Curriculum.

## CRIJ 1307 Crime in America

**Prerequisites:** Must be placed into college-level reading and writing or higher.

**Credit:** 3 (3 lecture)

American crime problems in historical perspective, social and public policy factors affecting crime, impact and crime trends, social characteristics of specific crimes, and prevention of crime.

## CRIJ 1310 Fundamentals of Criminal Law

**Prerequisites:** Must be placed into college-level reading and writing or higher.

**Credit:** 3 (3 lecture)

Study of criminal law, its philosophical and historical development, major definitions and concepts, classifications and elements of crime, penalties using Texas statutes as illustrations, and criminal responsibility. Designated as Criminal Justice Transfer Curriculum.

## CRIJ 1313 Juvenile Justice Systems

**Prerequisites:** Must be placed into college level reading and writing or higher.

**Credit:** 3 (3 lecture)

A study of the juvenile justice process to include specialized juvenile law, role of the juvenile law, role of the juvenile courts, role of police agencies, role of correctional agencies, and theories concerning delinquency.

## CRIJ 2301 Community Resources in Corrections

**Prerequisites:** Must be placed into college level reading and writing or higher.

**Credit:** 3 (3 lecture)

An introductory study of the role of the community in corrections; community programs for adults and juveniles; administration of community programs; legal issues; future trends in community treatment.

## CRIJ 2313 Correctional Systems and Practices

**Prerequisites:** Must be placed into college level reading and writing or higher.

**Credit:** 3 (3 lecture)

Corrections in the criminal justice system; organization of correctional systems; correctional role; institutional operations; alternatives to institutionalization; treatment and rehabilitation; current and future issues. Designated as Criminal Justice Transfer Curriculum.

## CRIJ 2314 Criminal Investigation

**Prerequisites:** Must be placed into college-level reading and writing or higher.

**Credit:** 3 (3 lecture)

Investigative theory; collection and preservation of evidence; sources of information; interview and interrogation; uses of forensic sciences; case and trial preparation.

## CRIJ 2323 Legal Aspects of Law Enforcement

**Prerequisite/Corequisite:** CRIJ 1301; Must also be placed in college-level reading and writing or higher.

**Credit:** 3 (3 lecture)

Police authority; responsibilities; constitutional constraints; laws of arrest, search, and seizure; police liability. Designated as Criminal Justice Transfer Curriculum.

## CRIJ 2328 Police Systems and Practices

**Prerequisites:** Must be placed into college level reading and writing or higher.

**Credit:** 3 (3 lecture)

The police profession; organization of law enforcement systems; the police role; police discretion; ethics; police-community interaction; current and future issues. Designated as Criminal Justice Transfer Curriculum.

## CSME 1405 Fundamentals of Cosmetology

**Prerequisites:** Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 4 (2 lecture, 8 lab)

A course in the basic fundamentals of cosmetology. Topics include safety and sanitation, service preparation, manicure, facial, chemical services, shampoo, haircut, wet styling, and comb out.

## CSME 1410 Introduction to Haircutting and Related Theory

**Prerequisites:** Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 4 (2 lecture, 8 lab)

Introduction to the theory and practice of hair cutting. Topics include terminology, implements, sectioning and finishing techniques.



# Course Descriptions

## CSME 1420 Orientation to Facial Specialist

**Prerequisites:** Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Corequisites:** CSME 1421, CSME 1447

**Credit:** 4 (2 lecture, 8 lab)

An overview of the skills and knowledge necessary for the field of facials and skin care.

## CSME 1421 Principles of Facial/Skin Care Technology I

**Prerequisites:** Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Corequisites:** CSME 1420, CSME 1447

**Credit:** 4 (2 lecture, 6 lab)

An introduction to the principles of facial and skin care technology. Topics include anatomy, physiology, theory, and related skills of facial and skin care technology.

## CSME 1447 Principles of Skin Care/ Facials and Related Theory

**Prerequisites:** Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Corequisites:** CSME 1420, CSME 1421

**Credit:** 4 (2 lecture, 8 lab)

An in-depth coverage of the theory and practice of skin care, facials, and cosmetics.

## CSME 1452 Orientation to Hair Weaving & Braiding

**Prerequisites:** Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 4 (2 lecture, 8 lab)

An overview of the skills and knowledge necessary for the field of hair weaving and braiding.

## CSME 1453 Chemical Reformation

**Prerequisites:** Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 4 (2 lecture, 8 lab)

Presentation of the theory and practice of chemical reformation, including terminology, application, and workplace competencies.

## CSME 1491 Special Topics in Cosmetology/Cosmetologist: Client Relations

**Prerequisites:** Department Approval; Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 4 (2 lecture, 4 lab)

This course is designed to introduce the student to the principles of client relations dealing with diverse populations of clients and attitudes and behaviors pertinent to the occupation of cosmetology and relevant to the professional development of the student. This course is a 2 lecture and 4 lab hours (96 contact hours) course upon successful completion of the course, the student will be awarded 4 semester credit hours.

## CSME 1534 Cosmetology Instructor I

**Prerequisites:** Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Corequisite:** CSME 1535, CSME 2514

**Credit:** 5 (3 lecture, 5 lab)

The fundamentals of instruction of cosmetology students.

## CSME 1535 Orientation to the Instruction of Cosmetology

**Prerequisites:** A current Texas Cosmetology Operator License. Must have 3 years recent verifiable work experience. Must obtain department approval; Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Corequisites:** CSME 1534, CSME 2514

**Credit:** 5 (3 lecture, 5 lab)

An overview of the skills and knowledge necessary for the instruction of cosmetology students.

## CSME 1545 Principles of Facial/Skin Care Technology II

**Prerequisite:** CSME 1447; Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Corequisites:** CSME 2531, CSME 1491

**Credit:** 5 (3 lecture, 6 lab)

A continuation of the concepts and principles in skin care and other related technologies. Topics include advanced instruction in anatomy, physiology, theory, and related skills of facial and skin care technology.

## CSME 1551 Artistry of Hair, Theory and Practice

**Prerequisites:** Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 5 (3 lecture, 7 lab)

Instruction in the artistry of hair design. Topics include theory, techniques, and application of hair design.

## CSME 1557 Applications of Hair Weaving & Braiding

**Prerequisites:** Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 5 (3 lecture, 7 lab)

Emphasis on the application of hair weaving and braiding techniques and preparation for the Texas Department of Licensing and Regulation (TDLR) examination.

## CSME 2337 Advanced Cosmetology Techniques

**Prerequisites:** Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (1 lecture, 8 lab)

Mastery of advanced cosmetology techniques including hair designs, professional cosmetology services, and workplace competencies

## CSME 2343 Salon Development

**Prerequisites:** Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (2 lecture, 4 lab)

Exploration of salon development. Topics include professional ethics and goals, salon operation, and record keeping.

## CSME 2401 Principles of Hair Coloring and Related Theory

**Prerequisites:** Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 4 (2 lecture, 8 lab)

Presentation of the theory, practice, and chemistry of hair color. Topics include terminology, application, and workplace competencies related to hair color.

## CSME 2410 Advanced Haircutting and Related Theory

**Prerequisites:** Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 4 (2 lecture, 8 lab)

Advanced concepts and practice of haircutting. Topics include haircuts utilizing scissors, razor, and/or clippers.

## CSME 2514 Cosmetology Instructor II

**Prerequisites:** Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Corequisites:** CSME 1534, CSME 1535

**Credit:** 5 (3 lecture, 5 lab)

A continuation of the fundamentals of instructing cosmetology students.

## CSME 2515 Cosmetology Instructor III

**Prerequisites:** CSME 1534, CSME 1535, CSME 2514; Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Corequisites:** CSME 2544, CSME 2545

**Credit:** 5 (3 lecture, 5 lab)

Presentation of lesson plan assignments and evaluation techniques.

## CSME 2531 Principles of Facial/Skin Care Technology III

**Prerequisites:** CSME 1447; Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Corequisites:** CSME 1491, CSME 1545

**Credit:** 5 (3 lecture, 6 lab)

Advanced concepts and principles of skin care and other related technologies.

## CSME 2539 Advanced Hair Design

**Prerequisites:** Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 5 (3 lecture, 8 lab)

Advanced concepts in the theory and practice of hair design

## CSME 2541 Preparation for the State Licensing Examination

**Prerequisites:** Department Approval; Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 5 (3 lecture, 6 lab)

Preparation for the state licensing examination.



# Course Descriptions

## CSME 2544 Cosmetology Instructor IV

**Prerequisites:** CSME 1534, CSME 1535, CSME 2514; **Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math**

**Corequisites:** CSME 2515, CSME 2545

**Credit:** 5 (3 lecture, 5 lab)

Advanced concepts of instruction in a cosmetology program. Topics include demonstration, development, and implementation of advanced evaluation and assessment techniques.

## CSME 2545 Instructional Theory and Clinic Operation

**Prerequisites:** CSME 1534, CSME 1535, CSME 2514; **Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Corequisites:** CSME 2515, CSME 2544

**Credit:** 5 (3 lecture, 5 lab)

An overview of the objectives required by the Texas Department of Licensing and Regulation Instructor Examination.

## CTEC 1213 Introduction to Chemical Technology

**Prerequisites:** **Must be placed into GUST 0342 in reading, ENGL 0312 or 0349 in writing and MATH 0312 in math.**

**Credit:** 2 (2 lecture)

Introduction to the educational and professional requirements of the chemical technician. Topics include safety, industrial site visits, chemical literature, and computer applications.

## CTEC 1345 Chemical Laboratory Safety

**Prerequisites:** **Must be placed into college-level reading, writing and math.**

**Credit:** 3 (3 lecture)

Study of the safety problems encountered in the operation of a chemical laboratory. Topics include chemical and safety regulations, chemical hygiene plans, the Lab Standard, and safe laboratory procedures.

## CTEC 1349 Environmental Chemistry

**Prerequisites:** SCIT 1414 or CHEM 1411 or Department Approval; **Must be placed into GUST 0342 in reading, ENGL 0312 or 0349 in writing and MATH 0312 in math.**

**Credit:** 3 (2 lecture, 3 lab)

Instruction in laboratory operations for the analysis of environmental contaminants according to current federal, state, and local standards.

## CTEC 1391 Special Topics in Chemical Technology/Technician

**Prerequisites:** **Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0312 in math.**

**Credit:** 3 (3 lecture)

Topics address recently identified current events, skills, knowledges, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

## CTEC 1401 Applied Petrochemical Technology

**Prerequisites:** Department Approval; **Must be placed into GUST 0342 in reading, ENGL 0312 or 0349 in writing and MATH 0312 in math.**

**Credit:** 4 (3 lecture, 3 lab)

Instruction in the basic principles of physics and their application to process facilities. Topics include units of measurement; gas laws; thermodynamics; temperature; pressure; and the properties of solids, liquids, and gases and how these properties relate to the operation of process equipment.

## CTEC 1441 Applied Instrumental Analysis

**Prerequisites:** **Must be placed into college-level reading, writing and math.**

**Credit:** 4 (2 lecture, 4 lab)

Principles of instrumental chemical analysis. Topics include chromatography, spectroscopy, and electroanalytical chemistry.

## CTEC 1470 Principles of Pipeline Technology

**Prerequisites:** PTAC 1410 or Department Approval; **Must be placed into college-level reading, writing and math.**

**Credit:** 4 (3 lecture, 3 lab)

Topics include: reliable operations of pumps and compressors, calculation of flow, requirements for flow control valves and mechanics, pressure relief devices, turbo-expanders, pumps, water hammer, valve noise, calculation of pressure drops in single and two phase systems, transport maintenance and troubleshooting, transport material safety and operations, corrosion of piping systems, pipe sizing, and solids fluidization. Students will learn pipe design and manufacturing material along with economics associated with transporting of material through piping systems. Students will use software and actual pipeline systems for level and flow control and operations.

## CTEC 2333 Comprehensive Studies in Chemical Technology

**Prerequisites:** Department Approval; **Must be placed into college-level reading and into ENGL 0312 or 0349 in writing and MATH 0312 in math.**

**Credit:** 3 (1 lecture, 5 lab)

Course requiring a special laboratory research project.

## CTEC 2381 Cooperative Education - Chemical Technology/Technician

**Prerequisites:** SCIT 1414 or Department Approval; **Must be placed into college-level reading, writing and math.**

**Credit:** 3 (1 lecture, 20 lab)

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

## CTEC 2386 Internship-Chemical Technology/Technician

**Prerequisites:** Department Approval; **Must be placed into college-level reading, writing and math.**

**Credit:** 3 (18 lab)

A work-based learning experience that enables the student to apply specialized occupational theory, skills and concepts. A learning plan is developed by the college and the employer.

## CTEC 2431 Applied Instrumental Analysis II

**Prerequisites:** CTEC 1441 or Department Approval; **Must be placed into college-level reading, writing and math.**

**Credit:** 4 (2 lecture, 4 lab)

Advanced topics in instrumental analysis. Topics include atomic absorption, inductively coupled plasma, nuclear magnetic resonance, gas chromatography/mass spectrometry, liquid chromatography, and infrared spectroscopy.

## CTEC 2441 Polymers I

**Prerequisites:** SCIT 2401 or Concurrent Enrollment or Department Approval; **Must be placed into college-level reading, writing and math.**

**Credit:** 4 (3 lecture, 2 lab)

Study of the concepts of polymer science. Topics include classification, structure, properties, synthesis, characterization, and industrial application.

## CTEC 2443 Polymers II

**Prerequisites:** CTEC 2441 or Department Approval; **Must be placed into college-level reading, writing and math.**

**Credit:** 4 (3 lecture, 2 lab)

Continuation of Polymers I with emphasis on polymeric materials.

## CTEC 2445 Unit Operations

**Prerequisites:** PTAC 2420 or Department Approval; **Must be placed into college-level reading, writing and math.**

**Credit:** 4 (3 lecture, 2 lab)

Instruction in the principles of chemical engineering and process equipment with emphasis on scale-up from laboratory bench to pilot plant.

## CTEC 2470 Process Control and Design

**Prerequisites:** PTAC 1410 or Department Approval; **Must be placed into college-level reading, writing and math.**

**Credit:** 4 (3 lecture, 3 lab)

Develop knowledge and skills on practical chemical/ industrial process control. Understand control room functions and operation. Identify process dynamics using real-time plant data. Understand industrial controllers—PID/feed-forward/model-based controller, dead-time compensators and non-linear controllers. Design, build and tune controllers. Optimize tuning parameters. Simulate controllers and optimize them in a simulated plant environment. Students will use software for dynamics identification and controller tuning optimizations and conduct numerous hands-on exercises to prepare them for the industrial environment.

# Course Descriptions

## CTMT 2336 Computer Tomography Equipment and Methodology

**Prerequisites:** Registered and in good standing with ARRT or NMTCB; Must be placed into college-level reading, writing and math.

**Corequisite:** RADR 2340

**Credit:** 3 (3 lecture)

Skill development in the operation of computed tomographic equipment, focusing on routine protocols, image quality, quality assurance and radiation protection.

## CTMT 2460 Clinical-Radiologic Technology/Science-Radiographer

**Prerequisites:** Registered and in good standing with ARRT or NMTCB; Must be placed into college-level reading, writing and math.

**Corequisites:** RADR 2340, CTMT 2336, CTMT 2461

**Credit:** 4 (12 external lab)

A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

## CTMT 2461 Clinical-Radiologic Technology/Science-Radiographer

**Prerequisites:** Registered and in good standing with ARRT or NMTCB; Must be placed into college-level reading, writing and math.

**Corequisites:** RADR 2340, CTMT 2336, CTMT 2460

**Credit:** 4 (12 external lab)

A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

## DAAC 1304 Pharmacology of Addiction

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.

**Credit:** 3 (3 lecture)

Describes the psychological, physiological, and sociological effects of mood altering substances and behaviors. Emphasizes pharmacological effects of tolerance, dependency/withdrawal, cross addiction, and drug interaction.

## DAAC 1305 Co-Occurring Disorders

**Prerequisites:** Must be placed into college-level reading, college-level writing and MATH 0308 in math.

**Credit:** 3 (3 lecture)

Provides students with an understanding of co-occurring psychiatric and substance abuse disorders and their impact on the individual, family, and community. Includes an integrated approach to address the issues accompanying the illness.

## DAAC 1311 Counseling Theories

**Prerequisites:** Must be placed into college-level reading, college-level writing and MATH 0308 in math.

**Credit:** 3 (3 lecture)

An examination of the major theories and current treatment modalities used in the field of counseling.

## DAAC 1319 Introduction to Alcohol and Other Drug Addictions

**Prerequisites:** Must be placed into GUST 0341 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.

**Credit:** 3 (3 lecture)

Provides an overview of causes and consequences of addiction as they relate to the individual, family, community, and society. Overview of alternatives regarding prevention, intervention, and treatment. Includes explanation of competencies and requirements for licensure in Texas. Identifies addiction issues related to diverse populations.

## DAAC 1417 Basic Counseling Skills

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.

**Credit:** 4 (2 lecture, 8 lab)

Presents the basic counseling skills necessary to develop an effective helping relationship with clients.

## DAAC 2267 Practicum (or Field Experience)-Substance Abuse/Addiction Counseling

**Prerequisites:** Department Approval;

Must be placed into college-level reading, college-level writing and MATH 0308 in math.

**Credit:** 2 (19 lab)

Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

## DAAC 2306 Substance Abuse Prevention I

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.

**Credit:** 3 (3 lecture, 1 lab)

Focuses on aspects of substance abuse prevention from a public health model.

## DAAC 2353 Substance Abuse Prevention II

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.

**Credit:** 3 (3 lecture, 1 lab)

Focuses on the incorporation of research and evaluation methods into advanced program designs and outcomes, and research and application of ethics as applied to substance abuse prevention.

## DAAC 2354 Dynamics of Group Counseling

**Prerequisites:** DAAC 1417; Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.

**Credit:** 3 (3 lecture)

Exploration of group counseling skills, techniques, and stages of group development.

## DANC 1112 Dance Practicum I

**Prerequisites:** Department Approval required.

**Credit:** 1 (0 lecture, 4 lab)

Skill development in staged performances of dance genres. Emphasis on style, technique, and performance.

## DANC 1113 Dance Practicum II

**Prerequisites:** Department Approval required.

**Credit:** 1 (0 lecture, 4 lab)

Skill development in staged performances of dance genres. Emphasis on style, technique, and performance.

## DANC 1210 Tap I

**Prerequisites:** Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

**Credit:** 2 (1 lecture, 2 lab)

Basic skills and vocabulary of tap dance. Core Curriculum Course.

## DANC 1211 Tap II

**Prerequisites:** DANC 1210; Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

**Credit:** 2 (1 lecture, 2 lab)

Continuation of Tap I.

## DANC 1301 Dance Composition

**Prerequisites:** Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

**Credit:** 3 (3 lecture)

This course explores expansion of movement vocabulary through improvisation and compositional techniques. Students will create and perform group and solo movement studies. Core Curriculum Course.

## DANC 1305 World Dance I

**Prerequisites:** Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

**Credit:** 3 (2 lecture, 2 lab)

Students will learn cultural dances of five major world civilizations, with emphasis on rhythmic awareness and movement development. The cultural origins, significance, and motivation, as well as the use of costumes and music, will be explored in lecture and research through live performances, guest artists, and the use of multi-media sources. Instruction will include experiential and written assignments, and students will be expected to participate in an end-of-semester concert. Each time the course is taught, different cultures are examined. Core Curriculum Course. (Formerly DANC 1381)

## DANC 1306 World Dance II

**Prerequisites:** Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

**Credit:** 3 (2 lecture, 2 lab)

Continuation of World Dance I. Core Curriculum Course. (Formerly DANC 1382)

## DANC 1341 Ballet I

**Prerequisites:** Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

**Credit:** 3 (2 lecture, 2 lab)

A beginning-level course which introduces the student to the concepts of classical ballet, through practice of basic bare and centre skills, the body positions, and movement combinations. The history of the development of ballet is presented through lecture and multimedia, and esthetic principles of dance are explored through lecture and concert attendance. Core Curriculum Course.

# Course Descriptions

## **DANC 1342 Ballet II**

**Prerequisites:** Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

**Credit:** 3 (2 lecture, 2 lab)

Continuation of DANC 1341.

## **DANC 1345 Modern Dance I**

**Prerequisites:** Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

**Credit:** 3 (2 lecture, 2 lab)

A beginning-level course which introduces the student to the concepts of modern dance. The course includes floor work, basic axial center technique, locomotor movements, and improvisation. The history of modern dance is presented through lecture and multimedia, and esthetic principles of dance are explored through lecture and concert attendance. Core Curriculum Course.

## **DANC 1346 Modern Dance II**

**Prerequisites:** Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

**Credit:** 3 (2 lecture, 2 lab)

Continuation of DANC 1345.

## **DANC 1347 Jazz Dance I**

**Prerequisites:** Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

**Credit:** 3 (2 lecture, 2 lab)

A beginning level course which introduces the student to the basic skills of jazz dance, with an emphasis on technique development, rhythmic awareness, and various jazz movement styles. The history of jazz dance is presented through lecture and multimedia, and esthetic principles of dance are explored through lecture and concert attendance. Core Curriculum Course.

## **DANC 1348 Jazz Dance II**

**Prerequisites:** DANC 1347, Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

**Credit:** 3 (2 lecture, 2 lab)

Continuation of Jazz Dance I.

## **DANC 1349 Ballet Folklorico I**

**Prerequisites:** Must be placed into GUST 0342 (or Higher) in reading and ENGL 0310/0349 (or higher) in writing.

**Credit:** 3 (2 lecture, 2 lab)

Instruction and participation in folk dance technique. Core Curriculum Course.

## **DANC 1377 African-American Dance I**

**Prerequisites:** Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

**Credit:** 3 (2 lecture, 2 lab)

A beginning level course which introduces the student to movement styles of various African-American dance artists. Primary movement vocabulary incorporates techniques of stretching and strengthening, as well as movement progressions. Through lecture and multimedia, the student will explore the origins of African dance, and its fusion into the dance of the United States. Core Curriculum Course.

## **DANC 1378 African-American Dance II**

**Prerequisites:** Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

**Credit:** 3 (2 lecture, 2 lab)

A continuation of DANC 1377.

## **DANC 2112 Dance Practicum III**

**Prerequisites:** Department Approval required.

**Credit:** 1 (0 lecture, 4 lab)

Skill development in staged performances of dance genres. Emphasis on style, technique, and performance.

## **DANC 2113 Dance Practicum IV**

**Prerequisites:** Department Approval required.

**Credit:** 1 (0 lecture, 4 lab)

Skill development in staged performances of dance genres. Emphasis on style, technique, and performance.

## **DANC 2301 Problems in Dance**

**Prerequisites:** Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

**Credit:** 3 (3 lecture)

A course designed to meet the individual needs of students who otherwise have exhibited a particular talent or skill in dance which is not addressed in any existing dance course. Must have coordinator's approval after recommendation by the instructor. May be repeated.

## **DANC 2303 Dance Appreciation**

**Prerequisites:** Must be placed into college-level reading and college-level writing.

**Credit:** 3 (3 lecture)

Introduction to dance designed for the general student. This course explores what is dance, who makes it, and why it is made. Through lecture, multimedia, and live performances, students are presented with examples from many world cultures. Core Curriculum Course.

## **DANC 2325 Anatomy and Kinesiology**

**Prerequisites:** Program approval; Must be placed into college-level reading and college-level writing.

**Credit:** 3 (3 lecture)

The study of human movement designed specifically to relate to dance. The course will cover the skeletal, nervous, and muscular systems. Studies include movement analysis, therapeutic exercises, and prevention of dance injuries.

## **DANC 2341 Ballet III**

**Prerequisites:** Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

**Credit:** 3 (2 lecture, 2 lab)

A continuation of DANC 1342 with an emphasis on developing strength, control, flexibility and line to develop a more comprehensive classical ballet movement vocabulary. Through lecture and multimedia, the student will trace the development of ballet in the United States. Core Curriculum Course.

## **DANC 2342 Ballet IV**

**Prerequisites:** Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

**Credit:** 3 (2 lecture, 2 lab)

Continuation of DANC 2341.

## **DANC 2345 Modern Dance III**

**Prerequisites:** Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

**Credit:** 3 (2 lecture, 2 lab)

A continuation of DANC 1346 with an emphasis on developing strength, control, flexibility, and improvisational skills to develop a more comprehensive modern dance vocabulary. Through lecture and multimedia, the student will trace the recent developments in modern dance performance styles. Core Curriculum Course.

## **DANC 2346 Modern IV**

**Prerequisites:** Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

**Credit:** 3 (2 lecture, 2 lab)

Continuation of DANC 2345.

## **DANC 2347 Jazz Dance III**

**Prerequisites:** Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

**Credit:** 3 (2 lecture, 2 lab)

A continuation of DANC 1348.

## **DANC 2351 Performance III**

**Prerequisites:** Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

**Credit:** 3 (2 lecture, 2 lab)

This course offers students the opportunity to engage in rehearsal and performance of dance works in the making under the direction of faculty or guest choreographers. May be repeated with coordinator's approval.

## **DANC 2352 Performance IV**

**Prerequisites:** Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

**Credit:** 3 (2 lecture, 2 lab)

Continuation of DANC 2351

## **DANC 2389 Academic Cooperative in Dance**

**Prerequisites:** Must be placed into college-level reading and college-level writing.

**Credit:** 3 (1 lecture, 16 lab)

An instructional program designed to integrate on-campus study with practical hands-on experience in dance. In conjunction with class seminars, the individual student will set specific goals and objectives in the study of dance

## **DEMR 1301 Shop Safety and Procedures**

**Prerequisites:** Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (2 lecture, 2 lab)

A study of shop safety, rules, basic shop tools, and test equipment.

# Course Descriptions

## DEMR 1305 Basic Electrical Systems

**Prerequisites:** DEMR 1301; **Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit:** 3 (2 lecture, 4 lab)

Basic principles of electrical systems of diesel powered equipment with emphasis on starters, alternators, and batteries.

## DEMR 1306 Diesel Engine I

**Prerequisite/Corequisite:** DEMR 1301; **Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit:** 3 (2 lecture, 4 lab)

An introduction to the basic principles of diesel engines and systems.

## DEMR 1310 Diesel Engine Testing and Repair I

**Prerequisite/Corequisite:** DEMR 1313; **Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit:** 3 (2 lecture, 4 lab)

An introduction to testing and repairing diesel engines including related systems specialized tools.

## DEMR 1316 Basic Hydraulics

**Prerequisite/Corequisite:** DEMR 1301; **Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit:** 3 (1 lecture, 4 lab)

Fundamentals of hydraulics including components and related systems.

## DEMR 1317 Basic Brake Systems

**Prerequisites:** **Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit:** 3 (2 lecture, 4 lab)

Basic principles of brake systems of diesel powered equipment. Emphasis on maintenance, repairs, and troubleshooting.

## DEMR 1329 Preventative Maintenance

**Prerequisites:** DEMR 1301; **Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit:** 3 (2 lecture, 2 lab)

An introductory course designed to provide the student with basic knowledge of proper servicing practices. Content includes record keeping and condition of major systems.

## DEMR 1330 Steering and Suspension I

**Prerequisites:** **Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit:** 3 (2 lecture, 4 lab)

A study of design, function, maintenance, and repair of steering and suspension systems. Emphasis on troubleshooting and repair of failed components.

## DEMR 1342 Power Train Applications I

**Prerequisite/Corequisite:** DEMR 1349; **Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit:** 3 (2 lecture, 4 lab)

In-depth coverage of the mechanics and theory of power trains. Emphasis on disassembly, inspection, and repair of power train components.

## DEMR 1381 Cooperative Education-Diesel Engine Mechanic and Repairer

**Prerequisite/Corequisite:** DEMR 2312 and Department Approval; **Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit:** 3 (1 lecture, 20 lab)

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

## DEMR 2312 Diesel Engine Testing and Repair II

**Prerequisite/Corequisite:** DEMR 1342; **Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit:** 3 (2 lecture, 4 lab)

Coverage of testing and repairing diesel engines including related systems specialized tools.

## DFTG 1302 Introduction to Technical Animation and Rendering

**Prerequisites:** DFTG 2319; **Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit:** 3 (2 lecture, 4 lab)

Basic terminology and concepts associated with the development of computer modules used in technical computer animation. Topics include basic animation principles, model creation, light sources, camera positioning, rendering, importing and modification of external files.

## DFTG 1305 Technical Drafting

**Prerequisites:** **Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit:** 3 (2 lecture, 4 lab)

Introduction to the principles of drafting to include terminology and fundamentals, including size and shape descriptions, projection methods, geometric construction, sections, auxiliary views, and reproduction processes.

## DFTG 1309 Basic Computer-Aided Drafting

**Prerequisites:** **Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Corequisite:** DFTG 1305 or Department Approval

**Credit:** 3 (2 lecture, 4 lab)

An introduction to computer-aided drafting. Emphasis is placed on setup; creating and modifying geometry; storing and retrieving predefined shapes; placing, rotating, and scaling objects, adding text and dimensions, using layers, coordinate systems and plot/print to scale.

## DFTG 1310 Specialized Basic Computer Aided Drafting (Microstation)

**Prerequisites:** DFTG 1305 and DFTG 1309 or Department Approval; **Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit:** 3 (2 lecture, 4 lab)

A supplemental course to Basic Computer Aided Drafting using an alternative computer-aided drafting (CAD) software to create detail and working drawings.

## DFTG 1317 Architectural Drafting-Residential

**Prerequisites:** DFTG 1305 and DFTG 1309; **Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit:** 3 (2 lecture, 4 lab)

Architectural drafting procedures, practices, and symbols, including preparation of detailed working drawings for residential structure with emphasis on light frame construction methods.

## DFTG 1329 ElectroMechanical Drafting

**Prerequisites:** DFTG 1305 and DFTG 1309; **Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit:** 3 (2 lecture, 4 lab)

A basic course including layout and design of electro-mechanical equipment from engineering notes and sketches. Emphasis on drawing of electronics enclosures, interior hardware, exterior enclosure, detailed and assembly drawings with a parts list, and flat-pattern layouts.

## DFTG 1333 Mechanical Drafting

**Prerequisites:** DFTG 1305 and DFTG 1309; **Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit:** 3 (2 lecture, 4 lab)

Detail drawings with proper dimensioning and tolerances, use of sectioning techniques, common fasteners, pictorial drawings, including bill of materials.

## DFTG 1358 Electrical/Electronic Drafting

**Prerequisites:** DFTG 1305 and DFTG 1309; **Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit:** 3 (2 lecture, 4 lab)

Electrical and electronic drawings stressing modern representation used for block diagrams, schematic diagrams, logic diagrams, wiring/assembly drawings, printed circuit board layouts, motor control diagrams, power distribution diagrams, and electrical one-line diagrams.

# Course Descriptions

## DFTG 1371 Process Plant Layout

**Prerequisites:** Department Approval; **Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 3 lab)**

A study of process plant design and layout while developing the basic knowledge of pipe fittings, symbols, specifications, and their applications in the piping process systems. The learner will demonstrate the use of piping symbols and the processes used to develop flow diagrams, piping plans, elevations, and isometrics.

## DFTG 1376 Revit Residential

**Prerequisites:** **Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 4 lab)**

Use architectural design software for 2D and 3D modeling design and drafting.

## DFTG 1391 Special Topics: Pro Engineer

**Credit: 3 (2 lecture, 4 lab)**

Use parametric feature-based solid modeling tool which unites 3D parametric features with 2D tools. Work in 3D environments and calculate mass properties directly from the created geometry. Design, analyze, test, and build prototypes by using high end CAD/CAM/CAE tools.

## DFTG 1392 Special Topics: Green Build

**Credit: 3 (2 lecture, 4 lab)**

The total method of building construction, focused on energy conservation, green and sustainable building, improved construction practices, accessibility, and whole-building design techniques.

## DFTG 1393 Spec. Topics in Civil Drafting and Civil Engineering: Civil 3D

**Credit: 3 (3 lecture)**

Use Civil 3D software to enhance alignment layout of civil engineering projects. Use tools that enable easier sharing of drafting and design standards across organizations.

## DFTG 1396 Special Topics in Computer Graphics: Smart Plant 3D

**Prerequisites:** DFTG 2323 and DFTG 2308; **Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 4 lab)**

Use process, power & marine design software for 3D modeling design. Define a workspace in a 3D intelligent design world. Manipulate designed equipment, specialty items, valves and route sloped pipe and insert splits where required.

## DFTG 1396 Special Topics in Computer Graphics: Piping Design Systems

**Credit: 3 (2 lecture, 4 lab)**

Provides training in 3D modeling. Create walk throughs allowing operations and maintenance personnel to interactively view the plant before it is constructed.

## DFTG 2300 Intermediate Architectural Drafting-Residential

**Prerequisites:** DFTG 1317; **Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit 3 (2 lecture, 4 lab)**

Continued application of principles and practices used in residential construction.

## DFTG 2302 Machine Drafting

**Prerequisites:** DFTG 1333; **Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 4 lab)**

Production of detail and assembly drawings of machine, threads, gears, cams, tolerances and limit dimensioning, surface finishes, and precision drawings.

## DFTG 2305 Printed Circuit Board Design

**Prerequisites:** DFTG 1358; **Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 4 lab)**

Course includes single-sided and double-sided printed circuit board design, emphasizing the drawings, standards, and processes required to layout printed circuit board and manufacturing documentation.

## DFTG 2306 Machine Design

**Prerequisites:** DFTG 2302; **Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 4 lab)**

Theory and practice of design. Projects in problem solving, including press fit, bolted and welded joints, and transmission components.

## DFTG 2308 Instrumentation Drafting

**Prerequisites:** DFTG 2323 or DFTG 1329; **Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 4 lab)**

Principles of instrumentation as applicable to industrial applications; fundamentals of measurements and control devices; currently used ISA (Instrument Society of America) symbology; basic flow sheet layout, and drafting practices.

## DFTG 2316 Electrical Drafting

**Prerequisites:** DFTG 1305 and DFTG 1309; **Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 4 lab)**

A study of electrical drawing preparation as applied to commercial and industrial standards.

## DFTG 2317 Descriptive Geometry

**Prerequisites:** DFTG 1305 and DFTG 1309; **Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 4 lab)**

Graphical solutions to problems involving points, lines, and planes in space.

## DFTG 2319 Intermediate Computer-Aided Drafting (AutoCAD)

**Prerequisites:** DFTG 1309 and DFTG 1305; **Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 4 lab)**

A continuation of practices and techniques used in basic computer-aided drafting emphasizing advanced dimensioning techniques, the development and use of prototype drawings, construction of pictorial drawings, construction of 3-dimensional drawings, interfacing 2-D and 3-D environments and extracting data.

## DFTG 2321 Topographical Drafting

**Prerequisites:** **Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 4 lab)**

Plotting of surveyor's field notes. Includes drawing elevations, contour lines, plan and profiles, and laying out traverses.

## DFTG 2323 Pipe Drafting

**Prerequisites:** DFTG 1305 and DFTG 1309; **Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 4 lab)**

A study of pipe fittings, symbols, specifications, and their applications to a piping process system. Creation of symbols and their usage in flow diagrams, plans, elevations, and isometrics.

## DFTG 2327 Landscape Drafting

**Prerequisites:** DFTG 1317; **Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 4 lab)**

A study of site planning and landscape design.

## DFTG 2328 Architectural Drafting - Commercial

**Prerequisites:** DFTG 1317; **Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 4 lab)**

Architectural drafting procedures, practices, and symbols including the preparation of detailed working drawings for a commercial building, with emphasis on commercial construction methods.

## DFTG 2330 Civil Drafting

**Prerequisites:** DFTG 1305 and DFTG 1309; **Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 4 lab)**

An in-depth study of drafting methods and principles used in civil engineering.

# Course Descriptions

## DFTG 2331 Advanced Technologies in Architectural Design and Drafting (Revit-Commercial)

**Prerequisites:** DFTG 1392; **Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 4 lab)**

Use of architectural specific software to execute the elements required in designing standard architectural exhibits utilizing custom features to create walls, windows and specific design requirements for construction in residential/commercial and industrial architecture.

## DFTG 2332 Advanced Computer-Aided Drafting

**Prerequisites:** DFTG 2319; **Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 4 lab)**

Advanced techniques, including the use of a customized system. Presentation of advanced drawing applications, such as three-dimensional solids modeling and linking graphic entities to external non-graphic data.

## DFTG 2335 Advanced Technologies in Mechanical Design and Drafting (Inventor)

**Prerequisites:** DFTG 2319; **Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 4 lab)**

Use parametric based mechanical design software for mechanical assembly design and drafting.

## DFTG 2340 Solid Modeling/Design (SolidWorks)

**Prerequisites:** DFTG 2319; **Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 4 lab)**

A computer-aided modeling course. Development of three-dimensional drawings and models from engineering sketches and orthographic drawings and utilization of three-dimensional models in design work.

## DFTG 2345 Advanced Pipe Drafting

**Prerequisites:** DFTG 2323; **Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 4 lab)**

A continuation of pipe drafting concepts building on the basic principles acquired in pipe drafting.

## DFTG 2358 Advanced Machine Design

**Prerequisites:** DFTG 2306; **Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 4 lab)**

Design process skills for the production of complete design package, which includes jig and fixture design, extrusion dies, and injection mold design.

## DFTG 2370 Intermediate Computer-Aided Drafting-Microstation

**Prerequisites:** DFTG 1370; **Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 4 lab)**

A continuation of practices and techniques used in the basic computer-aided drafting (Microstation), emphasizing advanced dimensioning techniques, the development and use of prototype drawings, construction of pictorial drawings, construction of three (3) dimensional drawings, interfacing 2D and 3D environments and extracting data.

## DFTG 2371 Advanced Technologies in Process Plant Design-AutoPlant

**Prerequisite:** DFTG 2319 or 2370; **Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 4 lab)**

Use process plant based mechanical design software for specific applications in industrial design and drafting.

## DFTG 2373 Piping Design Management System (PDMS)

**Prerequisites:** **Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 4 lab)**

Uses process plant management systems based Piping design software for 2D and 3D modeling design and drafting.

## DHYG 1123 Dental Hygiene Practice

**Prerequisites:** **Completion of first year dental hygiene curriculum with 75% or higher in all dental hygiene courses. Must be placed into college-level reading, college-level writing and MATH 0312 in math.**

**Credit: 1 (1 lecture, 1 lab)**

Practice settings for the dental hygienist including office management, employment considerations, resume preparation, and job interviewing. Emphasis on the laws governing the practice of dentistry and dental hygiene, moral standards, and the ethical standards established by the dental hygiene profession.

## DHYG 1207 General & Dental Nutrition

**Prerequisites:** **Completion of first year dental hygiene curriculum with 75% or higher in all dental hygiene courses. Must be placed into college-level reading, college-level writing and MATH 0312 in math.**

**Credit: 2 (2 lecture)**

General nutrition and nutritional biochemistry with emphasis on the effects of nutrition, dental health, diet, and application of counseling strategies.

## DHYG 1211 Periodontology

**Prerequisites:** **Completion of first semester dental hygiene curriculum with 75% or higher in all dental hygiene courses. Must be placed into college-level reading, college-level writing and MATH 0312 in math.**

**Credit: 2 (2 lecture)**

Normal and diseased periodontium including the structural, functional, and environmental factors. Emphasis on etiology, pathology, treatment modalities, and therapeutic and preventive periodontics.

## DHYG 1215 Community Dentistry

**Prerequisites:** **Completion of first year of dental hygiene curriculum with 75% or higher in all dental hygiene courses. Must be placed into college-level reading, college-level writing and MATH 0312 in math.**

**Credit: 2 (1 lecture, 3 lab)**

The principles and concepts of community public health and dental health education emphasizing community assessment, educational planning, implementation, and evaluation including methods and materials used in teaching dental health education in various community settings.

## DHYG 1227 Preventive Dental Hygiene Care

**Prerequisites:** BIOL 2401, CHEM 1305, ENGL 1301; **Admission to the Dental Hygiene Program. Must be placed into college-level reading, college-level writing and MATH 0312 in math.**

**Credit: 2 (2 lecture, 1 lab)**

The dental hygienist in the dental health care system emphasizing the basic concepts of disease prevention and health promotion. Communication and behavior modification skills are utilized to facilitate the role of the dental hygienist as an educator.

## DHYG 1235 Pharmacology For The Dental Hygienist

**Prerequisites:** **Completion of first year dental hygiene curriculum with 75% or higher in all dental hygiene courses. Must be placed into college-level reading, college-level writing and MATH 0312 in math.**

**Credit: 2 (2 lecture)**

Classes of drugs and their uses, actions, interactions, side effects, contraindications, and systemic and oral manifestations with emphasis on dental applications

## DHYG 1260 Clinical - Dental Hygiene/ Hygienist

**Prerequisites:** **Completion of first year dental hygiene curriculum with 75% or higher in all dental hygiene courses. Must be placed into college-level reading, college-level writing and MATH 0312 in math.**

**Credit: 2 (12 lab)**

A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

# Course Descriptions

## DHYG 1261 Clinical - Dental Hygiene/ Hygienist

**Prerequisites:** Completion of first year dental hygiene curriculum with 75% or higher in all dental hygiene courses. **Must be placed into college-level reading, college-level writing and MATH 0312 in math.**

**Credit: 2 (8 lab)**

A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

## DHYG 1301 Orofacial Anatomy, Histology & Embryology

**Prerequisites:** BIOL 2401, CHEM 1305, ENGL 1301; Admission to the Dental Hygiene Program. **Must be placed into college-level reading, college-level writing and MATH 0312 in math.**

**Credit: 3 (2 lecture, 4 lab)**

The histology and embryology of oral tissues, gross anatomy of the head and neck, tooth morphology, and individual tooth identification.

## DHYG 1304 Dental Radiology

**Prerequisites:** BIOL 2401, CHEM 1305, ENGL 1301; Admission to the Dental Hygiene Program. **Must be placed into college-level reading, college-level writing and MATH 0312 in math.**

**Credit: 3 (2 lecture, 4 lab)**

Radiation physics, biology, hygiene, and safety theories with an emphasis on the fundamentals of oral radiographic techniques and interpretation of radiographs. Includes exposure of intra-oral radiographs, quality assurance, radiographic interpretation, patient selection criteria, and other ancillary radiographic techniques.

## DHYG 1319 Dental Materials

**Prerequisites:** Completion of first/second semester dental hygiene curriculum with 75% or higher in all dental hygiene courses. **Must be placed into college-level reading, college-level writing and MATH 0312 in math.**

**Credit: 3 (2 lecture, 3 lab)**

Physical and chemical properties of dental materials including the application and manipulation of the various materials used in dentistry.

## DHYG 1331 Preclinical Dental Hygiene

**Prerequisites:** BIOL 2401, CHEM 1305, ENGL 1301; Admission to the Dental Hygiene Program. **Must be placed into college-level reading, college-level writing and MATH 0312 in math.**

**Credit: 3 (1 lecture, 7 lab)**

Foundational knowledge for performing clinical skills on patients with emphasis on principles, procedures, and professionalism for performing comprehensive oral prophylaxis.

## DHYG 1339 General And Oral Pathology

**Prerequisites:** Completion of first semester dental hygiene curriculum with 75% or higher in all dental hygiene courses. **Must be placed into college-level reading, college-level writing and MATH 0312 in math.**

**Credit: 3 (3 lecture)**

Disturbances in human body development, diseases of the body, and disease prevention measures with emphasis on the oral cavity and associated structures.

## DHYG 2201 Contemporary Dental Hygiene Care I

**Prerequisites:** Completion of first semester dental hygiene curriculum with 75% or higher in all dental hygiene courses. **Must be placed into college-level reading, college-level writing and MATH 0312 in math.**

**Credit: 2 (2 lecture, 1 lab)**

Dental hygiene care for the medically or dentally compromised patient including supplemental instrumentation techniques.

## DHYG 2231 Contemporary Dental Hygiene Care II

**Prerequisites:** Completion of first year dental hygiene curriculum with 75% or higher in all dental hygiene courses. **Must be placed into college-level reading, college-level writing and MATH 0312 in math.**

**Credit: 2 (2 lecture)**

A continuation of Contemporary Dental Hygiene Care I. Dental hygiene care for the medically or dentally compromised patient including advanced instrumentation techniques.

## DHYG 2360 Clinical - Dental Hygiene/ Hygienist III

**Prerequisites:** Completion of first year dental hygiene curriculum with 75% or higher in all dental hygiene courses. **Must be placed into college-level reading, college-level writing and MATH 0312 in math.**

**Credit: 3 (16 lab)**

Intermediate Level: A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

## DHYG 2361 Clinical - Dental Hygiene/ Hygienist IV

**Prerequisites:** Completion of first year dental hygiene curriculum with 75% or higher in all dental hygiene courses. **Must be placed into college-level reading, college-level writing and MATH 0312 in math.**

**Credit: 3 (16 lab)**

Advanced Level: A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

## DMSO 1210 Introduction to Sonography

**Prerequisites:** Admission to the program; **Must be placed into college-level reading, writing and math.**

**Credit: 2 (1 lecture, 2 lab)**

An introduction to the profession of sonography and the role of the sonographer. Emphasis on medical terminology, ethical/legal aspects, written and verbal communication, and professional issues relating to registry, accreditation, professional organizations and history of the profession.

## DMSO 1266 Practicum (or Field Experience)-Diagnostic Medical Sonography/Sonographer and Ultrasound Technician

**Prerequisites:** DMSO 1302, 1355, 1441,1451; **Must be placed into college-level reading, writing and math.**

**Credit: 2 (16 lab)**

Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

## DMSO 1302 Basic Ultrasound Physics

**Prerequisites:** Admission to the program; **Must be placed into college-level reading, writing and math.**

**Credit: 3 (3 lecture, 1 lab)**

Basic acoustical physics and acoustical waves in human tissue. Emphasis is on ultrasound transmission in soft tissues, attenuation of sound energy, parameters affecting sound transmission and resolution of sound beams.

## DMSO 1342 Intermediate Ultrasound Physics

**Prerequisites:** DMSO 1302; **Must be placed into college-level reading, writing and math.**

**Credit: 3 (3 lecture, 1 lab)**

Continuation of Basic Ultrasound Physics. Includes interaction of ultrasound with tissues, mechanics of ultrasound production and display, various transducer designs and construction, quality assurance, bioeffects, and image artifacts. May introduce methods of Doppler flow analysis.

## DMSO 1355 Sonographic Pathophysiology

**Prerequisites:** Admission to program; **Must be placed into college-level reading, writing and math.**

**Credit: 3 (2 lecture; 2 lab)**

Pathology and pathophysiology of the abdominal structures visualized with ultrasound. Includes abdomen, pelvis, and superficial structures.

## DMSO 1441 Abdominopelvic Sonography

**Prerequisite:** Admission to program; **Must be placed into college-level reading, writing and math.**

**Credit: 4 (3 lecture, 4 lab)**

Normal anatomy and physiology of the abdominal and pelvic cavities as related to scanning techniques, transducer selection, and scanning protocols.

# Course Descriptions

## DMSO 1451 Sonographic Sectional

### Anatomy

**Prerequisite:** Admission to program; Must be placed into college-level reading, writing and math.

**Credit:** 4 (3 lecture, 2 lab)

Sectional anatomy of the male and female body. Includes anatomical relationships of organs, vascular structures, and body planes and quadrants.

## DMSO 2243 Advanced Ultrasound Principles and Instrumentation

**Prerequisites:** DMSO 1302, DMSO 1342 and DMSO 2351; Must be placed into college-level reading, writing and math.

**Credit:** 2 (2 lecture)

Theory and application of ultrasound principles. Includes advances in ultrasound technology.

## DMSO 2245 Advanced Sonography Practices

**Prerequisites:** All DMSO courses; Must be placed into college-level reading, writing and math.

**Corequisites:** DMSO 2243, DMSO 2467

**Credit:** 2 (2 lecture)

Exploration of advanced sonographic procedures and emerging ultrasound applications.

## DMSO 2253 Sonography of Superficial Structures

**Prerequisites:** DMSO 2405; Must be placed into college-level reading, writing and math.

**Credit:** 2 (2 lecture)

Detailed study of normal and pathological superficial structures as related to scanning techniques, patient history and laboratory data, transducer selection and scanning protocols.

## DMSO 2266 Practicum (or Field Experience)-Diagnostic Medical Sonography/Sonographer and Ultrasound Technician

**Prerequisites:** DMSO 1266; Must be placed into college-level reading, writing and math.

**Credit:** 2 (16 lab)

Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

## DMSO 2342 Sonography of High Risk Obstetrics

**Prerequisites:** DMSO 2405; Must be placed into college-level reading, writing and math.

**Credit:** 3 (3 lecture)

Maternal disease and fetal abnormalities. Includes scanning techniques, patient history and laboratory data, transducer selection, and scanning protocols.

## DMSO 2351 Doppler Physics

**Prerequisites:** DMSO 1342; Must be placed into college-level reading, writing and math.

**Credit:** 3 (3 lecture)

Doppler and hemodynamic principles relating to arterial and venous imaging and testing.

## DMSO 2405 Sonography of Obstetrics/Gynecology

**Prerequisites:** DMSO 1355, DMSO 1451; Must be placed into college-level reading, writing and math.

**Credit:** 4 (4 lecture, 1 lab)

Detailed study of the pelvis and obstetrics/gynecology as related to scanning techniques, patient history and laboratory data, transducer selection and scanning protocols.

## DMSO 2441 Sonography of Abdominopelvic Pathology

**Prerequisites:** DMSO 1355, DMSO 1441, DMSO 1451; Must be placed into college-level reading, writing and math.

**Credit:** 4 (3 lecture, 4 lab)

Pathologies and disease states of the abdomen and pelvis as related to scanning techniques, patient history and laboratory data, transducer selection, and scanning protocols. Emphasizes endocavitary sonographic anatomy and procedures including pregnancy.

## DMSO 2467 Practicum (or Field Experience)-Diagnostic Medical Sonography/Sonographer and Ultrasound Technician

**Prerequisites:** All DMSO courses; Must be placed into college-level reading, writing and math.

**Corequisites:** DMSO 2243, DMSO 2245

**Credit:** 4 (32 lab)

Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

## DNTA 1102 Communication and Behavior in the Dental Office

**Prerequisites:** DNTA 1167; Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0306 in math.

**Credit:** 1 (1 lecture)

Provides for better understanding of human interaction in the dental office. Studies motivation and learning experiences as related to health professionals and human behavior.

## DNTA 1167 Practicum-Dental Assistant

**Prerequisites:** DNTA 1205, DNTA 1245, DNTA 1401, DNTA 1411, DNTA 1415, Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0306 in math.

**Credit:** 1 (10 lab)

Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

## DNTA 1245 Preventive Dentistry

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0306 in math.

**Credit:** 2 (2 lecture, 1 lab)

The study and prevention of dental diseases and community dental health.

## DNTA 1305 Dental Radiology

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0306 in math.

**Credit:** 3 (2 lecture, 3 lab)

Introduction to radiation physics, protection, the operation of radiographic equipment, exposure, processing and mounting of dental radiographs. Specific federal and state safety and standard practices for the classroom and lab settings will be practiced.

## DNTA 1349 Dental Radiology in the Clinic

**Prerequisites:** DNTA 1205; Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0306 in math.

**Credit:** 3 (2 lecture, 3 lab)

The practical application of exposing, processing, and mounting diagnostically acceptable radiographs obtained by utilizing various radiographic techniques.

## DNTA 1351 Dental Office Management

**Prerequisites:** DNTA 1415; Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0306 in math.

**Credit:** 3 (3 lecture)

The study of business office procedures, including telephone management, appointment control, receipt of payment for dental services, completion of third-party reimbursement forms, supply inventory maintenance, data entry for charges and payments, record management (manage recall systems), federal and state guidelines regarding health care providers, and operating basic business equipment.

## DNTA 1401 Dental Materials

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0306 in math.

**Credit:** 4 (3 lecture, 2 lab)

Structure, properties, and procedures related to dental materials. Includes safety and American Dental Association regulated standard precautions.

## DNTA 1411 Dental Science

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0306 in math.

**Credit:** 4 (4 lecture)

Anatomical systems with emphasis placed on head and neck anatomy. Topics include the physiology and morphology of the deciduous and the permanent teeth along with basic dental terminology.

## DNTA 1415 Chairside Assisting

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0306 in math.

**Credit:** 4 (3 lecture, 3 lab)

Pre-clinical chairside assisting procedures, instrumentation, infection and hazard control protocol, equipment safety and maintenance.

## DNTA 1447 Advanced Dental Science

**Prerequisites:** DNTA 1411; Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0306 in math.

**Credit:** 4 (4 lecture)

Anatomical systems with emphasis on pharmacology, oral pathology, and developmental abnormalities.



# Course Descriptions

## **DNTA 1453 Dental Assisting Applications**

**Prerequisites:** DNTA 1401, DNTA 1415 **Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0306 in math.**

**Credit: 4 (3 lecture, 3 lab)**

Dental assisting techniques with emphasis on four-handed dentistry and utilization of tray setups for general practice and specialty procedures.

## **DNTA 2130 Seminar for the Dental Assistant**

**Prerequisites:** DNTA 1167, DNTA 1349, DNTA 1351, DNTA 1447, DNTA 1453; **Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0306 in math.**

**Credit: 1 (1 lecture)**

Case studies during the clinical phase of practicum.

## **DNTA 2267 Practicum-Dental Assistant**

**Prerequisites:** DNTA 1167, DNTA 1349, DNTA 1351, DNTA 1447, DNTA 1453; **Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0306 in math.**

**Credit: 2 (15 lab)**

Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

## **DRAM 1161 Musical Theatre I**

**Prerequisites:** **Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**

**Credit: 1 (0 lecture, 4 lab)**

Focus on the study and performance of works from the musical theatre repertory, including musical comedy, reviews, operetta, and basic vocal and movement skills. Theatre attendance and/or assistance in college productions required. Core curriculum course. (formerly DRAM 1172)

## **DRAM 1162 Musical Theatre II**

**Prerequisites:** **Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**

**Credit: 1 (0 lecture, 4 lab)**

Focus on the study and performance of works from the musical theatre repertory, including musical comedy, reviews, operetta, and basic vocal and movement skills. Theatre attendance and/or assistance in college productions required. Core curriculum course.

## **DRAM 1310 Introduction to Theatre**

**Prerequisites:** **Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**

**Credit: 3 (3 lecture)**

Basic principles of theatre, including the various styles of theatrical production and present practices in the theatre. Required of majors. Open to non-majors. Core Curriculum Course.

## **DRAM 1320 Performance**

**Prerequisites:** **Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**

**Credit: 3 (2 lecture, 4 lab)**

This class is devoted to the rehearsal and performance of one or more plays and is designed to give the student experience in applying his performance techniques for an audience.

## **DRAM 1322 Stage Movement**

**Prerequisites:** **Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**

**Credit: 3 (2 lecture, 2 lab)**

A course to develop the actor's expressive use of the body through pantomime, tumbling, acrobatics, fencing, and stage fighting.

## **DRAM 1330 Basic Theatre Practice I**

**Prerequisites:** **Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**

**Credit: 3 (2 lecture, 2 lab)**

Stagecraft, stage properties, and makeup. Practical experience on technical crews is provided. Laboratory hours may be arranged. Required of majors. Open to non-majors.

## **DRAM 1341 Stage Makeup**

**Prerequisites:** **Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**

**Credit: 3 (3 lecture)**

Principles of straight and character makeup. Student must purchase basic makeup kit. Theatre attendance and/or assistance in college productions required. Required of majors. Open to non-majors.

## **DRAM 1351 Acting I**

**Prerequisites:** **Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**

**Credit: 3 (2 lecture, 2 lab)**

An introduction to the problems of internal acting technique, creation of visual images, reaction to stimulus, and creation of inner life of character. Scene work: finding beats, developing subtext, and playing intentions. Theatre attendance and/or assistance in college productions required. Required of majors. Open to non-majors. Core Curriculum Course.

## **DRAM 1352 Acting II**

**Prerequisites:** **Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**

**Credit: 3 (2 lecture, 2 lab)**

An introduction to the problems of external acting technique with emphasis on characterization using animal, color and inanimate object improvisational techniques. Scene work focuses on comedic technique including analyzing incongruities, playing opposites, and timing. Theatre attendance and/or assistance in college productions required. Required of majors. Open to non-majors. Core Curriculum Course.

## **DRAM 2331 Basic Theatre Practice II**

**Prerequisites:** **Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**

**Credit: 3 (2 lecture, 2 lab)**

A continuation of DRAM 1330. Required of majors. Open to non-majors.

## **DRAM 2336 Vocal Production**

**Recommended Prerequisite:** SPCH 1342; **Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**

**Credit: 3 (3 lecture)**

Emphasis on vocal production: breathing and support, resonance, pitch, range, quality projection. Emphasis on oral interpretation skills. SPCH 1342 recommended.

## **DRAM 2337 Voice for the Actor I**

**Prerequisites:** SPCH 1342, DRAM 2336, or Department Approval; **Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**

**Credit: 3 (3 lecture)**

Acting with voice: combining proper production techniques and correct pronunciation and articulation, the actor learns to be expressive vocally. Analysis of the emotional potential of vowel and consonant sounds and combinations. Scansion, phrasing, rhythm and dynamics.

## **DRAM 2338 Voice for the Actor II**

**Prerequisites:** SPCH 1342 or a demonstrable knowledge of the IPA; **Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**

**Credit: 3 (3 lecture)**

Accents and dialects. Using the International Phonetic Alphabet (IPA) students learn the alterations from English needed to produce correctly the sounds of most needed foreign accents, including standard British, Cockney, French, German, American New York, and Southerners, among others.

## **DRAM 2351 Acting III**

**Prerequisites:** DRAM 1351, 1352 or Department Approval **Prerequisites:** **Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**

**Credit: 3 (2 lecture, 2 lab)**

A study of classical acting style with an emphasis on Shakespeare. Special attention is paid to movement and vocal technique dealing with the problems of period movement and heightened language.

## **DRAM 2361 History of the Theatre**

**Prerequisites:** **Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**

**Credit: 3 (3 lecture)**

Survey of the theatre from its beginning. Core Curriculum Course.

# Course Descriptions

## **DRAM 2363 History of Musical Theatre**

**Prerequisites:** Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

**Credit:** 3 (3 lecture)

Development of musical theatre art from the earliest times through the 21st Century. Core curriculum course.

## **DRAM 2366 Survey and History of Film**

**Prerequisites:** Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

**Credit:** 3 (3 lecture)

Emphasis on the analysis of the visual and aural aspects of selected motion pictures, dramatic aspects of narrative films, and historical growth and sociological effect of film as an art. Core Curriculum Course.

## **DRAM 2367 The Art of Film Making**

**Prerequisites:** Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

**Credit:** 3 (3 lecture)

The analysis of key masterworks of American and international films with particular emphasis on works by famed and influential directors. Core curriculum course.

## **DRAM 2389 Academic Cooperative in Drama**

**Prerequisites:** Must be placed into college-level reading and college-level writing.  
**Credit:** 3 (1 lecture, 16 lab)

An instructional program designed to integrate on-campus study with practical hands-on experience in drama. In conjunction with class seminars, the individual student will set specific goals and objectives in the study of drama.

## **DYTC 1270 Clinical-Renal Dialysis Technician I**

**Prerequisites:** Must be placed into GUST 0342 in reading, college-level writing and MATH 0312 in math.

**Credit:** 2 (6)

A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

## **DYTC 2170 Renal Dialysis Professional Readiness**

**Prerequisites:** Must be placed into GUST 0342 in reading, college-level writing and MATH 0312 in math.

**Credit:** 1 (1 lecture, 1 lab)

Transition into the professional role of a Renal Dialysis Technician. Includes professional readiness for employment, attaining certification, and maintaining certification status.

## **DYTC 2470 Principles of Renal Dialysis I**

**Prerequisites:** Must be placed into GUST 0342 in reading, college-level writing and MATH 0312 in math.

**Credit:** 4 (3 lecture, 3 lab)

This course introduces normal and abnormal renal anatomy and physiology, renal failure, dialysis, vascular access and basic concepts of laboratory testing as related to hemodialysis and end stage renal disease(ESRD).

## **DYTC 2471 Renal Failure and Support Therapies and Hemodialysis Lab Procedures**

**Prerequisites:** Must be placed into GUST 0342 in reading, college-level writing and MATH 0312 in math.

**Credit:** 4 (3 lecture, 3 lab)

After a review of the normal anatomy and physiology, this course introduces pathological changes and/or conditions of the renal systems and the effects of these changes on patients with end stage renal disease (ESRD). Treatment and modalities are also discussed. Learning the technical skills to function as a renal dialysis technician is provided in a hands-on lab environment.

## **DYTC 2472 Clinical - Renal Dialysis Technician II**

**Prerequisites:** Must be placed into GUST 0342 in reading, college-level writing and MATH 0312 in math.

**Credit:** 4 (16 external hours)

A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

## **DYTC 2473 Principles of Renal Dialysis II**

**Prerequisites:** Must be placed into GUST 0342 in reading, college-level writing and MATH 0312 in math.

**Credit:** 4 (3 lecture, 3 lab)

In-depth principles and procedures of hemodialysis, patient observation, patient care skills, safety, infection control, quality management, complications of dialysis, reprocessing and peritoneal dialysis are discussed. Career opportunities and interviewing skills are discussed.

## **DYTC 2474 Clinical - Renal Dialysis Technician III**

**Prerequisites:** Must be placed into GUST 0342 in reading, college-level writing and MATH 0312

**Credit:** 4 (17 external hours)

A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

## **ECON 1301 Introduction to Economics**

**Credit:** 3 (3 lecture)

Examination of the structure and operation of the American economic system. Introduction to selected economic principles essential to the understanding of contemporary issues. May not be substituted for ECON 2301 or ECON 2302.

## **ECON 2289 Academic Cooperative in Economics**

**Prerequisites:** Department Approval

**Credit:** 3 (1 lecture, 16 lab)

An instructional program designed to integrate on-campus study with practical hands-on experience in economics. In conjunction with class seminars, the individual student will set specific goals and objectives in the study of human social behavior and/or social institutions.

## **ECON 2301 Principles of Macroeconomics**

**Prerequisites:** Must be placed into college-level reading and be placed into MATH 0308 (or higher) and be placed into ENGL 0310/0349 (or higher) in writing.

**Credit:** 3 (3 lecture)

Macroeconomics examines the fundamentals of the American economy as it relates to social welfare. Emphasis is on basic concepts and theories as they affect domestic and international markets. This course integrates behavioral social sciences to present solutions to real world problems. Macroeconomics includes measurements of GDP, fiscal and monetary policy. Core Curriculum Course.

## **ECON 2302 Principles of Microeconomics**

**Prerequisites:** Must be placed into college-level reading and be placed into MATH 0308 (or higher) and be placed into ENGL 0310/0349 (or higher) in writing.

**Credit:** 3 (3 lecture)

Microeconomics examines the fundamentals of the American economy as it relates to business and individual welfare. Emphasis is on basic concepts and theories as they affect domestic and international markets. Microeconomics includes cost and production decisions and discusses the role of competition, monopolies and oligopolies. Core Curriculum Course.

## **ECON 2311 Economic Geography**

**Prerequisites:** Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).

**Credit:** 3 (3 lecture)

Analytical study of the historical development of particular economic distributions as they relate to social, cultural, political, and physical factors. Includes critical inquiry into the reasons for location of various types of economic activity, production, and marketing. This course explores markets and people across time and spatial dimensions. The course also discusses exchange rates and factors which influence them. It includes analysis of world fundamental occupations and commodities. Cross-listed with GEOG 2312. Core Curriculum Course.

## **ECON 2289 Academic Cooperative in Economics**

**Prerequisites:** Department Approval

**Credit:** 3 (1 lecture, 16 lab)

An instructional program designed to integrate on-campus study with practical hands-on experience in economics. In conjunction with class seminars, the individual student will set specific goals and objectives in the study of human social behavior and/or social institutions.

# Course Descriptions

## **ECON 2389 Academic Cooperative in Economics**

**Prerequisites:** Department Approval  
**Credit:** 3 (1 lecture, 16 lab)

An instructional program designed to integrate on-campus study with practical hands-on experience in economics. In conjunction with class seminars, the individual student will set specific goals and objectives in the study of human social behavior and/or social institutions

## **ECRD 1211 Electrocardiography**

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.

**Credit:** 2 (1 lecture, 3 lab)

Fundamentals of cardiovascular anatomy and physiology. Includes basic electrocardiography procedures, interpretation of basic dysrhythmias, and appropriate treatment modalities.

## **EDUC 1200 Careers in Education**

**Prerequisites:** Must be placed into GUST 0341 or higher.

**Credit:** 2 (2 lecture, 1 lab)

Cognitive psychology and teacher education research has resulted in a greatly improved and greatly increased body of knowledge on how students and teachers learn. At this time, there is a striking gap between the knowledge of learning and the application of that knowledge to teachers' preparation programs. EDUC 1200 enables the student to develop effective academic behaviors for college success and be able to transfer these behaviors into the teaching experience. For successful and sustained reform to occur in the field of teaching, the changes made in how teaching and learning take place in schools must be mirrored in how teachers are prepared to teach. Note: This course qualifies as a Student Success Course.

## **EDUC 1300 Learning Framework**

**Prerequisites:** Must be placed into GUST 0341 (or higher).

**Credit:** 3 (3 lecture)

Cognitive psychology and teacher education research has resulted in a greatly improved and greatly increased body of knowledge on how students and teachers learn. At this time, there is a striking gap between the knowledge of learning and the application of that knowledge to teachers' preparation programs. EDUC 1300 enables the student to develop effective academic behaviors for college success and be able to transfer these behaviors into the teaching experience. For successful and sustained reform to occur in the field of teaching, the changes made in how teaching and learning take place in schools must be mirrored in how teachers are prepared to teach. Note: This course qualifies as a Student Success Course.

## **EDUC 1301 Introduction to Education**

**Prerequisites:** Must be placed into college-level reading and college-level writing.

**Credit:** 3 (3 lecture)

This course is designed to help individuals decide whether teaching could be a satisfying career for them. Information concerning the role of education and educators, teacher preparation programs, effective teaching, employability, and rewards and challenges of teaching is presented.

## **EDUC 1325 Multicultural Education**

**Prerequisite/Corequisite:** EDUC 1301; Must be placed into college-level reading and college-level writing.

**Credit:** 3 (3 lecture)

An examination of cultural diversity found in society and reflected in the classroom. Topics will include the study of major cultures and their influence on lifestyle, behavior, learning, intercultural communication and teaching, as well as psychosocial stressors encountered by diverse cultural groups.

## **EDUC 2301 Children with Special Needs**

**Prerequisites:** EDUC 1301, Must be placed into college-level reading and college-level writing.

**Credit:** 3 (3 lecture)

This course introduces the student to the medical, psychological, social, and personal characteristics of exceptional students in the regular and special classroom. Issues related to this area will also be introduced. These include diversity and exceptionality, infants and young children with special needs, families of exceptional children, the use of technology in special education, and transition to work and community living.

## **EECT 1440 Telecommunications**

### **Transmission Media**

**Prerequisites:** Must be placed into college-level reading, ENGL 0310 or 0349 in writing and MATH 0312 in math or Department Approval.

**Credit:** 4 (3 lecture, 2 lab)

Fundamentals of telecommunications media, including installation, maintenance, and troubleshooting. Topics address media characteristics and connectorization.

## **EECT 2337 Wireless Telephony Systems**

**Prerequisites:** EECT 2439; Must be placed into college-level reading, ENGL 0310 or 0349 in writing and MATH 0312 in math or Department Approval.

**Credit:** 3 (2 lecture, 4 lab)

Principles of wireless/cellular telephony systems to include call processing, hand-off, site analysis, antenna radiation patterns, commonly used test/maintenance equipment and access protocol.

## **EECT 2402 Voice Over Internet Protocol (VOIP) Systems**

**Prerequisites:** ITCC 1401 or CPMT 1449; Must be placed into college-level reading, ENGL 0310 or 0349 in writing and MATH 0312 in math or Department Approval.

**Credit:** 4 (3 lecture, 3 lab)

The fundamentals of Voice Over Internet Protocol (VoIP) and the integrations between VoIP and the Public Switched Telephone Network (PSTN), including setup, testing, maintenance, and troubleshooting.

## **EECT 2433 Telephone Systems**

**Prerequisites:** CETT 1409 or Department Approval; Must be placed into college-level reading, ENGL 0310 or 0349 in writing and MATH 0312 in math.

**Credit:** 4 (3 lecture, 3 lab)

Study of installation and maintenance systems including telephone set, public switched networks, local exchanges, networks, two- and four-wire systems, tip and ringing requirements, and digital transmission techniques.

## **EECT 2439 Communications Circuits**

**Prerequisites:** CETT 1429 or Department Approval; Must be placed into college-level reading, ENGL 0310 or 0349 in writing and MATH 0312 in math.

**Credit:** 4 (3 lecture, 3 lab)

A study of communications systems with emphasis on amplitude modulation, frequency modulation, phase modulation, and digital pulse modulation. Discussion of several types of modulators, demodulators, receivers, transmitters, and transceivers.

## **EEIR 1307 Introductory Security Systems**

**Prerequisites:** ELPT 1311; Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (2 lecture, 3 lab)

A study of the security system components, maintenance, troubleshooting, and repair procedures. Emphasis on the installation of security systems as directed.

## **EEIR 1345 Intermediate Security Systems**

**Prerequisites:** EEIR 1307; Must be placed into GUST 0341 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.

**Credit:** 3 (2 lecture, 3 lab)

A study of maintenance, troubleshooting, and repair of security systems of moderate complexity. Emphasis on the maintenance of security systems with limited instructor direction.

## **ELMT 1301 Programmable Logic Controllers**

**Prerequisite/Corequisite:** ELPT 1341; Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (2 lecture, 3 lab)

An introduction to programmable logic controllers as used in industrial environments including basic concepts, programming, applications, troubleshooting of ladder logic, and interfacing of equipment.

## **ELPT 1221 Introduction to Electrical Safety and Tools**

**Prerequisites:** Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 2 (1 lecture, 2 lab)

A comprehensive overview of safety rules and regulations and the selection, inspection, use, and maintenance of common tools for electricians. Emphasis is given to safety rules and accepted safety practices in the workplace, the use of hand tools, power tools and the proper selection, function and operation of common electrical measuring instruments.

# Course Descriptions

## ELPT 1311 Basic Electrical Theory

**Prerequisite/Corequisite:** TECM 1301; **Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 3 lab)**

Basic theory and practice of electrical circuits. Includes calculations as applied to alternating and direct current.

## ELPT 1325 National Electrical Code I

**Prerequisite/Corequisite:** TECM 1301; **Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (3 lecture)**

An introductory study of the National Electric Code (NEC) for those employed in fields requiring knowledge of the Code. Emphasis on wiring design, protection, methods, and materials; equipment for general use; and basic calculations.

## ELPT 1329 Residential Wiring

**Prerequisite/Corequisite:** ELPT 1221 or CNBT 1201;

**Prerequisites: Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 3 lab)**

Wiring methods for single family and multi-family dwellings. Includes load calculations, service entrance sizing, proper grounding techniques, and associated safety procedures.

## ELPT 1341 Motor Control

**Prerequisite/Corequisite:** ELPT 1311 or HART 1301; **Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 3 lab)**

Operating principles of solid-state and conventional controls along with their practical applications. Includes braking, jogging, plugging, safety interlocks, wiring, and schematic diagram interpretations.

## ELPT 1345 Commercial Wiring

**Prerequisites/Corequisites:** ELPT 1221 and ELPT 1329; **Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Corequisite:** ELPT 1325

**Credit: 3 (2 lecture, 3 lab)**

Commercial wiring methods. Includes overcurrent protection, raceway panel board installation, proper grounding techniques, and associated safety procedures.

## ELPT 1355 Electronic Applications

**Prerequisite:** ELPT 1311, TECM 1301; **Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 3 lab)**

Electronic principles and the use of electronic devices. Includes diodes, transistors, and rectifiers

## ELPT 1451 Electrical Machines

**Prerequisite/Corequisite:** CETT 1405; **Must be placed into college-level reading, writing and math or Department Approval.**

**Credit: 4 (3 lecture, 3 lab)**

Direct current (DC) motors, single-phase and polyphase alternating current (AC) motors, generators, and alternators. Emphasis on construction, characteristics, efficiencies, starting, and speed control.

## ELPT 2301 Journeyman Electrician Exam Review

**Prerequisites: Department Approval; Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0308 in math.**

**Credit: 3 (3 lecture)**

Preparation for journeyman electrician licensure with emphasis on calculations and the National Electrical Code (NEC).

## ELPT 2325 National Electrical Code II

**Prerequisite/Corequisite:** TECM 1301 and ELPT 1325; **Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (3 lecture)**

In-depth coverage of the National Electric Code (NEC) for those employed in fields requiring knowledge of the Code. Emphasis on wiring protection and methods, special conditions, and advanced calculations. Topics include hazardous location classifications and divisions, wiring methods and materials for electrical installations in special occupancies.

## ELPT 2419 Programmable Logic Controllers I

**Prerequisite:** ELMT 1301, TECM 1301 **Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0308 in math.**

**Credit: 4 (3 lecture, 2 lab)**

Fundamental concepts of programmable logic controllers, principles of operation, and numbering systems as applied to electrical controls.

## ELPT 2449 Industrial Automation

**Prerequisite/Corequisite:** Department Approval; **Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0308 in math.**

**Credit: 4 (3 lecture, 2 lab)**

Electrical control systems, applications, and interfacing utilized in industrial automation.

## ELPT 2455 Programmable Logic Controllers II

**Prerequisites:** ELPT 2419; **Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0308 in math.**

**Credit: 4 (3 lecture, 2 lab)**

Advanced concepts in programmable logic controllers and their applications and interfacing to industrial controls.

## EMSP 1160 Clinical-EMT Basic

**Prerequisites:** EMSP 1501; **Must be placed into college-level reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 1 (4 lab)**

A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

## EMSP 1263 Clinical Foundations

**Prerequisites:** EMSP 1355; **Must be placed into college-level reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 2 (9 lab)**

A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

## EMSP 1338 Introduction to Advanced Practice

**Prerequisites:** EMSP 1160; **Must be placed into college-level reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 3 lab)**

An exploration of the foundations necessary for mastery of the advanced topics of clinical practice out of the hospital.

## EMSP 1355 Trauma Management

**Prerequisites:** EMSP 1356; **Must be placed into college-level reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 4 lab)**

A detailed study of the knowledge and skills in the assessment and management of patients with traumatic injuries.

## EMSP 1356 Patient Assessment and Airway Management

**Prerequisites:** EMSP 1338; **Must be placed into college-level reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 3 lab)**

A detailed study of the knowledge and skills required to perform patient assessment and airway management.

## EMSP 1391 Special Topics in EMS

**Prerequisites:** **Must be placed into college-level reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (3 lecture)**

Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student.

## EMSP 1501 Emergency Medical Technician-Basic

**Prerequisites:** **Must be placed into college-level reading, college-level writing and MATH 0306 in math.**

**Credit: 5 (3 lecture, 8 lab)**

Preparation for certification as an Emergency Medical Technician (EMT)-Basic. Includes all the skills necessary to provide emergency medical care at a basic life support level with an emergency service or other specialized services..

# Course Descriptions

## EMSP 2243 Assessment Based Management

**Prerequisites:** EMSP 2262; Must be placed into college-level reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 2 (1 lecture, 4 lab)

A capstone course covering comprehensive, assessment based patient care management. Includes specific care when dealing with pediatric, adult, geriatric, and special-needs patients.

## EMSP 2260 Clinical-Emergency Medical EMT Paramedic (Cardiology)

**Prerequisites:** EMSP 2444; Must be placed into college-level reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Corequisite:** EMSP 2444

**Credit:** 2 (6 lab)

A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

## EMSP 2261 Clinical-Emergency Medical EMT Paramedic (Special Populations)

**Prerequisites:** EMSP 2434; Must be placed into college-level reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Corequisite:** EMSP 2430

**Credit:** 2 (9 lab)

A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

## EMSP 2262 Clinical-Emergency Medical EMT Paramedic (Paramedic Field)

**Prerequisites:** EMSP 2430; Must be placed into college-level reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Corequisite:** EMSP 2388

**Credit:** 2 (9 lab)

A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

## EMSP 2338 EMS Operations

**Prerequisites:** EMSP 2262; Must be placed into college-level reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (2 lecture, 2 lab)

A detailed study of the knowledge and skills to safely manage the scene of an emergency.

## EMSP 2348 Emergency Pharmacology

**Prerequisites:** EMSP 1263; Must be placed into college-level reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (2 lecture, 4 lab)

A comprehensive course covering the utilization of medications in treating emergency situations.

## EMSP 2352 Emergency Medical Services Research

**Prerequisites:** EMSP 2243; Must be placed into college-level reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (2 lecture, 2 lab)

Primary and/or secondary research in current and emerging issues in EMS. Basic research principles, scientific inquiry, and interpretation of professional literature are emphasized.

## EMSP 2430 Special Populations

**Prerequisites:** EMSP 2261; Must be placed into college-level reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (2 lecture, 4 lab)

A detailed study of the knowledge and skills necessary to assess and manage ill or injured patients in diverse populations.

## EMSP 2434 Medical Emergencies

**Prerequisites:** EMSP 2260; Must be placed into college-level reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 4 (3 lecture, 4 lab)

A detailed study of the knowledge and skills in the assessment and management of patients with medical emergencies.

## EMSP 2444 Cardiology

**Prerequisites:** EMSP 2348; Must be placed into college-level reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 4 (3 lecture, 4 lab)

Assessment and management of patients with cardiac emergencies. Includes single and multi-lead ECG interpretation.

## ENGL 0100 Developmental English

**Prerequisite:** Department Chair approval

**Credit:** 1 (1 lecture)

An individualized curriculum for students whose test scores demonstrate high proficiency but do not meet state requirements for placement into college level course work. This course will present a concentrated review of the Writing Process and basic grammar and sentence structure. Department Chair approval required.

## ENGL 0300 Fundamentals of Grammar and Composition I

**Prerequisites:** Must be placed into ENGL 0300 (or higher) in writing.

**Credit:** 3 (3 lecture)

A refresher course devoted to improving basic English skills for native speakers. (NOTE: Instead of ENGL 0300, non-native speakers must refer to ENGL 0340-0349 or ESOL 0341-0356). Emphasizes grammar, sentence structure, and paragraph development through essay writing.

## ENGL 0310 Fundamentals of Grammar and Composition II

**Prerequisites:** Must be placed into ENGL 0310 or completion of ENGL 0300.

**Credit:** 3 (3 lecture)

A course designed to prepare students for ENGL 1301. Students will ordinarily proceed to ENGL 0310 after taking ENGL 0300. Some students may, however, test directly into ENGL 0310 (ENGL 0300 is not a prerequisite for ENGL 0310). ENGL 0310 provides a basic review of the principles of grammar, usage and mechanics and utilizes the writing process to teach the students to write short essays (350-500 words).

## ENGL 0320 Advanced Grammar and TOEFL Preparation

**Prerequisites:** A satisfactory score on the CELSA test or completion of ENGL 0346

**Credit:** 3 (3 lecture)

An advanced grammar review and listening skills development. Excellent preparation for ESL students who must pass the TOEFL in order to transfer to a four-year institution.

## ENGL 0340 English Grammar and Conversation for Foreign Speakers I

**Prerequisites:** A satisfactory score on the CELSA Test

**Credit:** 3 (3 lecture, 1 lab)

A course in English grammar and conversation. This course is intended to aid foreign students in acquiring fluency in spoken English. The approach is communicative, involving grammar study, oral exercises, dialogues, and role playing. All four language skills (listening, speaking, reading, and writing) are developed.

## ENGL 0341 English Grammar and Conversation for Foreign Speakers II

**Prerequisites:** A satisfactory score on the CELSA Test or completion of ENGL 0340

**Credit:** 3 (3 lecture, 2 lab)

An intermediate course in English grammar and conversation. This course is a continuation of the skills acquired in ENGL 0340 and uses the same approach. It should be taken prior to ENGL 0346, although some students whose assessment score qualifies them for ENGL 0346 may be advised to take ENGL 0341 as a companion course.

## ENGL 0343 Advanced Conversation for Foreign Speakers

**Prerequisites:** English 0341 or sufficient assessment score for English 0346 or above

**Credit:** 3 (3 lecture, 2 lab)

Students discuss current events and cultural topics in English. Pronunciation, vocabulary development, and group discussion skills are stressed. May be taken concurrently with other English courses.

# Course Descriptions

## **ENGL 0346 Grammar and Composition for Foreign Speakers I**

**Prerequisites:** A satisfactory score on the CELSA Test or completion of ENGL 0341

**Credit:** 3 (3 lecture, 1 lab)

An intermediate course in English grammar and composition designed to help the student acquire a greater facility in written English. This course is designed for the student who already possesses adequate conversational skill and is pursuing a college career. This course emphasizes grammar, vocabulary, sentence composition, and paragraph writing. It may be taken with ENGL 0341 or 0343 if the student placed into 0346 wishes more proficiency in conversation.

## **ENGL 0347 Grammar and Composition for Foreign Speakers II**

**Prerequisites:** A satisfactory score on the CELSA Test or completion of ENGL 0346

**Credit:** 3 (3 lecture, 1 lab)

An advanced course in English grammar and composition designed to help the foreign student who already has some elementary skills in English grammar and composition. This course is a continuation of ENGL 0346 and focuses more on advanced grammar and essay writing.

## **ENGL 0349 Advanced Composition for Foreign Speakers**

**Prerequisites:** A satisfactory score on the CELSA Test or completion of ENGL 0347

**Credit:** 3 (3 lecture, 1 lab)

A continuation of ENGL 0347. Designed to help non-native speakers to improve writing skills before taking ENGL 1301. Concentrated interdisciplinary writing practice and vocabulary study to prepare students for freshman composition, ENGL 1301, and other academic courses.

## **ENGL 1301 Composition I**

**Prerequisites:** Must be placed into college-level reading and college-level writing.

**Credit:** 3 (3 lecture)

A course devoted to improving the student's writing and critical reading. Writing essays for a variety of purposes from personal to academic, including the introduction to argumentation, critical analysis, and the use of sources. Core Curriculum Course.

## **ENGL 1302 Composition II**

**Prerequisite:** Composition 1301 or satisfactory score on the CLEP Exam;

**Credit:** 3 (3 lecture)

A more extensive study of the skills introduced in ENGL 1301 with an emphasis on critical thinking, research and documentation techniques, and literary and rhetorical analysis. Core Curriculum Course.

## **ENGL 2307 An Introduction to Creative Writing**

**Prerequisites:** ENGL 1301 Department Approval

**Credit:** 3 (3 lecture)

A course designed to introduce the student to the forms, strategies, and techniques involved in creative writing. The student may be given a series of directed assignments which may be critiqued in class.

## **ENGL 2308 Creative Writing II**

**Prerequisite:** ENGL 2307

**Credit:** 3 (3 lecture)

A course designed to build on the foundations developed in ENGL 2307. Students are encouraged to work on creative projects with the guidance of instructors which may be critiqued in class.

## **ENGL 2311 Technical and Industrial Correspondence and Report Writing**

**Prerequisite:** ENGL 1301

**Credit:** 3 (3 lecture)

Studies situational analysis, data analysis, and presentation of technical and industrial project development through letters and reports. Practices precise audience identification, including product and process specification and presentation, safety reporting, and governmental compliance and proposal writing. Includes periodic and progress and other forms of reporting and related correspondence, plus use of form and extended reporting.

## **ENGL 2322 British Literature: Beginnings to Neo-Classical**

**Prerequisite:** ENGL 1302

**Credit:** 3 (3 lecture)

A critical study of major British writers from the Anglo-Saxon period through the eighteenth century. Students may take ENGL 2322 and ENGL 2323 in any order. Core Curriculum Course.

## **ENGL 2323 British Literature: Romanticism to Present**

**Prerequisite:** ENGL 1302

**Credit:** 3 (3 lecture)

A critical study of major British writers of the nineteenth and twentieth centuries. Students may take ENGL 2322 and ENGL 2323 in any order. Core Curriculum Course.

## **ENGL 2327 Early American Literature**

**Prerequisite:** ENGL 1302

**Credit:** 3 (3 lecture)

A critical study of major American writers from the colonial period to 1865. Students may take ENGL 2327 and ENGL 2328 in any order. Core Curriculum Course.

## **ENGL 2328 American Literature since the Civil War**

**Prerequisite:** ENGL 1302

**Credit:** 3 (3 lecture)

A critical study of major American writers from 1865 to the present. Students may take ENGL 2327 and ENGL 2328 in any order. Core Curriculum Course.

## **ENGL 2332 Literature of the Western World: Ancient to Renaissance**

**Prerequisite:** ENGL 1302

**Credit:** 3 (3 lecture)

A critical study of major Western writers from antiquity through the Renaissance. Students may take ENGL 2332 and ENGL 2333 in any order. Core Curriculum Course.

## **ENGL 2333 Literature of the Western World: Neo-Classical to Present**

**Prerequisite:** ENGL 1302

**Credit:** 3 (3 lecture)

A critical study of major Western writers from the Neoclassical period to present. Students may take ENGL 2332 and ENGL 2333 in any order. Core Curriculum Course.

## **ENGL 2334 The Bible as Literature: The Old Testament**

**Prerequisite:** ENGL 1302

**Credit:** 3 (3 lecture)

Survey of the Old Testament as a literary work. Examination of representative portions of the Old Testament. Emphasis upon the literary characteristics and the cultural and historical contexts of the various books of the Old Testament. Students may take ENGL 2334 and ENGL 2335 in any order. Core Curriculum Course.

## **ENGL 2335 The Bible as Literature: The New Testament**

**Prerequisite:** ENGL 1302

**Credit:** 3 (3 lecture)

Survey of the New Testament as a literary work. Examination of representative portions of the New Testament. Emphasis upon the literary characteristics and the cultural and historical contexts of the various books of the New Testament. Students may take ENGL 2334 and ENGL 2335 in any order. Core Curriculum Course.

## **ENGL 2336 Introduction to Multicultural Literature**

**Prerequisite:** ENGL 1302

**Credit:** 3 (3 lecture)

This course is a survey of multicultural literature written by a diverse group of contemporary writers. Students will read selections from fiction, nonfiction, poetry, and drama and will analyze these works through class discussions and written assignments. Core Curriculum Course.

## **ENGL 2341 Literature and Film**

**Prerequisite:** ENGL 1302

**Credit:** 3 (3 lecture)

An introduction to film form and its relationship to literary form. Students will read poems, novels, and essays and view experimental feature and documentary films. Discussion and papers will center on the parallel influence and development of form in both mediums. Core Curriculum Course.

## **ENGL 2342 Introduction to Fiction**

**Prerequisite:** ENGL 1302

**Credit:** 3 (3 lecture)

An introductory study of short stories, novellas, and novels with emphasis upon understanding the vocabulary of literary analysis and applying it to fiction. Core Curriculum Course.

## **ENGL 2343 Introduction to Dramatic Literature**

**Prerequisite:** ENGL 1302

**Credit:** 3 (3 lecture)

An introductory study of representative plays by ancient, medieval, classical, nineteenth-century and modern playwrights. Core Curriculum Course.

# Course Descriptions

## **ENGL 2351 Mexican-American Literature**

**Prerequisite:** ENGL 1302

**Credit:** 3 (3 lecture)

A survey of Mexican-American/Chicano/a literature including fiction, non-fiction, poetry, and drama. Core Curriculum course.

## **ENGL 2353 Women in Literature**

**Prerequisite:** ENGL 1302

**Credit:** 3 (3 lecture)

A comprehensive historical overview of the female literary tradition in English from the Middle Ages to the twentieth century. A critical study of how women have responded to culture and society, personal relationships, and their inner selves through a variety of literary genres. Core Curriculum Course.

## **ENGL 2374 Introduction to Poetry**

**Prerequisite:** ENGL 1302

**Credit:** 3 (3 lecture)

A critical study of poetry as a genre. The course introduces the English/American tradition of poetry in the context of the Western European and other traditions from around the world in translation. The analysis stems from the elements of poetry and poetry's importance to culture, both popular and high. Core Curriculum Course.

## **ENGL 2389 Technical Writing Cooperative Education**

**Prerequisites:** ENGL 1301, minimal GPA of 2.5 overall and/or approval of the instructor or department chair; **Must be placed into college-level reading and college-level writing.**

**Credit:** 3 (3 lecture, minimum 20 hours career-related work experience per week)

A cooperative study effort integrating classroom study with work experience that enables students to learn more about organizational functions. Students also have the opportunity to learn about occupational roles in their fields as their supervising employers cooperate with the College to insure a blend of work and study.

## **ENGR 1201 Introduction to Engineering**

**Credit:** 2 (2 lecture)

Introduction to engineering as a discipline and a profession. Includes instruction in the application of mathematical and scientific principles to the solution of practical problems for the benefit of society.

## **ENGR 2301 Engineering Statics**

**Prerequisites:** PHYS 2425 and MATH 2414

**Credit:** 3 (3 lecture, 1 lab)

Composition and resolution of forces, free body diagrams, analysis of forces acting on structures and machines, friction, centroids, and moments of inertia.

## **ENGR 2302 Engineering Dynamics**

**Prerequisite:** ENGR 2301

**Credit:** 3 (3 lecture, 1 lab)

Dynamics of rigid bodies, force-mass acceleration, work-energy, impulse momentum and introduction of mechanical vibrations.

## **ENGR 2304 Computer Programming for Engineers**

**Prerequisite:** MATH 2413; **Recommended co-enrollment in MATH 2414.**

**Credit:** 3 (2 lecture, 2 lab)

Course designed for students who intend to obtain a degree in an engineering discipline. Course covers problem solving, algorithm development for advanced topics in engineering and mathematics

## **ENGR 2332 Engineering Mechanics of Materials**

**Prerequisites:** MATH 2414 and

**ENGR 2302**

**Credit:** 3 (3 lecture)

Concepts of stresses and strains, engineering properties of materials including thin-walled pressure vessels, torsional and flexural members, shear, moment, equation of elastic curve, deflection of members, combined loadings, column behavior.

## **ENTC 1343 Statics**

**Prerequisites:** **Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit:** 3 (3 lecture)

A study of the composition and resolution of forces and the equilibrium of forces acting on structures. Includes the concepts of friction, moments, couples, centroids, and moment of inertia.

## **ENTC 1347 Safety and Ergonomics**

**Prerequisites/Corequisites:** **TECM 1301; Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit:** 3 (2 lecture, 2 lab)

Occupational Safety and Health Administration (OSHA) safety guidelines including electrical, chemical, and hazardous material safety. Ergonomic considerations to include repetitive motion, plant layout, and machine design. Industrial safety awareness, accident cost and prevention, and workman's compensation issues.

## **ENTC 1423 Strength of Materials**

**Prerequisites:** **Must be placed into GUST 0341 in reading, ENGL 0310 or 0349 in writing and MATH 0306 in math.**

**Credit:** 4 (3 lecture, 3 lab)

Study of the relationship between externally applied forces and internally induced stresses and the resulting deformations in structural members. The student will identify the principle behind moments of inertia and explain the relationship between that principle and the shape's cross-sectional geometry and reference axis; and calculate the torsional shearing stress on a solid round shaft subjected to various torques and horsepower requirements.

## **ENTC 1491 Special Topics in Engineering Technology, General**

**Prerequisites:** **Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit:** 4 (2 lecture, 5 lab)

Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

## **ENTC 2314 Facility Operations and Maintenance**

**Prerequisites:** **TECM 1301; Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0308 in math.**

**Credit:** 3 (2 lecture, 2 lab)

Interaction of facility, people, equipment, operation, service, and maintenance. Topics include building structure and interior elements, air conditioning, furniture, grounds, and waste management.

## **ENTC 2331 Manufacturing Materials**

**Prerequisites:** **TECM 1301; Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0308 in math.**

**Credit:** 4 (2 lecture, 3 lab)

Identification of various materials used in manufacturing including metals, plastics, composite materials, concrete, ceramics, and wood. Examination of the properties of these materials and standards for quality measurement.

## **ENTC 2381 Cooperative Education - Engineering Technology/Technician, General**

**Prerequisites:** **Department Approval; Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit:** 3 (1 lecture, 20 lab)

Career related activities encountered in the student's area of specialization are offered through a cooperative agreement between the college, employer, and student. Under supervision of the college and the employer, the student combines classroom learning with work experience. Directly related to a technical discipline, specific learning objectives guide the student through the paid work experience. This course may be repeated if topics and learning outcomes vary.

## **ENTC 2410 Machine Design**

**Prerequisites:** **Must be placed into GUST 0341 in reading, ENGL 0310 or 0349 in writing and MATH 0306 in math.**

**Credit:** 4 (2 lecture, 6 lab)

Design considerations for machinery. Includes selection of mechanical components and machine construction principles.

## **ENVR 1301 Environmental Science**

**Prerequisites:** **Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**

**Credit:** 3 (3 lecture)

Study of natural resources, energy, pollution, and natural disasters. Core Curriculum Course. (Formerly GEOL 1305) Note: ENVR 1301 and ENVR 1401 cannot both be taken for credit toward certificate or degree requirements.

## **ENVR 1401 Environmental Science**

**Prerequisites:** **Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**

**Credit:** 4 (3 lecture, 3 lab)

Study of natural resources, energy, pollution, and natural disasters. Core Curriculum Course. Formerly GEOL 1305. Note: ENVR 1301 and ENVR 1401 cannot both be taken for credit toward certificate or degree requirements.

# Course Descriptions

## ESOL 0341 Beginning Conversation for Foreign Speakers

**Corequisites:** ESOL 0342, ESOL 0343, and ESOL 0344

**Credit:** 3 (3 lecture, 2 lab)

A course developing conversational skills in simple English with emphasis on vocabulary and grammatical structures used in day-to-day living. Vocabulary, pronunciation, simple sentence structure, and intonation patterns are stressed.

## ESOL 0342 Beginning Reading for Foreign Speakers

**Corequisites:** ESOL 0341, ESOL 0343, and ESOL 0344

**Credit:** 3 (3 lecture, 2 lab)

An elementary course in reading English. Emphasis is placed on vocabulary building and reading skills including identifying main ideas and answering comprehension questions.

## ESOL 0343 Beginning Writing

**Corequisites:** ESOL 0341, ESOL 0342, and ESOL 0344

**Credit:** 3 (3 lecture, 2 lab)

A course devoted to developing basic writing skills such as simple sentence structure and developing paragraphs.

## ESOL 0344 Beginning Grammar for Foreign Speakers

**Corequisites:** ESOL 0341, ESOL 0342, and ESOL 0343

**Credit:** 3 (3 lecture, 2 lab)

An introduction to basic English grammar. Emphasis is placed on correct verb forms, parts of speech, sentence order, capitalization, and punctuation.

## ESOL 0345 Intermediate Conversation for Foreign Speakers

**Corequisites:** ESOL 0346, ESOL 0347, and ESOL 0348

**Credit:** 3 (3 lecture, 2 lab)

A continuation of ESOL 0341. This course places emphasis on idiomatic speech, everyday vocabulary development, and listening comprehension.

## ESOL 0346 Intermediate Reading for Foreign Speakers

**Corequisites:** ESOL 0345, ESOL 0347, and ESOL 0348

**Credit:** 3 (3 lecture, 2 lab)

A continuation of ESOL 0342. An intermediate course in reading academically oriented English. Emphasis is placed on expanding English vocabulary and developing reading skills such as identifying main ideas, separating fact from opinion, and organizing information.

## ESOL 0347 Intermediate Writing for Foreign Speakers

**Corequisites:** ESOL 0345, ESOL 0346, and ESOL 0348

**Credit:** 3 (3 lecture, 2 lab)

A continuation of ESOL 0343. This course expands writing skills through writing simple and compound sentences. Students broaden their knowledge of paragraph organization and the importance of unity and coherence in the paragraph.

## ESOL 0348 Intermediate Grammar for Foreign Speakers

**Corequisites:** ESOL 0345, ESOL 0346 and ESOL 0347

**Credit:** 3 (3 lecture, 2 lab)

A continuation of ESOL 0344. This course reviews the basic structures of English grammar and develops the production of complex English sentences.

## ESOL 0349 Advanced Intermediate Conversation for Foreign Speakers

**Corequisites:** ESOL 0350, ESOL 0351 and ESOL 0352

**Credit:** 3 (3 lecture, 2 lab)

A continuation of ESOL 0345. This course is designed to further develop conversational skills by incorporating more complicated vocabulary and grammatical structures. Students are also required to present oral reports at various times during the semester.

## ESOL 0350 Advanced Intermediate Reading for Foreign Speakers

**Corequisites:** ESOL 0349, ESOL 0351 and ESOL 0352

**Credit:** 3 (3 lecture, 2 lab)

A continuation of ESOL 0346. An advanced intermediate course in reading academically oriented English. This course further develops reading comprehension skills and expands vocabulary. Emphasis is on distinguishing main ideas from supporting details and drawing conclusions.

## ESOL 0351 Advanced Intermediate Composition for Foreign Speakers

**Corequisites:** ESOL 0349, ESOL 0350 and ESOL 0352

**Credit:** 3 (3 lecture, 2 lab)

A continuation of ESOL 0347. This course concentrates on the development of writing skills, reviews the paragraph and its essential elements, and introduces the multi-paragraph essay.

## ESOL 0352 Advanced Intermediate Grammar for Foreign Speakers

**Corequisites:** ESOL 0349, ESOL 0350 and ESOL 0351

**Credit:** 3 (3 lecture, 2 lab)

A continuation of ESOL 0348. This course provides a review of essential grammatical and structural features while introducing their finer points. Emphasis is placed on compound and complex sentence structures and is designed to lead students toward active mastery of the patterns and principles of formal written English.

## ESOL 0353 Advanced Reading for Foreign Speakers

**Corequisites:** ESOL 0354, ESOL 0355 and ESOL 0356

**Credit:** 3 (3 lecture, 2 lab)

A continuation of ESOL 0350. An advanced course designed to develop reading and critical thinking skills for college-bound students. Reading skills are refined to guide students towards mastery of deduction, inference, and figurative language.

## ESOL 0354 Advanced Composition for Foreign Speakers

**Corequisites:** ESOL 0353, ESOL 0355 and ESOL 0356

**Credit:** 3 (3 lecture, 2 lab)

A continuation of ESOL 0351. This course concentrates on elements of essay organization. Students are required to produce well-organized, well-substantiated essays.

## ESOL 0355 Advanced Grammar for Foreign Speakers

**Corequisites:** ESOL 0353, ESOL 0354 and ESOL 0356

**Credit:** 3 (3 lecture, 2 lab)

A continuation of ESOL 0352. This course provides a review of both essential and finer points of the grammatical structural features of formal written English. Emphasis is placed on active production and error analysis of standard English.

## ESOL 0356 Advanced Conversation for Foreign Speakers

**Corequisites:** ESOL 0353, ESOL 0354 and ESOL 0355

**Credit:** 3 (3 lecture, 2 lab)

A continuation of ESOL 0349. This course is designed to encourage students' use of high-level grammatical structures and vocabulary skills. Students are required to present an oral book report, an oral report of a personal, off-campus interview, and an oral research report.

## ETWR 1302 Introduction to Technical Writing

**Prerequisites:** Must be placed into GUST 0341 in reading, ENGL 0310 or 0349 in writing and MATH 0306 in math  
**Credit:** 3 (3 lecture)

Introduction to the principles, techniques, and skills needed for scientific, technical, and business writing.

## FIRS 1191 Special Topics Fire Fighting

**Prerequisites:** Must be placed into college-level reading, college-level writing and MATH 0306 in math.

**Credit:** 1

The activities involved in live fire training techniques including fire ground organization, water supply, ventilation, ladder raises, and attack line advancement for the suppression of fire. This course is designed to be used multiple times.

## FIRS 1203 Firefighter Agility and Fitness Preparation

**Prerequisites:** Must be placed into college-level reading, college-level writing and MATH 0306 in math.

**Credit:** 2 (1 lecture, 2 lab)

Physical ability testing methods. Rigorous training in skills and techniques needed in typical fire department physical ability tests.



# Course Descriptions

## **FIRS 1301 Fire Fighter Certification I**

**Prerequisites:** Must be placed into college-level reading, college-level writing and MATH 0306 in math.

**Credit:** 3 (2 lecture, 4 lab)

One in a series of courses in basic preparation for a new firefighter. Should be taken in conjunction with Firefighter Certification II, III, IV, V, VI, and VII to satisfy the Texas Commission on Fire Protection (TCFP) curriculum for Basic Structural Fire Suppression, Course #100. \*\*\*THIS COURSE MAY BE OFFERED ONLY BY INSTITUTIONS LICENSED AS A FIRE ACADEMY BY THE TEXAS COMMISSION ON FIRE PROTECTION\*\*\*

## **FIRS 1313 Fire Fighter Certification III**

**Prerequisite or Corequisite:** FIRS 1407; Must be placed into college-level reading, college-level writing and MATH 0306 in math.

**Credit:** 3 (2 lecture, 3 lab)

One in a series of courses in basic preparation for a new firefighter. Should be taken in conjunction with Firefighter Certification I, II, IV, V, VI, and VII to satisfy the Texas Commission on Fire Protection (TCFP) curriculum for Basic Structural Fire Suppression, Course #100. \*\*\*THIS COURSE MAY BE OFFERED ONLY BY INSTITUTIONS LICENSED AS A FIRE ACADEMY BY THE TEXAS COMMISSION ON FIRE PROTECTION\*\*\*

## **FIRS 1319 Fire Fighter Certification IV**

**Prerequisite or Corequisite:** FIRS 1313; Must be placed into college-level reading, college-level writing and MATH 0306 in math.

**Credit:** 3 (2 lecture, 2 lab)

One in a series of courses in basic preparation for a new firefighter. Should be taken in conjunction with Firefighter Certification I, II, III, V, VI, and VII to satisfy the Texas Commission on Fire Protection (TCFP) curriculum for Basic Structural Fire Suppression, Course #100. \*\*\*THIS COURSE MAY BE OFFERED ONLY BY INSTITUTIONS LICENSED AS A FIRE ACADEMY BY THE TEXAS COMMISSION ON FIRE PROTECTION\*\*\*

## **FIRS 1329 Fire Fighter Certification VI**

**Prerequisite or Corequisite:** FIRS 1423; Must be placed into college-level reading, college-level writing and MATH 0306 in math.

**Credit:** 3 (2 lecture, 3 lab)

One in a series of courses in basic preparation for a new firefighter. Should be taken in conjunction with Firefighter Certification I, II, III, IV, V, and VII to satisfy the Texas Commission on Fire Protection (TCFP) curriculum for Basic Structural Fire Suppression, Course #100. \*\*\*THIS COURSE MAY BE OFFERED ONLY BY INSTITUTIONS LICENSED AS A FIRE ACADEMY BY THE TEXAS COMMISSION ON FIRE PROTECTION\*\*\*

## **FIRS 1407 Fire Fighter Certification II**

**Prerequisite or Corequisite:** FIRS 1301; Must be placed into college-level reading, college-level writing and MATH 0306 in math.

**Credit:** 4 (3 lecture, 4 lab)

One in a series of courses in basic preparation for a new firefighter. Should be taken in conjunction with Firefighter Certification I, III, IV, V, VI, and VII to satisfy the Texas Commission on Fire Protection (TCFP) curriculum for Basic Structural Fire Suppression, Course #100. \*\*\*THIS COURSE MAY BE OFFERED ONLY BY INSTITUTIONS LICENSED AS A FIRE ACADEMY BY THE TEXAS COMMISSION ON FIRE PROTECTION\*\*\*

## **FIRS 1423 Fire Fighter Certification V**

**Prerequisite or Corequisite:** FIRS 1319; Must be placed into college-level reading, college-level writing and MATH 0306 in math.

**Credit:** 4 (3 lecture, 3 lab)

One in a series of courses in basic preparation for a new firefighter. Should be taken in conjunction with Firefighter Certification I, II, III, IV, VI, and VII to satisfy the Texas Commission on Fire Protection (TCFP) curriculum for Basic Structural Fire Suppression, Course #100. \*\*\*THIS COURSE MAY BE OFFERED ONLY BY INSTITUTIONS LICENSED AS A FIRE ACADEMY BY THE TEXAS COMMISSION ON FIRE PROTECTION\*\*\*

## **FIRS 1433 Fire Fighter Certification VII**

**Prerequisite or Corequisite:** FIRS 1329; Must be placed into college-level reading, college-level writing and MATH 0306 in math.

**Credit:** 4 (3 lecture, 4 lab)

One in a series of courses in basic preparation for a new firefighter. Should be taken in conjunction with Firefighter Certification I, II, III, IV, V, and VI to satisfy the Texas Commission on Fire Protection (TCFP) curriculum for Basic Structural Fire Suppression, Course #100. \*\*\*THIS COURSE MAY BE OFFERED ONLY BY INSTITUTIONS LICENSED AS A FIRE ACADEMY BY THE TEXAS COMMISSION ON FIRE PROTECTION\*\*\*

## **FIRT 1202 Plan Examiner I**

**Prerequisites:** Must be placed into college-level reading, college-level writing and MATH 0306 in math.

**Credit:** 2 (2 lecture)

Examination of plans submitted for approval by businesses, industry, or other regulated entities. Includes applicable codes and/or standards that meet certification requirements of the Texas Commission on Fire Protection.

## **FIRT 1301 Fundamentals of Fire Protection**

**Prerequisites:** Must be placed into college-level reading, college-level writing and MATH 0306 in math.

**Credit:** 3 (3 lecture)

Orientation to the fire service, career opportunities, related fields.

## **FIRT 1303 Fire and Arson Investigation I**

**Prerequisites:** Must be placed into college-level reading, college-level writing and MATH 0306 in math.

**Credit:** 3 (2 lecture, 3 lab)

Basic fire and arson investigation practices. Emphasis on fire behavior principles related to fire cause and origin determination.

## **FIRT 1305 Public Education Programs**

**Prerequisites:** Must be placed into college-level reading, college-level writing and MATH 0306 in math.

**Credit:** 3 (3 lecture)

Preparation of fire fighters and fire officers to develop public fire safety awareness. Emphasis on implementation of fire and public safety programs in an effort to reduce the loss of life.

## **FIRT 1307 Fire Prevention Codes and Inspections**

**Prerequisites:** Must be placed into college-level reading, college-level writing and MATH 0306 in math.

**Credit:** 3 (3 lecture)

Local building and fire prevention codes. Fire prevention inspections, practices, and procedures.

## **FIRT 1309 Fire Administration I**

**Prerequisites:** Must be placed into college-level reading, college-level writing and MATH 0306 in math.

**Credit:** 3 (3 lecture)

Introduction to the organization and management of a fire department and the relationship of government agencies to the fire service. Emphasis on fire service leadership from the perspective of the company officer.

## **FIRT 1311 Fire Service Hydraulics**

**Prerequisites:** Must be placed into college-level reading, college-level writing and MATH 0306 in math.

**Credit:** 3 (3 lecture)

The use of water in fire protection. Application of hydraulic principles to analyze and solve water supply problems.

## **FIRT 1315 Hazardous Materials I**

**Prerequisites:** Must be placed into college-level reading, college-level writing and MATH 0306 in math.

**Credit:** 3 (3 lecture)

The chemical characteristics and behavior of various materials. Storage, transportation, handling hazardous emergency situations, and the most effective methods of hazard mitigation.

## **FIRT 1319 Firefighter Health and Safety**

**Prerequisites:** Must be placed into college-level reading, college-level writing and MATH 0306 in math.

**Credit:** 3 (3 lecture)

Firefighter occupational safety and health in emergency and non-emergency situations.

# Course Descriptions

## FIRT 1327 Building Construction in the Fire Service

**Prerequisites:** Must be placed into college-level reading, college-level writing and MATH 0306 in math.

**Credit:** 3 (3 lecture)

Components of building construction that relate to life safety. Includes relationship of construction elements and building design impacting fire spread in structures.

## FIRT 1329 Building Codes and Construction

**Prerequisites:** Must be placed into college-level reading, college-level writing and MATH 0306 in math.

**Credit:** 3 (3 lecture)

Examination of building codes and requirements, construction types, and building materials. Includes walls, floorings, foundations, and various roof types and the associated dangers of each.

## FIRT 1338 Fire Protection Systems

**Prerequisites:** Must be placed into college-level reading, college-level writing and MATH 0306 in math.

**Credit:** 3 (3 lecture)

Design and operation of fire detection and alarm systems, heat and smoke control systems, special protection and sprinkler systems, water supply for fire protection, and portable fire extinguishers.

## FIRT 1340 Fire Inspector II

**Prerequisites:** FIRT 1408; Must be placed into college-level reading, college-level writing and MATH 0306 in math.

**Credit:** 3 (2 lecture, 3 lab)

Fire inspection rules, procedures, and inspection practices to meet the Texas Commission on Fire Protection requirements for Fire Inspector II.

## FIRT 1342 Fire Officer I

**Prerequisites:** Must be placed into college-level reading, college-level writing and MATH 0306 in math.

**Credit:** 3 (3 lecture)

Meets the curriculum requirements of the Texas Commission on Fire Protection (TCFP) for Fire Officer I certification. \*\*THIS COURSE MAY BE OFFERED ONLY BY INSTITUTIONS CERTIFIED AS A TRAINING FACILITY BY THE TEXAS COMMISSION ON FIRE PROTECTION\*\*

## FIRT 1343 Fire Officer II

**Prerequisites:** Must be placed into college-level reading, college-level writing and MATH 0306 in math.

**Credit:** 3 (3 lecture)

Meets the curriculum requirements of the Texas Commission on Fire Protection (TCFP) for Fire Officer II certification. \*\*THIS COURSE MAY BE OFFERED ONLY BY INSTITUTIONS CERTIFIED AS A TRAINING FACILITY BY THE TEXAS COMMISSION ON FIRE PROTECTION\*\*

## FIRT 1345 Hazardous Materials II

**Prerequisites:** Must be placed into college-level reading, college-level writing and MATH 0306 in math.

**Credit:** 3 (3 lecture)

Mitigation practices and techniques to effectively control hazardous material spills and leaks.

## FIRT 1347 Industrial Fire Protection

**Prerequisites:** Must be placed into college-level reading, college-level writing and MATH 0306 in math.

**Credit:** 3 (3 lecture)

Industrial emergency response teams and specific needs related to hazards in business and industrial facilities.

## FIRT 1349 Fire Administration II

**Prerequisites:** Must be placed into college-level reading, college-level writing and MATH 0306 in math.

**Credit:** 3 (3 lecture)

In depth study of fire service management as pertaining to budgetary requirements, administration, organization of divisions within the fire service and relationships between the fire service and outside agencies.

## FIRT 1353 Legal Aspects of Fire Protection

**Prerequisites:** Must be placed into college-level reading, college-level writing and MATH 0306 in math.

**Credit:** 3 (3 lecture)

Study of the rights, duties, liability concerns, and responsibilities of public fire protection agencies while performing assigned duties.

## FIRT 1391 Special Topics in Fire Protection and Safety Technology/Technician

**Prerequisite:** Department Approval; Must be placed into college-level reading, college-level writing and MATH 0306 in math.

**Credit:** 3 (3 lecture)

Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student.

## FIRT 1392 Special Topics in Fire Services Administration

**Prerequisites:** Must be placed into college-level reading, college-level writing and MATH 0306 in math.

**Credit:** 3 (3 lecture)

Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student.

## FIRT 1408 Fire Inspector I

**Prerequisites:** Must be placed into college-level reading, college-level writing and MATH 0306 in math.

**Credit:** 4 (2 lecture, 4 lab)

Fire inspection including rules, codes, and field inspection practices to meet certification requirements of the Texas Commission on Fire Protection.

## FIRT 1433 Fire Chemistry I

**Prerequisites:** Must be placed into college-level reading, college-level writing and MATH 0306 in math.

**Credit:** 4 (2 lecture, 4 lab)

Chemical nature and properties of inorganic compounds as related to the fire service. Fundamental laws of chemistry, states of matter, gas laws, chemical bonding, and thermodynamics.

## FIRT 2305 Fire Instructor I

**Prerequisite:** FIRT 1433 or proof of Firefighter II level certification; Must be placed into college-level reading, college-level writing and MATH 0306 in math.

**Credit:** 3 (3 lecture, 1 lab)

Preparation of fire and emergency services personnel to deliver instruction from a prepared lesson plan. Includes the use of instructional aids and evaluation instruments to meet the Texas Commission on Fire Protection requirements for Fire Instructor I certification.

## FIRT 2307 Fire Instructor II

**Prerequisite:** FIRT 2305, or proof of Fire Instructor I certification; Must be placed into college-level reading, college-level writing and MATH 0306 in math.

**Credit:** 3 (3 lecture, 1 lab)

Development of individual lesson plans for a specific topic including learning objectives, instructional aids, and evaluation instruments. Includes techniques for supervision and coordination of activities of other instructors to meet Texas Commission on Fire Protection requirements for Fire Instructor II certification.

## FIRT 2309 Fire Fighting Strategies and Tactics I

**Prerequisites:** Must be placed into college-level reading, college-level writing and MATH 0306 in math.

**Credit:** 3 (3 lecture)

Analysis of the nature of fire problems and selection of initial strategies and tactics including an in-depth study of efficient and effective use of manpower and equipment to mitigate the emergency.

## FIRT 2333 Fire & Arson Investigation II

**Prerequisites:** Must be placed into college-level reading, college-level writing and MATH 0306 in math.

**Credit:** 3 (2 lecture, 3 lab)

Fire investigation techniques and defense of findings in a court room setting.

## FIRT 2351 Company Fire Officer

**Prerequisites:** Must be placed into college-level reading, college-level writing and MATH 0306 in math.

**Credit:** 3 (3 lecture)

A capstone course covering fire ground operations and supervisory practices. Includes performance evaluation of incident commander, safety officer, public information officer, and shift supervisor duties.

## FIRT 2380 Cooperative Education Fire Protection and Safety Technology/Technician

**Prerequisite:** 15 semester hours of FIRT/ FIRT and Department Approval; Must be placed into college-level reading, college-level writing and MATH 0306 in math.

**Credit:** 3 (1 lecture, 20 lab)

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

# Course Descriptions

## **FIRT 2419 Fire Chemistry II**

**Prerequisites:** Must be placed into college-level reading, college-level writing and MATH 0306 in math.

**Credit:** 4 (2 lecture, 4 lab)

Chemical compounds related to the fire service. Includes effective selection of extinguishing agents and method of application.

## **FIRT 2459 Fire Instructor III**

**Prerequisite:** FIRT 2307, or proof of the Fire Instructor II Certification

**Credit:** 4 (3 lecture, 2 lab)

Development of comprehensive training curriculum and programs. Includes organization of needs analysis and development of training goals and implementation strategies to meet Texas Commission on Fire Protection requirements for Fire Instructor III.

## **FITT 1301 Fitness and Exercise Testing**

**Prerequisites:** FITT 2313; Must be placed into college-level reading, college-level writing and MATH 0312 in math.

**Credit:** 3 (2 lecture, 2 lab)

Techniques for conducting physical fitness assessments including tests of cardiorespiratory fitness, muscular strength and endurance, joint flexibility, body composition, and pulmonary capacity. Includes fitness equipment use and maintenance. Emphasis on safety guidelines and precautions. (Fall semester only)

## **FITT 1303 Fitness Event Planning and Promotion**

**Prerequisites:** FITT 2313; Must be placed into college-level reading, college-level writing and MATH 0312 in math.

**Credit:** 3 (3 lecture)

Practical aspects of developing and scheduling group exercise fitness classes. Includes recreational activities, competitive events, and promotion of exercise and non-exercise activities. Emphasis on the design of safe, enjoyable activities. (Fall semester only) Off campus visits required.

## **FITT 2311 Prevention and Care of Exercise Injury**

**Prerequisites:** FITT 2313 and PHED 1150; Must be placed into college-level reading, college-level writing and MATH 0312 in math.

**Credit:** 3 (3 lecture)

Overview of design methods for exercise settings and programs for injury prevention. Includes the use of safe physical conditioning techniques, current exercise fads and myths that promote injury, methods for injury recognition and evaluation, on-site care of exercise injuries, and emergency procedures. (Spring semester only)

## **FITT 2313 Exercise Science**

**Prerequisites:** FITT 2313; Must be placed into college-level reading, college-level writing and MATH 0312

**Credit:** 3 (3 lecture)

A survey of scientific principles, methodologies, and research as applied to exercise and physical fitness. Emphasis on physiological responses and adaptations to exercise. Topics include basic elements of kinesiology, biomechanics, motor learning, and the physical fitness industry. (Fall semester only)

## **FITT 2333 Fitness Industry Operations and Technology**

**Prerequisites:** FITT 2313; Must be placed into college-level reading, college-level writing and MATH 0312 in math.

**Credit:** 3 (3 lecture)

A survey of practical aspects of the physical fitness industry. Emphasis on equipment, cost analysis, program marketing, legal issues, policy formation, budgetary planning, computer software applications, and current industry trends. (Spring semester only) Off campus visits required.

## **FITT 2364 Practicum (or Field Experience) -Health and Physical Education, General**

**Prerequisites:** BIOL 2401, FITT 1301, 2311, 2313, 2409, Department Approval, grade of C or better in all prerequisites; FITT 2313; Must be placed into college-level reading, college-level writing and MATH 0312 in math.

**Credit:** 3 (21 lab)

Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student. Students must pass the ACE examination before a grade will be issued in the course.

## **FITT 2409 Theory of Exercise Program Design and Instruction**

**Prerequisites:** FITT 1301, 2313; Must be placed into college-level reading, college-level writing and MATH 0312 in math.

**Credit:** 4 (3 lecture, 2 lab)

The study of health-related components of physical fitness including cardiorespiratory endurance, muscular strength, and muscular endurance. Topics include the theoretical basis underlying physical fitness; instructional techniques for fitness development; and methods for leading an exercise session, including design, biomechanics, instruction, and evaluation. (Spring semester only)

## **FLMC 1300 Production Management**

**Prerequisites:** RTVB 1421; Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.

**Credit:** 3 (2 lecture, 4 lab)

Managing above- and below-the-line film or video production costs. Emphasizes analysis of scripts and treatments to determine production costs, crewing requirements, location needs, equipment rentals, and associated production costs.

## **FLMC 1304 Lighting for Film and Video**

**Prerequisites:** RTVB 2437; Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0312 in math.

**Credit:** 3 (2 lecture, 4 lab)

Lighting techniques for 16mm film or video production. (This class demonstrates advanced lighting techniques for 16mm film and video productions. Using a variety of lab projects and location settings, students will use lights, filters, in-camera special effects and mood setting techniques to enhance shot composition and camera movement. Topics also include operating film cameras, light meters and selecting film stock. Students are required to attend additional lab hours outside of class.)

## **FLMC 2342 Film Editing and Sound Synchronization**

**Prerequisites:** RTVB 2437; Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.

**Credit:** 3 (2 lecture, 4 lab)

Design and theory of film editing from raw footage to a final release print. Includes preparing film for the lab, setting up opticals, making and shooting titles, hot splicing, sound track dubbing, and obtaining a final release print. Also may include special effects and sync vs. non-sync sound.

## **FLMC 1370 Special Effects for Film/Video**

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0312 in math.

**Corequisite:** ARTC 1302

**Credit:** 3 (2 lecture, 4 lab)

An introductory course covering techniques of video compositing software as it applies to standard definition and high definition video. Topics include motion graphics, DVD motion menus, 2D animations and special effects for film/video.

## **FLMC 1391 Special Topics in Film/Cinema Studies**

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0312 in math.

**Credit:** 3 (2 lecture, 4 lab)

Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

## **FLMC 2305 Film-Style 3-D Animation Production**

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0312 in math.

**Co-requisite:** FLMC 2370

**Credit:** 3 (2 lecture, 4 lab)

Techniques in 3-D animation for film-style and live action production. Topics include animations fundamentals, 3D modeling, splines and lofts, keyframing, particle effects, rendering.

## **FLMC 2308 Film Business and Marketing**

**Prerequisites:** MUSB 2355 and FLMC 1300; Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0312 in math.

**Credit:** 3 (3 lecture)

The fundamentals of budgeting, financial records, and the distribution and marketing of films. (The course will introduce the fundamentals of budgeting, financial records, and the distribution of films. Starting with a brief historical review of the American film industry, the course will describe the major film corporations and their subsidiaries and the rise of the independent film industry. Additional topics include basic accounting issues, marketing concepts, distribution, advertising, the Internet, publicity, finding a distribution partner, negotiation tactics and strategies, and establishing a 'paper trail' for financial transactions.)

# Course Descriptions

## **FLMC 2330 Audio Post Production**

**Prerequisites:** RTVB 2437 and RTVB 2430; **Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0312 in math.**

**Credit: 3 (2 lecture, 4 lab)**

The technology, creative application and requirements for producing audio soundtracks for film and video. (This course explores the technology, creative application and requirements for producing audio soundtracks for film and video projects. Topics include time code, synchronization, mixing, Foley, dialog replacement, sound effects and location sound. The students will work on computerized workstations to produce finished audio tracks for various projects. Students are required to attend additional lab hours outside of class.)

## **FLMC 2333 Cinematography**

**Prerequisites:** FLMC 1304; **Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0312 in math.**

**Credit: 3 (2 lecture, 4 lab)**

Theoretical elements and practical applications of cinematography. (This class teaches theoretical elements and practical application of cinematography. While learning techniques of film production, students study historical and contemporary trends and styles. Theoretical topics include differences in film stocks, exposure, color theory and filters. Professional techniques that alter an image's character are demonstrated and discussed. Practical tests and scenes are shot using color and black and white film stocks. Students are required to attend additional lab hours outside of class.)

## **FLMC 2334 Directing for Film or Video**

**Prerequisites:** FLMC 1300; **Must be placed into college-level reading, writing and math.**

**Credit: 3 (2 lecture, 4 lab)**

Directing to lead a production team. (This course teaches the craft of directing to students who aspire to lead a production team. By analyzing the work of classic and contemporary directors, the class investigates the art and language of filmmaking. Topics include framing and composition, camera angles, camera movement, blocking of actors, visualizing action, and creating a sequence, script breakdown, and techniques for establishing mood, character, and conflict.)

## **FLMC 2335 Screenwriting for Features, Shorts and Documentaries**

**Prerequisites:** RTVB 1429; **Must be placed into college-level reading, college-level writing and MATH 0308 in math.**

**Credit: 3 (2 lecture, 4 lab)**

Screenwriting for the principle genres of film. (This class emphasizes screenwriting for the principle genres of film. Students will create treatments from dramatic concepts, turn these treatments into screenplays and complete full shooting scripts by the course's end. Topics include scriptwriting, formatting conventions and structural analysis of comedies, dramas, documentaries and short films. At the conclusion of the course students will submit an original script to a scriptwriting contest. Students are required to attend additional lab hours outside of class.)

## **FLMC 2336 Production Development-Producing**

**Prerequisites:** RTVB 2437; **Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.**

**Credit: 3 (2 lecture, 4 lab)**

Sequential steps of supervision in all phases of film production and distribution. Includes resource acquisition and allocation. (During this class the student will address three primary questions posed when developing an idea for a film: What are you going to film? How are you going to film it? How are you going to structure the production? This class will teach students how to explore these questions fully before production begins. Class discussions, student projects and instructor analysis will emphasize the pre-production process: storyboarding shot lists, scheduling, location scouting, stock footage and budgeting. The class will also address design and aesthetic decisions in costuming, makeup and set design. Students are required to attend additional lab hours outside of class.)

## **FLMC 2342 Film Editing and Sound Synchronization**

**Prerequisites:** **Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.**

**Credit: 3 (2 lecture, 4 lab)**

Design and theory of film editing from raw footage to a final release print. Includes preparing film for the lab, setting up opticals, making and shooting titles, hot splicing, sound track dubbing, and obtaining a final release print. Also may include special effects and sync vs. non-sync sound.

## **FLMC 2344 Advanced Film and Video Editing**

**Prerequisite:** RTVB 2430; **Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.**

**Credit: 3 (2 lecture, 4 lab)**

Exploration of the creative possibilities of non-linear film and video editing. Includes editing aesthetics, titles, graphic design, compositing, and special effects.

## **FLMC 2370 Special Effects for Film/Video II**

**Prerequisites:** FLMC 1370; **Must be placed into college-level reading, writing and math.**

**Credit: 3 (2 lecture, 4 lab)**

Application of compositing tools to create short SDTV and HDTV videos emphasizing advanced special effects and motion graphic sequences. Topics include advanced compositing techniques, pre-production processes, special camera techniques and color grading.

## **FLMC 2380 Cooperative Education/Cinematography and Film/Video Production**

**Prerequisites:** FLMC 2336 and Department Approval; **Must be placed into college-level reading, writing and math.**

**Credit: 3 (1 lecture, 20 lab)**

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

## **FMKT 1301 Floral Design**

**Prerequisites:** **Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 2 lab)**

Principles of floral art with an emphasis on commercial design. Topics include basic design styles and color harmonies; identification, use, and care of processing of cut flowers and foliage; mechanical aids and containers; personal flowers; holiday designs; and plant identification and care.

## **FMKT 2331 Advanced Floral Design**

**Prerequisites:** FMKT 1301; **Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 2 lab)**

An in-depth coverage of advanced floral design practices for the retail floral industry. Topics include contemporary floral arrangement styles and trends.

## **FMKT 2335 Flower Shop Management**

**Prerequisites:** FMKT 1301; **Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (3 lecture)**

Modern principles and practices used in management and operations of retail florist shops. Topics include structure of the industry, shop location, business plan organization, marketing methods and management practices.

## **FORE 1314 Dendrology**

**Credit: 3 (2 lecture, 2 lab)**

Taxonomy, identification and silvical features of the important timber and understory species of North America (formerly AGRI 2335)

## **FORE 2309 Forest Ecology**

**Credit: 3 (2 lecture, 2 lab)**

Tree selection and planting to fit climatic, space and edaphic conditions; diagnosing tree abnormalities and practicing intensive tree care. Frequent fieldwork and demonstrations (formerly AGRI 2336).

# Course Descriptions

## **FREN 1300 Beginning French Conversation I**

**Credit: 3 (3 lecture)**

An introductory French course that emphasizes listening comprehension and speaking skills. Reading and writing may be done as reinforcement to oral communication skills. The course is slower-paced and less comprehensive than French 1411. It is highly recommended for students without previous experience in the French language. This course is not open to students whose first language is French. Generally, does not transfer as foreign language credit, but may transfer as elective credit.

## **FREN 1310 Beginning French Conversation II**

**Prerequisites: FREN 1300 or equivalent**

**Credit: 3 (3 lecture)**

Continuation of FREN 1300. Emphasizes oral communication skills. Generally, does not transfer as foreign language credit, but may transfer as elective credit. Students who continue the study of French following this course must take FREN 1411.

## **FREN 1411 Beginning French I**

**Prerequisites: Must be placed into college - level reading (or take GUST 0342 as a co-requisite) and be placed into college level writing (or take ENGL 0310/0349 as a co-requisite).**

**Credit: 4 (3 lecture, 2 lab)**

Introduction to the French language and culture. Development of basic skills in listening comprehension, speaking, reading, writing, and cultural awareness. Course includes vocabulary building, conversation and grammar. Transfers as foreign language credit. Core Curriculum Course.

## **FREN 1412 Beginning French II**

**Prerequisites: FREN 1411 or satisfactory score on an advanced placement examination or at least two years of high school French within the last two years; Must be placed into college - level reading (or take GUST 0342 as a co-requisite) and be placed into college level writing (or take ENGL 0310/0349 as a co-requisite)Credit: 4 (3 lecture, 2 lab)**

Continuation of FREN 1411. Further development of listening comprehension, speaking, reading and writing skills and cultural awareness. More advanced grammar. Transfers as foreign language credit. Core Curriculum Course.

## **FREN 2303 Readings in French Literature I**

**Prerequisites: FREN 2312 or equivalent; Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**

**Credit: 3 (3 lecture)**

An introduction to French poetry, prose and drama with selections drawn mainly from the nineteenth and twentieth centuries. May include some writings from French-speaking countries outside France. Conducted in French. Core Curriculum Course.

## **FREN 2304 Readings in French Literature II**

**Prerequisites: FREN 2312 or equivalent; Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**

**Credit: 3 (3 lecture)**

Selections of poetry, prose and drama in French with special emphasis on writers from French-speaking countries outside France. Conducted in French. Core Curriculum Course.

## **FREN 2306 Intermediate Conversational French**

**Prerequisites: FREN 1411; Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**

**Credit: 3 (3 lecture)**

Refinement of conversational skills through practice of idiomatic usage and discussion of contemporary issues and/or current events.

## **FREN 2311 Intermediate French I**

**Prerequisites: FREN 1412 or equivalent; Must be placed into college - level reading (or take GUST 0342 as a co-requisite) and be placed into college level writing (or take ENGL 0310/0349 as a co-requisite)**

**Credit: 3 (3 lecture)**

Further development of listening, speaking, reading and writing skills and cultural awareness acquired in Beginning French. Introduction of more complex language structures. Oral and written practice based on selected readings. Class conducted mainly in French. Core Curriculum Course.

## **FREN 2312 Intermediate French II**

**Prerequisites: FREN 2311 or equivalent; Must be placed into college - level reading (or take GUST 0342 as a co-requisite) and be placed into college level writing (or take ENGL 0310/0349 as a co-requisite)Credit: 3 (3 lecture)**

Continuation of FREN 2311 but with special emphasis on written communication. Readings, discussions and compositions. Class conducted mainly in French. Core Curriculum Course.

## **FSHD 1191 Special Topics in Fashion Design and Illustration**

**Prerequisites: Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 1 (1 lecture)**

Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

## **FSHD 1233 Fashion Study Tour**

**Prerequisites: Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 2 (2 lecture)**

A course which combines the study of fashion with travel. Exploration of fashion, art, architecture, textiles, costume, business, and cultural activities in major art and fashion cities. Examination of the most current work in the industry from a global perspective. This course was designed to be repeated multiple times to improve student proficiency.

## **FSHD 1235 Millinery**

**Prerequisites: Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 2 (2 lecture, 1 lab)**

A study of the basic skills and methods used to create hats. An application of the techniques used to design and produce hats for fashion, theater, historic reproduction and educational instruction purposes.

## **FSHD 1291 Special Topics in Fashion Design and Illustration: Maskmaking**

**Prerequisites: Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 2 (2 lecture)**

An introductory course in the construction of masks through several techniques. The students will use their creativity to put their own spin on a traditional craft.

## **FSHD 1302 Introduction to Fashion**

**Prerequisites: Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0306 in math.**

**Credit: 3 (3 lecture)**

Survey of the world of fashion businesses. Introduction to the creation and merchandising of fashion through the study of fashion vocabulary, the fashion process, fashion publications and career opportunities.

## **FSHD 1308 Fashion Trends**

**Prerequisites: Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (3 lecture)**

A study of the effects of Eastern and Western cultures on the development of fashion. Examination of the relationship of social, psychological, economic, demographic and life-style trends to fashion trends.

## **FSHD 1311 Fashion History**

**Prerequisites: Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (3 lecture)**

Survey of the evolution of fashion change traced through garment development from ancient times to present day. A study of customs and silhouettes of each historical period and their modern day adaptations. Examination of twentieth century fashion designers.

# Course Descriptions

## **FSHD 1313 Art for Fashion**

**Prerequisites:** Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (3 lecture, 1 lab)

A study of the basic elements and principles of art applied to the design of clothing for the human form. Emphasis on the basic body types, clothing silhouettes, fabric weights, and the use of line movement, proportion and color to achieve flattering, marketable fashion design.

## **FSHD 1318 Apparel Computer Systems**

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0306 in math.

**Credit:** 3 (3 lecture, 1 lab)

An introduction to apparel computer systems used in wholesale and retail fashion businesses. Applications demonstrated include computer-aided garment and textile design, fashion illustration, pattern making, pattern grading, marker making, newsletters, brochures, advertisements and catalogs.

## **FSHD 1322 Fashion Sketching**

**Prerequisites:** Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (3 lecture, 1 lab)

Fundamentals of quick sketching to communicate design ideas. Instruction in drawing the male and female fashion figure. Emphasis on simple methods for making quick sketches to illustrate style information.

## **FSHD 1324 Ready-To-Wear Construction**

**Prerequisites:** Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (2 lecture, 4 lab)

Fundamentals of mass production of apparel, focusing on the operation of industrial sewing and pressing equipment. Survey of materials selection and construction techniques used at all price levels of mass produced apparel. Introduction to industry seam allowances. Identification of differences between ready-to-wear and couture construction.

## **FSHD 1328 Flat Pattern Design I**

**Prerequisite:** FSHD 1324; **Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0308 in math.**

**Credit:** 3 (2 lecture, 3 lab)

An introduction to the creative design of clothing through the flat pattern method. General principles of pattern making using the basic five-piece dress sloper. A study of dart manipulation, slashing and spreading the pattern and contouring sew lines.

## **FSHD 1332 Custom Patterns**

**Prerequisites:** FSHD 1328 and FSHD 2306; **Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit:** 3 (2 lecture, 3 lab)

Skill development in taking body measurements. Instruction in developing custom fittings for customized patterns. In depth coverage of the process of transferring a custom body fitted canvas to a basic dress form and padding it for custom sizing.

## **FSHD 1333 Fashion Study Tour**

**Prerequisites:** Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0308 in math.

**Credit:** 3 (3 lecture)

A course which combines the study of fashion with travel. Exploration of fashion, art, architecture, textiles, costume, business, and cultural activities in major art and fashion cities. Examination of the most current work in the industry from a global perspective. This course was designed to be repeated multiple times to improve student proficiency.

## **FSHD 1351 Design Construction**

### **Techniques**

**Prerequisite:** FSHD 1324; **Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0308 in math.**

**Credit:** 3 (2 lecture, 4 lab)

A continuation of Ready-to-Wear Construction with emphasis on design details. Instruction in basic manipulation of a commercial pattern to create individual design details, dressmaking and fully lined unstructured garments in intermediate level fabrics.

## **FSHD 1355 Flat Pattern Design II**

**Prerequisite:** FSHD 1328; **Prerequisites: Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0308 in math.**

**Credit:** 3 (2 lecture, 3 lab)

A continuation of Flat Pattern Design I with emphasis on patterns for tailored garments. Instruction in creating a jacket sloper with a two piece suit sleeve to make patterns for a variety of jacket silhouettes. Adding shoulder pad allowance, drafting patterns for jacket linings and interfacing pieces, lapel and collar variations and various pants shapes.

## **FSHD 1391 Special Topics in Fashion**

### **Design and Illustration: Advanced**

### **Fashion Sketching**

**Prerequisites:** Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0308 in math.

**Credit:** 3 (3 lecture)

Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

## **FSHD 2306 Draping**

**Prerequisite:** FSHD 1324; **Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0308 in math.**

**Credit:** 3 (2 lecture, 3 lab)

A study of three-dimensional fashion design conceptualizing by draping in muslin or fashion fabric directly on the dress form. Skill development in observing grain of fabric, identifying drapable fabrics and creating designs suitable for draping. Presentation of major fashion designers' draping techniques.

## **FSHD 2310 Fabric Design**

**Prerequisites:** FSHD 1324, FSHN 1301; **Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit:** 3 (2 lecture, 3 lab)

Fundamentals of fabric design. Instruction in silk screen, batik, tie-dye, painting, resist dye, block print, stenciling and weaving. Skill development in fabric design and production suitable for fashion apparel.

## **FSHD 2312 Theatrical Costume Design**

**Prerequisite:** DRAM 1310; **Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit:** 3 (2 lecture, 3 lab)

A study of garment design for the theater in which costumes are researched and designed for theatrical productions. Instruction in the effect of lighting and staging in relationship to costuming.

## **FSHD 2315 Bustier Construction**

**Prerequisites:** Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0308 in math.

**Credit:** 3 (2 lecture, 2 lab)

Instruction in the skills and techniques for creating a boned bodice. Production of strapless bodices from fashion and theatrical sources through the pattern-making and construction process.

## **FSHD 2337 Couture Dressmaking**

**Prerequisite:** FSHD 1351; **Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0308 in math.**

**Credit:** 3 (2 lecture, 4 lab)

A study of advanced apparel construction addressing couture dressmaking techniques and the traditional highest-quality methods for planning, cutting, sewing and pressing garments. Instruction in designing and producing couture fashion garments in advanced level fabrics.

## **FSHD 2341 Pattern Grading**

**Prerequisite:** FSHD 1328; **Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0308 in math.**

**Credit:** 3 (3 lecture, 1 lab)

Instruction in sizing standard patterns larger and smaller for the mass production of apparel. A study of 1", 1-1/2", and 2" and S-M-L-XL grade rules and their applications. Skill development in grading basic and fashion patterns with the ruler, the grading machine, and the computer.

## **FSHD 2343 Fashion Collection Design**

**Prerequisites:** FSHD 1351, FSHD 1328; **Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0308 in math.**

**Credit:** 3 (2 lecture, 3 lab)

Advanced concepts in designing a collection of marketable apparel. Instruction in developing a design work board for a specific target market and selecting the most marketable ideas for the collection. Projects in resource development, fabric selection, estimating wholesale costs and initial pattern and garment production.

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## **FSHD 2344 Fashion Collection Production**

**Prerequisite:** FSHD 2343; **Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0308 in math.**

**Credit: 3 (2 lecture, 3 lab)**

A continuation of the Fashion Collection Design course. Emphasis on the production, costing and marketing of a cohesive collection of fashion apparel. Instruction in completing production patterns for all collection garments.

## **FSHD 2388 Internship - Fashion/Apparel Design**

**Prerequisite:** Department Approval; **Must be placed into GUST 0341 in reading, college-level writing and MATH 0306 in math.**

**Credit: 3 (16 lab) (256 hours work experience)**

A work-based learning experience that enables the student to apply specialized occupational theory, skills and concepts. A learning plan is developed by the college and the employer.

## **FSHN 1301 Textiles**

**Prerequisites:** **Must be placed into GUST 0341 in reading, ENGL 0301 or 0349 in writing and MATH 0308 in math.**

**Credit: 3 (3 lecture, 1 lab)**

A general study of textiles with emphasis on factors that affect the hand, appearance and performance in clothing use. Examination of the properties of natural and man-made fibers, how yarn is formed, methods of production and the properties of a wide variety of fabrics. Application of textiles used in the apparel industry.

## **FSHN 1305 Apparel Alterations**

**Prerequisite:** FSHD 1324; **Must be placed into GUST 0341 in reading, ENGL 0301 or 0349 in writing and MATH 0308 in math.**

**Credit: 3 (2 lecture, 3 lab)**

Skill development in fitting, altering, conserving and restyling apparel for men, women and children. Preparation for fitting, alterations, conservation and restoration work for a retail store, dry cleaning establishment, wedding gown business or historical costume collection.

## **FSHN 1320 Fashion Selling**

**Prerequisites:** **Must be placed into GUST 0341 in reading, ENGL 0310 or 0349 in writing and MATH 0306 in math.**

**Credit: 3 (3 lecture)**

Examination of selling techniques for fashion apparel and accessories in retail and wholesale settings. Identification of buying motives, sales psychology, customer approach and closure. Instruction in product analysis, building a regular clientele, developing a fashion vocabulary and training and motivating a sales staff.

## **FSHN 1329 Basic Men's Tailoring**

**Prerequisite:** FSHD 1324; **Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0308 in math.**

**Credit: 3 (2 lecture, 3 lab)**

An introduction to tailoring men's structured apparel including fundamentals of sewing machine operations, fabric preparation and cutting, machine and hand sewing techniques, and pressing proficiency including instruction in pattern and alterations, assembling men's jackets, vests and pants, and fitting and alterations procedures.

## **FSHN 2301 Fashion Promotion**

**Prerequisites:** **Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (3 lecture)**

A survey of fashion direction, publicity and fashion event coordination. Emphasis on fashion show production from idea to runway, including theme development, stage/set design, choreography, music coordination, lighting, lineup, model fittings, rehearsal and press kit development.

## **FSHN 2303 Fashion Buying**

**Prerequisites:** **Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0306 in math.**

**Credit: 3 (3 lecture)**

Fundamentals of fashion buying with instruction in planning, pricing, and purchasing retail fashion inventories. Identification of wholesale merchandise resources.

## **FSHN 2305 Fashion Retailing**

**Prerequisites:** **Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0308 in math.**

**Credit: 3 (3 lecture)**

An overview of fashion retailing procedures used in various types of retail fashion companies. A study of profit and loss, pricing, markup, inventory control, shortages, forecasting, store organization, and events. Examination of the wide variety of job opportunities available in the retail fashion industry.

## **FSHN 2307 Fashion Advertising**

**Prerequisites:** **Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (3 lecture)**

General principles and practices of fashion advertising and consumer directed communication. A study of persuasive media approaches for public relations induced publicity and advertising produced sales promotions.

## **FSHN 2309 Fashion Image**

**Prerequisites:** **Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (3 lecture)**

Instruction in the techniques used to analyze the fashion image of individual clients. Emphasis on personal coloring, color harmonies, appropriate fabric textures, body proportion and silhouette, figure, facial and hair analysis, and wardrobe coordination. Study of fashion image consultant business practices and job qualifications.

## **FSHN 2320 Visual Merchandising**

**Prerequisites:** **Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 3 lab)**

Skill development in the creation of showroom or retail store window/interior displays that sell merchandise. Study of the basic techniques of store planning, mannequin dressing, alternate form design, and display space conceptualization and implementation.

## **FSHN 2388 Internship - Fashion Merchandising**

**Prerequisite:** Department Approval; **Must be placed into GUST 0341 in reading, college-level writing and MATH 0308 in math.**

**Credit: 3 (16 lab) (256 hours work experience)**

Principles and practices in resume and cover letter. A work-based learning experience that enables the student to apply specialized occupational theory, skills and concepts. A learning plan is developed by the college and the employer.

## **GAME 1212 Game Theory**

**Prerequisites:** **GAME1306; Must be placed into college-level reading, ENGL 0310 or 0349 in writing and MATH 0306 in math.**

**Credit: 2 (1 lecture, 3 lab)**

Game and simulation design. Application of design theories to production-based projects from the conceptual stage to a completed project.

## **GAME 1302 Interactive Storyboarding**

**Prerequisite:** **GAME 1371; Must be placed into college-level reading, ENGL 0310 or 0349 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 4 lab)**

In-depth coverage of storyboarding for the development of interactive media. Addresses target audience analysis, purpose, goals and objectives, content outline, flow chart, and interactive storyboarding.

## **GAME 1304 Level Design**

**Prerequisite:** Department Approval; **Must be placed into college-level reading, ENGL 0310 or 0349 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 4 lab)**

Introduction to the tools and concepts used to create levels for games and simulations. Incorporates level design, architecture theory, concepts of critical path and flow, balancing, play testing, and storytelling. Includes utilization of toolsets from industry titles.

## **GAME 1306 Design and Creation of Games**

**Prerequisites:** Department Approval; **Must be placed into college-level reading, ENGL 0310 or 0349 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 4 lab)**

Introduction to game and simulation development. Includes analysis of existing applications and their play elements. In-depth coverage of the elements of the application and examination of social issues, genres, and trends. Also covers creation of design documents, investigation of why people play

# Course Descriptions

games, review of technological and cultural history of electronic games, survey of the major innovators and historical figures of the industry, and examination of the trends and taboos that motivate game design.

## GAME 1314 Character Sculpting

**Prerequisites:** GAME 1336; **Must be placed into college-level reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 4 lab)**

Creation of original characters from the drawing stage to sculpting clay status. Explores a variety of poses using clay and aluminum armatures.

## GAME 1335 Interactive Writing I

**Prerequisites:** **Must be placed into college-level reading, college-level writing and MATH 0306 in math.**

**Credit: 3 (2 lecture 4 lab)**

Instruction in writing plot, story, setting, and description for every game element and verbal communication based on game concept. Includes the study of traditional narrative practices and interactive fiction requiring creative writing.

## GAME 1336 Introduction to 3D Game Modeling

**Prerequisites:** **Must be placed into college-level reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 4 lab)**

Architectural spaces and modeling in a real-time game editor. Includes techniques for building, texturing, and lighting a game level to function in realtime.

## GAME 1371 Introduction to 2D Game Art

**Prerequisites:** GAME 1336; **Must be placed into college-level reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture 4 lab)**

Introduce industry software tools used in the creation of 2D game and simulation art. Includes the concepts, commands and interfaces of industry standard raster and vector graphics. Learn to edit and manipulate existing art.

## GAME 1372 Game Programming for Non-Programmers

**Prerequisites:** GAME 1336; **Must be placed into college-level reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture 4 lab)**

Examines the role of a programmer in the development of a game and translation of game design to code. Includes hands-on programming using a high level language.

## GAME 1374 Introduction to 3D Game Animation

**Prerequisites:** GAME 1336; **Must be placed into college-level reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture 4 lab)**

Introduce industry software tools used in creating game and simulation animation. Introduce techniques used to create movement of game assets; covers the principles of animation and their application in 3D space. Introduces animation issues such as animation hierarchies, game combat timing, and in-game storytelling.

## GAME 1375 Principles of Game

### Concept Art

**Prerequisites:** GAME 1371; **Must be placed into college-level reading, ENGL 0310 or 0349 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 4 lab)**

A study of traditional art techniques and its applications to game concept art.

## GAME 2302 Mathematical Applications for Game Development

**Prerequisites:** GAME 1306 and programming; **Must be placed into college-level reading, ENGL 0310 or 0349 in writing and MATH 0312 in math.**

**Credit: 3 (2 lecture 4 lab)**

Presents applications of mathematics and science in game and simulation programming. Includes the utilization of matrix and vector operations, kinematics, and Newtonian principles in games and simulations. Also covers code optimization.

## GAME 2304 Level Design II

**Prerequisites:** GAME 1304; **Must be placed into college-level reading, ENGL 0310 or 0349 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 4 lab)**

Intermediate approach to the tools and concepts used to develop levels of games and simulations. Incorporates an intermediate exploration of level design, architecture theory, concepts of critical path and flow, balancing, play testing and storytelling. Includes utilization of toolsets from industry titles.

## GAME 2305 Interactive Writing II

**Prerequisites:** GAME 1335; **Must be placed into college-level reading, ENGL 0310 or 0349 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 4 lab)**

Dialog, story, and character development in writing for video games.

## GAME 2308 Portfolio for Game Development

**Prerequisites:** GAME 2332; **Must be placed into college-level reading, college-level writing and MATH 0308 in math.**

**Credit: 3 (2 lecture 4 lab)**

Design and management of an industry standard portfolio. Includes techniques in self-promotion, resume writing, portfolio distribution systems, and interviewing.

## GAME 2312 Interactive Audio

**Prerequisites:** **Must be placed into college-level reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 4 lab)**

Music and sound effects. Includes formats, working within memory budgets, interactive systems, and foley libraries. Addresses a range of practical audio-related areas.

## GAME 2319 Game Engine

**Prerequisites:** GAME 2347; **Must be placed into college-level reading, ENGL 0310 or 0349 in writing and MATH 0312 in math.**

**Credit: 3 (2 lecture, 4 lab)**

Commercial and open source gaming engines. Includes discussions and recommendations for game engines to fit industry specifications.

## GAME 2325 3D Animation II-Character Setup

**Prerequisites:** GAME 1374; **Must be placed into college-level reading, ENGL 0310 or 0349 in writing and MATH 0312 in math.**

**Credit: 3 (2 lecture, 4 lab)**

Skinning and weighting, forward kinematics, inverse kinetics, constraints, expressions, scripting and driven keys, mesh deformers, morph targets/blend shapes, and animation user interfaces.

## GAME 2332 Project Development I

**Prerequisites:** GAME 1371, GAME 1372, GAME 1212; **Must be placed into college-level reading, college-level writing and MATH 0308 in math.**

**Credit: 3 (2 lecture, 4 lab)**

Skill development in an original modification based on a current game engine. Includes management of version control; development of project timeliness; integration of sound, models, and animation; production of demos; and creation of original levels, characters, and content for a real-time multiplayer game. Applies skills learned in previous classes in a simulated real-world design team experience.

## GAME 2334 Project Development II

**Prerequisites:** GAME 1336, GAME 2332; **Must be placed into college-level reading, college-level writing and MATH 0308 in math.**

**Credit: 3 (2 lecture, 4 lab)**

Continuation of an original modification based on a current game engine with an emphasis on new content and significant changes in game play over the base game experience. Includes creation of original levels, characters, and content for a real-time multiplayer game applying skills learned in previous classes. (formerly GAME 2375)

## GAME 2336 Lighting, Shading and Texture

**Prerequisites:** GAME 1336; **Must be placed into college-level reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.**

**Credit: 3 (2 lecture, 4 lab)**

Lighting, shading, and texture painting for 3D models using digital painting techniques. Emphasizes lighting, shading, and texture creation of limited resolution to increase system performance for digital games and simulation training models.

## GAME 2338 Game Testing

**Prerequisites:** **Must be placed into college-level reading, ENGL 0310 or 0349 in writing and MATH 0312 in math.**

**Credit: 3 (2 lecture, 4 lab)**

Testing and debugging gaming and simulation applications in the alpha and beta stages of production. Includes critiques of the product and written documentation of the testing and debugging processes.



# Course Descriptions

## **GAME 2341 Game Scripting**

**Prerequisites:** GAME 1372; Must be placed into college-level reading, ENGL 0310 or 0349 in writing and MATH 0312 in math.

**Credit:** 3 (2 lecture, 4 lab)

Scripting languages with emphasis on game concepts and simulations.

## **GAME 2342 Game Development Using C++**

**Prerequisites:** GAME 2347; Must be placed into college-level reading, ENGL 0310 or 0349 in writing and MATH 0312 in math.

**Credit:** 3 (2 lecture, 4 lab)

Skill development in C++ programming for games and simulations. Examines real-world C++ development issues.

## **GAME 2344 DirectX Programming**

**Prerequisites:** GAME 2347; Must be placed into college-level reading, ENGL 0310 or 0349 in writing and MATH 0312 in math.

**Credit:** 3 (2 lecture, 4 lab)

Exploration of the advanced suite of multimedia application programming interfaces (API) built into the Microsoft Windows operating system.

## **GAME 2347 Advanced Game Programming**

**Prerequisites:** GAME 2347; Must be placed into college-level reading, ENGL 0310 or 0349 in writing and MATH 0312 in math.

**Credit:** 3 (2 lecture, 4 lab)

Optimization of student-created games. Includes performance tuning, debugging, designing for test, software architecture design, object-oriented practices for game play, asset management, and coding best practices.

## **GAME 2371 Level Design III**

**Prerequisites:** GAME 2304; Must be placed into college-level reading, ENGL 0310 or 0349 in writing and MATH 0306 in math.

**Credit:** 3 (2 lecture, 4 lab)

Advanced approach to the tools and concepts used to create levels for games and simulations. Incorporates an advanced exploration of level design, architecture theory, concepts of critical path and flow, balancing, play testing, and storytelling. Includes utilization of toolsets from industry titles.

## **GAME 2372 Emerging Game Technology**

**Prerequisites:** GAME 1336; Must be placed into college-level reading, ENGL 0310 or 0349 in writing and MATH 0312 in math.

**Credit:** 3 (2 lecture, 4 lab)

Explore significant developments within the gaming and simulation field. Research emerging technologies and systems recently developed in the gaming and simulation industry.

## **GAME 2373 2D Game Programming**

**Prerequisites:** GAME 1372; Must be placed into college-level reading, ENGL 0310 or 0349 in writing and MATH 0312 in math.

**Credit:** 3 (2 lecture, 4 lab)

Design and development of 2D games and simulations. Includes the design of the user interface, animation, and software development techniques using industry standard development tool.

## **GAME 2378 Techniques of Game Art**

**Prerequisites:** GAME 1371; Must be placed into college-level reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.

**Credit:** 3 (2 lecture, 4 lab)

A study of industry-used, game-art techniques and its applications of 3D game art assets.

## **GAME 2386 Internship**

**Prerequisites:** GAME 2334; Must be placed into college-level reading, college-level writing and MATH 0312 in math.

**Credit:** 3 (15 external lab)

A work-based learning experience that enables the student to apply specialized occupational theory, skills and concepts. A learning plan is developed by the college and the employer.

## **GEOG 1301 Physical Geography**

**Prerequisites:** Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).

**Credit:** 3 (3 lecture)

Basic physical elements of geography, maps, weather and climate, and natural resources.

## **GEOG 1302 Cultural Geography**

**Prerequisites:** Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).

**Credit:** 3 (3 lecture)

A survey of the cultural diversity found on earth. Topics include population, language, religion, ethnicity, and popular culture, with a special focus on spatial attributes and expressions of culture. (This is a core curriculum course.)

## **GEOG 1303 World, Regional and Local Geography**

**Prerequisites:** Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).

**Credit:** 3 (3 lecture)

Study of major world regions with emphasis on prevailing conditions and developments. Including emerging conditions and trends, and awareness of diversity of ideas and practices to be found in these regions. Core Curriculum Course.

## **GEOG 2312 Economic Geography**

**Prerequisites:** Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).

**Credit:** 3 (3 lecture)

Analytical study of the historical development of particular economic distributions as they relate to social, cultural, political, and physical factors. Includes critical inquiry into the reasons for location of various types of economic activity, production, and marketing. Cross-listed with ECON 2311.

## **GEOL 1345 Introduction to Oceanography**

**Prerequisites:** Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

**Credit:** 3 (3 lecture)

An introduction to the world's oceans, emphasizing the geological, physical, biological, chemical, and ecological aspects of the marine environment. Core Curriculum Course.

## **GEOL 1347 Meteorology**

**Prerequisites:** Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

**Credit:** 3 (3 lecture)

The study of basic principles of weather and climate and the pervasive effects of weather conditions on daily lives, commerce, agriculture, urban planning and other human activity. The course offers basic scientific theory with applications familiar to the student.

## **GEOL 1401 Earth Sciences I**

**Prerequisites:** Must be placed into college level-reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).

**Credit:** 4 (3 lecture, 3 lab)

Survey of physical geology, historical geology, and related sciences. Includes study of the physical nature of Earth and the physical processes acting upon and within the Earth. This course will also address the geological understanding of time, the history of life, and physical changes since the Earth's origin. This course is designed to meet the needs of education and non-science majors. GEOL 1401 or GEOL 1402 can be taken in any order. Core Curriculum Course.

## **GEOL 1402 Earth Sciences II**

**Prerequisites:** Must be placed into college level-reading or take (GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).

**Credit:** 4 (3 lecture, 3 lab)

Survey of astronomy, meteorology, oceanography, and related sciences. Includes study of the planets and the stars, the world's oceans, the interactions between humans and Earth, and the basic principles of weather and climate. This course is designed to meet the needs of education and non-science majors. GEOL 1401 or GEOL 1402 can be taken in any order. Core Curriculum Course.

## **GEOL 1403 Physical Geology**

**Prerequisites:** Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).

**Credit:** 4 (3 lecture, 3 lab)

Study of the nature of the earth, including the physical processes operating on and inside the earth. Laboratory includes the study of rocks, minerals, and topographic maps. Core Curriculum Course.

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## **GEOL 1404 Historical Geology**

**Prerequisites:** GEOL 1403; **Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).**

**Credit: 4 (3 lecture, 3 lab)**

Study of the history of the earth, its life and geologic time. Laboratory includes the study of sedimentary rocks, fossils, and maps. Core Curriculum Course.

## **GEOL 1405 Environmental Geology**

**Credit: 4 (3 lecture, 3 lab)**

Environmental Geology will cover the geological aspects of human interactions with the environment, including natural hazards, waste management as well as air, water and soil pollution. The regulatory framework addressing environmental issues, methodologies of risk assessment and remediation techniques used to mitigate hazards will also be emphasized. Core Curriculum Course

## **GERM 1300 Beginning German Conversation I**

**Credit: 3 (3 lecture)**

An introductory German course which emphasizes listening comprehension and speaking skills. Reading and writing may be done as reinforcement to oral communication skills. The course is slower-paced and less comprehensive than German 1411. It is highly recommended for students without previous experience in the German language. This course is not open to students whose first language is German. Generally, does not transfer as foreign language credit, but may transfer as elective credit.

## **GERM 1310 Beginning German Conversation II**

**Prerequisites:** GERM 1300 or equivalent

**Credit: 3 (3 lecture)**

Continuation of GERM 1300. Emphasizes oral communication skills. Generally, does not transfer as foreign language credit, but may transfer as elective credit. Students who continue the study of German following this course must take GERM 1411.

## **GERM 1411 Beginning German I**

**Prerequisites: Must be placed into college - level reading (or take GUST 0342 as a co-requisite) and be placed into college level writing (or take ENGL 0310/0349 as a co-requisite)****Credit: 4 (3 lecture, 2 lab)**

Introduction to German language and culture. Development of basic skills in listening comprehension, speaking, reading, writing, and cultural awareness. Course includes vocabulary building, conversation and grammar. Transfers as foreign language credit. Core Curriculum Course.

## **GERM 1412 Beginning German II**

**Prerequisites:** GERM 1411 or satisfactory score on an advanced placement examination or at least 2 years of high school German within the last two years; **Must be placed into college - level reading (or take GUST 0342 as a co-requisite) and be placed into college level writing (or take ENGL 0310/0349 as a co-requisite)****Credit: 4 (3 lecture, 2 lab)**

Continuation of GERM 1411. Further development of listening comprehension, speaking, reading, and writing skills, and cultural awareness. More advanced grammar. Transfers as foreign language credit. Core Curriculum Course.

## **GERM 2311 Intermediate German I**

**Prerequisites:** GERM 1412 or equivalent; **Must be placed into college - level reading (or take GUST 0342 as a co-requisite) and be placed into college level writing (or take ENGL 0310/0349 as a co-requisite)**

**Credit: 3 (3 lecture)**

Further development of listening, speaking, reading and writing skills and cultural awareness acquired in Beginning German. Introduction of more complex language structures. Oral and written practice based on selected readings. Class conducted mainly in German. Core Curriculum Course.

## **GERM 2312 Intermediate German II**

**Prerequisites:** GERM 2311 or equivalent; **Must be placed into college - level reading (or take GUST 0342 as a co-requisite) and be placed into college level writing (or take ENGL 0310/0349 as a co-requisite)****Credit: 3 (3 lecture)**

Continuation of GERM 2311. Special emphasis on writing. Readings, discussions and compositions. Class conducted mainly in German. Core Curriculum Course.

## **GERM 1301 Introduction to Gerontology**

**Prerequisites: Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0306 in math.**

**Credit: 3 (3 lecture)**

Overview of the social, psychological, and biological changes that accompany aging and an overview of the implications of these changes for the individual, as well as for the larger society.

## **GISC 1401 Cartography and Geography in Geographical Information Systems (GIS) and Global Positioning Systems**

**Prerequisites:** GISC 1411 or Department Approval; **Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0312 in math.**

**Credit: 4 (2 lecture, 4 lab)**

Introduction to the principles of cartography and geography. Emphasis on global reference systems and the use of satellites for measurements and navigation.

## **GISC 1411 Introduction to Geographic Information Systems (GIS)**

**Prerequisites: Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0312 in math.**

**Credit: 4 (2 lecture, 4 lab)**

Introduction to basic concepts of vector GIS using several industry specific software programs including nomenclature of cartography and geography.

## **GISC 1421 Introduction to Raster-Based Geographic Information Systems (GIS)**

**Prerequisites:** GISC 1411 or Department Approval; **Must be placed into college-level reading, writing and math.**

**Credit: 4 (2 lecture, 4 lab)**

Instruction in GIS data sets including raster-based information such as images or photographs, acquisition of such data, and processing and merging with vector data.

## **GISC 1491 Special Topics in Cartography**

**Prerequisites: Department Approval; Must be placed into college-level reading, writing and math.**

**Credit: 4 (2 lecture, 4 lab)**

Topics address recently identified current events, skills, knowledge and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student.

## **GISC 2250 Scripting for Geographic Information Systems (GIS)**

**Prerequisites: GISC 1401, GISC 1411; Must be placed into college-level reading, writing and math.**

**Credit: 2 (1 lecture, 2 lab)**

Using scripting languages (Python) to automate tasks in Geographic Information Systems (GIS) environments. Introduces scripting and model building techniques used to enhance and customize GIS applications

## **GISC 2359 Web-Served Geographic Information Systems (GIS)**

**Prerequisites: GISC 1401, GISC 1491; Must be placed into college-level reading, writing and math.**

**Credit: 3 (2 lecture, 3 lab)**

Delivery of geographic data via the Internet. Includes composition of the map features distributed and introduction on the use of markup languages to customize web-based Geographic Information Systems (GIS).

## **GISC 2364 Practicum (or Field experience)-Cartography**

**Prerequisites: Department Approval; Must be placed into college-level reading, writing and math.**

**Credit: 3 (2 lecture, 3 lab)**

Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

## **GISC 2380 Cooperative Education - Cartography**

**Prerequisites: Department Approval; Must be placed into college-level reading, writing and math.**

**Credit: 3 (1 lecture, 20 external hours)**

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

## **GISC 2401 Data Acquisition and Analysis in Geographic Information Systems (GIS)**

**Prerequisites: GISC 1401 or Department Approval; Must be placed into college-level reading, writing and math.**

**Credit: 4 (2 lecture, 4 lab)**

Study of the management of geographic information, system life cycles, and costs and benefits. Includes institutional issues such as data providers, data management, combination of attribute and graphical data, information storage and access, Texas and national standards for spatial data; and applications of GIS for data modeling and analysis.

# Course Descriptions

## GISC 2411 Geographic Information Systems (GIS) Applications

**Prerequisites:** GISC 1401,1421, or Department Approval; **Must be placed into college-level reading, writing and math.**  
**Credit: 4 (2 lecture, 4 lab)**

Application of GIS technology to real workplace applications from public and private sectors. Completion of Global Positioning Systems (GPS) fieldwork required for lab exercises.

## GOVT 2301 American Government: National, State, and Local I

**Prerequisites:** **Must be placed into college-level reading and college-level writing.**  
**Credit: 3 (3 lecture)**

A study of theories of American democracy and other ideologies, United States and Texas constitutions, federalism, state and local government, political economy, political socialization and public opinion, the media, interest groups, and political parties and elections. Core Curriculum Course.

## GOVT 2302 American Government: National, State, and Local II

**Prerequisites:** **Must be placed into college-level reading and college-level writing.**  
**Credit: 3 (3 lecture)**

A study of the executive, legislative, and judicial branches of government at both the national and state levels; economic and regulatory policy; social policy; civil liberties and civil rights policy; and foreign policy. Core Curriculum Course.

## GOVT 2304 Introduction to Political Science

**Prerequisites:** **Must be placed into college-level reading and college-level writing.**  
**Credit: 3 (3 lecture)**

An introduction to the history, scope, and methods of political science. Among the topics covered are the different conceptions of politics and science and the relationships between them, the major controversies over the possibility and shape of political science, and the different approaches employed in the study of politics. Core Curriculum Course.

## GOVT 2389 Cooperative Legislative Internship

**Prerequisites:** **Completion of GOVT 2301 or GOVT 2302 with a grade of 'B' or better, a grade point average of at least 3.0, and the written recommendation of an HCC government instructor. Must be placed into college-level reading and college-level writing.**  
**Credit: 3 (1 lecture, 16 lab)**

An experiential-learning instruction program designed to integrate textbook and classroom knowledge with practical hands-on experience in an applied area of political science. Primary implementation of student activities will occur in pre-selected legislative institutions or other related governmental organizations.

## GUST 0100 Developmental Reading

**Prerequisites:** Department Approval  
**Credit: 1 (1 lecture)**

An individualized curriculum for students whose test scores demonstrate high proficiency but do not meet state requirements for placement into core course work. This course will present a concentrated review of basic Reading and Vocabulary Skills. Department Chair approval is required.

## GUST 0339 Introduction to Reading

**Prerequisites:** **Must be placed into GUST 0339 (or higher) in reading.**

**Credit: 3 (3 lecture, 1 lab)**

A basic reading course designed to improve students' overall reading skills. Emphasis is on reading comprehension, vocabulary development, study techniques, career planning and critical reading. Classroom instruction is enhanced by a variety of self-paced activities.

## GUST 0340 Developmental Reading for Non-Native Speakers of English

**Prerequisites:** Satisfactory score on CELSA test

**Credit: 3 (3 lecture, 1 lab)**

A basic reading course for non-native English speakers designed to improve students' overall reading skills. Emphasis on reading comprehension, vocabulary development, study techniques, and critical reading. Classroom instruction is enhanced by a variety of self-paced activities. Recommended on the basis of CELSA test scores.

## GUST 0341 Developmental Reading I

**Prerequisites:** **Must be placed into GUST 0341 in reading or completion of GUST 0339 or 0340.**

**Credit: 3 (3 lecture, 1 lab)**

Developmental Reading I is designed to address the developmental reader's need for direct instruction in basic reading behaviors that are essential to the acquisition of knowledge in the content areas. Instruction is based on an interactive reading method with emphasis on learning to learn. These key skills include previewing chapters, selecting and organizing the information read and critical reading, making informed decisions about that information.

## GUST 0342 Developmental Reading II

**Prerequisites:** **Must be placed into GUST 0342 in reading or completion of GUST 0341.**

**Credit: 3 (3 lecture, 1 lab)**

Developmental Reading II is a continuation of reading skills introduced in GUST 0341. Stronger emphasis is on critical reading and thinking skills. The goal of GUST 0342 is to teach students to analyze materials thoughtfully, synthesize materials from various sources, and apply this information to their reading.

## HALT 1211 Shrubs, Vines and Groundcovers

**Prerequisites:** **Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 2 (1 lecture, 3 lab)**

In-depth coverage of the shrubs, vines and groundcovers used in the horticulture industry. Topics include identification, characteristics, adaptation, cultural requirements, pest and disease problems, and use in the landscape.

## HALT 1301 Principles of Horticulture

**Prerequisites:** **Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (3 lecture)**

An overview of the horticulture industry, plant science, terminology, classification, propagation, environmental responses, and careers and opportunities in the field of horticulture.

## HALT 1307 Plant Diseases

**Prerequisites:** **Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 2 lab)**

An overview of the factors causing plant diseases. Topics include physiological disorders, fungi, bacteria, viruses, nematodes, parasitic plants, nonpathogenic factors, and control methods.

## HALT 1309 Interior Plants

**Prerequisites:** **Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 2 lab)**

Instruction in the identification and classification of the plants used in home and commercial interior landscapes. Topics include design characteristics for interiorscapes and environmental requirements of the plants.

## HALT 1319 Landscape Construction

**Prerequisites:** **Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 2 lab)**

Exploration of landscape construction materials and methods of installation. Topics on soil preparation, including wood, concrete, masonry construction and landscape lighting including pools, spas, and general construction details.

## HALT 1322 Landscape Design

**Prerequisites:** **Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 2 lab)**

A study of the principles and elements of landscape design. Topics include client interview, site analysis, plan view, scale, plant selection, basic drawing and drafting skills, and plan preparation.

## HALT 1333 Landscape Irrigation

**Prerequisites:** **Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 2 lab)**

In-depth coverage of irrigation systems including equipment, design, performance, and maintenance. Topics include residential and commercial applications, troubleshooting, repair, and technological advances in irrigation systems.

# Course Descriptions

## HALT 1351 Landscape Business Operations

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (2 lecture, 2 lab)

Instruction in the structure of the landscape business including cost estimation; organization; equipment needs; interpretation of financial reports; and material, labor, and equipment management. Emphasis on the types of landscape operations, marketing, legal forms, construction law, and safety.

## HALT 1370 Introduction to Aquaponics

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (2 lecture, 2 lab)

This course provides instruction in the principles and practical applications of Aquaponics and Hydroponics culture systems. Students will be introduced to the history as well as a variety of system designs that maintain water quality by various solids removal techniques. In-depth coverage of fish production, plant production, economics and fingerling production. Participants will learn the technology through presentation of the theory and practical skill development. Water quality labs will cover the methods of analysis and the use of water quality test kits. Field work will include fish handling, vegetable production and system operation.

## HALT 1381 Cooperative Education

### Prerequisite:

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (1 lecture, 20 hours per week employment)

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

## HALT 1382 Cooperative Education

**Prerequisites:** Department Approval; Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (1 lecture/seminar and 20 hrs a week employment)

Career-related activities encountered in the student's area of specialization are offered through a cooperative agreement between the college, employer, and student. Under supervision of the college and the employer, the student combines classroom learning with work experience. Directly related to a technical discipline, specific learning objectives guide the student through the paid work experience. This course may be repeated if topics and learning outcomes vary.

## HALT 1396 Special Topics in Nursery Operations and Management

**Prerequisites:** Department Approval; Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (2 lecture, 2 lab)

Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student.

## HALT 2307 Horticulture Food Crops

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (2 lecture, 2 lab)

A study of commercial and home cultivated food crops including various vegetables, fruits, and nuts. Topics address planting, maintenance, harvest, and storage of the various crops.

## HALT 2308 Greenhouse Management

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (2 lecture, 2 lab)

Fundamentals of greenhouse construction and operation. Topics include architectural styles, construction materials, environmental systems and controls, growing media, fertilizers, post harvest handling, marketing, and business management.

## HALT 2312 Turfgrass Maintenance

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (3 lecture)

Instruction in common turfgrass cultural practices. Topics include calculations, application of materials, and the operation and maintenance of equipment.

## HALT 2314 Plant Propagation

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (2 lecture, 2 lab)

A study of the sexual and asexual propagation of plants used in horticulture. Topics include propagation by seeds, cuttings, grafting, budding, layering, division separation, and tissue culture, and environmental factors of propagation.

## HALT 2318 Soil Fertility and Fertilizers

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (2 lecture, 2 lab)

An in-depth study of the chemistry, soil interaction, plant uptake, and utilization of essential plant nutrients. Topics include deficiency and toxicity symptoms, and the selection, application, and characteristics of fertilizer materials.

## HALT 2320 Nursery Production and Management

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (2 lecture, 2 lab)

An overview of the procedures for establishing and operating a commercial nursery. Topics include site selection, structures, equipment, stock selection, production practices, harvesting, marketing, and management practices.

## HALT 2331 Advanced Landscape Design

**Prerequisites:** HALT 1322; Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (2 lecture, 2 lab)

In-depth coverage of advanced practices in landscape planning for commercial and residential landscapes. Topics include advanced design analysis, architectural elements, space articulation, and land engineering concepts.

## HAMG 1313 Front Office Procedures

**Prerequisites:** Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (3 lecture, 1 lab)

A study of the flow of activities and functions in today's lodging operation. Topics include a comparison of manual, machine assisted, and computer based methods for each front line function.

## HAMG 1321 Introduction to Hospitality Industry

**Prerequisites:** Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (3 lecture)

Introduction to the elements of the hospitality industry.

## HAMG 1324 Hospitality Human Resources Management

**Prerequisites:** Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (3 lecture)

A study of the principles and procedures of managing people in the hospitality workplace.

## HAMG 1340 Hospitality Legal Issues

**Prerequisites:** Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (3 lecture)

A course in legal and regulatory requirements that impact the hospitality industry. Topics include Occupational Safety and Health Administration (OSHA), labor regulations, tax laws, tip reporting, franchise regulations, and product liability laws.

## HAMG 1342 Guest Room Maintenance

**Prerequisites:** Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (2 lecture, 3 lab)

Demonstrates the working relationship in the lodging industry between housekeeping and maintenance.

# Course Descriptions

## HAMG 2307 Hospitality Marketing and Sales

**Prerequisites:** Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (3 lecture)

Identification of the core principles of marketing and their impact on the hospitality industry.

## HAMG 2332 Hospitality Financial Management

**Prerequisites:** Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (3 lecture)

Methods and application of financial management within the hospitality industry. Primary emphasis on sales accountability, internal controls, and reports analysis.

## HAMG 2337 Hospitality Facilities Management

**Prerequisites:** Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (3 lecture)

Identification of building systems, facilities management, security and safety procedures

## HAMG 2380 Cooperative Education I—Hospitality Administration and Management

**Prerequisite:** Department Approval; Must be placed into GUST 0341 in reading, ENGL 0310 or 0349 in writing and MATH 0306 in math.

**Corequisite:** 20 hours or more a week of approved hotel or restaurant related employment

**Credit:** 3 (1 lecture, 20 hours work experience)

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

## HAMG 2381 Cooperative Education II—Hospitality Administration and Management

**Prerequisite:** HAMG 2380; Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math

**Corequisite:** 20 hours or more a week of approved hotel or restaurant related employment

**Credit:** 3 (1 lecture, 20 hours work experience)

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

## HART 1301 Basic Electricity for HVAC

**Prerequisites/Corequisites:** TECM 1301; Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (2 lecture, 3 lab)

Principles of electricity as required by HVAC, including proper use of test equipment, electrical circuits, and component theory and operation.

## HART 1307 Refrigeration Principles

**Prerequisites/Corequisites:** TECM 1301; Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (2 lecture, 3 lab)

An introduction to the refrigeration cycle, basic thermodynamics, heat transfer, temperature/pressure relationship, safety, refrigeration containment, and refrigeration components.

## HART 1341 Residential Air Conditioning

**Prerequisite/Corequisite:** TECM 1301;

**Prerequisite:** HART 1301, HART 1307; Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (2 lecture, 3 lab)

A study of components, applications, and installation of mechanical air conditioning systems including operating conditions, troubleshooting, repair, and charging of air conditioning systems.

## HART 1345 Gas and Electric Heating

**Prerequisite/Corequisite:** HART 1341;

**Prerequisite:** HART 1301, HART 1307; Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (2 lecture, 3 lab)

A study of components, applications and installation of mechanical air conditioning systems including operating conditions, troubleshooting repair, and charging of air conditioning systems.

## HART 1356 EPA Recovery Certification

### Preparation

**Prerequisite/Corequisite:** TECM 1301;

**Prerequisite:** HART 1301, HART 1307; Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (2 lecture, 3 lab)

Certification training for HVAC refrigerant recovery and recycling. Instruction will provide a review of EPA guidelines for refrigerant recovery and recycling during the installation, service, and repair of all HVAC and refrigeration systems.

## HART 2301 Air Conditioning and Refrigeration Codes

**Prerequisites:** Department Approval; Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0308 in math.

**Credit:** 3 (2 lecture, 3 lab)

HVAC standards and concepts with emphasis on the understanding, and documentation of the codes and regulations required for the state mechanical contractors license and local codes.

## HART 2334 Advanced Air Conditioning Controls

**Prerequisites:** HART 1341, HART 1345, TECM 1301; Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0308 in math.

**Credit:** 3 (2 lecture, 3 lab)

Theory and application of electrical control devices, electromechanical controls, and/or pneumatic controls.

## HART 2336 Air Conditioning Troubleshooting

**Prerequisite:** HART 1341, HART 1345, HART 2342; Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0308 in math.

**Credit:** 3 (2 lecture, 3 lab)

An advanced course in application of troubleshooting principles and use of test instruments to diagnose air conditioning and refrigeration components and system problems including conducting performance tests.

## HART 2342 Commercial Refrigeration

**Prerequisites/Corequisites:** HART 1345

**Prerequisites:** HART 1341; Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (2 lecture, 3 lab)

Theory of and practical application in the maintenance of commercial refrigeration; medium and low temperature applications and ice machines.

## HART 2345 Residential Air Conditioning System Design

**Prerequisites:** HART 1341, HART 1345, TECM 1301; Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0308 in math.

**Credit:** 3 (2 lecture, 3 lab)

Study of the properties of air and results of cooling, heating, humidifying or dehumidifying; heat gain and heat loss calculations including equipment selection and balancing the air system.

## HART 2349 Heat Pumps

**Prerequisite/Corequisite:** HART 1345;

**Prerequisite:** HART 1341; Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (2 lecture, 3 lab)

A study of heat pumps, heat pump control circuits, defrost controls, auxiliary heat, air flow, and other topics related to heat pump systems.

## HART 2357 Specialized Commercial Refrigeration

**Prerequisites:** HART 2342, TECM 1301; Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0308 in math.

**Credit:** 3 (2 lecture, 3 lab)

An advanced course covering the components, accessories, and service of specialized refrigeration units such as ice machines, soft-serve machines, cryogenics, and cascade systems.

# Course Descriptions

## **HIST 1301 United States History to 1877**

**Prerequisites:** Must be placed into college-level reading and college-level writing.

**Credit:** 3 (3 lecture)

The American nation from the English colonization to the close of the Civil War through Reconstruction. Core Curriculum Course.

## **HIST 1302 United States History after 1877**

**Prerequisites:** Must be placed into college-level reading and college-level writing.

**Credit:** 3 (3 lecture)

The American nation from the end of the Reconstruction Era to the present. Core Curriculum Course.

## **HIST 2301 History of Texas**

**Prerequisites:** Must be placed into college-level reading and college-level writing.

**Credit:** 3 (3 lecture)

A survey of the political, economic, social, cultural, and intellectual development of Texas from the period of Spanish discovery to the present. History of Texas may be substituted for either HIST 1301 or HIST 1302. Core Curriculum Course.

## **HIST 2311 Western Civilization I**

**Prerequisites:** Must be placed into college-level reading and college-level writing.

**Credit:** 3 (3 lecture)

Development of ancient, medieval, and early modern civilizations to 1660.

## **HIST 2312 Western Civilization II**

**Prerequisites:** Must be placed into college-level reading and college-level writing.

**Credit:** 3 (3 lecture)

Development of modern western civilization from 1660 to 1945.

## **HIST 2321 The Origins and Development of World Civilizations**

**Prerequisites:** Must be placed into college-level reading and college-level writing.

**Credit:** 3 (3 lecture)

A survey of the major western and non-western civilizations which developed from Sumeria to the end of the Middle Ages. Centered around a series of themes, particular emphasis is placed on the commonality of the human experience as illustrated in Europe, the Middle East, Asia and Sub-Saharan Africa. Core Curriculum Course.

## **HIST 2322 Modern World Civilizations:**

### **1500-Present**

**Prerequisites:** Must be placed into college-level reading and college-level writing.

**Credit:** 3 (3 lecture)

This course analyzes the effect on the world of the changing relationship between the West and the non-West over the past 500 years. Emphasis will be placed on the social, political and economic dynamics of this interchange. Core Curriculum Course.

## **HIST 2328 Mexican-American History**

**Prerequisites:** Must be placed into college-level reading and college-level writing.

**Credit:** 3 (3 lecture)

A survey of the role of the Mexican-American in United States history. Emphasis will be placed on economic, social, and cultural development with particular focus on contributions to American society.

## **HIST 2371 Women in American History**

**Prerequisites:** Must be placed into college-level reading and college-level writing.

**Credit:** 3 (3 lecture)

The course explores the history of women's experience in American Society. The course will introduce students to the field of American women's history. Women's history is the study of women in past times and across cultures. Its goals are to find women missing from the pages of our history books; to analyze and understand their experience as lived, felt, and understood; to integrate that knowledge into the history of particular times, places, and societies; and to develop from that knowledge conceptual frameworks with which to understand the role and significance of gender in American culture and society.

## **HIST 2381 Afro-American History**

**Prerequisites:** Must be placed into college-level reading and college-level writing.

**Credit:** 3 (3 lecture)

A survey of the role of the Afro-American in United States history. Emphasis will be placed on economic, social, and cultural development with particular focus on contributions to American society.

## **HIST 2389 Academic Cooperative in History**

**Prerequisites:** Must be placed into college-level reading and college-level writing.

**Credit:** 3 (3 lecture, 0 lab)

An experiential-learning instruction program designed to integrate textbook and classroom knowledge with practical hands-on experience in an applied area of history. In conjunction with class seminars, the individual student will set specific goals and objectives in the study of human social behavior and/or social institutions.

## **HITT 1166 Health Information Practicum I**

**Prerequisites:** Department Approval; Must be placed into college-level reading, college-level writing and MATH 0312 in math.

**Credit:** 1 (8 lab)

Practical general training and experiences in the workplace. The college with the employer develops and documents an individualized plan for the student. The plan relates the workplace training and experiences to the student's general and technical course of study.

## **HITT 1167 Health Information Practicum II**

**Prerequisites:** Department Approval; Must be placed into college-level reading, college-level writing and MATH 0312 in math.

**Credit:** 1 (8 Lab)

Practical general training and experiences in the workplace. The college, with the employer, develops and documents an individualized plan for the student. The plan relates the workplace training and experiences to the student's general and technical course of study. The guided external experiences may be paid or unpaid. This course may be repeated if topics and learning outcomes vary.

## **HITT 1301 Health Data Content and Structure**

**Prerequisites:** Must be placed into college-level reading, college-level writing and MATH 0312 in math.

**Credit:** 3 (2 lecture, 2 lab)

Introduction to system and processes for collecting, maintaining and disseminating primary and secondary health related information. Introduction in delivery and organizational structure to include content of health record, documentation requirements, registries, indices, licensing, regulatory agencies, forms, and screens.

## **HITT 1305 Medical Terminology I**

**Prerequisites:** Must be placed into college-level reading, college-level writing and MATH 0312 in math.

**Credit:** 3 (2 lecture, 4 lab)

Study of word origin and structure through the introduction of prefixes, suffixes, root words, plurals, abbreviations and symbols, surgical procedures, medical specialties, and diagnostic procedures.

## **HITT 1307 Cancer Data Management I**

**Prerequisites:** HITT 1301, HITT 1355, HITT 1305; Must be placed into college-level reading, college-level writing and MATH 0312 in math.

**Credit:** 3 (3 lecture)

Introduction to Cancer Data Management. Includes cancer program requirements, the American College of Surgeons Cancer Program survey process, and data collection/retrieval-abstracting, coding, staging, and reporting.

## **HITT 1311 Computers in Health Care**

**Prerequisites:** POFI 1301 or ITSC 1309; Must be placed into college-level reading, college-level writing and MATH 0312 in math.

**Credit:** 3 (2 lecture, 3 lab)

Concepts of computer technology related to health care data.

## **HITT 1341 Coding and Classification Systems**

**Prerequisites:** HPRS 2301, HITT 1349; Must be placed into college-level reading, college-level writing and MATH 0312 in math.

**Credit:** 3 (2 lecture, 4 lab)

Application of basic coding rules, principles, guidelines, and conventions.

# Course Descriptions

## HITT 1349 Pharmacology

**Prerequisites:** HITT 1305, HITT 1445, BIOL 2402; **Must be placed into college-level reading, college-level writing and MATH 0312 in math.**

**Credit: 3 (3 lecture)**

Overview of the basic concepts of the pharmacological treatment of various diseases affecting major body systems.

## HITT 1353 Legal and Ethical Aspects of Health Information

**Prerequisites:** **Must be placed into college-level reading, college-level writing and MATH 0312 in math.**

**Credit: 3 (3 lecture)**

Concepts of confidentiality, ethics, health care legislation, and regulations relating to the maintenance and use of health information.

## HITT 1355 Health Care Statistics

**Prerequisites:** **Must be placed into college-level reading, college-level writing and MATH 0312 in math.**

**Credit: 3 (2 lecture, 2 lab)**

General principles of health care statistics with emphasis in hospital statistics. Skill development in computation and calculation of health data with overview of guidelines for Texas Department of Health Vital Statistics and Studies

## HITT 1445 HealthCare Delivery Systems

**Prerequisites:** HITT 1301; **Must be placed into college-level reading, college-level writing and MATH 0312 in math.**

**Credit: 4 (4 lecture)**

Introduction to organization, financing and delivery of health care services, accreditation, licensure and regulatory agencies.

## HITT 2167 Health Information Practicum III

**Prerequisites:** **Department Approval; Must be placed into college-level reading, college-level writing and MATH 0312 in math.**

**Credit: 1 (8 lab)**

Practical general training and experiences in the workplace. The college, along with the employer, develops and documents an individualized plan for the student. The plan relates the workplace training and experiences to the student's general and technical courses of study. The guided external experiences may be paid or unpaid. This course may be repeated if topics and learning outcomes vary.

## HITT 2249 RHIT Competency Review

**Prerequisites:** **Department Approval; Must be placed into college-level reading, college-level writing and MATH 0312 in math.**

**Credit: 2 (1 lecture, 3 lab)**

Review of HIT competencies, skills, and knowledge base pertinent to the technology and relevant to the professional development of the student.

## HITT 2267 Practicum (or Field Experience) - Health Information/Medical Records Technology/Technician

**Prerequisites:** **Department Approval; Must be placed into college-level reading, college-level writing and MATH 0312 in math.**

**Credit: 2 (15 lab)**

Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

## HITT 2307 Cancer Data Management II

**Prerequisites:** HITT 1307; **Must be placed into college-level reading, college-level writing and MATH 0312.**

**Credit: 3 (3 lecture)**

A continuation of Cancer Data Management I. Application of cancer registry data.

## HITT 2339 Health Information Organization and Supervision

**Prerequisites:** **Department Approval; Must be placed into college-level reading, college-level writing and MATH 0312 in math.**

**Credit: 3 (3 lecture)**

Principles of organization and supervision of human, fiscal and capital resources.

## HITT 2340 Advanced Medical Billing and Reimbursement

**Prerequisites:** **Must be placed into college-level reading, college-level writing and MATH 0312 in math.**

**Credit: 3 (2 lecture, 2 lab)**

Health insurance and reimbursement in various health care settings. Includes application of coding skills to prepare insurance forms for submission to third party payers.

## HITT 2367 Practicum (or Field Experience) - Health Information/Medical Records Technology/Technician

**Prerequisites:** **Must be placed into college-level reading, college-level writing and MATH 0312 in math.**

**Credit: 3 (21 lab)**

Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

## HITT 2435 Coding and Reimbursement Methodologies

**Prerequisites:** HITT 1341; **Must be placed into college-level reading, college-level writing and MATH 0312 in math.**

**Credit: 4 (3 lecture, 3 lab)**

Advanced coding techniques with emphasis on case studies, health records, and federal regulations regarding prospective payment systems and methods of reimbursement.

## HITT 2443 Quality Assessment and Performance Improvement

**Prerequisites:** **Department Approval; Must be placed into college-level reading, college-level writing and MATH 0312 in math.**

**Credit: 4 (4 lecture, 1 lab)**

Study of the many facets of quality standards and methodologies in the health information management environment. Topics include licensing, accreditation, computation and presentation of data in statistical formats, quality improvement functions, quality tools, utilization management, risk management, and medical staff data quality issues.

## HLAB 1401 Introduction to Histotechnology

**Prerequisites:** **Must be placed into college-level reading, writing and math.**

**Credit: 4 (4 lecture)**

Introduction to the healthcare environment and the histology laboratory. Includes laboratory safety and infection control; healthcare professionals; medical terminology; basic anatomy and physiology; laboratory mathematics; communication; and ethics, legal, and professional issues.

## HLAB 1402 Histotechnology I

**Prerequisites:** **HLAB 1401; Must be placed into college-level reading, writing and math.**

**Credit: 4 (3 lecture, 3 lab)**

Introduction to the basic theories and practices of histotechnology. Includes laboratory safety, fixation, tissue processing, embedding, microtomy and cryotomy, and routine staining.

## HLAB 1405 Functional Histotechnology I

**Prerequisites:** **HLAB 1401; Must be placed into college-level reading, writing and math.**

**Credit: 4 (4 lecture)**

Recognition, composition, and function of cells, cell life cycles, blood, and basic tissue types.

## HLAB 1443 Histotechnology II

**Prerequisites:** **HLAB 1402; Must be placed into college-level reading, writing and math.**

**Credit: 4 (3 lecture, 3 lab)**

A continuation of Histotechnology I. Introduces both theory and practice of common histochemical staining techniques. Topics include laboratory safety; laboratory mathematics and reagent preparation; basic tissue/dye bonding; differentiation and quality control; and nuclear, connective tissue, and carbohydrate staining techniques.

## HLAB 1446 Functional Histology II

**Prerequisites:** **HLAB 1405; Must be placed into college-level reading, writing and math.**

**Credit: 4 (4 lecture)**

A continuation of Functional Histology I. Emphasis on the recognition, composition, and function of organ systems. Includes skeletal tissues, central nervous system, circulatory system, endocrine glands, and reproductive system.

# Course Descriptions

## **HLAB 1460 Clinical-Histotechnology I**

**Prerequisites:** Must be placed into college-level reading, writing and math.

**Corequisite:** HLAB 1472

**Credit:** 4 (16 lab)

A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

## **HLAB 1461 Clinical-Histotechnology II**

**Prerequisites:** HLAB 1460 (I); Must be placed into college-level reading, writing and math.

**Credit:** 4 (16 lab)

A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

## **HLAB 1462 Clinical-Histotechnology III**

**Prerequisites:** HLAB 1461 (II); Must be placed into college-level reading, writing and math.

**Credit:** 4 (16 lab)

A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

## **HLAB 2341 Registry Review**

**Prerequisites:** Department Approval; Must be placed into college-level reading, writing and math.

**Credit:** 3 (3 lecture)

Review of the major theoretical/practical applications in histotechnology. Includes fixation, processing, embedding, microtomy, frozen cryotomy, routine and special stains, tissue identification, immunohistochemistry, enzyme histochemistry, and electron microscopy. Emphasis on employment skills, review of ethical and legal behavior, and professional development.

## **HLAB 2434 Histotechnology III**

**Prerequisites:** HLAB 1443; Must be placed into college-level reading, writing and math.

**Credit:** 4 (3 lecture, 3 lab)

A continuation of Histotechnology II. Further introduces theory and practice of routine histochemical staining techniques. Techniques include microorganisms, tissue pigments and minerals, and neural tissue. Includes specialized techniques such as electron microscopy, immunohistochemistry, and muscle enzyme histochemistry.

## **HPRS 1106 Essentials of Medical Terminology**

**Prerequisites:** Must be placed into college-level reading, writing and math.

**Credit:** 1 (1 lecture)

A study of medical terminology, word origin, structure, and application.

## **HPRS 1201 Introduction to Health Professions**

**Prerequisites:** Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 2 (2 lecture, 1 lab)

An overview of roles of various members of the health care system, educational requirements, and issues affecting the delivery of health care.

## **HPRS 1206 Essentials of Medical Terminology**

**Prerequisites:** Must be placed into college-level reading, writing and math.

**Credit:** 2 (2 lecture)

A study of medical terminology, word origin, structure, and application.

## **HPRS 2301 Pathophysiology**

**Prerequisite:** BIOL 2402; Must be placed into college-level reading, writing and math.

**Credit:** 3 (3 lecture)

Study of the pathology and general health management of diseases and injuries across the life span. Topics include etiology, symptoms, and the physical and psychological reaction to diseases and injuries.

## **HPRS 2332 Healthcare Communications**

**Prerequisites:** PTHA 1305, PTHA 1413, PTHA 1229, PTHA 1201, HPRS 1106; Must be placed into college-level reading, writing and math.

**Credit:** 3 (3 lecture, 1 lab)

Methods of communication with clients, client support groups, health care professionals, and external agencies.

## **HRPO 1302 Human Resource Training and Development**

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (3 lecture)

An overview of the human resource development function specifically concentrating on the training and development component. Topics include training as related to organizational mission and goals; budgeting; assessment; design, delivery, evaluation, and justification of training. Included are new trends in training, including distance and virtual education.

## **HRPO 1305 Management and Labor Relations**

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (3 lecture)

The development and structure of the labor movement including labor legislation, collective bargaining, societal impact, labor/management relationships and international aspects.

## **HRPO 1311 Human Relations**

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (3 lecture)

Practical application of the principles and concepts of the behavioral sciences to interpersonal relationships in the business and industrial environment.

## **HRPO 1392 Special Topics in Labor/Personnel Relations and Studies**

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (3 lecture)

Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology of occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

## **HRPO 2301 Human Resources Management**

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306.

**Credit:** 3 (3 lecture)

Behavioral and legal approaches to the management of human resources in organizations.

## **HRPO 2307 Organizational Behavior**

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (3 lecture)

The analysis and application of organizational theory, group dynamics, motivation theory, leadership concepts and the integration of interdisciplinary concepts from the behavioral sciences.

## **HRPO 2371 Recruiting, Interviewing and Placement of Human Resources**

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (3 lecture)

A study of the concepts, techniques and regulations that apply to employment, recruitment, interviewing, selection and placement of human resources.

## **HRPO 2372 Wage and Salary Administration**

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (3 lecture)

A study of contemporary business payroll problems emphasizing wage and benefits plans. Concepts of salary determinants, incentive pay systems, merit and seniority payments and wage and salary control systems are taught.



# Course Descriptions

## **HUMA 1301 Introduction to Humanities**

**Prerequisites:** Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).

**Credit: 3 (3 lecture)**

An introduction to the arts and humanities. The course investigates the relationship between individual human lives and works of imagination and thought. Core Curriculum Course.

## **HUMA 1305 Introduction to Mexican American Studies**

**Prerequisites:** Must be placed into college level reading (or take GUST 0342 as a co-requisite) and be placed into college level writing (or take ENGL 0310/0349 as a co-requisite).

**Credit: 3 (3 lecture)**

The main goal of this course is to provide students with a basic foundation in the Mexican-American/Chicano Studies discipline by offering insight into historical, social sciences, demographics, socio cultural, political, economic, linguistics, educational, and cultural themes that are relevant to the experience of Mexican-Americans in the U.S. Core curriculum course.

## **HUMA 1311 Mexican-American Fine Art Appreciation**

**Prerequisite** Engl. 0310/0349, GUST 0342

**Credit: 3 (3 lecture)**

An examination of Mexican Americans' artistic expression in the visual and performing arts. The main goal of this course is to provide students with a basic foundation in the Mexican-American/Chicano Studies Arts discipline by offering insight into the contributions of Mexican-American artists in the U.S. during the past and present centuries.

## **HUMA 2319 The Minority Experience in the US**

**Prerequisites:** ENGL 1301 or higher  
**Credit: 3 (3 lecture)**

The study of the historical, economic, social, and cultural development of minorities in the U.S. It may include African-American, Mexican-American, Asian-American, and Native-American issues. Core curriculum course

## **HUMA 2323 World Cultures**

**Prerequisites:** ENGL 1301 or higher

**Credit: 3 (3 lecture)**

Study of human beings, their antecedents and related primates and their cultural behavior and institutions. Introduces the major sub-fields: physical and cultural anthropology, archeology, linguistic, and ethnology.

## **HYDR 1345 Hydraulics and Pneumatics**

**Prerequisites:** TECM 1301; Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit: 3 (2 lecture, 2 lab)**

Discussion of the fundamentals of hydraulics and pneumatics, components of each system and the operations, maintenance, and analysis of each system.

## **IBUS 1301 Principles of Exports**

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit: 3 (3 lecture)**

Export management processes and procedures. Includes governmental controls and compliance, licensing of products, documentation, commercial invoices, and traffic procedures. Emphasizes human and public relations, management of personnel, finance, and accounting procedures.

## **IBUS 1302 Principles of Imports**

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit: 3 (3 lecture)**

Practices and processes of import management operations. Includes government controls and compliance. Emphasizes the preparation and understanding of import documents such as customs invoices, packing lists, and commercial invoices.

## **IBUS 1305 Introduction to International Business and Trade**

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit: 3 (3 lecture)**

The techniques for entering the international marketplace. Emphasis on the impact and dynamics of sociocultural, demographic, economic, technological, and political-legal factors in the foreign trade environment. Topics include patterns of world trade, internationalization of the firm, and operating procedures of the multinational enterprise.

## **IBUS 1341 Global Supply Chain Management**

**Prerequisites:** LMGT 1319; Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0312 in math.

**Credit: 3 (3 lecture)**

International purchasing or sourcing. Includes the advantages and the barriers of purchasing internationally, global sourcing, procurement technology, and purchasing processes. Emphasizes issues of contract administration, location, and evaluation of foreign suppliers, total cost approach, exchange fluctuations, customs procedures, and related topics.

## **IBUS 1354 International Marketing Management**

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit: 3 (3 lecture)**

Analysis of international marketing strategies using market trends, costs, forecasting, pricing, sourcing and distribution factors. Development of an international export/import marketing plan.

## **IBUS 1370 Economic Geography**

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit: 3 (3 lecture)**

A study of material management, government regulations and distribution systems throughout the world as related to economic factors regarding agriculture, manufacturing, and materials utilization.

## **IBUS 2335 International Business Law**

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit: 3 (3 lecture)**

A course in law as it applies to international business transactions in the global political-legal environment. Study of inter-relationships among laws of different countries and the legal effects on individuals and business organizations. Topics include agency agreements, international contracts and administrations, regulations of exports and imports, technology transfers, regional transactions, intellectual property, product liability, and legal organization.

## **IBUS 2339 International Banking and Finance**

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.

**Credit: 3 (3 lecture)**

A course in international monetary systems, financial markets, flow of capital, foreign exchange, and financial institutions. Topics include export-import payments and financing the preparation of letters of credit, related shipping documentation, and electronic transfers. An introduction to multinational financial decisions, such as financing foreign investment or working capital.

## **IBUS 2341 Intercultural Management**

**Prerequisites:** IBUS 1305; Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit: 3 (3 lecture)**

Cross-cultural comparisons of management and communications processes. Emphasizes cultural geographic distinctions and antecedents that affect individual, group, and organizational behavior. May include sociocultural demographics, economics, technology, political-legal issues, negotiations, and processes of decision making in the international cultural environment.

## **IBUS 2380 Cooperative Education - International Business/Trade/Commerce**

**Prerequisites:** IBUS 1305; Must be placed into college-level reading, college-level writing and MATH 0312 in math.

**Credit: 3 (1 lecture, 20 lab)**

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

# Course Descriptions

## **IBUS 2381 Cooperative Education - International Business/Trade/Commerce**

**Prerequisites:** IBUS 2380; **Must be placed into college-level reading, college-level writing and MATH 0312 in math.**

**Credit: 3 (1 lecture, 20 lab)**

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

## **IMED 1301 Digital Media**

**Prerequisites:** **Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Corequisite:** ARTC 1325

**Credit: 3 (2 lecture, 4 lab)**

A survey of the theories, elements, and hardware/software components of digital media. Emphasis on conceptualizing and producing digital media presentations.

## **IMED 1316 Web Design I**

**Prerequisites:** **Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Corequisite:** ARTC 1325

**Credit: 3 (2 lecture, 4 lab)**

Instruction in web design and related graphic design issues including mark-up languages, web sites, and browsers.

## **IMED 1341 Interface Design**

**Prerequisites:** ARTC 1325 or **Department Approval; Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 4 lab)**

Skill development in the interface design process including selecting interfaces relative to a project's content and delivery system. Emphasis on aesthetic issues such as iconography, screen composition, colors, and typography.

## **IMED 1359 Writing for Digital Media**

**Prerequisites:** ETWR 1302; **Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 4 lab)**

Written communication for digital media environments including professional websites or other digital content.

## **IMED 2309 Internet Commerce**

**Prerequisites:** **Department Approval; Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 4 lab)**

An overview of the Internet as a marketing and sales tool with emphasis on developing a prototype for electronic commerce.

## **IMED 2313 Project Analysis and Design**

**Prerequisites:** **Department Approval; Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0308 in math.**

**Credit: 3 (2 lecture, 4 lab)**

Application of the planning and production processes for digital media projects. Emphasis on copyright and other legal issues, content design and production management.

## **IMED 2351 Digital Media Programming**

**Prerequisites:** IMED 1316 or **Department Approval; Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 4 lab)**

Advanced topics in digital media programming including custom scripts for data tracking. Emphasis on developing digital media programs customized to the client's needs.

## **IMED 2388 Internship-Digital**

### **Communication and Media/Multimedia**

**Prerequisites:** **Department Approval; Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (13 lab)**

A work-based learning experience that enables the student to apply specialized occupational theory, skills and concepts. A learning plan is developed by the college and the employer.

## **INCR 1302 Physics of Instrumentation**

**Prerequisite/Corequisite:** ELPT 1311; **Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 2 lab)**

An introduction to a simple pneumatic control loop. Introduction to pressure, temperature, level, and flow transmitters and the various transducers used in the detection of changes in process variables. This course is designed to familiarize the student with the instrumentation devices utilized in industrial automation and process control environments.

## **INDS 1211 Fundamentals of Interior**

### **Design**

**Prerequisites:** **Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0306 in math.**

**Credit: 2 (1 lecture, 3 lab)**

An introduction to the elements and principles of design, the interior design profession, and the interior design problem-solving process.

## **INDS 1301 Basic Elements of Design**

**Prerequisites:** **Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 3 lab)**

A study of basic design concepts with projects in shape, line, value, texture, pattern, spatial illusion, and form.

## **INDS 1315 Materials, Methods and Estimating**

**Prerequisites:** **Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 3 lab)**

A study of materials, methods of construction and installation, and estimating for interior design applications.

## **INDS 1319 Technical Drawing for Interior Designers**

**Prerequisites:** **Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 4 lab)**

An Introduction to reading and preparing technical construction drawings for interior design, including plans, elevations, details, schedules, dimensions and lettering.

## **INDS 1341 Color Theory and Application**

**Prerequisites:** **Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 3 lab)**

A study of color theory and its application to interior design.

## **INDS 1345 Commercial Design I**

**Prerequisites:** INDS 2313; **Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 4 lab)**

A study of design principles applied to furniture layout and space planning for commercial interiors.

## **INDS 1349 Fundamentals of Space**

### **Planning**

**Prerequisites:** INDS 1301, INDS 1319 and INDS 1311 or **Department Approval; Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 3 lab)**

The study of residential and light commercial spaces, including programming, codes, standards, space planning, drawings and presentations.

## **INDS 1351 History of Interiors I**

**Prerequisites:** **Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0306 in math.**

**Credit: 3 (3 lecture, 1 lab)**

A historical survey of design in architecture, interiors, furnishings, and decorative elements from the ancient cultures through the Italian Renaissance time period.

## **INDS 1352 History of Interiors II**

**Prerequisites:** **Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0306 in math.**

**Credit: 3 (3 lecture, 1 lab)**

A multi-cultural historical survey of design in architecture, interiors, furnishings, and decorative elements from the post-Renaissance period to present time.

# Course Descriptions

## **INDS 1391 Special Topics/Interior Design**

**Prerequisites:** Associate Degree in Interior Design or Department Approval; **Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0306 in math.**

**Credit: 3 (3 lecture)**

Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

## **INDS 2210 Kitchen and Bath Design**

**Prerequisite:** INDS 1349, INDS 2305 and INDS 2317; **Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0306 in math.**

**Credit: 2 (0 lecture, 5 lab)**

The study and application of the National Kitchen and Bath Association's Guideline and Planning Standards and Safety Criteria for residential kitchens and bathrooms including Universal Design concepts. Also includes the study and selection of kitchen and bath materials, equipment and cabinetry. Computer aided kitchen and bath design software is introduced.

## **INDS 2270 Photoshop for Interior Design**

**Prerequisite:** INDS 2317; **Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 6 lab)**

An exploration of Adobe Photoshop and its application to the practice of interior design to create visual design communication materials, renderings, and presentations.

## **INDS 2305 Interior Design Graphics (AutoCAD)**

**Prerequisites:** INDS 1319 or Department Approval; **Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 4 lab)**

Skill development in computer-generated graphics and technical drawings for interior design applications.

## **INDS 2307 Textiles for Interior Design**

**Prerequisites:** **Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 3 lab)**

The study of interior design textiles including characteristics, care, codes, and applications.

## **INDS 2311 Interior Environment Factors**

**Prerequisites:** Associate Degree in Interior Design or Department Approval; **Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 4 lab)**

A study of human factors affecting the interior environment, including proxemics, ergonomics, and universal design.

## **INDS 2313 Residential Design I**

**Prerequisites:** INDS 1311, INDS 1341, INDS 1349, INDS 2330 and INDS 2317; **Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 4 lab)**

The study of residential spaces, including the identification of client needs, programming, standards, space planning, drawings, and presentations.

## **INDS 2315 Lighting for Interior Design**

**Prerequisites:** INDS 1319 or Department Approval; **Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 3 lab)**

Fundamentals of lighting design, including lamps, luminaries, lighting techniques, and applications for residential and commercial projects.

## **INDS 2317 Rendering Techniques**

**Prerequisites:** INDS 2321; **Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 3 lab)**

A study of rendering techniques for formal interior design presentation, using a variety of media.

## **INDS 2321 Presentation Drawing**

**Prerequisites:** **Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 3 lab)**

An introduction to two- and three-dimensional presentations, including drawings with one- and two-point perspectives, plans, and elevations.

## **INDS 2325 Professional Practices for Interior Designers**

**Prerequisites:** **Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0306 in math.**

**Credit: 3 (3 lecture, 1 lab)**

A study of business practices and procedures for interior designers, including professional ethics, project management, marketing, and legal issues.

## **INDS 2331 Commercial Design II**

**Prerequisites:** Associate Degree in Interior Design or Department Approval; **Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 4 lab)**

Advanced concepts of specialized commercial interior design projects, including hospitality, corporate, retail, health care, institutional or other specialized commercial design projects.

## **INDS 2335 Residential Design II**

**Prerequisite:** Associate Degree in Interior Design or Department Approval; **Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 4 lab)**

A comprehensive study of complex residential interior design problems, including advanced space planning, documentation, specifications, budgets, and presentation renderings.

## **INDS 2337 Portfolio Presentation**

**Prerequisites:** Approval of course instructor or Department Approval; **Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 3 lab)**

A course in the preparation and presentation of a comprehensive interior design portfolio, including resume preparation, employment interview skills, and goal setting.

## **INDS 2386 Internship-Interior Design**

**Prerequisites:** Internship is done the final semester upon completion of the program. Consent of program advisor is required. **Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0306.**

**Credit: 3 (18 lab) (288 hours Work Experience)**

An experience external to the college for an advanced student in the specialized field involving a written agreement between the educational institution and a business or industry. Mentored and supervised by a workplace employee, the student achieves objectives that are developed and documented by the college and that are directly related to specific occupational outcomes. This may be a paid or unpaid experience. This course may be repeated if topics and learning outcomes vary.

## **INDS 2387 Internship-Interior Design**

**Prerequisites:** Associate Degree in Interior Design or Department Approval; **Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0306 in math.**

**Credit: 3 (18 lab) (288 hours Work Experience)**

An experience external to the college for an advanced student in a specialized field involving a written agreement between the educational institution and a business or industry. Mentored and supervised by a workplace employee, the student achieves objectives that are developed and documented by the college and that are directly related to specific occupational outcomes. This may be a paid or unpaid experience. This course may be repeated if topics and learning outcomes vary.

## **INEW 1340 ASP.Net Programming**

**Prerequisites:** ITSE 1447 or ITSE 1430; **Must be placed into college-level reading, writing and math.**

**Credit: 3 (2 lecture, 4 lab)**

Theory of server side web programming concepts to implement solutions for common web programming tasks. Includes Basic ASP.Net web controls, user management and authentication, state management, and development of database-driven web applications.

## **INEW 2334 Advanced Web Programming**

**Prerequisites:** **Must be placed into college-level reading, writing and math.**

**Credit: 3 (2 lecture, 4 lab)**

Web programming using industry-standard languages and data stores.

# Course Descriptions

## INew 2418 Web Programming Using Java Server Pages and Servlets

**Prerequisites:** ITSE 1356 and ITSE 2417; **Must be placed into college-level reading, writing and math.**

**Credit: 4 (2 lecture, 4 lab)**

Web application development using Java, HTML, Java Servlets, Java Server Pages (JSPs), and a web server.

## INew 2438 Advanced Java Programming

**Prerequisites:** ITSE 2417 or COSC 1437 and ITSE 1356; **Must be placed into college-level reading, writing and math.**

**Credit: 4 (2 lecture, 4 lab)**

A continuation of advanced JAVA programming techniques such as servlets and advanced graphical functions.

## INMT 1311 Computer Integrated Manufacturing

**Prerequisites:** TECM 1301, ITSC 1309; **Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0308 in math.**

**Credit: 3 (2 lecture, 3 lab)**

A study of the principles and application of computer integrated manufacturing. Employs all aspects of a system including but not limited to integration of material handling, manufacturing, and computer hardware and programming.

## INMT 1317 Industrial Automation

**Prerequisites:** TECM 1301; **Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0308 in math.**

**Credit: 3 (2 lecture, 3 lab)**

A study of the applications of industrial automation systems including identification of system requirements, equipment integration, motors, controllers, and sensors. Coverage of set-up, maintenance, and testing of the automated system.

## INMT 1343 Computer Aided Design/Computer Aided Manufacturing (CAD/CAM)

**Prerequisites/Corequisites:** ITSC 1309

**Prerequisites:** MCHN 1302, TECM 1301; **Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0308 in math.**

**Credit: 3 (2 lecture, 3 lab)**

Computer-assisted applications in integrating engineering graphics and manufacturing. Emphasis on the conversion of a working drawing using computer aided design/computer aided manufacturing (CAD/CAM) software and related input and output devices to translate into machine code.

## INMT 1345 Computer Numerical Controls

**Prerequisites/Corequisites:** TECM 1301, MCHN 1302, ENTC 1347; **Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 3 lab)**

A study of numerical controlled machine operations. Emphasis on standard and computer numerical controlled (CNC) procedures for planning, preparing, and operating a computer-assisted program.

## INMT 1370 Lean Manufacturing - Manufacturing Engineering

**Prerequisites:** Department Approval; **Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0308 in math.**

**Credit: 3 (2 lecture, 3 lab)**

Study of principles of lean manufacturing - manufacturing engineering; including a systematic approach to reducing costs and lead-time.

## INTC 1312 Instrumentation and Safety

**Prerequisites:** **Must be placed into college-level reading, writing and math.**

**Credit: 3 (3 lecture)**

An overview of industries employing instrument technicians. Includes instrument safety techniques and practices as applied to the instrumentation field.

## INTC 1343 Application of Industrial Automatic Controls

**Prerequisites:** INTC 1441 or Departmental Approval; **Must be placed into college-level reading, writing and math.**

**Credit: 3 (3 lecture)**

Automatic process control including measuring devices, analog and digital instrumentation, signal transmitters, recorders, alarms, controllers, control valves, and process and instrument drawings. Includes connection and troubleshooting of loops.

## INTC 1441 Principles of Automatic Control

**Prerequisites:** CETT 1403, INTC 1312, INTC 1456, MATH 1314 or Departmental Approval; **Must be placed into college-level reading, writing and math.**

**Credit: 4 (3 lecture, 3 lab)**

Basic measurements, automatic control systems and design, closed loop systems, controllers, feedback, control modes, and control configurations.

## INTC 1456 Instrumentation Calibration

**Prerequisites:** **Must be placed into college-level reading, writing and math.**

**Credit: 4 (3 lecture, 3 lab)**

Techniques for configuring and calibrating transmitters, controllers, recorders, valves, and valve positioners.

## INTC 2330 Instrumentation Systems Troubleshooting

**Prerequisites:** INTC 1441 or Departmental Approval; **Must be placed into college-level reading, writing and math.**

**Credit: 3 (2 lecture, 4 lab)**

Techniques for troubleshooting instrumentation systems in a process environment. Includes troubleshooting upsets in processes

## INTC 2336 Distributed Control and Programmable Logic

**Prerequisites:** INTC 1343 or Department Approval; **Must be placed into college-level reading, writing and math.**

**Credit: 3 (2 lecture, 2 lab)**

An overview of distributed control systems including configuration of programmable logic controllers, smart transmitters, and field communicators. Functions of digital systems in a process control environment.

## INTC 2370 Linking Process Control Systems

**Prerequisites:** INTC 1441, **Must be placed into college-level reading, writing and math.**

**Credit: 3 (2 lecture, 4 lab)**

An introduction to linking controls systems, including Distributed Control Systems and Programmable Logic Controllers, using OPC (OLE for Process Control) server systems.

## INTC 2380 Cooperative Education - Instrumentation Technology/Technician

**Prerequisites:** INTC 1343 or Department Approval; **Must be placed into college-level reading, writing and math.**

**Credit: 3 (1 lecture, 14 lab)**

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

## ITCC 1309 CISCO Voice and Data Cabling

**Prerequisites:** **Must be placed into college-level reading, writing and math.**

**Credit: 3 (2 Lecture, 4 Lab)**

Introduces the physical aspects of CISCO voice and data network cabling and installation; skills development in reading network design documentations, part list setup and purchase, pulling and mounting cable, cable management, choosing wiring closets and patch panel installation and termination, installing jacks and testing cable.

## ITCC 1401 Exploration-Network Fundamentals

**Prerequisites:** **Must be placed into college-level reading, writing and math.**

**Credit: 4 (2 lecture, 4 lab)**

A course introducing the architecture, structure, functions, components, and models of the internet. Describes the use of OSI and TCP layered models to examine the nature and roles of protocols and services at the applications, network, data link, and physical layers. Covers the principles and structure of IP addressing and the fundamentals of Ethernet concepts, media, and operations. Build simple LAN topologies by applying basic principles of cabling; perform basic configurations of network devices, including routers and switches; and implementing IP addressing schemes.

## ITCC 1404 Cisco Exploration 2-Routing Protocols and Concepts

**Prerequisites:** ITCC 1401; **Must be placed into college-level reading, writing and math.**

**Credit: 4 (2 lecture, 4 lab)**

This course describes the architecture, components, and operation of routers, and explains the principles of routing and routing protocols. Students analyze, configure, verify, and troubleshoot the primary routing protocols RIPv1, RIPv2, EIGRP, and OSPF. Recognize and correct common routing issues and problems. Model and analyze routing processes.

# Course Descriptions

## ITCC 1408 Introduction to Voice over Internet Protocol (VoIP)

**Prerequisite:** ITCC 1401

**Credit:** 4 (2 lecture, 4 lab)

Basic concepts of voice over internet protocol (VoIP). Focuses on technology integration of and data transmission in network communications.

## ITCC 2359 Advanced Voice Over Internet Protocol (VOIP)

**Prerequisite:** ITCC 1401; **Must be placed into college-level reading, writing and math.**

**Credit:** 3 (2 lecture, 4 lab)

Voice Over Internet Protocol (VOIP) architecture, components, and functionality. Includes VOIP signaling, call control, voice dial plans, configuring voice interfaces, dial peers, and quality of service (QoS) technologies.

## ITCC 2408 Cisco Exploration 3-LAN Switching and Wireless

**Prerequisites:** ITCC 1401; **Must be placed into college-level reading, writing and math.**

**Credit:** 4 (2 lecture, 4 lab)

This course helps students develop an in-depth understanding of how switches operate and are implemented in the LAN environment for small and large networks. Detailed explanations of LAN switch operations, VLAN implementation, Rapid Spanning Tree Protocol (RSTP), VLAN Trunking Protocol (VTP), Inter-VLAN routing, and wireless network operations. Analyze, configure, verify, and troubleshoot VLANs, RSTP, VTP, and wireless networks. Campus network design and Layer 3 switching concepts are introduced.

## ITCC 2410 Cisco Exploration 4 - Accessing the WAN

**Prerequisites:** ITCC 1404, ITCC 2408; **Must be placed into college-level reading, writing and math.**

**Credit:** 4 (2 lecture, 4 lab)

This course explains the principles of traffic control and access control lists (ACLs) and provides an overview of the services and protocols at the data link layer for wide-area access. Describes user access technologies and devices and discover how to implement and configure Point-to-Point Protocol (PPP), Point-to-Point Protocol over Ethernet (PPPoE), DSL, and Frame Relay. WAN security concepts, tunneling, and VPN basics are introduced. Discuss the special network services required by converged applications and an introduction to quality of service (QoS).

## ITMT 1340 Managing and Maintaining a Microsoft Windows Server 2003 Environment

**Prerequisites:** ITMT 1300; **Must be placed into college-level reading, writing and math.**

**Credit:** 3 (2 lecture, 4 lab)

Managing accounts and resources, maintaining server resources, monitoring server performance, and safeguarding data in a Microsoft Windows Server 2003 environment.

## ITMT 1350 Implementing, Managing, and Maintaining a Microsoft Windows Server 2003 Network Infrastructure: Network Services

**Prerequisite:** ITMT 1300; **Must be placed into college-level reading, writing and math.**

**Credit:** 3 (2 lecture, 4 lab)

Implementing routing; implementing, managing, and maintaining Dynamic Host Configuration Protocol (DHCP), Domain Name System (DNS), and Windows Internet Name Service (WINS); securing Internet Protocol (IP) traffic with Internet Protocol security (IPSec) and certificates; implementing a network access infrastructure by configuring the connections for remote access clients; and managing and monitoring network access.

## ITMT 1371 Windows 7 Configuration - MCITP Certification Track

**Prerequisites:** ITNW 1358: Network+ or ITNW 1425 or Department Approval; **Must be placed into college-level reading, college-level writing and MATH 0312 in math.**

**Credit:** 3 (2 lecture, 4 lab)

A study of Windows 7 operating system; installation, configuration, and troubleshooting; file management; users accounts and permissions; security features; network connectivity; setup of external devices; optimization and customization; and deployment of application, with hands-on experience.

## ITMT 2301 Windows Server 2008 Network Infrastructure Configuration

**Prerequisites:** ITMT 1371, ITMT 2302 (70-640); **Must be placed into college-level reading, writing and math.**

**Credit:** 3 (2 lecture, 4 lab)

A course in Windows Server 2008 networking infrastructure to include installation, configuration, and troubleshooting of Internet Protocol (IP) addressing, network services and security.

## ITMT 2302 Windows Server 2008 Active Directory Configuration

**Prerequisites:** ITMT 1371; **Must be placed into college-level reading, college-level writing and MATH 0312 in math.**

**Credit:** 3 (2 lecture, 4 lab)

A study of Active Directory Service on Windows Server 2008. Concepts of resource management within an enterprise network environment.

## ITMT 2303 Administering a Microsoft SQL Server Database

**Prerequisites:** **Must be placed into college-level reading, college-level writing and MATH 0312 in math.**

**Credit:** 3 (2 lecture, 4 lab)

In-depth coverage of the knowledge and skills required to install, configure, administer, and troubleshoot the client-server database management system of Microsoft SQL Server databases.

## ITMT 2340 Designing Security for Microsoft Networks

**Prerequisite:** ITMT 1340; **Must be placed into college-level reading, college-level writing and MATH 0312 in math.**

**Credit:** 3 (2 lecture, 4 lab)

Assembling the design team, modeling threats, and analyzing security risks in order to meet business requirements for securing computers in a networked environment. Includes decision-making skills through an interactive tool that simulates real-life scenarios. Focuses on collecting information and sorting through details to resolve a given security requirement.

## ITMT 2351 Windows Server 2008: Server Administrator

**Prerequisites:** ITMT 2301; **Must be placed into college-level reading, college-level writing and MATH 0312 in math.**

**Credit:** 3 (2 lecture, 4 lab)

Knowledge and skills for the entry-level server administrator or information technology (IT) professional to implement, monitor and maintain Windows Server 2008 servers.

## ITNW 1351 Fundamentals of Wireless LANs

**Prerequisites:** **Must be placed into college-level reading, ENGL 0310 or 0349 in writing and MATH 0312 in math.**

**Credit:** 3 (2 Lecture, 4 ab)

Designing, planning, implementing, operating, and troubleshooting wireless LANs (WLANs). Includes WLAN design, installation, and configuration; and WLAN security issues and vendor interoperability strategies.

## ITNW 1358 Network+

**Prerequisites:** ITNW 1425 or Department Approval; **Must be placed into college-level reading, ENGL 0310 or 0349 in writing and MATH 0312 in math.**

**Corequisite:** MATH 1314

**Credit:** 3 (2 lecture, 4 lab)

Prepares individuals for a career as a Network Engineer in the Information Technology support industry. Includes the various responsibilities and tasks required for service engineer to successfully perform in a specific environment. Prepares individuals to pass the Computing Technology Industry Association (CompTIA) Network+ certification exam.

## ITNW 1380 Cooperative Education - Computer Systems Networking and Telecommunications

**Prerequisites:** Department Approval; **Must be placed into college-level reading, writing and math.**

**Credit:** 3 (1 lecture, 20 lab)

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

# Course Descriptions

## ITNW 1425 Fundamentals of Networking Technologies

**Prerequisites:** College ready for English and math (i.e. no remediation needed) and high school computer literacy or equivalent.

**Credit:** 4 (2 lecture, 4 lab)

Instruction in networking technologies and their implementation. Topics include the OSI reference model, network protocols, transmission media, and networking hardware and software.

## ITNW 2432 UNIX Network Integration

**Prerequisites:** ITSC 1458

**Must be college-level in reading, writing and math.**

**Credit:** 4 (2 lecture, 4 lab)

Installation, configuration, management, and support of a network infrastructure in a large computing environment that uses a version of the UNIX server operating system. Includes connectivity requirements, network services, and applications including file, print, database, messaging, proxy server, firewall, Dynamic Host Configuration Protocol, Network Time Protocol, Domain Name Service, and Internet Protocol Version 6 configuration and use.

## ITSC 1301 Introduction to Computers

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0308 in math.

**Credit:** 3 (2 lecture, 2 lab)

Overview of computer information systems. Introduces computer hardware, software, procedures, and human resources.

## ITSC 1302 Computer Control Language

**Prerequisites:** ITSC 1370; Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0308 in math.

**Credit:** 3 (2 lecture, 4 lab)

Skill development in the use of system control language on mid-range/mainframe computers. Topics include command formats, file management, job scheduling, resource management, and utilities.

## ITSC 1307 UNIX Operating System I

**Prerequisite/Corequisite:** COSC 1436 or Department Approval; Must be placed into college-level reading, writing and math.

**Credit:** 3 (2 lecture, 4 lab)

A study of the UNIX operating system including multi-user concepts, terminal emulation, use of system editor, basic UNIX commands, and writing script files. Topics include introductory systems management concepts.

## ITSC 1309 Integrated Software Applications I

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0308 in math.

**Credit:** 3 (2 lecture, 2 lab)

Integration of applications from popular business productivity software suites. Instruction in embedding data, linking and combining documents using word processing, spreadsheets, databases, and/or presentation media software. Emphasis is on developing end-user proficiency skills for the workplace.

## ITSC 1316 LINUX Installation and Configuration

**Prerequisites:** ITSC 1370; Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0312 in math.

**Credit:** 3 (2 lecture, 4 lab)

Open-source Linux operating system. Includes Linux installation, basic administration, utilities and commands, upgrading, networking, security, and application development. Emphasizes hands-on setup, administration, and management of Linux. Also covers maintaining and securing reliable Linux systems.

## ITSC 1319 Internet/Web Page Development

**Prerequisites:** BCIS 1405 or ITSC 1309 or ITSC 1301; Must be placed into college-level reading, writing and math.

**Credit:** 3 (2 lecture, 4 lab)

Instruction in the use of Internet concepts and the introduction to web page design and web site development.

## ITSC 1321 Intermediate PC Operating Systems

**Prerequisites:** BCIS 1405 or ITSC 1309; Must be placed into college-level reading, writing and math.

**Credit:** 3 (2 lecture, 4 lab)

Continued study in advanced installation and configuration troubleshooting, advanced file management, memory and storage management. Update peripheral device drivers, and use of utilities to increase system performance.

## ITSC 1342 Shell Programming

**Prerequisites:** ITSC 1307; Must be placed into college-level reading, writing and math.

**Credit:** 3 (2 lecture, 4 lab)

Reading, writing, and debugging shell scripts. Development of scripts to automate frequently executed sequences of commands. Covers conditional logic, user interaction, loops, and menus to enhance the productivity and effectiveness of the user. Intended for programmers who are familiar with operating environments and reading and writing various shell scripts.

## ITSC 1370 Introduction to Enterprise Servers

**Prerequisites:** ITSC 1301; Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0308 in math.

**Credit:** 3 (2 lecture, 4 lab)

Learn the base elements, optional features, and servers provided in IBM z/OS platform. Investigate the major software base elements involved in the management of jobs, tasks, storage, data, and program and system failures.

## ITSC 1380 Cooperative Education-Computer and Information Sciences-General

**Prerequisites:** Department Approval; Must be placed into college-level reading, writing and math.

**Credit:** 3 (1 lecture, 20 lab)

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

## ITSC 1425 Personal Computer Hardware

**Prerequisites:** Must be placed into college-level reading, writing and math.

**Credit:** 4 (2 lecture, 4 lab)

Current personal computer hardware including assembly, upgrading, setup, configuration, and troubleshooting.

## ITSC 1447 UNIX System Administration II

**Prerequisites:** ITSC 1458; Must be placed into college-level reading, writing and math.

**Credit:** 4 (2 lecture, 4 lab)

Provides students with the necessary skills to administer UNIX workstations in a network environment. System security features will be presented.

## ITSC 1458 UNIX System Administration I

**Prerequisites:** ITSC 1307; Must be placed into college-level reading, writing and math.

**Credit:** 4 (2 lecture, 4 lab)

Provide new system administrators the basics of administering UNIX workstations. Students will perform basic system administration tasks, such as installing a standalone system, adding users, backing up and restoring file systems, and adding new printer support. Emphasis on the procedures needed to perform these system administration tasks. Introduces the concept of the system and disk management.

## ITSC 2321 Integrated Software Applications II (Advanced Word)

**Prerequisites:** ITSC 1309 or BCIS 1405 or Department Approval; Must be placed into college-level reading, writing and math.

**Credit:** 3 (2 lecture, 2 lab)

Continued study of computer applications from business productivity software suites. Instruction in embedding data and linking and combining documents using word processing, spreadsheets, databases, and/or presentation media software.

## ITSE 1301 Web Design Tools

**Prerequisites:** BCIS 1405, ITSC 1309 or Department Approval; Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0312 in math.

**Credit:** 3 (2 lecture, 4 lab)

Designing and publishing Web documents. Includes graphic design issues and exploration of tools available for creating and editing Web documents.

# Course Descriptions

## ITSE 1306 PHP Programming

**Prerequisites:** IMED 2309, IMED 2351; **Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0312 in math.**

**Credit: 3 (2 lecture, 4 lab)**

Introduction to PHP including the design of web-based applications, arrays, strings, regular expressions, file input/output, e-mail and database interfaces, stream and network programming, debugging, and security.

## ITSE 1345 Introduction to Oracle SQL

**Prerequisites:** COSC 1436, ENGL 1301, and MATH 1314; **Must be placed into college-level reading, writing and math.**

**Credit: 3 (2 lecture, 4 lab)**

An introduction to the design and creation of relational databases using Oracle. Topics include storing, retrieving, updating, and displaying data using Structured Query Language (SQL).

## ITSE 1346 Database Theory and Design

**Prerequisites:** BCIS 1405 or ITSC 1309; **Must be placed into college-level reading, writing and math.**

**Credit: 3 (2 lecture, 4 lab)**

Introduction to the analysis and utilization of data requirements and organization into normalized tables using the four normal forms of database design.

## ITSE 1350 System Analysis and Design

**Prerequisites:** COSC 1436 or Department Approval; **Must be placed into college-level reading, ENGL 0310 or 0349 in writing and college-level math.**

**Credit: 3 (2 lecture, 2 lab)**

Comprehensive introduction to the planning, design, and construction of computer information systems using the systems development life cycle and other appropriate design tools.

## ITSE 1356 Extensible Markup Language (XML)

**Prerequisites:** BCIS 1405, ITSC 1309, or ITSE 1301; **Must be placed into college-level reading, writing and math.**

**Credit: 3 (2 lecture, 2 lab)**

Introduction of skills and practices related to Extensible Markup Language (XML). Includes Document Type Definition (DTD), well-formed and valid XML documents, XML schemes, and Extensible Style Language (XSL).

## ITSE 1380 Cooperative Education-Computer Programming/Programmer, General

**Prerequisites:** Department Approval; **Must be placed into college-level reading, writing and math.**

**Credit: 3 (1 lecture, 20 lab)**

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

## ITSE 1391 Special Topics in Computer

### Programming: Oracle 10g New Features

**Prerequisites:** ITSE 1345; **Must be placed into college-level reading, writing and math.**

**Credit: 3 (2 lecture, 4 lab)**

Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

## ITSE 1402 Computer Programming

**Prerequisites:** **Must be placed into college-level reading, writing and math.**

**Credit: 4 (2 lecture, 4 lab)**

Introduction to computer programming with emphasis on the fundamentals of structured design, development, testing, implementation, and documentation. Includes language syntax, data and file structures, input/output devices, and files.

## ITSE 1430 Introduction to C#

### Programming

**Prerequisite:** COSC 1437 or Department Approval; **Must be placed into college-level reading, writing and math.**

**Credit: 4 (2 lecture, 4 lab)**

Data types, control structures, functions, syntax, and semantics of the language, classes, class relationships, and exception handling.

## ITSE 1432 Introduction to Visual Basic, Net Programming

**Prerequisites:** COSC 1437 or Department Approval; **Must be placed into college-level reading, writing and math.**

**Credit: 4 (2 lecture, 4 lab)**

Introduction to Visual Basic.NET (VB.NET) including data types, control structures, functions, syntax, and semantics of the language, classes, class relationships, and exception handling.

## ITSE 1447 Programming with Visual Basic.Net

**Prerequisites:** ITSE 1432; **Must be placed into college-level reading, writing and math.**

**Credit: 4 (2 lecture, 4 lab)**

Designing and developing enterprise applications using Microsoft Visual Basic.Net in the Microsoft .Net Framework. Includes reference types, class relationships, polymorphism, operators overloading, and creating and handling exceptions.

## ITSE 2313 Web Authoring

**Prerequisites:** ARTC 1325, IMED 1316; **Must be placed into college-level reading, writing and math.**

**Credit: 3 (2 lecture, 4 lab)**

Instruction in designing and developing web pages that incorporate text, graphics, and other supporting elements using current technologies and authoring tools.

## ITSE 2337 Assembly Language Programming

**Prerequisites:** COSC 1436, ITSC 1302, or ITSE 1402; **Must be placed into college-level reading, writing and math.**

**Credit: 3 (2 lecture, 4 lab)**

Comprehensive coverage of low-level computer operations and architecture. Includes design, development, testing, implementation, and documentation of programs; language syntax; data manipulation; input/output devices and operations; and file access.

## ITSE 2346 Oracle: Applications I

**Prerequisites:** ITSE 1345, COSC 1436 and ITSE 1346; **Must be placed into college-level reading, writing and math.**

**Credit: 3 (2 lecture, 4 lab)**

Forms in a Developer environment. Topics include the use of Object Navigator and Virtual Graphics System (VGS), Layout Editor and Menu options.

## ITSE 2348 Oracle: Applications II

**Prerequisites:** ITSE 2346; **Must be placed into college-level reading, writing and math.**

**Credit: 3 (2 lecture, 4 lab)**

A continuation of Oracle Forms: Application I. Includes creating multiple form applications, managing multiple transactions across modules, and enhancing applications with custom menus, and charts.

## ITSE 2354 Advanced Oracle PL/SQL

**Prerequisites:** ITSE 1402 or COSC 1436 and ITSE 1346; **Must be placed into college-level reading, writing and math.**

**Credit: 3 (2 lecture, 4 lab)**

A continuation of Oracle SQL. Topics include hierarchical queries, set based queries, correlated subqueries, scripting, and scripting generation.

## ITSE 2417 JAVA Programming

**Prerequisites:** COSC 1437; **Must be placed into college-level reading, writing and math.**

**Credit: 4 (2 lecture, 4 lab)**

Introduction to Java programming with object-orientation. Emphasis is on the fundamental syntax and semantics of Java for applications and web applets.

## ITSE 2421 Object-Oriented Programming

**Prerequisites:** COSC 1437; **Must be placed into college-level reading, writing and math.**

**Credit: 4 (2 lecture, 4 lab)**

Introduction to object-oriented programming. Emphasis on the fundamentals of structured design with classes, including development, testing, implementation, and documentation. Includes object-oriented programming techniques, classes, and objects.

## ITSE 2434 Advanced Visual Basic.NET Programming

**Prerequisites:** ITSE 1447; **Must be placed into college-level reading, writing and math.**

**Credit: 4 (2 lecture, 4 lab)**

Continuation of Visual Basic.NET programming using advanced features.

# Course Descriptions

## ITSE 2444 Oracle Database Structure and Data Warehousing

**Prerequisites:** ITSE 2456; **Must be placed into college-level reading, writing and math.**

**Credit:** 4 (2 lecture, 4 lab)

A practical application course for modeling and designing an Oracle data warehouse using case studies.

## ITSE 2453 Advanced C# Programming

**Prerequisites:** ITSE 1430 and ITSE 1356; **Must be placed into college-level reading, writing and math.**

**Credit:** 4 (2 lecture, 4 lab)

Continuation of C# programming using advanced features of the .NET Framework Class Library.

## ITSE 2456 Oracle Database Administration I (10g)

**Prerequisites:** ITSE 1345; **Must be placed into college-level reading, writing and math.**

**Corequisite:** ITSC 1307

**Credit:** 4 (2 lecture, 4 lab)

Fundamentals of the tasks and functions required of a database administrator using Oracle.

## ITSE 2458 Oracle Database Administration II (10g)

**Prerequisites:** ITSE 2456; **Must be placed into college-level reading, writing and math.**

**Credit:** 4 (2 lecture, 4 lab)

A continuation of Oracle Database Administration I. Topics include recovery procedures, logical backups, standby database capabilities, and performance tuning of the Oracle Server. Common performance problems and the use of diagnostic tools to troubleshoot and optimize throughout will be discussed.

## ITSW 1391 Special Topics in Data Processing Technology/Technician

**Prerequisites:** **Must be placed into college-level reading, writing and math.**

**Credit:** 3 (2 lecture, 4 lab)

Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

## ITSW 2334 Advanced Spreadsheets

**Prerequisites:** ITSC 1309 or BCIS 1405; **Must be placed into college-level reading, writing and math.**

**Credit:** 3 (2 lecture, 2 lab)

Advanced techniques for developing and modifying spreadsheets. Includes macros and data analysis functions.

## ITSW 2337 Advanced Database

**Prerequisites:** ITSC 1309 or BCIS 1405; **Must be placed into college-level reading, writing and math.**

**Credit:** 3 (2 lecture, 2 lab)

Advanced concepts of database design and functionality.

## ITSY 1342 Information Technology Security

**Prerequisites:** ITMT 2301; **Must be placed into college-level reading, writing and math.**

**Credit:** 3 (2 lecture, 4 lab)

Instruction in security for network hardware, software, and data, including physical security; backup procedures; relevant tools; encryption; and protection from viruses.

## ITSY 2300 Operating System Security

**Prerequisites:** ITSY 1342; **Must be placed into college-level reading, writing and math.**

**Credit:** 3 (2 lecture, 4 lab)

Safeguard computer operating systems by demonstrating server support skills and designing and implementing a security system. Identify security threats and monitor network security implementations. Use best practices to configure operating systems to industry security standards.

## ITSY 2330 Intrusion Detection

**Prerequisite:** ITSY 2300; **Must be placed into college-level reading, writing and math.**

**Credit:** 3 (2 lecture, 4 lab)

Computer information systems security monitoring, intrusion detection, and crisis management. Includes alarm management, signature configuration, sensor configuration, and troubleshooting components. Emphasizes identifying, resolving, and documenting network crises and activating the response team.

## ITSY 2343 Computer System Forensics

**Prerequisite:** ITCC 1401; **Must be placed into college-level reading, writing and math.**

**Credit:** 3 (2 lecture, 4 lab)

In-depth study of system forensics including methodologies used for analysis of computer security breaches. Gather and evaluate evidence to perform postmortem analysis of a security breach.

## JAPN 1300 Beginning Japanese Conversation I

**Credit:** 3 (3 lecture)

An introductory Japanese course that emphasizes listening comprehension and speaking skills. Reading and writing may be done as reinforcement to oral communication skills. The course is slower-paced and less comprehensive than Japanese 1411. It is highly recommended for students without previous experience in the Japanese language. This course is not open to students whose first language is Japanese. Generally, does not transfer as foreign language credit but may transfer as elective credit.

## JAPN 1310 Beginning Japanese Conversation II

**Prerequisites:** JAPN 1300 or equivalent

**Credit:** 3 (3 lecture)

Continuation of JAPN 1300. Emphasizes oral communication skills. Generally, does not transfer as foreign language credit, but may transfer as elective credit. Students who continue the study of Japanese following this course must take JAPN 1411.

## JAPN 1411 Beginning Japanese I

**Prerequisites:** **Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college level writing (or take ENGL 0310/0349 as a co-requisite)**

**Credit:** 4 (3 lecture, 2 lab)

Introduction to Japanese language and culture. Development of basic skills in listening comprehension, speaking, reading, writing, and cultural awareness. Course includes vocabulary building, conversation and grammar. Transfers as foreign language credit. Core Curriculum Course.

## JAPN 1412 Beginning Japanese II

**Prerequisites:** JAPN 1411 or **satisfactory score on an advanced placement examination or at least 2 years of high school Japanese within the last two years.**

**Prerequisites:** **Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college level writing (or take ENGL 0310/0349 as a co-requisite).**

**Credit:** 4 (3 lecture, 2 lab)

Continuation of JAPN 1411. Further development of listening comprehension, speaking, reading, and writing skills, and cultural awareness. More advanced grammar. Transfers as foreign language credit. Core Curriculum Course.

## JAPN 2311 Intermediate Japanese I

**Prerequisites:** JAPN 1412 or equivalent

**Prerequisites:** **Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college level writing (or take ENGL 0310/0349 as a co-requisite)**

**Credit:** 3 (3 lecture)

In-depth study of Japanese grammar. Oral practice based on selected readings on culture and current events. Continuing practice in reading and writing in Hiragana and Katakana, as well as in Kanji (Chinese five characters). Core Curriculum Course.

## JAPN 2312 Intermediate Japanese II

**Prerequisites:** JAPN 2311 or equivalent

**Prerequisites:** **Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college level writing (or take ENGL 0310/0349 as a co-requisite)**

**Credit:** 3 (3 lecture)

Continuation of JAPN 2311. Extensive practice in conversation and composition with emphasis on reading and writing in Kanji. Core Curriculum Course.

## KORE 1411 Beginning Korean I

**Prerequisites:** **Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**

**Credit:** 4 (3 lecture, 2 lab)

Fundamental skills in listening comprehension, speaking, reading, and writing. Includes basic vocabulary, grammatical structures, and culture. Core Curriculum Course.



# Course Descriptions

## KORE 1412 Beginning Korean II

**Prerequisites:** Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

**Credit:** 4 (3 lecture, 2 lab)

Continuation of fundamental skills in listening comprehension, speaking, reading, and writing. Includes basic vocabulary, grammatical structures, and culture. Core Curriculum Course.

## KORE 2311 Intermediate Korean I

**Prerequisites:** KORE 1412 or equivalent. Must be placed into college - level reading (or take GUST 0342 as a co-requisite) and be placed into college level writing (or take ENGL 0310/0349 as a co-requisite)

**Credit:** 3 (3 lecture)

In-depth study of Korean grammar. Oral practice based on selected readings on culture and current events. Continuing practice in reading and writing in Korean. Core Curriculum Course.

## KORE 2312 Intermediate Korean II

**Prerequisites:** KORE 2311 or equivalent. Must be placed into college - level reading (or take GUST 0342 as a co-requisite) and be placed into college level writing (or take ENGL 0310/0349 as a co-requisite)

**Credit:** 3 (3 lecture)

Continuation of KORE 2311. Extensive practice in conversation and composition with emphasis on reading and writing in Korean. Core Curriculum Course.

## LANG 1311, 1411, 1511 Beginning Foreign Language I

**Credit:** 3, 4, or 5

This is a state-approved course prefix for posting transfer credit of a foreign language course where there is no home equivalent. Transfer credit with the LANG prefix is utilized in HCC degree plans in the same way as home foreign language courses with the number 1411 is utilized.

## LANG 1312, 1412, 1512 Beginning Foreign Language II

**Credit:** 3, 4, or 5

This is a state-approved course prefix for posting transfer credit of a foreign language course where there is no home equivalent. Transfer credit with the LANG prefix is utilized in HCC degree plans in the same way as home foreign language courses with the number 1412 is utilized.

## LANG 2311, 2411 Intermediate Foreign Language I

**Credit:** 3 or 4

This is a state-approved course prefix for posting transfer credit of a foreign language course where there is no home equivalent. Transfer credit with the LANG prefix is utilized in HCC degree plans in the same way as home foreign language courses with the number 2311 is utilized.

## LANG 2312, 2412 Intermediate Foreign Language I

**Credit:** 3 or 4

This is a state-approved course prefix for posting transfer credit of a foreign language course where there is no home equivalent. Transfer credit with the LANG prefix is utilized in HCC degree plans in the same way as home foreign language courses with the number 2312 is utilized.

## LBRA 1191 Information Literacy, Student Inquiry and Libraries

**Credit:** 1 (1 lecture)

An introduction to the nature, relevance, varieties, availability, and uses of information accessible in libraries and elsewhere, with special emphasis on processes of inquiry and self-directed learning in social and academic contexts.

## LEAD 1200 Workforce Development with Critical Thinking

**Prerequisites:** Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 2 (2 lecture)

Development of leadership skills and critical thinking strategies that promote employment readiness, retention, advancement, and promotion.

## LGLA 1303 Legal Research

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0306 in math.

**Credit:** 3 (3 lecture)

This course provides a working knowledge of the fundamentals of effective legal research. Topics include law library techniques, computer assisted legal research, citation forms, briefs, and court opinion discussions.

## LGLA 1305 Legal Writing

**Prerequisites:** LGLA 1303; Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0306 in math.

**Credit:** 3 (3 lecture)

This course provides a working knowledge of the fundamentals of effective legal writing. Topics include briefs, legal memoranda, case and fact analysis, citation forms, and legal writing styles.

## LGLA 1344 Texas Civil Litigation

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0306 in math.

**Credit:** 3 (3 lecture)

Fundamental concepts and procedures of Texas civil litigation with emphasis on the paralegal's role.

## LGLA 1345 Civil Litigation

**Prerequisites:** LGLA 1344; Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0306 in math.

**Credit:** 3 (3 lecture)

This course presents fundamental concepts and procedures of civil litigation with emphasis on the paralegal's role. Topics include pretrial, trial, and post trial phases of litigation.

## LGLA 1351 Contracts

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0306 in math.

**Credit:** 3 (3 lecture)

This course presents fundamental concepts of contract law with emphasis on the paralegal's role. Topics include formation, performance, and enforcement of contracts under the common law and the Uniform Commercial Code.

## LGLA 1353 Wills, Trusts and Probate Administration

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0306 in math.

**Credit:** 3 (3 lecture)

This course presents fundamental concepts of the law of wills, trusts, and probate administration with emphasis on the paralegal's role.

## LGLA 1355 Family Law

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0306 in math.

**Credit:** 3 (3 lecture)

This course presents fundamental concepts of family law with emphasis on the paralegal role. Topics include formal and informal marriages, divorce, annulment, marital property, and the parent-child relationship.

## LGLA 1370 Pro Doc for Paralegals

**Prerequisites:** LGLA 1303; **Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0306 in math.

**Credit:** 3 (3 lecture)

The Pro Doc class in Paralegal Technology will include instruction using the automated legal document assembly computer software. The software generates a finished work product for Texas Legal Practitioners. Pro Doc certification is also available for students after passing an exam offered by Pro Doc.

## LGLA 1380 Cooperative Education-Legal Assistant/Paralegal

**Prerequisites:** LGLA 1303 and LGLA 1344; **Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0306 in math.

**Credit:** 3 (1 lecture, 19 lab)

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

## LGLA 2303 Torts and Personal Injury Law

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0306 in math.

**Credit:** 3 (3 lecture)

This course presents fundamental concepts of tort law with emphasis on the paralegal role. Topics include intentional torts, negligence, and strict liability.

## LGLA 2307 Law Office Management

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.

**Credit:** 3 (3 lecture)

This course presents the fundamentals of principles and structure of management, administration, and substantive systems in the law office including law practice technology as applied to paralegals.

# Course Descriptions

## LGLA 2309 Real Property

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0306 in math.

**Credit:** 3 (3 lecture)

This course presents fundamental concepts of real property law with emphasis on the paralegal's role. Topics include the nature of real property, rights and duties of ownership, land use, voluntary and involuntary conveyances, and the recording of and searching for real estate documents.

## LGLA 2311 Business Organizations

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0306 in math.

**Credit:** 3 (3 lecture)

This course presents basic concepts of business organizations with emphasis on the paralegal's role. Topics include law of agency, sole proprietorships, forms of partnerships, corporations, and other emerging business entities.

## LGLA 2313 Criminal Law and Procedure

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0306 in math.

**Credit:** 3 (3 lecture)

This course introduces the criminal justice system including procedures from arrest to final disposition, principles of federal and state law, and the preparation of pleadings and motions.

## LGLA 2315 Oil and Gas Law

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0306 in math.

**Credit:** 3 (3 lecture)

This course presents fundamental concepts of oil and gas law including the relationship between landowners and oil and gas operators, government regulation, and documents used in the industry.

## LGLA 2381 Cooperative Education-Legal Assistant/Paralegal

**Prerequisites:** LGLA 1303, LGLA 1305, LGLA 1344, LGLA 1345, or Department Approval; Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.

**Credit:** 3 (1 lecture, 19 lab)

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

## LMGT 1170 Certified Logistics Associate

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 1 (1 lecture, 1 lab)

This course satisfies the requirements for a student to take the national Manufacturing Skill Standards Council (MSSC) test for certification as a Certified Logistics Associate. Major topics include understanding the life cycle of global chain logistics, the logistics environment and

familiarization with different material handling equipment, introduction to safety principles and safe equipment handling, quality control principles, workplace communications, teamwork and problem solving.

## LMGT 1270 Equipment Operation

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 2 (1 lecture, 2 lab)

This course provides students with skills to demonstrate proficiency in the use of equipment used in material handling. Topics include forklift truck safety principles and driving, lifting and delivery proficiency with the forklift.

## LMGT 1271 Certified Logistics Technician Certification

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 2 (2 lecture)

Students who have successfully completed the first level logistics associate course are prepared for the second level certification. The focus of the course is on product receiving, storage order processing, packaging and shipment, inventory control, evaluation of transportation modes and dispatch and tracking. This second course is a second level certification from the Manufacturing Skills Standards Council, (MSSC). These are industry led nationally validated skills standards. The assessment for certification will be at the conclusion of the course.

## LMGT 1319 Introduction to Business Logistics

**Prerequisites:** Must be placed into GUST 0342 in reading, college-level writing and MATH 0306 in math.

**Credit:** 3 (3 lecture)

A systems approach to managing activities associated with traffic, transportation, inventory management and control, warehousing, packaging, order processing, and materials handling.

## LMGT 1321 Introduction to Materials Handling

**Prerequisites:** Must be placed into GUST 0342 in reading, college-level writing and MATH 0312 in math.

**Credit:** 3 (3 lecture)

Introduces the concepts and principles of materials management to include inventory control and forecasting activities.

## LMGT 1323 Domestic and International Transportation Management

**Prerequisites:** Must be placed into GUST 0342 in reading, college-level writing and MATH 0312 in math.

**Credit:** 3 (3 lecture)

An overview of the principles and practices of transportation and its role in the distribution process. Emphasis on the physical transportation systems involved in the United States as well as on global distribution systems. Topics include carrier responsibilities and services, freight classifications, rates, tariffs, and public policy and regulations. Also includes logistical geography and the development of skills to solve logistical transportation problems and issues.

## LMGT 1325 Warehouse and Distribution Center Management

**Prerequisites:** Must be placed into GUST 0342 in reading, college-level writing and MATH 0312 in math.

**Credit:** 3 (3 lecture)

Emphasis on physical distribution and total supply chain management. Includes warehouse operations management, hardware and software operations, bar codes, organizational effectiveness, just-in-time manufacturing, continuous replenishment, and third party.

## LMGT 1345 Economics of Transportation and Distribution

**Prerequisites:** Must be placed into GUST 0342 in reading, college-level writing and MATH 0312 in math.

**Credit:** 3 (3 lecture)

A study of the basic economic principles and concepts applicable to transportation and distribution.

## LMGT 1349 Materials Requirement Planning

**Prerequisites:** Must be placed into GUST 0342 in reading, college-level writing and MATH 0312 in math.

**Credit:** 3 (3 lecture)

A study of materials requirement planning that includes net change versus regenerative systems, lot sizing, and the time sharing of dependent demand.

## LMGT 2334 Principles of Traffic Management

**Prerequisites:** Must be placed into GUST 0342 in reading, college-level writing and MATH 0312 in math.

**Credit:** 3 (3 lecture)

A study of the role and functions of a transportation traffic manager within a commercial or public enterprise. Includes training in rate negotiation, carrier and mode selection, carrier service evaluation, quality control, traffic pattern analysis, documentation for domestic and international shipments, claims, hazardous materials movement, and the state, federal, and international environments of transportation.

## LOTT 1401 Introduction to Fiber Optics

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0312 in math.

**Credit:** 4 (3 lecture, 3 lab)

An introductory course in fiber optics and its application including advantages of fiber, light transmission in fiber, types of fiber, sources, detectors, and connectors.

## MART 1370 Introduction to Maritime Shipping

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (3 lecture)

This program will introduce the students to the unique role of the Maritime industry in logistics. Topics include port operations, modes of cargo handling and stowage, general shipping, ship construction, types of transport ships, tankers, shipboard nomenclature and the mission of merchant ships.

# Course Descriptions

## **MATH 0101 Developmental Math**

**Credit: 1 (1 lecture)**

An individualized curriculum intended for students who have completed the college developmental math sequence through MATH 0312, but have yet to demonstrate achievement of the appropriate standard or department chair. Counselor's approval required.

## **MATH 0102 Basic Mathematics**

**Prerequisites: Appropriate assessment score or Counselor's or department chair approval required**

**Credit: 1 (1 lecture)**

Designed for students who have tested below MATH 0306 and require a self-paced presentation of the basic operations in whole numbers.

## **MATH 0106 Fundamentals of Math I**

### **Bridge**

**Prerequisite:**

**Credit: 1 (1 lecture)**

Intensive help and preparatory course for those who have not successfully passed MATH 0306.

## **MATH 0108 Fundamentals of Math II**

### **Bridge**

**Prerequisite:**

**Credit: 1 (1 lecture)**

Intensive help and preparatory course for those who have not successfully passed MATH 0308.

## **MATH 0112 Intermediate Algebra Bridge**

**Credit: 1 (1 lecture)**

Intensive help and preparatory course for those who have not successfully passed MATH 0312.

## **MATH 0306 Fundamentals of Mathematics I**

**Prerequisites: Must be placed into MATH 0306 (or higher).**

**Credit: 3 (3 lecture)**

Topics include fundamental operations in whole numbers, fractions and decimals, percents, ratios, and proportion, descriptive statistics, and an introduction to the real numbers. All students who enroll in this course are expected to complete MATH 0308 and MATH 0312 in the following consecutive semesters before attempting their first college-level mathematics course (usually MATH 1314 College Algebra). A departmental final examination must be passed in order to pass the course.

## **MATH 0308 Fundamentals of Mathematics II**

**Prerequisite: Must be placed into MATH 0308 (or higher) or completion of MATH 0306.**

**Credit: 3 (3 lecture)**

Topics include real numbers, basic geometry, polynomials, factoring, linear equations and inequalities, quadratic equations, and rational expressions. A departmental final examination must be passed in order to pass the course.

## **MATH 0311 Stat I: Introduction to Statistics for non-STEM Majors**

**Prerequisites: Must place into Math 0311/0312 or higher or pass Math 0308 with a grade of C or higher.**

**Credit: 3 (3 lecture, 1 lab)**

The first in a two-term course, to be paired with a college-level MATH 1442 STAT II: Statistics for non-STEM majors in the second term. The course prepares students for the mathematical and statistical reasoning required in order to successfully complete the college-level statistics course. Topics include histograms, measures of central tendency and variation, functions and their graphs, rational exponents, various algebraic expressions, relationships between two variables, scatter diagrams, correlations and regression. A departmental final examination must be passed with 60% or better in order to pass this course.

## **MATH 0312 Intermediate Algebra**

**Prerequisite: Must be placed into MATH 0312 (or higher) or completion of MATH 0308.**

**Credit: 3 (3 lecture, 1 lab)**

Topics include factoring techniques, radicals, algebraic fractions, complex numbers, graphing linear equations and inequalities, quadratic equations, system of equations, graphing quadratic equations, and an introduction to functions. Emphasis is placed on algebraic techniques in order to successfully complete MATH 1314 College Algebra. A departmental final examination must be passed in order to pass this course.

## **MATH 1314 College Algebra**

**Prerequisite: Must be placed into college-level mathematics or completion of MATH 0312.**

**Credit: 3 (3 lecture)**

Topics include quadratics, polynomial, rational, logarithmic and exponential functions, system of equations, progression, sequences and series, matrices and determinants. A departmental final examination will be given in this course. Core Curriculum Course.

## **MATH 1316 Plane Trigonometry**

**Prerequisites: MATH 1314; Must be placed into college-level mathematics.**

**Credit: 3 (3 lecture)**

Topics include solutions of triangles, Euler identity, graphing of trigonometric and inverse trigonometric functions, identities, trigonometric equations and an introduction to vector analysis. Core Curriculum Course.

## **MATH 1324 Finite Mathematics with Applications**

**Prerequisites: MATH 1314; Must be placed into college-level mathematics.**

**Credit: 3 (3 lecture)**

A survey of finite mathematics and its application to problems of business and the natural and social sciences. Topics include set theory, probability, an introduction to matrices, linear programming, and an introduction to statistics. Core Curriculum Course.

## **MATH 1325 Elements of Calculus with Applications**

**Prerequisites: MATH 1314; Must be placed into college-level mathematics.**

**Credit: 3 (3 lecture)**

A survey of differential and integral calculus including the study of functions and graphs from a calculus viewpoint as applied to problems in business and the natural and social sciences. Core Curriculum Course.

## **MATH 1332 Mathematics for Liberal Arts**

**Prerequisite: Must be placed into college-level mathematics or completion of MATH 0312.**

**Credit: 3 (3 lecture)**

Mathematics for Liberal Arts is a course designed for liberal and fine arts, non-mathematics, non-science, and non-business majors. The course provides students with an appreciation of the history, art, and beauty of mathematics in the world around us. Topics include an examination of sets with applications, probability, and statistics, financial management, mathematical modeling, and fundamentals of geometry and its application. Core Curriculum Course.

## **MATH 1342 Statistics**

**Prerequisite: MATH 1314; Must be placed into college-level mathematics.**

**Credit: 3 (3 lecture)**

Topics include histograms, probability, binomial and normal distributions and their applications, correlation and prediction, and tests of statistical hypotheses. Core Curriculum Course. Students who have completed MATH 1342 successfully should NOT take MATH 1442. Students will Not receive credit for both MATH 1342 and MATH 1442. Core curriculum course

## **MATH 1350 Mathematics for Elementary Teachers I**

**Prerequisite: MATH 1314 or equivalent; Must be placed into college-level mathematics.**

**Credit: 3 (3 lecture)**

Concepts of sets, functions, numeration systems, number theory, and properties of the natural numbers, integers, rational, and real numbers systems with an emphasis on problem-solving and critical thinking. Field of Study Course.

## **MATH 1351 Mathematics for Elementary Teachers II**

**Prerequisite: MATH 1314 or equivalent; Must be placed into college-level mathematics.**

**Credit: 3 (3 lecture)**

Concepts of geometry, probability, and statistics, as well as applications of the algebraic properties of real numbers to concepts of measurement with an emphasis on problem solving and critical thinking. Field of Study Course.

# Course Descriptions

## **MATH 1442 Stat II: Statistics for Non-STEM Majors**

**Prerequisite:** Must pass MATH 0311 with a grade of C or higher.

**Credit: 4 (4 lecture)**

Topics include probability, binomial and normal distributions, and their applications, random sampling, statistical inference, estimation, confidence intervals, and tests of statistical hypotheses, and analysis of variance. Students who have completed MATH 1342 successfully should NOT take MATH 1442. Students will Not receive credit for both MATH 1342 and MATH 1442. Core curriculum course.

## **MATH 2305 Discrete Mathematics**

**Prerequisite:** MATH 2318

**Credit: 3 (3 lecture)**

Topics selected from logic, set theory, combinatorics and graph theory. Core Curriculum Course.

## **MATH 2318 Linear Algebra**

**Prerequisite:** MATH 2413

**Credit: 3 (3 lecture)**

Topics include systems of linear equations, vector spaces, matrices, linear mappings, and determinants. Core Curriculum Course.

## **MATH 2320 Ordinary Differential Equations**

**Prerequisite:** MATH 2414

**Credit: 3 (3 lecture)**

Topics include initial value problems for first order and linear second order equations, Picard iteration, series solutions, boundary value problems, Laplace transforms and numerical methods. Core Curriculum Course.

## **MATH 2412 Precalculus**

**Prerequisite:** MATH 1314 and MATH 1316 or Department Approval

**Credit: 4 (4 lecture)**

Topics include elementary theory of functions and equations, analytic geometry, vectors, introductory logic, mathematical induction, sequences and finite series. Core Curriculum Course.

## **MATH 2413 Calculus I**

**Prerequisite:** MATH 2412 or consent of the Department Chair

**Credit: 4 (4 lecture)**

An integrated study of differential calculus with analytic geometry including the study of functions, limits, continuity, differentiation, and an introduction to integration. Core Curriculum Course.

## **MATH 2414 Calculus II**

**Prerequisite:** MATH 2413

**Credit: 4 (4 lecture)**

Integral calculus including discussions of transcendental functions, applications of integration, techniques and improper integrals, infinite series, Taylor series, plane curves, and polar coordinates. Core Curriculum Course.

## **MATH 2415 Calculus III**

**Prerequisite:** MATH 2414

**Credit: 4 (4 lecture)**

A survey of advanced topics in calculus including vectors and vector-valued functions, partial differentiation, Lagrange multipliers, multiple integrals, Jacobians, divergence and Stoke's theorems. Core Curriculum Course.

## **MCHN 1302 Construction Tools and Techniques**

**Prerequisites/Corequisites:** TECM 1301; **Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (3 lecture)**

A study of blueprints for machining trades with emphasis on machine drawings.

## **MCHN 1305 Metals and Heat Treatment**

**Prerequisites:** TECM 1301, MCHN 1302; **Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0308 in math.**

**Credit: 3 (2 lecture, 2 lab)**

Designed for students going into the workforce as manual machinists, tool designers, or heat treat operators. Topics include properties of metals and heat treatment of metals.

## **MCHN 1308 Basic Lathe**

**Prerequisites/Corequisites:** TECM 1301, MCHN 1302, ENTC 1347; **Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 4 lab)**

An introduction to the common types of lathes. Emphasis on basic parts, nomenclature, lathe operations, safety, machine mathematics, blueprint reading, and theory.

## **MCHN 1313 Basic Milling Operations**

**Prerequisites/Corequisites:** TECM 1301, MCHN 1302, ENTC 1347; **Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 4 lab)**

An introduction to the common types of milling machines, part nomenclature, basic machine operations and procedures, safety, machine mathematics, blueprint reading, and theory.

## **MCHN 1320 Precision Tools and Measurements**

**Prerequisites:** MCHN 1302, TECM 1301 **Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0308 in math.**

**Credit: 3 (2 lecture, 3 lab)**

An introduction to the modern science of dimensional metrology. Emphasis on the identification, selection, and application of various types of precision instruments associated with the machining trade. Practice of basic layout and piece part measurements while using standard measuring tools.

## **MCHN 1338 Basic Machine Shop I**

**Prerequisites/Corequisites:** TECM 1301, MCHN 1302, ENTC 1347; **Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 4 lab)**

An introductory course that assists the student in understanding the machinist occupation in industry. The student begins by using basic machine tools such as the lathe, milling machine, drill press, power saw, and bench grinder. Machine terminology, theory, math, part layout, and bench work using common measuring tools is included. Emphasis is placed on shop safety, housekeeping, and preventative maintenance.

## **MCHN 1343 Machine Shop Mathematics**

**Prerequisites:** **Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (3 lecture)**

Designed to prepare the student with technical, applied mathematics that will be necessary in future machine shop-related courses.

## **MCHN 1370 Lean Manufacturing - Machine Technology**

**Prerequisites:** TECM 1301, MCHN 1302, ENTC 1347; **Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0308 in math.**

**Credit: 3 (2 lecture, 3 lab)**

Study of principles of lean manufacturing for machinists; including a systematic approach to reducing costs and lead-time.

## **MCHN 2303 Fundamentals of Computer Numerical Controls (CNC) Machine Controls**

**Prerequisites:** TECM 1301, MCHN 2433, MCHN 2437; **Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0308 in math.**

**Credit: 3 (2 lecture, 3 lab)**

An introduction to G and M codes (RS274-D) necessary to program Computer Numerical Controlled (CNC) machines.

## **MCHN 2331 Operation of CNC Turning Centers**

**Prerequisites/Corequisites:** ITSC 1309;

**Prerequisites:** MCHN 1302, TECM 1301; **Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0308 in math.**

**Credit: 3 (2 lecture, 3 lab)**

Continuation of Fundamentals of CNC Machine Controls with an emphasis on turning centers.

## **MCHN 2433 Advanced Lathe Operations**

**Prerequisites:** MCHN 1308, TECM 1301; **Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0308 in math.**

**Credit: 4 (2 lecture, 4 lab)**

A study of advanced lathe operations. Identify and use of special cutting tools and support tooling, such as form tools, carbide inserts, taper attachments, follower and steady rest. Close tolerance machining required.

# Course Descriptions

## **MCHN 2437 Advanced Milling Operations**

**Prerequisites:** MCHN 1313, TECM 1301; **Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0308 in math.**

**Credit: 4 (2 lecture, 4 lab)**

An advanced study of milling machine operations. Identification and/or use of milling cutters and support tooling.

## **MCHN 2447 Specialized Tools and**

### **Fixtures**

**Prerequisites:** TECM 1301, MCHN 1302, MCHN 1320; **Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0308 in math.**

**Credit: 4 (3 lecture, 2 lab)**

An advanced course in the designing and building of special tools, such as jigs, fixtures, punch press dies, and molds. Machining and assembling of a production tool using conventional machine shop equipment. Application of production tool theory, care, and maintenance.

## **MDCA 1165 Practicum (or Field Experience) Medical/Clinical Assistant**

**Prerequisites:** Department Approval; **Must be placed into college-level reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.**

**Credit: 1 (7 lab)**

Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

## **MDCA 1213 Medical Terminology**

**Prerequisites:** **Must be placed into college-level reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.**

**Credit: 2 (2 lecture)**

A study and practical application of a medical vocabulary system. Includes structure, recognition, analysis, definition, spelling, pronunciation, and combination of medical terms from prefixes, suffixes, roots, and combining forms.

## **MDCA 1254 Medical Assisting Credentialing Exam Review**

**Prerequisites:** **Must be placed into college-level reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.**

**Corequisite:** MDCA 1360 or **Department Approval**

**Credit: 2 (1 lecture, 2 lab)**

A preparation for the Certified Medical Assistant (American Association of Medical Assistants) or Registered Medical Assistant (American Medical Technologists) credentialing exam.

## **MDCA 1264 Practicum - Medical/Clinical Assistant**

**Prerequisites:** Department Approval; **Must be placed into college-level reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.**

**Credit: 2 (15 hours externship per week)**

A health-related work-based external learning experience that enables the student to apply specialized occupational theory, skills and concepts relating to specific occupational outcomes. Practical workplace training is supported by an individualized learning plan developed by the employee, college and student. Direct supervision is provided by the clinical (workplace) professional.

## **MDCA 1291 Special Topics in Medical**

### **Assistant: Clinical Protocols in**

### **Healthcare**

**Prerequisites:** Department Approval; **Must be placed into college-level reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.**

**Credit: 2 (2 lecture)**

Topics in the course address clinical protocols for healthcare management for families in acute illness when rendering advice and coordination of care in patient-center mode home/ambulatory care settings.

## **MDCA 1305 Medical Law and Ethics**

**Prerequisites:** **Must be placed into college-level reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.**

**Credit: 3 (3 lecture)**

Instruction in principles, procedures, and regulations involving legal and ethical relationships among physicians, patients, and medical assistants in ambulatory care settings.

## **MDCA 1310 Medical Assistant Interpersonal and Communication Skills**

**Prerequisites:** Department Approval; **Must be placed into college-level reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.**

**Credit: 3 (3 lecture)**

Emphasis on the application of basic psychological principles and the study of behavior as they apply to special populations. Topics include procedures for self-understanding and social adaptability in interpersonal communication with patients and co-workers in an ambulatory care setting.

## **MDCA 1313 Medical Terminology**

**Prerequisites:** **Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (3 lecture)**

A study and practical application of a medical vocabulary system. Includes structure, recognition, analysis, definition, spelling, pronunciation, and combination of medical terms from prefixes, suffixes, roots, and combining forms.

## **MDCA 1321 Administrative Procedures**

**Prerequisites:** **Must be placed into college-level reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.**

**Credit: 3 (2 lecture, 3 lab)**

Medical office procedures including appointment scheduling, medical records creation and maintenance, interpersonal communications, bookkeeping tasks, coding, billing, collecting, third party reimbursement, credit arrangements, and computer use in the medical office.

## **MDCA 1343 Medical Insurance**

**Prerequisites:** **Must be placed into college-level reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.**

**Credit: 3 (2 lecture, 2 lab)**

Emphasizes medical office coding procedures for payment and reimbursement by patient or third party payers for ambulatory care settings.

## **MDCA 1352 Medical Assistant Laboratory Procedures**

**Prerequisites:** **Must be placed into college-level reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.**

**Credit: 3 (2 lecture, 4 lab)**

Application of governmental health care guidelines. Includes specimen collection and handling, quality assurance, and quality control.

## **MDCA 1371 Ambulatory Care and Emergency Procedures**

**Prerequisite:** Department Approval; **Must be placed into college-level reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.**

**Credit: 3 (2 lecture, 3 lab)**

An introduction to Basic Health Profession skills including, CPR, OSHA safety guidelines, universal health precautions; emergency preparedness and response to basic medical emergencies; perform client monitoring skills; and document health care.

## **MDCA 1409 Anatomy and Physiology for Medical Assistants**

**Prerequisites:** **Must be placed into college-level reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.**

**Credit: 4 (4 lecture)**

Emphasis on normal human anatomy and physiology of cells, tissues, organs, and systems with overview of common pathophysiology.

## **MDCA 1417 Procedures in a Clinical Setting**

**Prerequisites:** **Must be placed into college-level reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.**

**Credit: 4 (3 lecture, 3 lab)**

Emphasis on patient-centered assessment, examination, and treatment as directed by physician. Includes vital signs, collection and documentation of patient information, sepsis, office clinical procedures, and other treatments as appropriate for the medical office.

# Course Descriptions

## MDCA 1448 Pharmacology and Administration of Medications

**Prerequisites:** Must be placed into college-level reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.

**Credit:** 4 (2 lecture, 4 lab)

Instruction in concepts and application of pharmacological principles. Focuses on drug classifications, principles and procedures of medication administration, mathematical systems and conversions, calculation of drug problems, and medico-legal responsibilities of the medical assistant.

## MDCA 1471 Ambulatory Care and Emergency Procedures

**Prerequisite:** Department Approval; Must be placed into college-level reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.

**Credit:** 4 (3 lecture, 2 lab)

An introduction to Basic Health Profession skills including, CPR, OSHA safety guidelines, universal health precautions; emergency preparedness and response to basic medical emergencies; perform client monitoring skills; and document health care.

## MLAB 1166 Practicum I (or Field Experience)- Clinical/Medical Laboratory Technician (Hematology)

**Prerequisites:** Department Approval; Must be placed into college-level reading, writing and math.

**Credit:** 1 (10 lab)

Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

## MLAB 1167 Practicum II (or Field Experience)-Clinical/Medical Laboratory Technician (Blood Banking)

**Prerequisites:** Department Approval; Must be placed into college-level reading, writing and math.

**Credit:** 1 (10 lab)

Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

## MLAB 1201 Introduction to Clinical Laboratory Science

**Prerequisites:** Must be placed into college-level reading, writing and math.

**Credit:** 2 (1 lecture, 3 lab)

An introduction to clinical laboratory science, including quality control, laboratory math, safety, basic laboratory equipment, laboratory settings, accreditation, certification, professionalism, and ethics.

## MLAB 1211 Urinalysis and Body Fluids

**Prerequisites:** Must be placed into college-level reading, writing and math.

**Credit:** 2 (1 lecture, 4 lab)

An introduction to urinalysis and body fluid analysis, including the anatomy and physiology of the kidney, and physical, chemical and microscopic examination of urine, cerebrospinal fluid, and other body fluids.

## MLAB 1227 Coagulation

**Prerequisites:** Must be placed into college-level reading, writing and math.

**Credit:** 2 (1 lecture, 4 lab)

A course in coagulation theory, procedures, and practical applications. Includes laboratory exercises which rely on commonly performed manual and semiautomatic methods.

## MLAB 1231 Parasitology/Mycology

**Prerequisites:** Must be placed into college-level reading, writing and math.

**Credit:** 2 (1 lecture, 4 lab)

A study of the taxonomy, morphology, and pathogenesis of human parasites and fungi, including the practical application of laboratory procedures.

## MLAB 1235 Immunology/Serology

**Prerequisites:** Must be placed into college-level reading, writing and math.

**Credit:** 2 (1 lecture, 4 lab)

An introduction to the theory and application of basic immunology, including the immune response, principles of antigen-antibody reactions, and the principles of serological procedures.

## MLAB 1266 Practicum III (or Field Experience)-Clinical/Medical Laboratory Technician (Chemistry, Urinalysis/Body Fluids)

**Prerequisites:** Department Approval; Must be placed into college-level reading, writing and math.

**Credit:** 2 (15 lab)

Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

## MLAB 1267 Practicum IV (or Field Experience)-Clinical/Medical Laboratory Technician (Microbiology/Parasitology)

**Prerequisites:** Department Approval; Must be placed into college-level reading, writing and math.

**Credit:** 2 (15 lab)

Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

## MLAB 1270 Hematology I

**Prerequisites:** Must be placed into college-level reading, writing and math.

**Credit:** 2 (1 lecture, 4 lab)

Introduction to the theory and practical application of routine and special hematology procedures, both manual and automated, red blood cells and white blood cells maturation sequences, and normal and abnormal morphology and associated diseases. This course is the first part of a two-part course and concentrates on red cell disorders.

## MLAB 1271 Hematology II

**Prerequisites:** MLAB 1270; Must be placed into college-level reading, writing and math.

**Credit:** 2 (1 lecture, 4 lab)

Introduction to the theory and practical application of routine and special hematology procedures, both manual and automated, red blood cells and white blood cells maturation sequences, and normal and abnormal morphology and associated diseases. This course is the first part of a two-part course and concentrates on white blood cell disorders.

## MLAB 1371 Registry Review

**Prerequisites:** Must be placed into college-level reading, writing and math.

**Credit:** 3 (3 lecture)

Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student.

## MLAB 2232 Seminar in Medical Laboratory Technology

**Prerequisites:** Must be placed into college-level reading, writing and math.

**Credit:** 2 (1 lecture, 2 lab)

Designed to reinforce didactic information with laboratory methodologies and to allow exploration of advanced techniques in medical laboratory technology

## MLAB 2264 Practicum V (or Field Experience)-Clinical/Medical Laboratory Technician

**Prerequisites:** Department Approval; Must be placed into college-level reading, writing and math.

**Credit:** 2 (14 lab)

Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

## MLAB 2270 Clinical Chemistry I

**Prerequisites:** Must be placed into college-level reading, writing and math.

**Credit:** 2 (1 lecture, 4 lab)

An introduction to the principles and procedures of various tests performed in Clinical Chemistry. Presents the physiological basis for the test, the principle and procedure for the test, and the clinical significance of the test results, including quality control and normal values. Also includes basic chemical laboratory technique, chemical laboratory safety, electrolytes and acid-base balance, proteins, carbohydrates, lipids and NPNs.

## MLAB 2271 Clinical Chemistry II

**Prerequisites:** MLAB 2270; Must be placed into college-level reading, writing and math.

**Credit:** 2 (1 lecture, 4 lab)

An introduction to the principles and procedures of various tests performed in Clinical Chemistry. Presents the physiological basis for the test, the principle and procedure for the test, and the clinical significance of the test results, including quality control and normal values. Also includes basic chemical laboratory technique, chemical laboratory safety, electrolytes and acid-base balance, enzymes, cardiac, pancreatic, and liver function, vitamins and endocrinology.

## MLAB 2431 Immunohematology

**Prerequisites:** MLAB 1235; Must be placed into college-level reading, writing and math.

**Credit:** 4 (3 lecture, 4 lab)

A study of blood antigens and antibodies. Performance of routine blood banking procedures, including blood group and Rh typing, antibody screens, antibody identification, cross matching, elution, and absorption techniques.

# Course Descriptions

## **MLAB 2434 (Clinical) Microbiology**

**Prerequisites:** BIOL 2420; **Must be placed into college-level reading, writing and math.**

**Credit: 4 (3 lecture, 4 lab)**

Instruction in the theory, practical application, and pathogenesis of clinical microbiology, including collection, setup, identification, susceptibility testing, and reporting procedures.

## **MLSC 1210 Military Leadership I**

**Prerequisite:** Contact UH Army ROTC

**Credit: 2 (2 lecture)**

Open to all students. No military commitment is required. Principles of effective leadership; reinforcement of self-confidence through participation in physically and mentally challenging training with upper division ROTC students; development of communication skills to improve individual performance and group interaction. Relate ethical values to the effectiveness of leadership. Survival skills and self-defense. Cooperative program with the University of Houston Army ROTC department.

## **MLSC 1220 Military Leadership II**

**Prerequisite:** MLSC 1210

**Credit: 2 (2 lecture)**

Continuation of MLSC 1210. Cooperative program with the University of Houston Army ROTC department.

## **MLSC 2210 Military Leadership**

### **Development I**

**Prerequisite:** MLSC 1220

**Credit: 2 (2 lecture)**

Characteristics of leadership, problem analysis, decision making, oral presentations, first aid, small unit tactics, land navigation, basic radio communication, marksmanship, fitness training, rappelling. Fitness training required three times per week in addition to class and lab. Cooperative program with the University of Houston Army ROTC department.

## **MLSC 2220 Military Leadership**

### **Development II**

**Prerequisite:** MLSC 2210

**Credit: 2 (2 lecture)**

Continuation of MLSC 2210. Cooperative program with the University of Houston Army ROTC department.

## **MRKG 1302 Principles of Retailing**

**Prerequisites:** **Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (3 lecture)**

Introduction to the retailing environment and its relationship to consumer demographics, trends, and traditional/nontraditional retailing markets. The employment of retailing techniques and the factors that influence modern retailing.

## **MRKG 1311 Principles of Marketing**

**Prerequisites:** **Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (3 lecture)**

Introduction to the marketing functions: identification of consumer and organizational needs; explanation of economic, psychological, sociological, and global issues; and description and analysis of the importance of marketing research.

## **MRKG 1313 Public Relations**

**Prerequisites:** **Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (3 lecture)**

Exploration of theories, techniques, and processes of public relations including means of influencing methods of building good will, analysis of media, obtaining publicity, and implementation of public relations programs.

## **MRKG 1391 Special Topics in Business Marketing/Marketing Management: Sports & Entertainment Marketing**

**Prerequisites:** **Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (3 lecture)**

Sports and Entertainment Marketing introduces the basic principles of marketing, economic impact, the history of sports and entertainment, careers, as well as legal and business risks involved in the industry. Students will also learn characteristics and buying behaviors of sports consumers as well as entertainment consumers

## **MRKG 2312 e-Commerce**

**Prerequisites:** **Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (3 lecture)**

Explore electronic tools utilized in marketing; focus on marketing communications in developing customer relationships.

## **MRKG 2333 Principles of Selling**

**Prerequisites:** **Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (3 lecture)**

Overview of the selling process. Identification of the elements of the communication process between buyers and sellers. Examination of the legal and ethical issues of organizations which affect salespeople.

## **MRKG 2348 Marketing Research and Strategies**

**Prerequisites:** **Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (3 lecture)**

A simulated marketing environment for experience in marketing decision-making. Provides practical experiences in analyzing marketing cases. Includes dynamic interrelationships among marketing price, channels of distribution, promotion, and product responsibility.

## **MRKG 2349 Advertising and Sales**

### **Promotion**

**Prerequisites:** **Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (3 lecture)**

Integrated marketing communications. Includes advertising principles and practices. Emphasizes multi-media of persuasive communication including buyer behavior, budgeting, and regulatory constraints.

## **MRKG 2371 Services Marketing**

**Prerequisite:** MRKG 1311; **Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (3 lecture)**

An analysis of the principles, methods and problems of marketing for both professional and consumer services. A study of competition, customer service, services design, pricing, services promotion and distribution strategies.

## **MRKG 2372 Consumer Behavior**

**Prerequisites:** **Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (3 lecture)**

A study of buyer motives, reference groups, social class, culture, and family and social interrelationships are examined.

## **MRKG 2373 Services Promotion**

**Prerequisites:** **Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (3 lecture)**

Principles and practices of services promotion including public relations, image advertising, proposal writings, sales presentation design, media planning, public relations campaign planning, lobbying, crisis management, positioning, services selling and event planning are discussed.

## **MRKG 2374 Marketing Case Studies**

**Prerequisites:** **Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (3 lecture)**

A study of marketing problems and challenges through the use of case histories and actual marketing situations involving advertising, prices, distribution, product selection, client or consumer behavior, marketing training, market segmentation and international marketing.

## **MRKG 2380 Cooperative Education -Marketing/Marketing Management, General**

**Prerequisites:** Department Approval and MRKG 1311; **Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (1 lecture, 20 lab)**

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

# Course Descriptions

## **MRKG 2381 Cooperative Education- Business Marketing/Marketing Management**

**Prerequisites:** Department Approval and MRKG 1311; Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit: 3 (1 lecture, 20 lab)**

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

## **MRMT 1307 Medical Transcription I**

**Prerequisites:** MDCA 1313, POFT 1329; Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit: 3 (2 lecture, 3 lab)**

Fundamentals of medical transcription with hands-on experience in transcribing physician dictation including basic reports such as history and physicals, discharge summaries, consultations, operative reports, and other medical reports. Utilizes transcribing and information processing equipment compatible with industry standards. Designed to develop speed and accuracy.

## **MUAP courses Numbered 11xx, 12xx, are Freshman level, one-half hour lesson and one-hour lessons per week, respectively.**

Half-hour lessons require six practice hours per week; hour lessons, ten practice hours per week. Hour lessons may be divided into two 30-minute lessons per week by mutual consent of the student and the instructor. Lessons may be repeated (maximum 7 times in any combination) with permission of the respective department heads and are required of appropriate majors(s). Juries are required. Students provide all instruments but piano and percussion equipment. A MUSI co-requisite is required. Private instruction is offered to music majors only. Half-hour lessons earn 1 credit (1 lecture). Hour lessons earn 2 credits (2 lecture).

## **MUAP Courses Numbered 21xx, 22xx, are Sophomore level, one-half hour and one- hour lessons per week respectively.**

Half-hour lessons require six practice hours per week; hour lessons, ten practice hours per week. Hour lessons may be divided into two 30-minute lessons per week by mutual consent of the student and the instructor. Lessons may be repeated (maximum 7 times in any combination) with permission of the respective department heads and are required of appropriate majors(s). Juries are required. Students provide all instruments but piano and percussion equipment. A MUSI co-requisite is required. Private instruction is offered to music majors only. Half-hour lessons earn 1 credit (1 lecture). Hour lessons earn 2 credits (2 lecture).

MUAP 1101, 1201, 2101, 2201. Violin.

MUAP 1105, 1205, 2105, 2205. Viola.

MUAP 1109, 1209, 2109, 2209. Cello.

MUAP 1113, 1213, 2113, 2213. Bass.

MUAP 1115, 1215, 2115, 2215. Electric Bass.

MUAP 1117, 1217, 2117, 2217. Flute/Piccolo.

MUAP 1121, 1221, 2121, 2221. Oboe, English Horn.

MUAP 1125, 1225, 2125, 2225. Bassoon.

MUAP 1129, 1229, 2129, 2229. Clarinet.

MUAP 1133, 1233, 2133, 2233. Saxophone.

MUAP 1137, 1237, 2137, 2237. Trumpet/  
Coronet.

MUAP 1141, 1241, 2141, 2241. French Horn.

MUAP 1145, 1245, 2145, 2245. Trombone.

MUAP 1149, 1249, 2149, 2249. Euphonium/  
Baritone.

MUAP 1153, 1253, 2153, 2253. Tuba.

MUAP 1157, 1257, 2157, 2257. Percussion.

MUAP 1161, 1261, 2161, 2261. Guitar

MUAP 1165, 1265, 2165, 2265. Organ.

MUAP 1169, 1269, 2169, 2269. Piano.

MUAP 1173, 1273, 2173, 2273. Electronic  
Keyboard.

MUAP 1177, 1277, 2177, 2277. Harp.

MUAP 1181, 1281, 2181, 2281. Voice.

MUAP 1185, 1285, 2185, 2285. Improvisation.

MUAP 1187, 1287, 2187, 2287. Special Topics  
- Strings.

MUAP 1188, 1288, 2188, 2288. Special Topics  
- Percussion.

MUAP 1189, 1289, 2189, 2289. Special Topics  
- Keyboard.

MUAP 1190, 1290, 2190, 2290 Special Topics  
- Voice.

MUAP 1292, 2292. Arranging and Composition.

## **MUSB 1191 Special Topics in Music Business Management and Merchandising**

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.

**Credit: 1 (1 lecture)**

Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. Learning outcomes/objectives are determined by local occupational need, and business and industry trends.

## **MUSB 1305 Survey of the Music Business**

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.

**Credit: 3 (3 lecture)**

An overview of the music industry including song writing, live performance, the record industry, music merchandising, contracts and licenses, and career opportunities.

## **MUSB 1341 Concert Promotion and Venue Management**

**Prerequisites:** MUSB 1305; Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.

**Credit: 3 (3 lecture)**

A course in the basics of concert promotion and venue management including considerations in purchasing a club; concert promotion and advertising; talent buying; city codes; insurance; Texas Alcoholic Beverage Commission Regulation; American Society of Composers, Arrangers, and Publishers (ASCAP/BMI) licenses; personnel management; and concert production and administration.

## **MUSB 1391 Special Topics in Music Business Management and Merchandising: Online & Social Media for Music Marketing**

**Prerequisites:** MUSB 1305; Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.

**Credit: 3 (3 lecture)**

Students will define and implement a music marketing strategy that defines career goals and creates online branding; utilizes various forms of social media to enforce online presence, build fan base and drive sales in the digital environment. Students will also participate in a self directed course of independent study that constitutes one hour per week. Proof of participation will be provided by submissions of blog posts that reflect a meaningful contribution each week.

## **MUSB 2301 Music Marketing and Merchandising**

**Prerequisites:** MUSB 1305; Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.

**Credit: 3 (3 lecture)**

A study of the methods of distribution, retailing, and wholesaling. Topics include the basics of purchasing, inventory control, shipping and receiving, returns, pricing and cost analysis, merchandising, retail display, sales promotion, advertising, security and shrinkage, personnel management, and relationships between retailers and distributors.

## **MUSB 2305 Music Publishing**

**Prerequisites:** MUSB 1305; Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.

**Credit: 3 (3 lecture)**

A study of the administrative and marketing aspects of music publishing including the application of current copyright law, developing song writers, rights exploration, and royalty collection.

## **MUSB 2309 The Record Industry**

**Prerequisites:** MUSB 1305; Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.

**Credit: 3 (3 lecture)**

Overview of the record industry and the organization of large and small record companies. Emphasizes record company functions such as artist and repertoire (A & R), promotion, marketing, business affairs, and administration and distribution including Internet-based distribution.



# Course Descriptions

## **MUSB 2345 Live Music and Talent Management**

**Prerequisites:** MUSB 1305; Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.

**Credit:** 3 (3 lecture)

An examination of the role, scope, and activities of the talent manager including establishing the artist/manager relationship; planning the artist's career; and developing goals, strategies, and tactics with an overall view of the live music business.

## **MUSB 2355 Legal Aspects of the Entertainment Industry**

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.

**Credit:** 3 (3 lecture)

Copyright law and the various agreements used in the entertainment industry. Emphasizes contracts used by music publishers, record companies, artist managers, record producers, film and television producers, and booking agencies.

## **MUSB 2380 Cooperative Education - Music Business Management and Merchandising**

**Prerequisites:** 12 hrs. of MUSB and Department Approval; Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.

**Credit:** 3 (1 lecture, 20 lab)

Career-related activities encountered in the student's area of specialization are offered through an individualized agreement between the college, employer, and student. Under supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

## **MUSB 2381 Cooperative Education - Music Management and Merchandising**

**Prerequisites:** 12 hrs. of MUSB and Department Approval; Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.

**Credit:** 3 (1 lecture 20 lab)

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

## **MUSC 1249 Applied Music: Conducting**

**Prerequisites:** Commercial Music Theory I and II; Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.

**Credit:** 2 (1 lecture, 4 lab)

Private lessons in conducting. Development of technique through the practice of basic beat patterns, beginning beats, gesturing, and cueing. Emphasis on score reading and knowledge of musical terminology.

## **MUSC 1309 Conducting Class**

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.

**Credit:** 3 (2 lecture, 2 lab)

Introduction to the art of conducting including regular and irregular beat patterns, subdivision, and beat pattern varieties applied to musical literature and practical experience.

## **MUSC 1321 Songwriting**

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.

**Credit:** 3 (3 lecture)

Introduction to techniques of writing marketable songs including the writing of lyrics and melodies, setting lyrics to music, developing lyrical and musical 'hooks,' analyzing the marketplace, and developing a production plan for a song demo.

## **MUSC 1323 Audio Electronics**

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.

**Credit:** 3 (2 lecture, 4 lab)

Basic concepts in electricity, Ohm's Law, circuit analysis and troubleshooting audio problems. Topics include soldering techniques, audio electronic alignment procedures for tape machines, console maintenance, and sound reinforcement equipment maintenance.

## **MUSC 1330 Computer Music Notation I**

**Prerequisites:** Basic computer skills; Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.

**Credit:** 3 (1 lecture, 4 lab)

Survey of music notation software and applications with skill development in computer music notation.

## **MUSC 1331 MIDI I**

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.

**Credit:** 3 (2 lecture, 4 lab)

An overview of the Musical Instrument Digital Interface (MIDI) system and applications. Topics include the history and evolution of MIDI, hardware requirements, computer numbering systems, channels and modes, the MIDI language, and typical implementation of MIDI applications in the studio environment using software-based sequencing programs. Students are required to attend additional lab hours outside of class.

## **MUSC 1396 Special Topics in Recording Arts Technology/Technician: Advanced Mixing and Mastering in ProTools**

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.

**Credit:** 3 (2 lecture, 4 lab)

Topics address advanced mixing and mastering concepts within the ProTools digital software environment. Topics include analysis of mixes by genre, use of advanced effects processing to emphasize depth, clarity, and frequency balance, and time-based editing processes such as time stretching. Students will also practice software-based mastering techniques to optimize mixes for various digital distribution methods.

## **MUSC 1405 Live Sound I**

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.

**Credit:** 3 (3 lecture, 3 lab)

An overview of the field of live sound. Includes principles of live sound and the theory and interconnection of the components of a sound reinforcement system.

## **MUSC 1427 Audio Engineering I**

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.

**Credit:** 4 (3 lecture, 4 lab)

Overview of the recording studio. Topics include basic studio electronics and acoustic principles, waveform analysis, microphone design and placement techniques, studio set up and signal flow, recording console theory, signal processing concepts, tape machine principles and operation, and an overview of mixing and editing. Students are required to attend additional lab hours outside of class.

## **MUSC 2141 Forum/Recital**

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.

**Credit:** 1 (1 lecture)

Stylistic analysis of commercial music performances presented by students, faculty, and guest artists.

## **MUSC 2201 Audio Engineering Practices**

**Prerequisites:** MUSC 2447, RTVB 2232; Must be placed into college-level reading, writing and math.

**Corequisite:** MUSC 2448, 2457 or 2458

**Credit:** 2 (1 lecture, 4 lab)

Application of the concepts and techniques presented in Audio Engineering I and II. (May be repeated three times for credit. Students are required to attend additional lab hours outside of class.)

## **MUSC 2214 Improvisation Theory I**

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.

**Credit:** 2 (2 lecture, 1 lab)

A study of the chordal structures of jazz, rock, country, and fusion with emphasis on extemporaneous performance.

# Course Descriptions

## **MUSC 2230 Commercial Music Arranging and Composition**

**Prerequisites:** MUSC 1321; **Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.**

**Credit: 2 (1 lecture, 4 lab)**

Presentation of arranging and composition for projects in industry recognized genres including song writing, show writing, video, and film.

## **MUSC 2234 Improvisation Theory II**

**Suggested Prerequisites:** MUSC 2214; **Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.**

**Credit: 2 (2 lecture, 1 lab)**

A continuation of the study of chordal structures of jazz, rock, country, and fusion with emphasis on extemporaneous performance.

## **MUSC 2249 Applied Music: Conducting II**

**Prerequisites:** MUSC 1249; **Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.**

**Credit: 2 (1 lecture, 4 lab)**

Advanced private lessons in conducting. Continues development of conducting techniques, score reading abilities, and study of musical terminology.

## **MUSC 2319 Orchestration**

**Prerequisites:** **Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.**

**Credit: (3 lecture)**

Exploration of writing for voices and instruments to include ranges, transportation, and idiosyncrasies of each instrument with emphasis on commercial music chord voicings.

## **MUSC 2345 Synthesis II**

**Prerequisites:** MUSC 1331; **Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.**

**Credit: 3 (2 lecture, 4 lab)**

Course emphasizes technology that integrates MIDI sequencing with digital audio. Topics include computer based hard disk recording systems, MIDI machine control, advanced techniques in synthesizer editing, digital transfers of audio data and CD mastering. The student will demonstrate advanced skill in FM and hybrid synthesis techniques; explain and utilize digital sampling; complete projects using advanced synthesis techniques; and edit samples and synthesizer voices. Students are required to attend additional lab hours outside of class.

## **MUSC 2350 Computer Music Notation II**

**Prerequisites:** MUSC 1330; **Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.**

**Credit: 3 (1 lecture, 4 lab)**

Study and practices in music notation software at a professional level, including large score notation.

## **MUSC 2351 Audio for Video**

**Prerequisites:** RTVB 2430, RTVB 2355; **Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.**

**Credit: 3 (2 lecture, 4 lab)**

This course explores the technology, techniques and requirements for adding additional audio soundtracks to raw video and film footage. The course also strengthens skills in advanced audio production techniques for video production. Topics include synchronization, SMPTE time code, automated mixdown, audio post production for video, nonlinear and traditional editing techniques, sound design, Foley stage work, sound effects and dialog sweetening or replacement.

## **MUSC 2355 MIDI II**

**Prerequisites:** MUSC 1331; **Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.**

**Credit: 3 (2 lecture, 4 lab)**

A continuation of MIDI I with emphasis on advanced sequencer operation, and SMPTE-based synchronization in the interaction of multiple recording and playback systems.

## **MUSC 2427 Audio Engineering II**

**Prerequisites:** MUSC 1427 and MUSC 1331; **Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.**

**Credit: 4 (3 lecture, 2 lab)**

Major topics include the recording process, microphones and placement techniques, audio console operation, multitrack recording and signal processors. Audio software includes Pro Tools and Digital Performer, Spark and Peak audio editors, Toast and Jam CD editors, Acid looping software. Students learn basic tracking techniques, studio set up and break down and participate in 32 hours of recording sessions. Students are required to attend additional lab hours outside of class.

## **MUSC 2433 Scoring for Video and Film**

**Prerequisites:** **Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.**

**Credit: 4 (3 lecture, 4 lab)**

Using Digital Performer and a variety of digital mixers, samplers, sound modules and synthesizers, students learn to integrate MIDI sequencing and digital audio with video productions.

## **MUSC 2447 Audio Engineering III**

**Prerequisites:** MUSC 2427, RTVB 1240 and MUSC 2355; **Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.**

**Credit: 4 (3 lecture, 4 lab)**

Advanced practice of procedures and techniques in recording and manipulating audio. Includes digital audio editing, advanced recording techniques, and advanced engineering projects.

## **MUSC 2448 Audio Engineering IV**

**Prerequisites:** **Must be placed into college-level reading, writing and math.**

**Credit: 4 (3 lecture, 3 lab)**

Examination of the role of the producer including recording, mixing, arranging, analyzing projects, session planning, communications, budgeting, business aspects, technical consideration, and music markets. Students are required to attend additional lab hours outside of class.

## **MUSC 2457 Audio Engineering V**

**Prerequisites:** MUSC 2448, 2201, 2355; **Must be placed into college-level reading, writing and math.**

**Credit: 4 (3 lecture, 4 lab)**

Analysis and practice of the operation of a large format, computer-automated analog mixing console. Includes console's signal flow and operation as they pertain to tracking.

## **MUSC 2458 Audio Engineering VI**

**Prerequisites:** MUSC 2457, 2201; **Must be placed into college-level reading, writing and math.**

**Credit: 4 (3 lecture, 4 lab)**

Analysis and practice in the operation of a large format, computer-automated analog mixing console. Includes console's signal flow and operation as they pertain to mixing.

## **MUSI 1131 Special Topics Ensemble I**

**Credit: 1 (0 lecture, 3 lab)**

Group master class for piano, voice, or instruments. Open to all students. May serve as corequisite for MUAP courses.

## **MUSI 1135 Jazz Ensemble I**

**Prerequisite:** Department Approval

**Credit: 1 (0 lecture, 3 lab)**

Small ensemble specializing in jazz improvisation and performance.

## **MUSI 1139 Chamber Music I**

**Prerequisite:** Department Approval

**Credit: 1 (0 lecture, 3 lab)**

Small ensemble concentrating on vocal and/or instrumental chamber music.

## **MUSI 1140 Music Forum I**

**Credit: 1 (1 lecture)**

Emphasis on faculty and student recitals, stylistic interpretation of commercial music forms. Seminar discussions, lectures and demonstrations by music industry representatives and artists.

## **MUSI 1159 Musical Theatre I**

**Credit: 1 (0 lecture, 4 lab)**

Study and performance of literature from musical theatre, including operetta, reviews and musical comedy, basic vocal and movement skills. Performance and rehearsals required. Open to all students by audition.

## **MUSI 1160 Italian Diction for Singers**

**Credit: 2 (1 lecture, 1 lab)**

Study of Italian phonetic sounds to promote ability to sing the language. Open to all vocal students. May be repeated.

# Course Descriptions

## **MUSI 1161 English Diction for Singers**

**Credit: 2 (1 lecture, 1 lab)**

Study of phonetic sounds of English to promote ability to sing the language. Open to all vocal students. May be repeated.

## **MUSI 1163/1164 Improvisation I & II**

**Credit: 1 (0 lecture, 3 lab)**

A study of the chordal structures of jazz with emphasis on extemporaneous performance (improvisation). Some emphasis on the development of a repertory of standard jazz harmonic patterns. Open to all students with Department Approval.

## **MUSI 1166 Instrument Class: Woodwind**

**Credit: 1 (0 lecture, 3 lab)**

Class instruction in woodwind instruments. A skills course. May be repeated. Open to all students.

## **MUSI 1168 Instrument Class: Brass**

**Credit: 1 (0 lecture, 3 lab)**

Class instruction in brass instruments. A skills course. May be repeated. Open to all students.

## **MUSI 1172 Instrument Class: Strings see**

**MUSI 1190**

## **MUSI 1181 Piano Class I**

**Prerequisite: MUSI 1101 or Department Approval**

**Credit: 1 (0 lecture, 3 lab)**

Class instruction in the fundamentals of keyboard technique for beginning piano students only. A skills course. May be repeated. Required of majors. Open to non-majors.

## **MUSI 1182 Piano Class II**

**Credit: 1 (0 lecture, 3 lab)**

Continuation of MUSI 1181. May be repeated. Required of majors. Open to non-majors.

## **MUSI 1183 Voice Class I**

**Credit: 1 (0 lecture, 3 lab)**

Class instruction in fundamentals of singing: tone production, breath production, diction and standard music repertoire. Designed for students with little or no previous vocal training.

## **MUSI 1184 Voice Class II**

**Credit: 1 (0 lecture, 3 lab)**

Continuation of MUSI 1183.

## **MUSI 1188 Instrument Class: Percussion**

**Credit: 1 (0 lecture, 3 lab)**

Class instruction in percussion instruments. A skills course. May be repeated. Open to all students.

## **MUSI 1190 Instrument Class: Strings**

**Credit: 1 (0 lecture, 3 lab)**

Class instruction in strings. A skills course. May be repeated. Open to all students.

## **MUSI 1192 Guitar Class I**

**Credit: 1 (0 lecture, 3 lab)**

This class is designed to provide students the fundamentals of guitar, aiding them as they learn or improve their reading of music. Consult with instructor concerning instrument availability. A knowledge of music is not required, but helpful. Open to all students.

## **MUSI 1211 Theory I**

**Prerequisites: MUSI 1301 or Department Approval; Must be placed into GUST 0342 (or higher) in reading and be placed into MATH 0308 (or higher) and be placed into ENGL 0310/0349 (or higher) in writing.**

**Corequisite: MUSI 1216**

**Credit: 2 (2 lecture, 1 lab)**

Basic music theory with emphasis on part writing of figured bass and melody harmonization requiring all diatonic triads, dominant and supertonic seventh chords, and non-harmonic tones. Keyboard study of harmonic progressions and melodic harmonizations requiring diatonic triads. Required of majors.

## **MUSI 1212 Theory II**

**Prerequisites: MUSI 1211 or Department Approval; Must be placed into GUST 0342 (or higher) in reading and be placed into MATH 0308 (or higher) and be placed into ENGL 0310/0349 (or higher) in writing.**

**Corequisite: MUSI 1217**

**Credit: 2 (2 lecture, 1 lab)**

A continuation of MUSI 1211. Required of majors.

## **MUSI 1216 Elementary Ear Training I**

**Prerequisites: MUSI 1171 or Department Approval; Must be placed into GUST 0342 (or higher) in reading and be placed into MATH 0308 (or higher) and be placed into ENGL 0310/0349 (or higher) in writing.**

**Credit: 2 (2 lecture, 1 lab)**

Singing tonal music in treble, bass, alto and tenor clefs. Aural study (including dictation) of rhythm, melody and diatonic harmony.

## **MUSI 1217 Ear Training/Sight-Signing II**

**Prerequisites: Must be placed into GUST 0342 (or higher) in reading and be placed into MATH 0308 (or higher) and be placed into ENGL 0310/0349 (or higher) in writing.**

**Credit: 2 (2 lecture, 1 lab)**

Singing tonal music in treble, bass, alto and tenor clefs. Aural study (including dictation) of rhythm, melody and diatonic harmony.

## **MUSI 1223 Studio Orchestra I**

**Credit: 2 (1 lecture, 3 lab)**

Major ensemble performing contemporary styles. Open to all students with consent of director. Performances required.

## **MUSI 1226/2266 Symphony Orchestra**

**Credit: 2 (1 lecture, 2 lab)**

Performance and study of chamber, symphonic and string orchestra literature. Solo opportunities for advanced performers. For experienced string players and selected woodwind, brass and percussion players. Previous orchestra experience preferred but not required.

## **MUSI 1227 Community College Band**

**Credit: 2 (1 lecture, 2 lab)**

This class is designed for full or part-time students who desire to improve their performance levels on band instruments, observe rehearsal methods and techniques, and learn band organizational strategies. Performance required.

## **MUSI 1229 Harp Ensemble**

**Credit: 2 (1 lecture, 2 lab)**

This class is designed for full or part-time students who desired to improve their harp ensemble performance levels, observe rehearsal methods and techniques, and learn harp ensemble organizational strategies. Performances required.

## **MUSI 1239 Chamber Ensemble I**

**Credit: 2 (1 lecture, 2 lab)**

Small instrumental ensembles: wind, string, brass, percussion, piano. Designed to provide ensemble experience for instrumental majors. Open to all qualified students. Placement audition required.

## **MUSI 1254 Chamber Vocal Ensemble**

**Credit: 2 (1 lecture, 2 lab)**

Madrigal or other small vocal ensemble. Open to non-majors. Performances required.

## **MUSI 1301 Music Fundamentals**

**Prerequisites: Must be placed into GUST 0342 (or higher) in reading and be placed into MATH 0308 (or higher) and be placed into ENGL 0310/0349 (or higher) in writing.**

**Credit: 3 (3 lecture)**

An introduction to the elements of music, including study of clefs, staff, key signatures, notation, meter, and rhythm, sight singing, major and minor chords, ear training, basic keyboard harmony. Open to all students. Core Curriculum Course.

## **MUSI 1306 Music Appreciation**

**Prerequisites: Must be placed into GUST 0342 (or higher) in reading and be placed into MATH 0308 (or higher) and be placed into ENGL 0310/0349 (or higher) in writing.**

**Credit: 3 (3 lecture)**

A foundation course in understanding and enjoyment of music through the use of recorded music and song literature. Elements of music and analysis of music form and how they relate to compositional technique are explored. Open to all students. Core Curriculum Course.

## **MUSI 1308 Music Literature I**

**Prerequisites: Must be placed into GUST 0342 (or higher) in reading and be placed into MATH 0308 (or higher) and be placed into ENGL 0310/0349 (or higher) in writing.**

**Credit: 3 (3 lecture)**

An introductory survey of the historical development of music as an art with emphasis on listening. Open to non-majors. Core Curriculum Course.

## **MUSI 1309 Music Literature II**

**Prerequisites: MUSI 1308 or Department Approval Prerequisites: Must be placed into GUST 0342 (or higher) in reading and be placed into MATH 0308 (or higher) and be placed into ENGL 0310/0349 (or higher) in writing.**

**Credit: 3 (3 lecture)**

Continuation of MUSI 1308. Required of majors. Open to non-majors. Core Curriculum Course.

# Course Descriptions

## **MUSI 1310 History and Literature of Recorded Music in America**

**Prerequisites:** Must be placed into GUST 0342 (or higher) in reading and be placed into MATH 0308 (or higher) and be placed into ENGL 0310/0349 (or higher) in writing.

**Credit: 3 (3 lecture)**

Survey of recorded music in the United States from the earliest recordings to the present, with emphasis on commercial successes. Includes discussion of the technological evolution in sound recording and of record lists. Open to all students.

## **MUSI 1386 Arranging and Composition I**

**Prerequisites:** MUSI 1211 or Department Approval

**Credit: 3 (3 lecture)**

Discussion and practical applications in arranging and composing for various types of musical ensembles and styles. Further study in orchestration.

## **MUSI 2135 Jazz Ensemble II**

**Prerequisite:** MUSI 1135

**Credit: 1 (0 lecture, 3 lab)**

Small ensemble specializing in jazz improvisation and performance. May be repeated for credit.

## **MUSI 2139 Chamber Music II**

**Prerequisite:** MUSI 1139 or Department Approval

**Credit: 1 (0 lecture, 3 lab)**

Small ensemble concentrating on chamber music. May be repeated for credit.

## **MUSI 2140 Music Forum II**

**Credit: 1 (1 lecture)**

Emphasis on faculty and student recitals, stylistic interpretation of commercial music forms. Seminar discussions, lectures and demonstrations by music industry representatives and artists. May be repeated for credit.

## **MUSI 2159 Musical Theatre II**

**Credit: 1 (0 lecture, 4 lab)**

Study and performance of literature from musical theatre, including operetta, reviews and musical comedy, basic vocal and movement skills. Performance and rehearsals required. Open to all students by audition.

## **MUSI 2160 German Diction for Singers**

**Credit: 1 (1 lecture, 1 lab)**

Study of phonetic sounds of German to promote ability to sing the language. Open to all vocal students. May be repeated.

## **MUSI 2161 French Diction For Singers**

**Credit: 1 (1 lecture, 1 lab)**

Study of phonetic sounds of French to promote ability to sing the language. Open to all vocal students. May be repeated.

## **MUSI 2163/2164 Improvisation III and IV**

**Prerequisite:** MUSI 1164

**Credit: 1 (0 lecture, 3 lab)**

A study of the chordal structures of jazz with emphasis on extemporaneous performance (improvisation). Some emphasis on the development of a repertory of standard jazz harmonic patterns.

## **MUSI 2181 Piano Class III**

**Credit: 1 (0 lecture, 3 lab)**

Continuation of MUSI 1182. May be repeated. Required of majors. Open to non-majors.

## **MUSI 2182 Piano Class IV**

**Credit: 1 (0 lecture, 3 lab)**

Continuation of MUSI 2181. May be repeated. Required of majors. Open to non-majors.

## **MUSI 2211 Theory III**

**Prerequisites:** MUSI 1212 or Department Approval Must be placed into GUST 0342 (or higher) in reading and be placed into MATH 0308 (or higher) and be placed into ENGL 0310/0349 (or higher) in writing.

**Corequisite:** MUSI 2216

**Credit: 2 (2 lecture, 1 lab)**

Emphasis on part-writing, figured bass, and melody harmonization and compositional techniques using all diatonic chords, modulations, instrumental and choral styles, two- and three-part forms. Keyboard study of harmonic progressions, melody harmonizations and modulations to closely related keys. Required of majors.

## **MUSI 2212 Theory IV**

**Prerequisites:** MUSI 2211 or Department Approval Must be placed into GUST 0342 (or higher) in reading and be placed into MATH 0308 (or higher) and be placed into ENGL 0310/0349 (or higher) in writing.

**Corequisite:** MUSI 2217

**Credit: 2 (2 lecture, 1 lab)**

Continuation of MUSI 2211. Required of majors.

## **MUSI 2216 Ear Training/Sight-Singing III**

**Prerequisites:** Must be placed into GUST 0342 (or higher) in reading and be placed into MATH 0308 (or higher) and be placed into ENGL 0310/0349 (or higher) in writing.

**Credit: 2 (2 lecture, 1 lab)**

Singing more difficult tonal music, including modal, ethnic and 20th century materials. Drills in sight-singing and ear training. Aural study (including dictation) of more complex rhythm, melody, chromatic harmony and extending tertian structures.

## **MUSI 2217 Ear Training/Sight-Singing IV**

**Prerequisites:** Must be placed into GUST 0342 (or higher) in reading and be placed into MATH 0308 (or higher) and be placed into ENGL 0310/0349 (or higher) in writing.

**Credit: 2 (2 lecture, 1 lab)**

Singing more difficult tonal music, including modal ethnic and 20th century materials. Drills in sight-singing and ear training. Aural study (including dictation) of more complex rhythm, melody, chromatic harmony and extended tertian structures.

## **MUSI 2223 Studio Orchestra II**

**Prerequisite:** MUSI 1223

**Credit: 2 (1 lecture, 3 lab)**

Major ensemble performing contemporary styles. Open to all students with consent of director. Performances required. May be repeated for credit.

## **MUSI 2227 Community College Band II**

**Prerequisites:** MUSI 1227 or Department Approval

**Credit: 2 (1 lecture, 2 lab)**

This class is designed for full or part-time students who desire to improve their performance levels on band instruments, observe rehearsal methods and techniques, and learn band organizational strategies. Performance required. May be repeated for credit.

## **MUSI 2229 Harp Ensemble**

**Prerequisite:** MUSI 1229

**Credit: 2 (1 lecture, 2 lab)**

This class is designed for full or part-time students who desire to improve their harp ensemble performance levels, observe rehearsal methods and techniques, and learn harp organizational strategies. Performance required. May be repeated for credit.

## **MUSI 2239 Chamber Ensemble II**

**Credit: 2 (1 lecture, 2 lab)**

A continuation of MUSI 1239. Open to all qualified students. Audition required.

## **MUSI 2241 Community College Chorus**

**Credit: 2 (1 lecture, 2 lab)**

This class is designed for full or part-time students who desire to improve their voice ensemble performance levels, observe rehearsal methods and techniques, and learn choir organizational strategies. Performances required. May be repeated for credit.

## **MUSI 2258 Opera Workshop**

**Prerequisites:** audition or Department Approval.

**Credit: 2 (1 lecture, 2 lab)**

Designed to provide young singers practical operatic experience in the entire operas or operatic excerpts. May fulfill ensemble requirement for degree. May be repeated. Performance required.

## **MUSI 2386 Arranging and Composition II**

**Prerequisites:** MUSI 1386

**Credit: 3 (3 lecture)**

Arranging and composition projects including composition and copying. Composition techniques using sound synthesis, mid-sequencing and sampling techniques. Additional projects may include song writing, show writing, jingles, video and film.

## **MUSP 1201 Applied Commercial Music:**

### **Arranging and Composition**

**Prerequisites:** Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit: 2 (1 lecture, 4 lab)**

Private instruction in arranging and composition with goals related to jazz or commercial music. The student will demonstrate proficiency in commercial music repertoire and technique; develop a professional, disciplined approach to performance skills; and present a juried performance for faculty.

# Course Descriptions

## MUSP 1203 Applied Commercial Music:

### Acoustic Bass

**Prerequisites:** Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 2 (1 lecture, 4 lab)

Private instruction in acoustic bass with goals related to jazz or commercial music.

## MUSP 1204 Applied Commercial Music:

### Bass Guitar

**Prerequisites:** Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 2 (1 lecture, 4 lab)

Private instruction in bass guitar with goals related to jazz or commercial music.

## MUSP 1205 Applied Commercial Music:

### Commercial Guitar

**Prerequisites:** Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 2 (1 lecture, 4 lab)

Private instruction in commercial guitar with goals related to jazz or commercial music.

## MUSP 1206 Applied Commercial Music:

### Dobro Guitar

**Prerequisites:** Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 2 (1 lecture, 4 lab)

Private instruction in Dobro guitar with goals related to jazz or commercial music.

## MUSP 1207 Applied Commercial Music:

### Electric Guitar

**Prerequisites:** Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 2 (1 lecture, 4 lab)

Private instruction in electric guitar with goals related to jazz or commercial music.

## MUSP 1210 Applied Commercial

### Music: Piano

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.

**Credit:** 2 (1 lecture, 4 lab)

Private instruction in piano with goals related to jazz or commercial music.

## MUSP 1211 Applied Commercial Music:

### Fiddle

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.

**Credit:** 2 (1 lecture, 4 lab)

Private instruction in fiddle with goals related to jazz or commercial music.

## MUSP 1215 Applied Commercial

### Music: Mandolin

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.

**Credit:** 2 (1 lecture, 4 lab)

Private instruction in mandolin with goals related to jazz or commercial music.

## MUSP 1217 Applied Commercial

### Music: Percussion

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.

**Credit:** 2 (1 lecture, 4 lab)

Private instruction in percussion with goals related to jazz or commercial music.

## MUSP 1221 Applied Commercial Music:

### Steel Guitar

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0308 in math.

**Credit:** 2 (1 lecture, 4 lab)

Private instruction in steel guitar with goals related to jazz or commercial music.

## MUSP 1223 Applied Commercial Music:

### Synthesizer

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.

**Credit:** 2 (1 lecture, 4 lab)

Private instruction in the synthesizer with goals related to jazz or commercial music.

## MUSP 1225 Applied Commercial Music:

### Trumpet

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.

**Credit:** 2 (1 lecture, 4 lab)

Private instruction in the trumpet with goals related to jazz or commercial music.

## MUSP 1227 Applied Commercial

### Music: Voice

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.

**Credit:** 2 (1 lecture, 4 lab)

Private instruction in voice with goals related to jazz or commercial music.

## MUSP 1240 Large Commercial Music

### Ensemble: Band

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.

**Credit:** 2 (1 lecture, 2 lab)

Participation in a large band concentrating on commercial music performance styles.

## MUSP 1241 Large Commercial Music

### Ensemble: Symphony Orchestra

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.

**Credit:** 2 (1 lecture, 2 lab)

Participation in a large symphony orchestra concentrating on commercial music performance styles.

## MUSP 1242 Small Commercial Music

### Ensemble

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.

**Credit:** 2 (1 lecture, 2 lab)

Participation in a small commercial music ensemble concentrating on commercial music performance styles.

## MUSP 1250 Small Commercial Music

### Ensemble: Jazz

**Prerequisites:** Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 2 (1 lecture, 2 lab)

Participation in a jazz ensemble concentrating on commercial music performance styles.

## MUSP 1255 Small Commercial Music

### Ensemble: Studio Orchestra

**Prerequisites:** Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math. **Credit:** 2 (1 lecture, 2 lab)

Participation in a studio orchestra concentrating on commercial music performance styles.

## MUSP 1292 Special Topics in Music -

### Piano and Organ Performance

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.

**Credit:** 2 (1 lecture, 2 lab)

Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student.

## MUSP 1293 Special Topics in Music -

### Voice and Choral/Opera Performance

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.

**Credit:** 2 (1 lecture, 2 lab)

Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student.

## MUSP 1308 Music Theater I

**Prerequisites:** Department Approval; Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (1 lecture, 8 lab)

Presentation of literature from the musical theater including operetta, revues, and musical comedy with emphasis on vocal and movement skills.

## MUSP 2203 Commercial Class Piano

**Prerequisite:** college-level piano skills

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.

**Credit:** 2 (2 lecture, 1 lab)

Development of keyboard skills for commercial music majors including blues progressions and scales, modal harmony, and extensive use of the ii-V7-I progression with appropriate keyboard voicing.

# Course Descriptions

## MUSP 2206 Commercial Vocal Ensemble:

### General

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.

**Credit:** 2 (1 lecture, 2 lab)

Participation in a vocal ensemble concentrating on commercial vocal music performance styles.

## MUSP 2207 Commercial Vocal Ensemble:

### Jazz

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.

**Credit:** 2 (1 lecture, 2 lab)

Participation in a vocal ensemble concentrating on commercial vocal jazz performance styles.

## MUSP 2231 Applied Commercial Music:

### Arranging and Composition

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.

**Credit:** 2 (1 lecture, 4 lab)

Private instruction in arranging and composition with goals related to jazz or commercial music.

## MUSP 2304 Piano Studio I

**Prerequisite:** college-level piano performance

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.

**Credit:** 3 (3 lecture, 1 lab)

Presentation of keyboard, theoretical, and aural instructional strategies. Survey of beginning methods; series, solo, and technique books; basic techniques of improvisation, and professional affiliations.

## MUSP 2308 Opera Workshop I

**Prerequisites:** MUSP 1227; Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.

**Credit:** 3 (1 lecture, 8 lab)

Skill development in staged performances of operatic literature for singers.

## MUSP 2338 Music Theater II

**Prerequisites:** MUSP 1308; Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.

**Credit:** 3 (1 lecture, 8 lab)

Advanced presentation of literature from the musical theater including operetta, revues, and/or musical comedy with emphasis on high level vocal and movement skills and an advanced leadership role in a production.

## MUSP 2339 Opera Workshop II

**Prerequisites:** MUSC 2308; Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.

**Credit:** 3 (1 lecture, 8 lab)

Advanced skill development in staged performances of operatic literature for singers including the leadership role.

## MUSP 2344 Piano Studio II

**Prerequisites:** MUSC 2304; Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.

**Credit:** 3 (3 lecture, 1 lab)

A course in advanced keyboard, theoretical, and aural instructional strategies. Survey of intermediate to advanced methods; series, solo and technique books; techniques of improvisation; professional affiliations; and piano studio operations. Emphasis on style and performance.

## NMTT 1266 Practicum I-Nuclear Medicine Technology

**Prerequisites:** Department Approval; Must be placed into college-level reading, college-level writing and MATH 0312 in math.

**Credit:** 2 (14 lab)

Practical general workplace training supported by an individualized learning plan developed by the employer, college and student.

## NMTT 1267 Practicum II-Nuclear Medicine Technology

**Prerequisites:** NMTT 1266; Must be placed into college-level reading, college-level writing and MATH 0312 in math.

**Credit:** 2 (14 lab)

Practical general workplace training supported by an individualized learning plan developed by the employer, college and student.

## NMTT 1301 Introduction to Nuclear Medicine

**Prerequisites:** Admission to program; Must be placed into college-level reading, college-level writing and MATH 0312 in math.

**Credit:** 3 (2 lecture, 4 lab)

Introduction to the field of nuclear medicine with emphasis on the principles of radiation safety, health physics, ethics, and the various studies performed in a nuclear medicine area.

## NMTT 1311 Nuclear Medicine Patient Care

**Prerequisites:** Admission to program; Must be placed into college-level reading, college-level writing and MATH 0312 in math.

**Credit:** 3 (2 lecture, 3 lab)

Introduction to medical terminology, health care ethics and legal issues, communication and patient interaction skills, patient assessment, and procedures involving transport, infection control, emergency, safety, phlebotomy and injections.

## NMTT 1409 Nuclear Medicine Instrumentation

**Prerequisites:** SCIT 1420, Admission to program; Must be placed into college-level reading, college-level writing and MATH 0312 in math.

**Credit:** 4 (3 lecture, 4 lab)

Application of instrumentation used in the measurement and analysis of ionizing radiation with emphasis on gamma spectrometry and quality assurance.

## NMTT 2167 Practicum III-Nuclear Medicine Technology

**Prerequisites:** NMTT 1267; Must be placed into college-level reading, college-level writing and MATH 0312 in math.

**Credit:** 1 (10 lab)

Practical general workplace training supported by an individualized learning plan developed by the employer, college and student.

## NMTT 2266 Practicum IV-Nuclear Medicine Technology

**Prerequisites:** NMTT 2167; Must be placed into college-level reading, college-level writing and MATH 0312 in math.

**Credit:** 2 (20 lab)

Practical general workplace training supported by an individualized learning plan developed by the employer, college and student.

## NMTT 2267 Practicum V-Nuclear Medicine Technology

**Prerequisites:** NMTT 2266; Must be placed into college-level reading, college-level writing and MATH 0312 in math.

**Credit:** 2 (20 lab)

Practical general workplace training supported by an individualized learning plan developed by the employer, college and student.

## NMTT 2309 Nuclear Medicine Methodology II

**Prerequisites:** NMTT 1409, BIOL 2401, BIOL 2402; Must be placed into college-level reading, college-level writing and MATH 0312 in math.

**Credit:** 3 (2 lecture, 4 lab)

Principles and practices involved in nuclear medicine regarding cardiovascular, genitourinary, respiratory systems, and miscellaneous procedures. Emphasizes patient care, anatomy, physiology, radiopharmaceuticals, instrumentation, data processing and analysis, and diagnostic value.

## NMTT 2333 Advanced Positron Emission Tomography (PET) and Fusion Technology

**Prerequisites:** NMTT 1409; Must be placed into college-level reading, college-level writing and MATH 0312 in math.

**Credit:** 3 (3 lecture)

Advance study in the field of positron emission tomography and fusion technology

## NMTT 2335 Nuclear Medicine Technology Seminar

**Prerequisites:** all NMTT courses; Must be placed into college-level reading, college-level writing and MATH 0312 in math.

**Corequisite:** NMTT 2267

**Credit:** 3 (2 lecture, 2 lab)

A capstone course focusing on the synthesis of professional knowledge, skills and attitudes in preparation for professional employment and lifelong learning.

# Course Descriptions

## **NMTT 2401 Radiochemistry and Radiopharmacy**

**Prerequisites:** CHEM 1405, NMTT 1409; **Must be placed into college-level reading, college-level writing and MATH 0312 in math.**

**Credit: 4 (3 lecture, 3 lab)**

Includes radioactive decay and production of radionuclides. Emphasis on radiopharmaceuticals and their ideal characteristics, biodistribution, and clinical applications. Incorporates quality control tests and mathematical equations.

## **NMTT 2413 Nuclear Medicine Methodology III**

**Prerequisites:** NMTT 1409, BIOL 2401, BIOL 2402; **Must be placed into college-level reading, college-level writing and MATH 0312 in math.**

**Credit: 4 (2 lecture, 6 lab)**

Principles and practices involved in nuclear medicine regarding gastrointestinal, central nervous system, skeletal system, tumor and inflammation processes and miscellaneous procedures. Emphasizes patient care, anatomy, physiology, pathology, radiopharmaceuticals, instrumentation, data processing and analysis, and diagnostic values.

## **NUPC 1320 Patient Care Technician/Assistant**

**Prerequisites:** **Must be placed into college-level reading, writing and math.**

**Credit: 3 (3 lecture, 3 lab)**

A course designed to provide the student with the necessary training, skills, and knowledge needed to gain employment as a Patient Care Technician in a hospital setting.

## **OSHT 1301 Introduction to Safety and Health**

**Prerequisites:** **Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (3 lecture)**

An introduction to the basic concepts of safety and health.

## **OTHA 1301 Introduction to Occupational Therapy**

**Prerequisites:** **Must be placed into college-level reading, college-level writing and MATH 0312 in math.**

**Credit: 3 (2 lecture, 4 lab)**

Introduction to the historical development and philosophy of the profession of occupational therapy. Emphasis on the roles and functions of the occupational therapy assistant in current health care environments including moral, legal, and ethical issues.

## **OTHA 1305 Principles of Occupational Therapy**

**Prerequisites:** **Must be placed into college-level reading, college-level writing and MATH 0312 in math.**

**Credit: 3 (2 lecture, 4 lab)**

Introduction to occupational therapy including the historical development and philosophy. Emphasis on the roles of the occupational therapy assistant. Topics include occupation in daily life; education and functions; occupational therapy personnel; current health care environment; and moral, legal and ethical issues.

## **OTHA 1309 Human Structure and Function in Occupational Therapy**

**Prerequisites:** **Must be placed into college-level reading, college-level writing and MATH 0312 in math.**

**Credit: 3 (2 lecture, 4 lab)**

Study of biomechanics of human motion. Emphasis on the musculoskeletal system including skeletal structure, muscles and nerves, and biomechanical assessment procedures.

## **OTHA 1311 Occupational Performance Throughout the Lifespan**

**Prerequisites:** **Must be placed into college-level reading, college-level writing and MATH 0312 in math.**

**Credit: 3 (3 lecture, 1 lab)**

General principles of occupational performance throughout the lifespan.

## **OTHA 1315 Therapeutic Use of Occupations or Activities I**

**Prerequisites:** **Must be placed into college-level reading, college-level writing and MATH 0312 in math.**

**Credit: 3 (2 lecture, 4 lab)**

Various occupations or activities used as therapeutic interventions in occupational therapy. Emphasis on awareness of activity demands, contexts, adapting, grading, and safe implementation of occupations or activities.

## **OTHA 1319 Therapeutic Interventions I**

**Prerequisites:** **Must be placed into college-level reading, college-level writing and MATH 0312 in math.**

**Credit: 3 (2 lecture, 4 lab)**

Concepts, techniques, and assessments leading to proficiency in skills and activities used as treatment interventions in occupational therapy (OT). Emphasizes the Occupational Therapy Assistant's role in the OT process.

## **OTHA 2160 Clinical-Occupational Therapist Assistant (Intermediate)**

**Prerequisites:** **All first semester OTHA courses; Must be placed into college-level reading, college-level writing and MATH 0312.**

**Credit: 1 (3 lab)**

A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

## **OTHA 2161 Clinical-Occupational Therapist Assistant (Intermediate)**

**Prerequisites:** **All first semester OTHA courses; Must be placed into college-level reading, college-level writing and MATH 0312 in math.**

**Credit: 1 (3 lab)**

A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

## **OTHA 2301 Pathophysiology in Occupational Therapy**

**Prerequisites:** **OTHA 1305, OTHA 1309, OTHA 1315, OTHA 1319; Must be placed into college-level reading, college-level writing and MATH 0312 in math.**

**Credit: 3 (3 lecture, 1 lab)**

Pathology and general health management of diseases and injuries across the lifespan encountered in occupational therapy treatment settings. Includes etiology, symptoms, and the client's physical and psychological reactions to disease and injury.

## **OTHA 2302 Therapeutic Use of Occupations or Activities II**

**Prerequisites:** **All first semester OTHA courses; Must be placed into college-level reading, college-level writing and MATH 0312 in math.**

**Credit: 3 (2 lecture, 4 lab)**

Continuation of OTHA 1315/1415: Therapeutic Use of Occupations or Activities I. Emphasis on advanced techniques and applications used in traditional and non-traditional practice settings.

## **OTHA 2305 Therapeutic Interventions II**

**Prerequisites:** **All first semester OTHA courses; Must be placed into college-level reading, college-level writing and MATH 0312 in math.**

**Credit: 3 (2 lecture, 4 lab)**

Continuation of Therapeutic Interventions I. Emphasis on current rehabilitative interventions.

## **OTHA 2309 Mental Health in Occupational Therapy**

**Prerequisites:** **OTHA 1311, OTHA 1315, OTHA 1319; Must be placed into college-level reading, college-level writing and MATH 0312 in math.**

**Credit: 3 (2 lecture, 4 lab)**

Promotion of mental health through occupational therapy. Emphasis on theory and intervention strategies to enhance occupational performance.

## **OTHA 2311 Abnormal Psychology in Occupational Therapy**

**Prerequisites:** **OTHA 1311, OTHA 1315, OTHA 1319; Must be placed into college-level reading, college-level writing and MATH 0312 in math.**

**Credit: 3 (3 lecture, 1 lab)**

Fundamental principles and techniques of psychological diagnosis with emphasis on mental health issues including theories, etiology, and treatment intervention.

# Course Descriptions

## **OTHA 2330 Workplace Skills for the Occupational Therapy Assistant**

**Prerequisites:** All OTHA courses - simultaneous with Clinical II courses; **Must be placed into college-level reading, college-level writing and MATH 0312 in math.**

**Credit: 3 (3 lecture)**

Seminar-based course designed to complement Level II fieldwork by creating a discussion forum addressing events, skills, knowledge, and/or behaviors related to the practice environment. Application of didactic coursework to the clinic and test-taking strategies for certification exams.

## **OTHA 2331 Physical Function in Occupational Therapy**

**Prerequisites:** OTHA 1305, OTHA 1309, OTHA 1315, OTHA 1319; **Must be placed into college-level reading, college-level writing and MATH 0312 in math.**

**Credit: 3 (2 lecture, 4 lab)**

Physical function to promote occupational performance. Includes frames of reference, assessment/evaluation tools and techniques, patient/client education, and intervention strategies.

## **OTHA 2360 Clinical-Advanced**

**Prerequisites:** All OTHA first and second semester courses; **Must be placed into college-level reading, college-level writing and MATH 0312 in math.**

**Credit: 3 (18 lab)**

A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

## **OTHA 2361 Clinical-Advanced**

**Prerequisites:** All OTHA first and second semester courses; **Must be placed into college-level reading, college-level writing and MATH 0312 in math.**

**Credit: 3 (18 lab)**

A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

## **PHED 1111 Aerobics Conditioning**

**Credit: 1 (1 lecture, 2 activity)**

Aerobics for beginners. Introduction and practice in fundamental techniques of aerobics. Achievement and maintenance of physical fitness through aerobic exercise. Types of exercise will vary from semester to semester.

## **PHED 1113 Physical Fitness Training**

**Prerequisite:** basic swimming skills

**Credit: 1 (1 lecture, 2 activity)**

Varied class activities designed to increase strength, endurance and flexibility.

## **PHED 1114 Water Exercise**

**Prerequisite:** basic swimming skills

**Credit: 1 (1 lecture, 2 activity)**

Students are introduced to a variety of water exercises including hydrotone, aerobics, and deep water.

## **PHED 1115 Aerobics II**

**Credit: 1 (1 lecture, 2 activity)**

Maintenance of physical fitness through aerobic exercises. Continuation of Aerobics I.

## **PHED 1131 Basketball**

**Credit: 1 (1 lecture, 2 activity)**

Instruction in the rules and techniques of basketball. Students will learn game specific techniques (dribbling, shooting, defense, offense) and become familiar with the basic strategies, rules, tournament play and terminology.

## **PHED 1132 Volleyball**

**Credit: 1 (1 lecture, 2 activity)**

Instruction in the rules and techniques of volleyball. Students will learn game specific mntechinques (spiking, blocking, digging) and become familiar with the basic strategies, rules, tournament plan and terminology.

## **PHED 1133 Soccer**

**Credit: 1 (1 lecture, 2 activity)**

Instruction in the rules and techniques of soccer. Students will learn game specific techniques (dribbling, shooting, defense, offense) and become familiar with the basic strategies, rules, tournament play and terminology. Off campus site.

## **PHED 1141 Team Sports**

**Credit: 1 (1 lecture, 2 activity)**

Instruction in the rules and techniques of team sports. Specific sports will vary from semester to semester.

## **PHED 1143 Individual Sports**

**Credit: 1 (1 lecture, 2 activity)**

Instruction in the rules and techniques of individual sports. Specific sports will vary from semester to semester.

## **PHED 1145 Advanced Individual Sports**

**Credit: 1 (1 lecture, 2 activity)**

Continuation of advanced terminology, rules, etc. of an individual sport.

## **PHED 1146 Beginning Bowling**

**Credit: 1 (1 lecture, 2 activity)**

This course includes everything the beginning bowler needs to know about the game of bowling: rules, regulations, and techniques. In addition to the basics of bowling, this course attempts to give each student a better understanding of the elements involved in the game and enhance his or her enjoyment and performance of the number one indoor participant lifetime sport in the United States. Off-campus site.

## **PHED 1147 Softball**

**Credit: 1 (1 lecture, 2 activity)**

Instruction in the rules and techniques of softball. Students will learn game specific techniques (batting, bunting, running bases, fielding, etc.) and become familiar with the basic strategies, rules, tournament play and terminology.

## **PHED 1150 Beginning Swimming**

**Credit: 1 (1 lecture, 2 activity)**

Basic water safety, breath control, arm/leg movements, treading water, beginning surface strokes. Non-swimmers only.

## **PHED 1153 Jogging**

**Credit: 1 (1 lecture, 2 activity)**

The student will learn proper and safe walking/jogging/running techniques to begin a cardiovascular training program and will learn the basic physiological principles for distance walking/jogging/running.

## **PHED 1154 Martial Arts - Jeet Kune Do**

**Credit: 1 (1 lecture, 2 activity)**

Study Bruce Lee's art of Jun Fan along with the highly effective martial arts of Thailand, China, Japan and the Philippines. The student will learn basic self-defense and martial art skills needed to make good decisions regarding dangerous self-defense situations.

## **PHED 1155 Martial Arts - Tai Kwan Do** **Credit: 1 (1 lecture, 2 activity)**

A traditional martial arts class which focuses on mental as well as physical development. The student will learn self-control and defensive techniques.

## **PHED 1156 Golf**

**Credit: 1 (1 lecture, 2 activity)**

The student will learn the basic fundamental skills of golf and become familiar with the basic rules, tournament play and terminology involved with beginning golf. Off-campus site.

## **PHED 1157 Tennis**

**Credit: 1 (1 lecture, 2 activity)**

The student will learn the basic fundamental skills of tennis (e.g. forehand and backhand strokes, serve, return of serve and volley) and become familiar with the basic strategies, rules, tournament play and terminology involved with singles and doubles in beginning tennis.

## **PHED 1158 Yoga**

**Credit: 1 (1 lecture, 2 activity)**

This class will acquaint the student with history, development, branches and practices of yoga with emphasis on physical practice of individual postures, sets of postures, breathing techniques, meditation and relaxation techniques.

## **PHED 1159 Tai Chi**

**Credit: 1 (1 lecture, 2 activity)**

Emphasis is placed on mastering several styles of Tai Chi. The student will perform such skills as stances, kicks, punches and arm movement. The student will develop greater flexibility, endurance, balance and coordination.

## **PHED 1160 Country and Western Dance**

**Credit: 1 (1 lecture, 2 activity)**

The class will consist of Two Step, Polka, Waltz, East Coast Swing, etc. The student will also gain knowledge in dance floor etiquette, history, rules and specific techniques.



# Course Descriptions

## **PHED 1304 Personal and Community Health**

**Prerequisites:** Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

**Credit: 3 (3 lecture)**

This cross-cultural health course offers an opportunity to explore personal health issues on a cultural basis. The focus of this course will address major health issues that impact the health of all individuals and cultures. This course fulfills the cross/multicultural core requirement.

## **PHED 1306 First Aid**

**Credit: 3 (3 lecture)**

Completion of course leads toward First Aid and Community CPR Certification. This course teaches the standard First Aid and CPR skills a person needs to act as the first link in the emergency medical services system.

## **PHED 2153 Marathon**

**Prerequisite:** jogging experience

**Credit: 1 (1 lecture, 2 activity)**

Successful completion of this course will lead to the ability to complete a full 26.2 mile marathon. In addition to learning the proper and safe techniques of marathon training, the student will develop the ability to complete the GAAC 30k(18.6 miles) at the end of the semester.

## **PHED 2154 Martial Arts II**

**Prerequisite:** basic martial arts skills

**Credit: 1 (1 lecture, 2 activity)**

The student will become familiar with advanced self-defense and martial arts skills.

## **PHED 2156 Golf II**

**Credit: 1 (1 lecture, 2 activity)**

The student will learn advanced golf skills and become familiar with the rules, tournament play and terminology involved in advanced golf.

## **PHED 2151 Tennis II**

**Prerequisite:** Basic tennis skills

**Credit: 1 (lecture, 2 activity)**

The course will teach forehand, backhand, serve, volley and lob for advanced players. In addition the more specific tennis strokes, dropshot, spin and slice serves, topspin and slice ground strokes will be taught. The student will become familiar with the specific rules, match and tournament regulations.

## **PHED 2111 Beginning Weight Training and Conditioning**

**Credit: 1 (1 lecture, 2 activity)**

Basic fundamental skills and techniques of a strength and conditioning program. Emphasis is placed on correct procedures and use of equipment.

## **PHED 2113 Individualized Fitness Training**

**Credit: 1 (1 lecture, 2 activity)**

Provides opportunity to accomplish fitness objectives at own pace. Some knowledge of concepts of fitness and weight training recommended.

## **PHED 2115 Weight Training and Conditioning II**

**Prerequisite:** weight training experience

**Credit: 1 (1 lecture, 2 activity)**

Emphasis is placed on acquiring advanced training techniques for improving muscular strength, including competitive lifting skills.

## **PHED 2146 Bowling II**

**Credit: 1 (1 lecture, 2 activity)**

This course includes everything the advanced and competitive bowler needs to know about the game of bowling: rules, regulations, and techniques. In addition to the basics of bowling, this course attempts to give each student a better understanding of the elements involved in competitive bowling.

## **PHED 2150 Intermediate Swimming**

**Credit: 1 (lecture, 2 activity)**

Continued acquisition of new strokes. Emphasis is placed on increasing stamina and strength. Beginning skills needed. Basic Water Safety Certification available.

## **PHED 2253 Lifeguard Training**

**Prerequisite:** must pass skills test to remain in class

**Credit: 2 (1 lecture, 2 activity)**

Provides the necessary training for qualification as a non-surf lifeguard. Includes training in community CPR and first aid. Strong swimming skills are required. Red Cross certification.

## **PHED 2255 Water Safety Instructor**

**Prerequisite:** Knowledge of Red Cross Community Water Safety course. Must pass written and skills pretest to remain in class. Red Cross Certification

**Credit: 2 (1 lecture, 2 activity)**

Provides training needed to become certified Red Cross swim instructor. Includes instructor candidate training course.

## **PHIL 1301 Introduction to Philosophy**

**Prerequisites:** Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite)

**Credit: 3 (3 lecture)**

This course is a theoretically diverse introduction to the study of ideas, including arguments and investigations about abstract and real phenomena, particularly in the areas of knowledge, ethics, and religion. Core Curriculum Course.

## **PHIL 1303 Principles of Reasoning**

**Prerequisites:** Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).

**Credit: 3 (3 lecture)**

A general course in logic, emphasizing the methods of correct reasoning and critical thinking, definition, deductive and inductive inferences, fallacies, language analysis, scientific inquiry, and organizing both written and oral arguments.

## **PHIL 1304 Introduction to World Religions**

**Prerequisites:** Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite). **Credit: 3 (3 lecture)**

This course is a diverse survey of world traditions and religions, including African traditions, Native American traditions, Hinduism, Buddhism, Islam, Tao and Chinese Philosophy, Christianity and Judaism. Core Curriculum Course.

## **PHIL 2289 Academic Cooperative in Philosophy**

**Prerequisites:** Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).

**Credit: 2 (2 lecture)**

An instructional program designed to integrate on-campus study with practical hands-on work experience. In conjunction with class seminars, the student will set specific goals and objectives in the study of philosophy.

## **PHIL 2303 Introduction to Symbolic Logic**

**Prerequisites:** Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).

**Credit: 3 (3 lecture)**

An introduction to symbolic logic, focusing on both propositional and predicate logic, emphasizing the rules of translating language into symbols, the rules of inference and replacement, and the mechanism of reasoning used by computers. Core Curriculum Course.

## **PHIL 2306 Introduction to Ethics**

**Prerequisites:** ENGL 1302 or Department Approval

**Credit: 3 (3 lecture)**

A philosophical reflection of the basic principles of the moral life, including traditional and contemporary views concerning the nature of goodness, happiness, duty, and freedom as they apply to individual right, business, medicine, and community well-being. Core Curriculum Course.

# Course Descriptions

## PHIL 2307 Introduction to Social and Political Philosophy

**Prerequisites:** ENGL 1301 or Department Approval

**Credit: 3 (3 lecture)**

This course is a critical analysis of political theories and social issues. Consideration will be given to historically significant and contemporary systems, problems, and thinkers. Core Curriculum Course.

## PHIL 2316 Survey of Ancient and Medieval Philosophy

**Prerequisites:** ENGL 1302 or Department Approval

**Credit: 3 (3 lecture)**

An historic survey of critical and reflective thinking as applied to the basic problems of existence and the meaning of human life and institutions; begins with the Greek and Roman philosophers, continues through the Middle Ages, and ends with the Renaissance; a study of the nature of philosophy as applied to the development of the scientific method, the existence of God, and the political structures of society. Core Curriculum Course.

## PHIL 2317 Survey of Modern/Contemporary Philosophy

**Prerequisites:** ENGL 1302 or Department Approval

**Credit: 3 (3 lecture)**

An historic survey of critical and reflective thinking as applied to the basic problems of existence and the meaning of human life and institutions; begins with the Renaissance, continues with the major philosophers of the 16th, 17th, 18th and 19th centuries, and ends with an examination of the analytic and existential philosophers of the 20th century; a study of the nature of philosophy as applied to the development of the scientific method, the existence of god, and the political structures of society. Core Curriculum Course.

## PHIL 2321 Existence and Faith

**Prerequisites:** ENGL 1301 or Department Approval

**Credit: 3 (3 lecture)**

A critical investigation of major religious ideas, experiences, and questions that form the basis for a philosophy of religion. Core Curriculum Course.

## PHIL 2389 Academic Cooperative in Philosophy

**Prerequisites:** Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).

**Credit: 3 (3 lecture)**

An instructional program designed to integrate on-campus study with practical hands-on work experience. In conjunction with class seminars, the student will set specific goals and objectives in the study of philosophy.

## PHRA 1102 Pharmacy Law

**Prerequisites:** Admission to the Pharmacy Technician Program; Must be placed into college-level reading, college-level writing and MATH 0308 in math.

**Credit: 1 (1 lecture)**

Overview of federal and state laws governing the practice of pharmacy. The legal and ethical constraints governing pharmacy technician and pharmacist responsibilities in practice settings.

## PHRA 1143 Pharmacy Technician Certification Review

**Prerequisites:** Must be placed into college-level reading, college-level writing and MATH 0308 in math.

**Credit: 1 (1 lecture, 1 lab)**

A review of major topics covered on the National Pharmacy Technician Certification examination.

## PHRA 1205 Drug Classification

**Prerequisites:** : HPRS 1201; Admission to the Pharmacy Technician Program; Must be placed into college-level reading, college-level writing and MATH 0308 in math.

**Credit: 2 (2 lecture)**

A study of disease processes, pharmaceutical drugs, abbreviations, classifications, dosages, actions in the body, and routes of administration.

## PHRA 1247 Pharmaceutical Mathematics II

**Prerequisites:** PHRA 1309; Admission to the Pharmacy Technician Program; Must be placed into college-level reading, college-level writing and MATH 0308 in math.

**Credit: 2 (2 lec, 1 lab)**

Advanced concepts of Pharmaceutical Mathematics.

## PHRA 1260, Clinical-Pharmacy Technician/Assistant

**Prerequisites:** Must be placed into college-level reading, college-level writing and MATH 0308 in math.

**Credit: 2 (10 lab)**

A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

## PHRA 1261 Clinical - Pharmacy Technician/Assistant

**Prerequisites:** PHRA 1102, PHRA 1205, PHRA 1309, and PHRA 1313 (with a minimum grade of C or better); Admission to the Pharmacy Technician Program; Must be placed into college-level reading, college-level writing and MATH 0308 in math.

**Credit: 2 (8 external lab)**

A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

## PHRA 1304 Pharmacotherapy and Disease Process

**Prerequisites:** PHRA 1205 with a minimum grade of C or better; Admission to the Pharmacy Technician Program; Must be placed into college-level reading, college-level writing and MATH 0308 in math.

**Credit: 3 (3 lecture)**

A study of the disease state and therapeutic properties of drugs used in pharmaceutical therapy.

## PHRA 1309 Pharmaceutical Mathematics I

**Prerequisites:** Admission to the Pharmacy Technician Program; Must be placed into college-level reading, college-level writing and MATH 0308 in math.

**Credit: 3 (3 lecture)**

Pharmaceutical mathematics including reading, interpreting and solving calculation problems encountered in the preparation and distribution of drugs. Conversion of measurements within the apothecary, avoirdupois, and metric systems with emphasis on the metric system of weight and volume. Topics include ratio and proportion, percentage, dilution and concentration, milliequivalent, units, intravenous flow rates, and solving dosage problems.

## PHRA 1313 Community Pharmacy Practice

**Prerequisites:** Admission to the Pharmacy Technician Program; Must be placed into college-level reading, college-level writing and MATH 0308 in math.

**Credit: 3 (2 lecture, 2 lab)**

Introduction to the skills necessary to process, prepare, label, and maintain records of physicians' medication orders and prescriptions in a community pharmacy. Designed to train individuals in supply, inventory, and data entry. Includes customer service, count and pour techniques, prescription calculations, drug selection and preparation, over-the-counter drugs, record keeping, stock level adjustment, data input, editing, and legal parameters.

## PHRA 1345 Intravenous Admixture and Sterile Compounding

**Prerequisites:** Admission to the Pharmacy Technician Program; Must be placed into college-level reading, college-level writing and MATH 0308 in math.

**Credit: 3 (2 lecture, 4 lab)**

A study of sterile products, hand washing techniques, pharmaceutical calculations, references, safety techniques, aseptic techniques in parenteral compounding, proper use of equipment, preparation of sterile products, and safe handling of antineoplastic drugs.

# Course Descriptions

## PHRA 1449 Institutional Pharmacy

### Practice

**Prerequisites:** Admission to the Pharmacy Technician Program; Must be placed into college-level reading, college-level writing and MATH 0308 in math.

**Credit:** 4 (3 lecture, 3 lab)

Exploration of the unique role and practice of pharmacy technicians in an institutional pharmacy with emphasis on daily pharmacy operation. Topics include hospital pharmacy organization, work flow and personnel, medical and pharmaceutical terminology, safety techniques, data entry, packaging and labeling operations, extemporaneous compounding, inpatient drug distribution systems, unit dose cart fills, quality assurance, drug storage, and inventory control..

## PHRA 2260 Clinical - Pharmacy

### Technician/Assistant

**Prerequisites:** PHRA 1247, PHRA 1304, PHRA 1313, PHRA 1445, PHRA 1449, (with a minimum grade of C or better); Admission to the Pharmacy Technician Program; Must be placed into college-level reading, college-level writing and MATH 0308 in math.

**Credit:** 2 (8 external lab)

A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

## PHRA 2261 Clinical - Pharmacy

### Technician/Assistant

**Prerequisites:** PHRA 1247, PHRA 1304, PHRA 1313, PHRA 1445, and PHRA 1449 (with a minimum grade of C or better); Admission to the Pharmacy Technician Program; Must be placed into college-level reading, college-level writing and MATH 0308 in math.

**Credit:** 2 (10 external lab)

A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

## PHTC 1311 Fundamentals of Photography

**Prerequisites:** Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (2 lecture, 4 lab)

An introduction to camera operation and image production, composition, supplemental lighting, and use of exposure meters and filters.

## PHTC 1345 Illustrative Photography I

**Prerequisites:** PHTC 1311; Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (2 lecture, 4 lab)

Instruction in the technical aspects involved in commercial photography. Topics include lighting equipment, techniques of production photography, reproduction principles, illustrative techniques, and advertising.

## PHTC 1351 Photojournalism I

**Prerequisite:** PHTC 1311; Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (2 lecture, 4 lab)

Presentation of photographic techniques used by photojournalists in newspapers, magazines, and trade publications including news, feature, sports, editorial portraits, and photo essays. Includes a study of layout design and the freelance market.

## PHTC 1353 Portraiture I

**Prerequisites:** PHTC 1311; Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (2 lecture, 4 lab)

Photographic principles applied to portrait lighting, posing, and subject rapport.

## PHTC 2340 Photographic Studio

### Management

**Prerequisites:** Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (3 lecture)

Photography business management, pricing, market analysis, promotion, networking, job acquisition, and photographic equipment analysis.

## PHTC 2343 Portfolio Development

**Prerequisite:** All PHTC courses; Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (2 lecture, 4 lab)

A culmination experience for the evaluation of the student's photographic competencies. Includes association with a professional photographic organization, skills in resume creation, completion of portfolio, professional self-presentation, comprehensive exam, and seminars in areas of photographic interest.

## PHYS 1305 Introductory Physics I

**Prerequisites:** Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

**Credit:** 3 (3 lecture)

General introduction to basic and fundamental principles in physics (with minimal or no computations) including: motion, gravity, momentum, energy, relativity, structures of matter, thermal energy, waves and sound. This course is intended as a non-lab-based preparatory course for students wishing to take PHYS 1401 and PHYS 1402, and also for those students wishing to take PHYS 2325 who have no prior knowledge of physics. This is a Core Curriculum Course.

## PHYS 1307 Introductory Physics II

**Prerequisites:** Must be placed in GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing. PHYS 1307 can be taken without taking PHYS 1305.

**Credit:** 3 (3 lecture)

A non-lab-based further introduction to the basic principles in physics (with minimal or no computations) which include: light, electricity, electromagnetism, quantum concepts, sub-atomic world, elementary particles and frontiers. This is a Core Curriculum Course.

## PHYS 1401 College Physics I

**Prerequisites:** MATH 1314, 1316; Must also be placed into GUST 0341 (or higher) in reading.

**Credit:** 4 (3 lecture, 3 lab)

Non-calculus based course for medical related majors, architecture majors, technology majors, and other non-engineering and non-science majors. Topics include motion and forces, work and energy, momentum and collision, and the thermal properties of matter. Laboratory exercises include selected related experiments on these topics. Core Curriculum Course.

## PHYS 1402 College Physics II

**Prerequisite:** PHYS 1401; Must also be placed into GUST 0341 (or higher) in reading.

**Credit:** 4 (3 lecture, 3 lab)

Continuation of non-Calculus based physics for medical related majors, architecture majors, technology majors and other non-engineering and non-science majors. Topics include wave motion, electricity, magnetism, electromagnetic waves, optics, and topics in modern physics. Laboratory exercises include selected related experiments on these topics. Core Curriculum Course.

## PHYS 2125 Physics Laboratory I

**Prerequisites:** Must be placed into GUST 0341 (or higher) in reading and MATH 2414 (or higher) in math.

**Credit:** 1 (3 lab)

Selected laboratory experiments related to topics in PHYS 2325 (University Physics I) for science and engineering majors. Core Curriculum Course.

## PHYS 2126 Physics Laboratory II

**Prerequisite/Corequisite:** PHYS 2326; Must be placed into GUST 0341 (or higher) in reading and be placed into MATH 2414 (or higher).

**Credit:** 1 (3 lab)

Selected laboratory experiments related to topics in PHYS 2326 (University Physics II) for science and engineering majors. Core Curriculum Course.

## PHYS 2325 University Physics I

**Prerequisites:** Must be placed into GUST 0341 (or higher) in reading and MATH 2414 (or higher) in math.

**Credit:** 3 (3 lecture, 1 lab)

A calculus-based physics course designed specifically for chemistry, physics, and engineering majors. Topics include principles of mechanics, sound, wave phenomena, kinetic theory, fluid flow, and thermal physics. Core Curriculum Course. (formerly PHYS 2425)

## PHYS 2326 University Physics II

**Prerequisites:** PHYS 2425 or 2325; Must be placed into GUST 0341 (or higher) in reading and be placed into MATH 2414 (or higher) in math.

**Credit:** 3 (3 lecture, 1 lab)

Continuation of calculus based physics. Course designed specifically for chemistry, physics, and engineering majors. Includes principles of electricity and magnetism, optics, electromagnetic waves, relativity, kinetic theory, introduction to quantum theory, thermal physics, and other physics topics. Core Curriculum Course. (formerly PHYS 2426)

# Course Descriptions

## PHYS 2389 Academic Cooperative in Physics

**Credit: 3 (3 lecture)**

An instructional program designed to integrate on-campus study with practical hands-on work experience in the physical sciences. In conjunction with class seminars, the individual students will set specific goals and objectives in the scientific study of inanimate objects, processes of matter and energy, and associated phenomena

## PLAB 1223 Phlebotomy

**Prerequisites: Must be placed into college-level reading, writing and math.**

**Credit: 2 (1 lecture, 4 lab)**

Skill development in the performance of a variety of blood collection methods using proper techniques and universal precautions. Includes vacuum collection devices, syringes, capillary skin puncture, butterfly needles and blood culture, and specimen collection on adults, children, and infants. Emphasis on infection prevention, proper patient identification, labeling of specimens and quality assurance, specimen handling, processing, and accessioning. Topics include professionalism, ethics, and medical terminology.

## PLAB 1323 Phlebotomy

**Prerequisites: Must be placed into college-level reading, writing and math.**

**Credit: 3 (2 lecture, 4 lab)**

Skill development in the performance of a variety of blood collection methods using proper techniques and standard precautions. Includes vacuum collection devices, syringes, capillary skin puncture, butterfly needles and blood culture, and specimen collection on adults, children, and infants. Emphasis on infection prevention, patient identification, specimen labeling, quality assurance, specimen handling, processing, accessioning, professionalism, ethics, and medical terminology.

## PLTC 1301 Introduction to Plastic

**Prerequisites: Must be placed into GUST 0341 in reading, ENGL 0310 or 0349 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 3 lab)**

A survey course designed to introduce the student to the field of plastics. An overview of thermoplastic and thermoset materials and the major processing methods utilized by industry.

## PLTC 1303 Plastics Composite

**Prerequisites: Must be placed into GUST 0341 in reading, ENGL 0310 or 0349 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 3 lab)**

An introductory course in techniques of combining various types of reinforcing elements with a polymer resin to yield specific characteristics and properties not attainable by either constituent acting alone.

## PLTC 1306 Plastic Quality Control

**Prerequisites: Must be placed into GUST 0341 in reading, ENGL 0310 or 0349 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 3 lab)**

A course in reading and interpreting blueprints for inspection purposes of plastic parts. Emphasis on geometric dimensioning, tolerancing, and hands on setup using modern inspection tools and gages.

## PLTC 1343 Molddesign and Maintenance

**Prerequisites: Must be placed into GUST 0341 in reading, ENGL 0310 or 0349 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 3 lab)**

An introductory course in the basic design parameters of plastic injection molds including mold flow, nominal walls projection, depressions, ejector systems, runners, gates, parting lines, and general mold configurations. Emphasis on maintenance techniques on in house molds.

## PLTC 1445 Plastic Processes I

**Prerequisites: Must be placed into GUST 0341 in reading, ENGL 0310 or 0349 in writing and MATH 0306 in math.**

**Credit: 4 (3 lecture, 2 lab)**

Identification and examination of thermoplastic processes. Emphasis on safety, selection, and preparation of raw materials, machine functions, mold set up, and the use of auxiliary equipment associated with injection molding.

## PLTC 2331 Troubleshooting Plastic Processes

**Credit: 4 (2 lecture, 3 lab)**

A course in process diagnosis and corrective action including minor repair procedures for plastics processing equipment.

## PLTC 2446 Plastic Processes II

**Credit: 4 (3 lecture, 2 lab)**

A continuation of Plastic Processes I with further emphasis on injection molding techniques. Examination of thermoset molding utilizing both compression and transfer processes. A survey of vacuum forming, extrusion, and blow molding.

## POFI 1104 Computer Fundamentals

**Prerequisites: Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 1 (1 lecture, 1 lab)**

Computer applications specific to business-related software. Emphasizes the concurrent development of office skills and computer knowledge.

## POFI 1301 Computer Applications I

**Prerequisites: Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 3 lab)**

Overview of computer office applications including current terminology and technology. Introduction to computer hardware, software applications, and procedures.

## POFI 1341 Computer Applications II

**Prerequisites: POFI 1301; Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 3 lab)**

Continued study of current computer terminology and technology. Advanced skill development in computer hardware, software applications, and procedures. The student will demonstrate proficiency in commonly used software applications and identify and explain the concepts involved in producing documents using advanced features of software applications. Emphasis is on developing end-user proficiency skills for office environments.

## POFI 1349 Spreadsheets

**Prerequisites: POFT 1329 or POFI 1301; Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 3 lab)**

Spreadsheet software for business applications.

## POFI 1380 Cooperative Education- Information Processing/Data Entry Technician

**Prerequisites: 12 semester hours of business technology courses and program approval; Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (1 lecture, 20 lab)**

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

## POFI 2331 Desktop Publishing

**Prerequisite: POFI 1341, POFI 1349; Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 3 lab)**

In-depth coverage of desktop publishing terminology, text editing, and use of design principles. Emphasis on layout techniques, graphics, multiple page displays, and business applications.

## POFI 2380 Cooperative Education- Information Processing/Data Entry Technician

**Prerequisites: POFI 1380; Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (1 lecture, 20 lab)**

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

## POFL 1305 Legal Terminology

**Prerequisites: Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (3 lecture)**

An introduction to legal terminology including spelling, pronunciation, and definition of legal terms and an overview of the law and the professions.

## POFL 1359 Legal Transcription

**Prerequisites: POFL 1305; Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 3 lab)**

Skill development in comprehensive vocabulary, listening, organizing, and transcribing client-quality documents used in a legal office.

# Course Descriptions

## POFL 2305 Legal Research

**Prerequisite:** POFL 1305; **Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit:** 3 (3 lecture)

Exploration of legal issues utilizing current and emerging research techniques.

## POFM 1300 Medical Coding Basics

**Prerequisites:** MDCA 1313; **Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit:** 3 (2 lecture, 3 lab)

Presentation and application of basic coding rules, principles, guidelines, and conventions utilizing various coding systems.

## POFM 2333 Medical Document Production (Coding II)

**Prerequisite:** POFM 1300; **Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit:** 3 (2 lecture, 3 lab)

Study of advanced concepts of medical office activities, practices, and procedures. Topics include advanced medical reports, transcription, coding, billing, insurance activities, and records management. This course is designed to provide practical applications of the linkage of the CPT-4 coding system. Medical references will be used for research and verification. MEDISOFT software applicable.

## POFT 1319 Records and Information Management I

**Prerequisites:** **Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit:** 3 (3 lecture)

Introduction to basic records and information management. Includes the life cycle of a record, manual and electronic records management, and basic filing procedures and rules. The student will identify the stages in the life cycle of a record; file and retrieve records using alphabetic, numeric, geographic, and subject filing systems; input, index, code, and cross-reference records; use tickler file, requisition, and charge-out procedures; and differentiate between manual and electronic filing.

## POFT 1325 Business Math and Machine Applications

**Prerequisites:** **Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit:** 3 (3 lecture)

Skill development in the use of electronic calculators and business mathematical functions. Emphasis on business problem-solving skills using spreadsheet software and/or electronic calculator/keyboard.

## POFT 1329 Beginning Keyboarding

**Prerequisites:** **Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit:** 3 (2 lecture, 3 lab)

Skill development in the operation of the keyboard by touch, applying proper keyboarding techniques. Emphasis on development of acceptable speed and accuracy levels and formatting basic documents.

## POFT 1345 Shorthand/Notetaking

**Prerequisites:** **Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit:** 3 (2 lecture, 3 lab)

An introduction to shorthand/notetaking principles. Mastery of accurate reading and writing of notes to produce mailable documents from dictation.

## POFT 1370 Introduction to Office Technology

**Prerequisites:**

**Credit:** 3 (2 lecture, 3 lab)

An introduction to present and future resources used to facilitate handling of office information. Study will be made of equipment applications and procedures, terminology and environmental factors affecting productivity and career paths.

## POFT 1380 Cooperative Education I- Administrative Assistant and Secretarial Services, General

**Prerequisite:** **Completion of 12 semester hours and Department Approval; Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit:** 3 (1 lecture/seminar and 20 hours a week employment)

Career related activities encountered in the student's area of specialization are offered through a cooperative agreement between the college, employer, and student. Under supervision of the college and the employer, the student combines classroom learning with work experience. Directly related to a technical discipline, specific learning objectives guide the student through the paid work experience. This course may be repeated if topics and learning outcomes vary.

## POFT 2301 Intermediate Keyboarding

**Prerequisite:** POFT 1329; **Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit:** 3 (2 lecture, 3 lab)

A continuation of keyboarding skills in document formatting, speed, and accuracy. Emphasis on proofreading, editing, following instructions, and keying documents from various copy.

## POFT 2331 Administrative Systems

**Prerequisite:** POFT 1329 or Department Approval; **Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit:** 3 (2 lecture, 3 lab)

Experience in project management and office procedures utilizing integration of previously learned skills.

## POFT 2380 Cooperative Education II- Administrative Assistant and Secretarial Services, General

**Prerequisites:** POFT 1380 and Department Approval; **Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit:** 3 (1 lecture/seminar and 20 hours a week employment)

An experience external to the college for an advanced student in a specialized field involving a written agreement between the educational institution and a business or industry. Mentored and supervised by a workplace employee, the student achieves objectives that are developed and documented by the college and that are directly related to specific occupational outcomes. This may be a paid or unpaid experience. This course may be repeated if topics and learning outcomes vary.

## PSTR 1301 Fundamentals of Baking

**Prerequisites:** **Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit:** 3 (2 lecture, 4 lab)

Fundamentals of baking including dough, quick breads, pies, cakes, cookies, tarts, and doughnuts. Instruction in flours, fillings, and ingredients. Topics include baking terminology, tool and equipment use, formula conversions, functions of ingredients, and the evaluation of baked products.

## PSTR 1305 Breads and Rolls

**Prerequisites:** **Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit:** 3 (2 lecture, 4 lab)

Concentration on fundamentals of chemically- and yeast-raised breads and rolls. Instruction on commercial preparation of a wide variety of products.

## PSTR 1306 Cake Decorating I

**Prerequisites:** **Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit:** 3 (2 lecture, 3 lab)

A course in decoration of specialized and seasonal products.

## PSTR 1310 Pies, Tarts, Teacakes and Cookies

**Prerequisites:** **Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit:** 3 (2 lecture, 4 lab)

Focus on preparation of American- and European-style pie and tart fillings and dough, cookies, teacakes, custard and batters. Instruction in finishing and presentation techniques.

## PSTR 1312 Laminated Dough, Pate a Choux and Donuts

**Prerequisites:** **Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit:** 3 (2 lecture, 4 lab)

Focus on preparation of laminated doughs to include puff pastry, croissant, and Danish and a variety of pate a choux (eclair paste) products and donuts. Fillings and finishing techniques included.

# Course Descriptions

## **PSTR 1340 Plated Desserts**

**Prerequisites:** Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (2 lecture, 4 lab)

Preparation and service of hot and cold desserts with a focus on individual desserts, a la minute preparations, and numerous components within one preparation. Emphasis on station organization, timing, and service coordination for restaurant dessert production.

## **PSTR 1364 Practicum - Baking and Pastry Arts/Baker/Pastry Chef**

**Prerequisites:** Department Approval; Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (21 lab)

Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

## **PSTR 1381 Cooperative Education- Baking and Pastry Arts/Baker/Pastry Chef**

**Prerequisites:** Department Approval; Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (1 lecture, 20 lab)

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

## **PSTR 1391 Special Topics in Baker/Pastry Chef: Healthy and Special Needs Baking**

**Prerequisites:** Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (2 lecture, 4 lab)

In this course the students will study and prepare baked goods that are specifically formulated to address a variety of dietary conditions. The course will include baking for people with wheat-gluten sensitivities, diabetic baking, fiber rich and low fat baking, allergies free sensitive baking and more. The course will focus on how to modify formulas and use alternative ingredients and substitutes.

## **PSTR 2301 Chocolates**

**Prerequisites:** Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (2 lecture, 4 lab)

Production and decoration of traditional truffles, marzipan, molded and hand-dipped chocolate, caramels, nougats, and pate de fruit.

## **PSTR 2307 Cake Decorating II**

**Prerequisites:** PSTR 1306; Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (2 lecture, 3 lab)

A course in decoration of specialized and seasonal products.

## **PSTR 2331 Advanced Pastry Shop**

**Prerequisites:** Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (2 lecture, 4 lab)

A study of classical desserts, French and international pastries, hot and cold desserts, ice creams and ices, chocolate work, and decorations. Emphasis on advanced techniques.

## **PSTR 2350 Wedding Cakes**

**Prerequisites:** PSTR 1306; Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (2 lecture, 4 lab)

Skills, concepts, and techniques for preparing wedding cakes. Includes marzipan, plastic chocolate-rolled fondant, chocolate garnish, flower making, and royal icing piping work.

## **PSYC 1300 Learning Framework**

**Credit:** 3 (3 lecture)

A study of the research and theory in the psychology of learning, cognition, and motivation; factors that impact learning; and application of learning strategies. Theoretical models of strategic learning, cognition, and motivation serve as the conceptual basis for the introduction of college-level student academic strategies. (May also be offered as EDUC 1300.)

## **PSYC 2301 Introduction to Psychology**

**Prerequisites:** Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).

**Credit:** 3 (3 lecture)

A survey of the basic principles underlying human behavior and mental processes. Emphasis will be placed on major areas of study in the field of psychology, such as motivation, development, thought processes, and personality. Core Curriculum Course.

## **PSYC 2302 Applied Psychology**

**Credit:** 3 (3 lecture)

A study of the application of basic psychological principles to adjustment decisions in daily life. This will include such topics as interpersonal communication, conflict resolution, stress, group processes, friendship, love and marriage, and career choices.

## **PSYC 2303 Business Psychology**

**Credit:** 3 (3 lecture)

Survey of psychological principles applied to the work place. This course will introduce students to the psychosocial, interpersonal, and behavioral dynamics of people in organizations. The importance of effective communication, leadership, cultural diversity, and teamwork within an organization will be explored.

## **PSYC 2306 Human Sexuality**

**Prerequisites:** Must be placed into college-level reading.

**Credit:** 3 (3 lecture)

This course is designed to provide an understanding of human sexuality, identity, orientation, and behavior, and the variations in these dimensions of this important aspect of human experience. It includes information on physical, cognitive, and psychosocial changes associated with sexuality. Theory, research methods, and applications of research to the facilitation of gender identity development and understanding of the human sexual response are covered. The course also provides information on the treatment of sexual dysfunction, and the prevention of sexually transmitted diseases and irresponsible sexual behavior.

## **PSYC 2307 Adolescent Psychology**

**Credit:** 3 (3 lecture)

Psychology of adolescence is a study of the relationships among the physical, emotional, social and psychological factors that influence growth and development from puberty to early adulthood (ages 12-18).

## **PSYC 2308 Human Growth and Development: Childhood and Adolescence**

**Credit:** 3 (3 lecture)

A study of normal physiological, intellectual, and emotional development and functioning of the child from conception through adolescence. Emphasis on normal child development, the family, parent-child interaction, and the psychological and cultural forces affecting them.

## **PSYC 2311 Human Growth and Development: Adulthood and Aging**

**Prerequisite:** PSYC 2301 or 2308 or Department Approval; Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).

**Credit:** 3 (3 lecture)

A study of the normal physiological, intellectual, and emotional development and functioning of the human life cycle from adulthood through death.

## **PSYC 2314 Human Growth and Development: Lifespan**

**Prerequisite:** PSYC 2301 or Department Approval; Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).

**Credit:** 3 (3 lecture)

A developmental psychology course designed to provide an understanding of human behavior and characteristics from conception through death. This course includes information on physical, cognitive, and psychosocial changes throughout the lifespan. Theory, research, and applications are covered.

# Course Descriptions

## **PSYC 2315 Psychology of Adjustment**

**Prerequisite:** PSYC 2301; **Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).**

**Credit: 3 (3 lecture)**

A study of human behavior, applying psychological theory to the development of the well-adjusted individual. Techniques for managing stress, reducing anxiety, coping with anger, increasing assertiveness, and achieving self-control are considered.

## **PSYC 2316 Psychology of Personality**

**Prerequisite:** PSYC 2301; **Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).**

**Credit: 3 (3 lecture)**

This course covers personality theories that apply to both normal personality and abnormal behavior. Some of the theories covered are psychoanalytic, cognitive, learning, and sociocultural. Current research on the biological foundations of mental health and illness is covered in detail. These theories are related to mental disorders such as major depression, phobias, obsessive-compulsive disorder, bipolar disorder and schizophrenia. Case studies of individuals enhance comprehension of mental disorders. Treatment by psychotherapy and drugs is discussed as well as ethical, legal and social issues relating to the mentally ill.

## **PSYC 2317 Statistical Methods in Psychology**

**Prerequisite:** **Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite) and be placed into MATH 0312 (or higher).**

**Credit: 3 (3 lecture)**

An introduction to the use of scientific methods in psychology and to the statistical analysis of data. Attention is given to descriptive, correlational, and inferential statistical methodology.

## **PSYC 2319 Social Psychology**

**Prerequisite:** PSYC 2301; **Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).**

**Credit: 3 (3 lecture)**

A study of social cognition, social behavior, interpersonal relations, and group membership. Emphasis on theories, research, and applications.

## **PSYC 2370 Cross-Cultural Psychology**

**Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).**

**Credit: 3 (3 lecture)**

A course designed to explore and better understand psychology from a multicultural perspective. The course will examine similarities and differences among cultures and the context of their development. Discussions, lectures, and assignments will address how culture influences a group's way of thinking and behaving. Core Curriculum Course.

## **PSYC 2374 Psychology of Women**

**Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).**

**Credit: 3 (3 lecture)**

This is a freshman or sophomore college level course on the psychology of women or gender. This course is designed to analyze and clarify the psychological issues in women's lives that are responsible for the "gender gap" in success. The course focuses on diversity and challenges that women of various cultures face in the twenty-first century. Strategies for overcoming the effects of sexism and racism in the various life states are also addressed.

## **PTAC 1302 Introduction To Process Technology**

**Prerequisites:** **Must be placed into GUST 0342 in reading, college-level writing and MATH 0312 in math.**

**Credit: 3 (3 lecture)**

Introduction to chemical and refinery plant operations. Topics include process technician duties, responsibilities and expectations, plant organizations, plant process and utility systems, and the physical and mental requirements of the process technician.

## **PTAC 1308 Safety, Health, and Environment I**

**Prerequisite or Corequisite:** PTAC 1302 or Department Approval; **Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0312 in math.**

**Credit: 3 (3 lecture)**

Development of knowledge and skills to reinforce the attitudes and behaviors required for safe and environmentally sound work habits. Emphasis on safety, health, and environmental issues in the performance of all job tasks and regulatory compliance issues.

## **PTAC 1332 Process Instrumentation I**

**Prerequisites:** PTAC 1308 and MATH 1314 or Department Approval; **Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0312 in math.**

**Credit: 3 (2 lecture, 2 lab)**

Study of the instruments and instrument systems used in the process industry including terminology, primary variables, symbology, control loops, and basic troubleshooting.

## **PTAC 1350 Industrial Economics**

**Prerequisites:** **Must be placed into GUST 0342 in reading, college-level writing and MATH 0308 in math.**

**Credit: 3 (3 lecture)**

Examination of the profitability factors of plant operations including personnel and business strategies.

## **PTAC 1354 Industrial Processes**

**Prerequisites:** PTAC 1302 and PTAC 1308; **Must be placed into GUST 0342 in reading, college-level writing and MATH 0308 in math.**

**Credit: 3 (3 lecture)**

Study of the processes employed in process plant operations.

## **PTAC 1410 Process Technology I - Equipment**

**Prerequisite:** PTAC 1302 or Department Approval; **Must be placed into GUST 0342 in reading, college-level writing and math.**

**Credit: 4 (3 lecture, 3 lab)**

Instruction in the use of common process equipment.

## **PTAC 2314 Principles of Quality**

**Prerequisites:** PTAC 1302 and MATH 1314; **Must be placed into college-level reading, writing and math.**

**Credit: 3 (3 lecture)**

Study of the background and application of quality concepts. Topics include team skills, quality tools, and economics and continuous improvement.

## **PTAC 2420 Process Technology II - Systems**

**Prerequisite:** PTAC 1410 or Department Approval; **Must be placed into college-level reading, writing and math.**

**Credit: 4 (3 lecture, 3 lab)**

Study of the interrelation of process equipment and process systems including related scientific principles.

## **PTAC 2438 Process Technology III - Operations**

**Prerequisite:** PTAC 2420; **Must be placed into college-level reading, writing and math.**

**Credit: 4 (3 lecture, 3 lab)**

This course combines systems into operational processes with emphasis on operations under various conditions.

## **PTAC 2446 Process Troubleshooting**

**Prerequisite:** PTAC 2420 or Department Approval; **Must be placed into college-level reading, writing and math.**

**Credit: 4 (3 lecture, 3 lab)**

Instruction in the different types of troubleshooting techniques, procedures, and methods used to solve process problems. Topics include application of data collection and analysis, cause effect relationships, and reasoning.

## **PTHA 1229 Applied Physical Principles**

**Prerequisites:** Admission to the Program; **Must be placed into college-level reading, college-level writing and MATH 0312 in math.**

**Credit: 2 (1 lecture, 2 lab)**

The application of physical principles to selected interventions in physical therapy.

## **PTHA 1266 Practicum I-Physical Therapist Assistant**

**Prerequisites:** PTHA 2205, PTHA 2509; **Must be placed into college-level reading, college-level writing and MATH 0312 in math.**

**Credit: 2 (14 lab)**

Practical general workplace training supported by an individualized learning plan developed by the employer, college and student.

# Course Descriptions

## PTHA 1267 Practicum II-Physical Therapist Assistant

**Prerequisites:** PTHA 1266, PTHA 2435, PTHA 2431; **Must be placed into college-level reading, college-level writing and MATH 0312 in math.**

**Corequisites:** PTHA 2239 and PTHA 2250

**Credit:** 2 (14 lab)

Practical general workplace training supported by an individualized learning plan developed by the employer, college and student.

## PTHA 1301 The Profession of Physical Therapy

**Prerequisites:** Admission to the Program; **Must be placed into college-level reading, college-level writing and MATH 0312 in math.**

**Credit:** 3 (2 lecture, 2 lab)

Introduction to the profession of physical therapy and the role of the physical therapist assistant.

## PTHA 1305 Basic Patient Care Skills

**Prerequisites:** Admission to program; **Must be placed into college-level reading, college-level writing and MATH 0312 in math.**

**Credit:** 3 (2 lecture, 4 lab)

The application of basic patient handling, functional skills, communication, and selected data collection techniques.

## PTHA 1321 Pathophysiology

**Prerequisite:** PTHA 1413, PTHA 1301, HPRS 1106; **Must be placed into college-level reading, college-level writing and MATH 0312 in math.**

**Credit:** 3 (3 lecture, 1 lab)

Study of the pathophysiology of diseases/conditions commonly encountered in physical therapy.

## PTHA 1391 Special Topics in Physical Therapy Assistant: PTA Learning Strategies

**Prerequisites:** **Must be placed into college-level reading, college-level writing and MATH 0312 in math.**

**Credit:** 3 (3 lecture)

This course is specifically tailored to meet the student's needs with regard to success in the PTA program. The class will emphasize time management, study skills and strategies, reading skills, and critical thinking.

Learning outcomes: 1. The student will show competency with all anatomy section exams with a 75% minimum. 2. The student will show improvement in test taking strategies and critical thinking skills as reflected in the student's improved work by the end of the course.

## PTHA 1413 Functional Anatomy

**Prerequisites:** Admission to the Program; **Must be placed into college-level reading, college-level writing and MATH 0312 in math.**

**Corequisite:** BIOL 2401

**Credit:** 4 (3 lecture, 4 lab)

The relationship of the musculoskeletal and neuromuscular systems to normal and abnormal movement.

## PTHA 1431 Physical Agents

**Prerequisites:** PTHA 1413, PTHA 1229, PTHA 1301, PTHA 1305, HPRS 1106; **Must be placed into college-level reading, college-level writing and MATH 0312 in math.**

**Credit:** 4 (2 lecture, 6 lab)

Biophysical principles, physiological effects, intervention efficacy and application of physical agents.

## PTHA 2205 Neurology

**Prerequisites:** PTHA 1321; **Must be placed into college-level reading, college-level writing and MATH 0312 in math.**

**Credit:** 2 (2 lecture, 1 lab)

Study of neuroanatomy and neurophysiology as it relates to commonly encountered neurological conditions.

## PTHA 2239 Professional Issues

**Prerequisites:** PTHA 2431, PTHA 2435; **Must be placed into college-level reading, college-level writing and MATH 0312 in math.**

**Corequisites:** PTHA 1267, PTHA 2266, PTHA 2250

**Credit:** 2 (2 lecture, 1 lab)

A capstone course which engages the student in the discussion of professional issues and behaviors related to clinical practice and which prepares the student for transition into the workforce.

## PTHA 2250 Current Concepts in Physical Therapy

**Prerequisites:** PTHA 2435, PTHA 2431; **Must be placed into college-level reading, college-level writing and MATH 0312 in math.**

**Corequisites:** PTHA 1267, PTHA 2239, PTHA 2266

**Credit:** 2 (1 lecture, 4 lab)

Current concepts, skills, and knowledge in the provision of physical therapy services. Includes enhancement of professional development.

## PTHA 2266 Practicum III-Physical Therapist Assistant

**Prerequisites:** PTHA 2435, PTHA 2431, PTHA 1267; **Must be placed into college-level reading, college-level writing and MATH 0312 in math.**

**Corequisites:** PTHA 2239 and PTHA 2250

**Credit:** 2 (14 lab)

Practical general workplace training supported by an individualized learning plan developed by the employer, college and student.

## PTHA 2267 Practicum IV-Physical Therapist Assistant

**Prerequisites:** PTHA 1267, PTHA 2266, PTHA 2250; **Must be placed into college-level reading, college-level writing and MATH 0312 in math.**

**Credit:** 2 (14 lab)

Practical general workplace training supported by an individualized learning plan developed by the employer, college and student.

## PTHA 2301 Essentials of Data Collection

**Prerequisites:** PTHA 1305, PTHA 1321, PTHA 1413, PTHA 1229, PTHA 1301, HPRS 1106; **Must be placed into college-level reading, college-level writing and MATH 0312 in math.**

**Corequisites:** PTHA 1431, HPRS 2332

**Credit:** 3 (2 lecture, 4 lab)

Data collection techniques used to prepare the physical therapist assistant to assist in patient/client management.

## PTHA 2431 Management of Neurological Disorders

**Prerequisites:** PTHA 2205, PTHA 2509, PTHA 2435; **Must be placed into college-level reading, college-level writing and MATH 0312 in math.**

**Credit:** 4 (2 lecture, 6 lab)

Advanced course integrating previously learned and new skills/techniques into the comprehensive rehabilitation of selected neurological disorders.

## PTHA 2435 Rehabilitation Techniques

**Prerequisites:** PTHA 2205, PTHA 2509; **Must be placed into college-level reading, college-level writing and MATH 0312 in math.**

**Credit:** 4 (2 lecture, 6 lab)

Advanced course integrating previously learned and new skills/techniques into the comprehensive rehabilitation of selected musculoskeletal, neuromuscular, cardiopulmonary, and integumentary disorders.

## PTHA 2509 Therapeutic Exercise

**Prerequisites:** PTHA 1321, PTHA 1431, PTHA 2301, HPRS 2332; **Must be placed into college-level reading, college-level writing and MATH 0312 in math.**

**Credit:** 5 (3 lecture, 6 lab)

Concepts, principles, and application of techniques related to therapeutic exercise and functional training.

## PTRT 1301 Introduction to Petroleum Industry

**Prerequisites:** **Must be placed into college-level reading, writing and math.**

**Credit:** 3 (3 lecture)

An introduction to the various aspects of petroleum industry including equipment, systems, instrumentation, operations, and the various scientific principles. Addresses a variety of petroleum technologies: exploration, drilling, production, transportation, marketing, and chemical processing industries.

## PTRT 1370 Petroleum Geology

**Prerequisites:** **Must be placed into college-level reading, writing and math.**

**Credit:** 3 (3 lecture)

Principles of geological patterns, rock shapes and structures, and reservoir formations associated with petroleum operations.



# Course Descriptions

## **Ptrt 1470 Petroleum Data Management I-Exploration**

**Prerequisites:** Must be placed into college-level reading, writing and math.

**Credit:** 4 (2 lecture, 4 lab)

Overview of computer applications in exploration; covers the history, fundamentals, terminology and software for exploration; introduction to the principles of geology, geophysics and petro-physics.

## **Ptrt 1471 Exploration and Production I**

**Prerequisites:** Must be placed into college-level reading, writing and math.

**Credit:** 4 (2 lecture, 4 lab)

Overview of various aspects of deepwater operations deepwater exploration, drilling and completing wells, development of production systems.

## **Ptrt 1472 Petroleum Data Management II-Drilling and Production**

**Prerequisites:** Must be placed into college-level reading, writing and math.

**Credit:** 4 (2 lecture, 4 lab)

Overview of computer applications in drilling and production. Covers the history, fundamentals, terminology and software for drilling and production. Introduction to the principles of drilling, production and reservoir.

## **Ptrt 1473 Exploration and Production II**

**Prerequisites:** Must be placed into college-level reading, writing and math.

**Credit:** 4 (2 lecture, 4 lab)

Continue with exploration and production principles including drilling rigs, giant oil and gas fields, beam pumps, and geological classifications.

## **Ptrt 2331 Well Completions**

**Prerequisites:** Must be placed into college-level reading, writing and math.

**Credit:** 3 (3 lecture)

Drilling and wellbore analysis data to develop a well completion plan.

## **Ptrt 2370 Petroleum Operations**

**Prerequisites:** Must be placed into college-level reading, writing and math.

**Credit:** 3 (3 lecture)

Course covers the principles and fundamentals of onshore and offshore operations implemented in oil recovery.

## **Ptrt 2371 Principles of Reservoir Engineering**

**Prerequisites:** Must be placed into college-level reading, writing and math.

**Credit:** 3 (3 lecture)

An overview of reservoir engineering techniques and calculations employed in the proper operation and management of underground oil reservoirs.

## **Ptrt 2372 Internship-Petroleum Technology/Technician**

**Prerequisite:** Department Approval; Must be placed into college-level reading, writing and math.

**Credit:** 3 (18 lab)

A work-based learning experience that enables the student to apply specialized occupational theory, skills and concepts. A learning plan is developed by the college and the employer.

## **Ptrt 2380 Cooperative Education - Petroleum Technology/Technician**

**Prerequisites:** Department Approval; Must be placed into college-level reading, writing and math.

**Credit:** 3 (1 lecture, 19 lab)

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

## **Ptrt 2423 Natural Gas Production**

**Prerequisites:** Must be placed into college-level reading, writing and math.

**Credit:** 4 (2 lecture, 4 lab)

An overview of the aspects of natural gas and oil production including various aspects of hydrocarbon production, processing equipment, and gas compression/transportation systems.

## **Ptrt 2470 Petroleum Data Management III-Facilities and Performance**

**Prerequisites:** Must be placed into college-level reading, writing and math.

**Credit:** 4 (2 lecture, 4 lab)

Overview of computer applications in surface facilities and automation. Covers the history, fundamentals, terminology and software for surface facilities and automation.

## **Qctc 1341 Statistical Process Control**

**Prerequisite:** Must be placed into GUST 0341 in reading; ENGL 0310 or 0349 in writing and MATH 0306 in math.

**Credit:** 3 (3 lecture)

Components of statistics, including techniques of collection, presentation, analysis, and interpretation of numerical data as applied to statistical control. Stresses application of correlation methods, analysis of variance, dispersion, sampling quality control, reality, mathematical models, and programming.

## **Radr 1160 Clinical - Radiologic Technology/Science - Radiographer**

**Prerequisites:** Admission to the program; Must be placed into college-level reading, writing and math.

**Credit:** 1 (3 lab)

A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

## **Radr 1266 Radiographic Practicum I**

**Prerequisites:** RADR 1160, RADR 1303, RADR 1411; Must be placed into college-level reading, writing and math.

**Credit:** 2 (16 lab)

Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

## **Radr 1267 Radiographic Practicum II**

**Prerequisites:** RADR 1266, RADR 1313, RADR 2401; Must be placed into college-level reading, writing and math.

**Credit:** 2 (20 lab)

Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

## **Radr 1303 Patient Care (Ethics)**

**Prerequisites:** Admission to the program; Must be placed into college-level reading, writing and math.

**Credit:** (3 lecture)

An introduction in patient assessment, infection control procedures, emergency and safety procedures, communication and patient interaction skills, and basic pharmacology.

## **Radr 1313 Principles of Radiographic Imaging I**

**Prerequisites:** Admission to the program; Must be placed into college-level reading, writing and math.

**Credit:** 3 (3 lecture, 1 lab)

Radiographic image quality and the effects of exposure variables.

## **Radr 1411 Basic Radiographic**

### **Procedures**

**Prerequisites:** Admission to the program; Must be placed into college-level reading, writing and math.

**Credit:** 4 (3 lecture, 4 lab)

An introduction to radiographic positioning terminology, the proper manipulation of equipment, positioning and alignment of the anatomical structure and equipment, and evaluation of images for proper demonstration of basic anatomy.

## **Radr 2213 Radiation Biology and Protection**

**Prerequisites:** RADR 2309; Must be placed into college-level reading, writing and math.

**Credit:** 2 (2 lecture)

Effects of radiation exposure on biological systems. Includes typical medical exposure levels, methods for measuring and monitoring radiation, and methods for protecting personnel and patients from excessive exposure.

## **Radr 2217 Radiographic Pathology**

**Prerequisites:** RADR 2331; Must be placed into college-level reading, writing and math.

**Credit:** 2 (2 lecture)

Disease processes and their appearance on radiographic images.

## **Radr 2233 Advanced Medical Imaging**

**Prerequisites:** RADR 2305, RADR 2331; Must be placed into college-level reading, writing and math.

**Credit:** 2 (2 lecture)

Specialized imaging modalities. Includes concepts and theories of equipment operations and their integration for medical diagnosis.

# Course Descriptions

## RADR 2305 Principles of Radiographic Imaging II

**Prerequisites:** RADR 1313, RADR 2401; **Must be placed into college-level reading, writing and math.**

**Credit: 3 (3 lecture, 1 lab)**

Radiographic imaging technique formulation. Includes equipment quality control, image quality assurance, and the synthesis of all variables in image production.

## RADR 2309 Radiographic Imaging Equipment

**Prerequisites:** RADR 2305, RADR 2331; **Must be placed into college-level reading, writing and math.**

**Credit: 3 (3 lecture)**

A study of the equipment and physics of x-ray production, basic x-ray circuits and relationship of equipment components to the imaging process.

## RADR 2331 Advanced Radiographic Procedures

**Prerequisite:** RADR 1313, RADR 2401; **Must be placed into college-level reading, writing and math.**

**Credit: 3 (2 lecture, 4 lab)**

Continuation of positioning; alignment of the anatomical structure and equipment, evaluation of images for proper demonstration of anatomy and related pathology.

## RADR 2335 Radiologic Technology Seminar

**Prerequisites:** all RADR courses or by Department Approval; **Must be placed into college-level reading, writing and math.**

**Credit: 3 (3 lecture, 1 lab)**

A capstone course focusing on the synthesis of professional knowledge, skills and attitudes in preparation for professional employment and lifelong learning.

## RADR 2340 Sectional Anatomy for Medical Imaging

**Prerequisites:** RADR 2233; **Must be placed into college-level reading, writing and math.**

**Credit: 3 (3 lecture)**

Anatomic relationships that are present under various sectional orientations as depicted by computed tomography or magnetic resonance imaging.

## RADR 2360 Clinical-Radiologic Technology/Science-Radiographer

**Prerequisites:** **Must be placed into college-level reading, writing and math.**

**Credit: 3 (15 lab)**

A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

## RADR 2366 Radiographic Practicum III

**Prerequisites:** RADR 1267, RADR 2233; **Must be placed into college-level reading, writing and math.**

**Credit: 3 (24 lab)**

Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

## RADR 2367 Radiographic Practicum IV

**Prerequisites:** RADR 2213, RADR 2217, RADR 2366; **Must be placed into college-level reading, writing and math.**

**Credit: 3 (24 lab)**

Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

## RADR 2401 Intermediate Radiographic Procedures

**Prerequisites:** RADR 1303, RADR 1411; **Must be placed into college-level reading, writing and math.**

**Credit: 4 (3 lecture, 4 lab)**

A continuation of the study of the proper manipulation of radiographic equipment, positioning and alignment of the anatomical structure and equipment, and evaluation of images for proper demonstration of anatomy.

## RBPT 1300 Fundamentals of Residential Building Science

**Prerequisites:** **Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (3 lecture, 1 lab)**

A study of the house as a complex interrelated system of people, building technologies, and the environment. Emphasizes residential building techniques and how they affect the needs for energy, water, and materials while providing a safe, healthy, and comfortable home.

## RBPT 1305 Residential Lighting, Appliances, and Plug Loads

**Prerequisites:** **Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (3 lecture, 1 lab)**

A study of the use of appliances, lighting, plug loads, and techniques to lower energy and water consumption in the home. Includes basic electrical concepts, calculation of energy and water usage, and selection of water- and energy-efficient appliances and lighting. Also covers the impact of human behavior on energy and water consumption. Investigation of future trends will be explored.

## RBPT 1310 Residential Mechanical Systems

**Prerequisites:** **Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (3 lecture, 1 lab)**

Identification and operation of space heating and cooling, ventilation, water heating, and swimming pool/spa systems. Includes comparisons of mechanical systems based on fuel type and efficiency. Also explores the impact of human behavior on energy usage.

## RBPT 2315 Green Rating Systems for Homes

**Prerequisites:** **Must be placed into GUST 0341 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.**

**Credit: 3 (3 lecture, 1 lab)**

Use of computer software and rating criteria to evaluate and score homes using residential green rating systems. Emphasizes gathering data from building plans, manufacturers' specifications, and on site testing.

## RBPT 2320 Residential Energy Conservation Codes

**Prerequisites:** **Must be placed into GUST 0341 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.**

**Credit: 3 (3 lecture, 1 lab)**

Use of computer software and code documents to determine compliance with residential energy conservation codes. Emphasizes gathering data from building plans and manufacturers' specifications.

## RBPT 2325 Energy Rating Systems for Homes

**Prerequisites:** **Must be placed into GUST 0341 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.**

**Credit: 3 (3 lecture, 1 lab)**

Use of computer software and rating criteria to evaluate and score homes using residential energy rating systems. Emphasizes gathering data from building plans, manufacturers' specifications, and on site testing.

## RBPT 2330 Advanced Residential Building Science and Systems

**Prerequisites:** **Must be placed into GUST 0341 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.**

**Credit: 3 (3 lecture, 1 lab)**

A study of advanced energy efficient and environmentally responsible residential building methodologies and technologies. Includes exploration of alternate residential building systems and climate applicability.

## RBPT 2340 Advanced Residential Mechanical Systems

**Prerequisites:** **Must be placed into GUST 0341 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.**

**Credit: 3 (3 lecture, 1 lab)**

A study in matching the size of a mechanical system with a specific heating and/or cooling load to optimize energy efficiency. Ventilation and humidity requirements will be determined. Includes air distribution fundamentals and an exploration of efficiency testing and verification.

# Course Descriptions

## **RBPT 2355 Sustainable Neighborhood Development**

**Prerequisites:** Must be placed into GUST 0341 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.

**Credit: 3 (3 lecture, 1 lab)**

A study of neighborhood-sustained design strategies and applications that integrate the principles of green building and smart growth. Emphasizes basic neighborhood planning, utility infrastructure, land-use patterns, general zoning, subdivision practices, and quantitative methods to evaluate neighborhood development.

## **RBTC 1301 Programmable Logic**

### **Controllers**

**Prerequisites:** CETT 1425 or INTC 1441 or Department Approval, Must be placed into college-level reading, writing and math.

**Credit: 3 (2 lecture, 4 lab)**

A study in programmable logic controllers (PLC). Topics include processor units, numbering systems, memory organization, relay type devices, timers, counters, data manipulators, and programming. Emphasis will be placed on converting ladder diagrams into programs; explaining digital/analog devices used with programmable logic controllers; and executing and evaluating control system operation.

## **RELE 1105 Uniform Standards of Professional Appraisal Practice**

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.

**Credit: 1 (1 lecture)**

Provides instruction on current provisions of the Uniform Standards of Professional Appraisal Practice (USPAP). Accredited: Texas Appraisal Licensing and Certification Board.

## **RELE 1301 Principles of Real Estate**

**Prerequisites:** Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit: 3 (3 lecture)**

Overview of licensing as a real estate broker or salesperson. Includes ethics of practice as a license holder, titles to and conveyance of real estate, legal descriptions, deeds, encumbrances and liens, distinctions between personal and real property, appraisal, finance and regulations, closing procedures, and real estate mathematics. Covers at least three hours of classroom instruction on federal, state, and local laws relating to housing discrimination, housing credit discrimination, and community reinvestment. Fulfills at least 30 of 60 hours of required instruction for salesperson license.

## **RELE 1307 Real Estate Investment**

**Prerequisites:** Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0308 in math.

**Credit: 3 (3 lecture)**

Characteristics of real estate investments. Includes techniques of investment analysis, time-valued money, discounted and non-discounted investment criteria, leverage, tax shelters, depreciation, and applications to property tax.

## **RELE 1309 Real Estate Law**

**Prerequisites:** Must be placed into GUST 0341 in reading, ENGL 0310 or 0349 in writing and MATH 0306 in math.

**Credit: 3 (3 lecture)**

Provides a study of legal concepts of real estate, land description, real property rights, estates in land, contracts, conveyances, encumbrances, foreclosures, recording procedures, and evidence of title.

## **RELE 1311 Law of Contracts**

**Prerequisites:** Must be placed into GUST 0341 in reading, ENGL 0310 or 0349 in writing and MATH 0306 in math.

**Credit: 3 (3 lecture)**

Elements of a contract, offer and acceptance, statute of frauds, specific performance and remedies for breach, unauthorized practice of law, commission rules relating to use of adopted forms, and owner disclosure requirements.

## **RELE 1315 Property Management**

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.

**Credit: 3 (3 lecture)**

A study of the role of the property manager, landlord policies, operating guidelines, leases, lease negotiations, tenant relations, maintenance, reports, habitability laws, and the Fair Housing Act.

## **RELE 1319 Real Estate Finance**

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0308 in math.

**Credit: 3 (3 lecture)**

An overview of monetary systems, primary and secondary money markets, sources of mortgage loans, federal government programs, loan applications, processes and procedures, closing costs, alternative financial instruments, equal credit opportunity laws affecting mortgage lending, and the state housing agency.

## **RELE 1321 Real Estate Marketing**

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0308 in math.

**Credit: 3 (3 lecture)**

A study of real estate professionalism and ethics; characteristics of successful salespersons; time management; psychology of marketing; listing procedures; advertising; negotiating and closing financing; and the Deceptive Trade Practice Act.

## **RELE 1323 Real Estate Computer Application**

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit: 3 (3 lecture)**

A study of the availability of technology, current software, and its ability to help a real estate agent become more productive. Includes database, mapping, mortgage interest, contact management, presentation and real estate related software application packages.

## **RELE 1324 Loan Origination and Quality Control**

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.

**Credit: 3 (3 lecture)**

An introduction to the mortgage loan application process. Topics include regulatory compliance and documentation; real estate contracts; the mortgage application process, interview techniques; credit, income and property qualification, quality controls and procedures.

## **RELE 1325 Real Estate Mathematics**

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0308 in math.

**Credit: 3 (3 lecture)**

Basic arithmetic skills. Includes mathematical logic, percentages, interest, time value of money, depreciation, amortization, proration, and estimation of closing statements.

## **RELE 1329 Fundamentals of Environmental Issues**

**Prerequisites:** Must be placed into GUST 0341 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.

**Credit: 3 (3 lecture)**

A study of environmental issues affecting the real estate industry including hazardous substances, underground storage tanks, wetlands, radon, asbestos, lead, endangered species protection, sick building syndrome and electromagnetic fields.

## **RELE 1335 Real Estate Construction**

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0300 or 0347 in writing and MATH 0308 in math.

**Credit: 3 (3 lecture)**

A study of the basic principles of design and construction of real estate properties. This course meets part of the educational requirements, as determined by The Texas Real Estate Commission, to become a licensed inspector.

## **RELE 1338 Principles of Real Estate II**

**Prerequisites:** Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit: 3 (3 lecture)**

Overview of licensing as a broker or salesperson. Includes ethics of practice as a license holder, titles to and conveyance of real estate, legal descriptions, deeds, encumbrances and liens, distinctions between personal and real property, appraisal, finance and regulations, closing procedures, and real estate mathematics. Covers at least three hours of classroom instruction on federal, state, and local laws relating to housing, discrimination, housing credit discrimination, and community reinvestment. Fulfills at least 30 of 60 hours of required instruction for salesperson license.

# Course Descriptions

## **RELE 1371 Loan Processing**

**Prerequisite:** Department Approval; **Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.**

**Credit: 3 (3 lecture)**

A study of the theoretical and practical framework necessary to understand the complex field of mortgage lending with emphasis on loan application, qualifications, and processing. Also includes the role of lenders, residential loan appraisals, closing, and funding the loan. This course emphasizes workforce training in the areas of loan processing and originating procedures as determined by the needs of industry. Accredited: Texas Savings and Loan Department.

## **RELE 1372 Basic Appraisal Principles**

**Prerequisites:** **Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.**

**Credit: 3 (3 lecture)**

This introductory appraisal course provides an overview of real property concepts and characteristics, legal consideration, value influences, real estate finance, types of value, economic principles, real estate markets and analysis, and ethics in appraisal practice. Thorough discussion of appraisal principles, accompanied by practical examples, provides a solid foundation in appraisal basics. A calculator is recommended. Tape recorders are not permitted during class lecture sessions.

## **RELE 1373 Basic Appraisal Procedures**

**Prerequisites:** **Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.**

**Credit: 3 (3 lecture)**

This basic appraisal course provides an overview of real estate appraisal approaches to valuation procedures, value, property description, residential applications, commercial applications, improvement construction, home inspection, and appraisal math. Through theory, case studies, and examples, the course offers practical application of appraisal procedures. A calculator is recommended.

## **RELE 1381 Cooperative Education - Real Estate**

**Prerequisite:** Department Approval and **RELE 2301; Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.**

**Credit: 3 (1 lecture, 20 lab)**

Career related activities encountered in the student's area of specialization are offered through an individualized agreement between the college, employer, and student. Under supervision of the college and the employer, the student combines, classroom learning with work experience. Includes a lecture component.

## **RELE 1391 Special Topics in Real Estate: Commercial Real Estate**

**Prerequisite:** Department Approval; **Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.**

**Credit: 3 (3 lecture)**

Commercial Real Estate is an overview of the commercial real estate industry which includes: commercial real estate culture, real estate professionalism and ethics, types of properties, investors, end users, leasing, developing, marketing psychology, advertising, time management, negotiating and closing, financing and characteristics of a successful salesperson.

## **RELE 2301 Law of Agency**

**Prerequisites:** **Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (3 lecture)**

A study of law of agency including principal-agent and master-servant relationships, the authority of an agent, the termination of an agent's authority, the fiduciary and other duties of an agent, employment law, deceptive trade practices, listing or buying procedures, and the disclosure of an agency. This course is required by The Texas Real Estate Commission for new salesperson applicants.

## **RELE 2305 Real Estate Inspections**

**Prerequisites:** **Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.**

**Credit: 3 (3 lecture)**

A study of the different types of building systems and materials used in the design and construction of real property. Covers residential construction and commercial building systems and materials. Includes different structural building systems with emphasis on wood-related products, concrete and masonry, brick, stone, and steel units. This course meets part of the educational requirements, as determined by The Texas Real Estate Commission, to become a licensed inspector.

## **RELE 2307 Real Estate Title and Settlement**

**Prerequisites:** **Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.**

**Credit: 3 (3 lecture)**

Examines the procedural aspects required to research land titles, establish and administer title closings, escrow, determination of settlement requirements, and filing. In addition, the lender's closing instructions, document review, funding procedures, post closing audit and file set up will be presented. This course emphasizes workforce training in the area of closing and funding procedures as determined by the needs of industry. Accredited: Texas Savings and Loan Department.

## **RELE 2311 Fundamentals of Mortgage Lending**

**Prerequisites:** **Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.**

**Credit: 3 (3 lecture)**

A study of the theoretical and practical framework necessary to understand the complex field of mortgage lending with emphasis on loan application, qualifications, and underwriting. Also includes the role of lenders, security instruments, residential loan appraisals, and closing and funding the loan. This course emphasizes workforce training in the areas of loan processing and underwriting procedures as determined by the needs of industry.

## **RELE 2331 Real Estate Brokerage**

**Prerequisites:** **Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.**

**Credit: 3 (3 lecture)**

A study of law of agency, planning and organization, operational policies and procedures, recruiting, selection and training of personnel, records and control, and real estate firm analysis and expansion criteria.

## **RELE 2381 Cooperative Education-Real Estate**

**Prerequisite:** Department Approval and **RELE 1381; Must be placed into GUST 0341 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.**

**Credit: 3 (3 lecture)**

Career related activities encountered in the student's area of specialization are offered through a cooperative agreement between the college, employer, and student. Under supervision of the college and the employer, the student combines, classroom learning with work experience. Directly related to a technical discipline, specific learning objectives guide the student through the paid work experience. This course may be repeated if topics and learning outcomes vary. The student is required to work a minimum of 20 hours a week and attend a weekly seminar. An approved project and final report is required.

## **RNSG 1105 Nursing Skills I**

**Prerequisites:** **RNSG 1115, RNSG 1413, RNSG 1360; Must be placed into college-level reading, college-level writing and MATH 0312.**

**Corequisites:** **RNSG 1441, RNSG 2360,**

**Credit: 1 (3 Lab)**

Study of concepts and principles essential for demonstrating competence in the performance of nursing procedures. Topics include knowledge, judgment, skills, and professional values within a legal/ethical framework.

## **RNSG 1115 Health Assessment**

**Prerequisites:** **Admission to the ADN program; Must be placed into college-level reading, college-level writing and MATH 0312.**

**Corequisites:** **RNSG 1413, RNSG 1360**

**Credit: 1 (1 Lab)**

Development of skills and techniques required for a comprehensive health assessment within a legal/ethical framework. This course lends itself to a blocked approach.

# Course Descriptions

## **RNSG 1144 Nursing Skills II**

**Prerequisites:** RNSG 1412, RNSG 1247; **Must be placed into college-level reading, college-level writing and MATH 0312.**

**Corequisites:** RNSG 1343, RNSG 2121, RNSG 2130, RNSG 2361,

**Credit: 1 (3 Lab)**

Study of concepts and principles necessary to perform intermediate or advanced nursing skills; and demonstrate competence in the performance of nursing procedures. Topics include knowledge, judgment, skills and professional values within a legal/ethical framework.

## **RNSG 1163 Clinical Nursing-Transition**

**Prerequisite:** Admission to the ADN transition program; **Must be placed into college-level reading, college-level writing and MATH 0312 in math.**

**Corequisite:** RNSG 1327

**Credit: 1 (3 clinical)**

A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

## **RNSG 1247 Concepts of Clinical Decision-Making**

**Prerequisites:** RNSG 2213, RNSG 2263, RNSG 1441; **Must be placed into college-level reading, college-level writing and MATH 0312 in math.**

**Credit: 2 (2 lecture)**

Integration of previous knowledge and skills into the continued development of the professional nurse as a provider of care, coordinator of care, and member of a profession. Emphasis on clinical decision-making for clients in medical-surgical settings experiencing health problems involving gastrointestinal disorders, endocrine and metabolic disorders, reproductive and sexual disorders, musculoskeletal disorders, eye-ear-nose-throat disorders and integumentary disorders. Discussion of knowledge, judgment, skills, and professional values within a legal/ethical framework. This course lends itself to a blocked approach.

## **RNSG 1301 Pharmacology**

**Prerequisites:** Department Approval; **Must be placed into college-level reading, college-level writing and MATH 0312 in math.**

**Credit: 3 (3 lecture)**

Introduction to the science of pharmacology with emphasis on the actions, interactions, adverse effects, and nursing implications of each drug classification. Topics include the roles and responsibilities of the nurse in safe administration of medications within legal/ethical framework.

## **RNSG 1327 Transition from Vocational to Professional Nursing**

**Prerequisites:** Admission to the ADN transition program; **Must be placed into college-level reading, college-level writing and MATH 0312 in math.**

**Corequisite:** RNSG 1163

**Credit: 3 (3 lecture)**

Topics include health promotion, expanded assessment, analysis of data, nursing process, pharmacology, multidisciplinary teamwork, communication, and applicable competencies in knowledge, judgment, skills, and professional values within a legal/ethical framework throughout the life span.

## **RNSG 1343 Complex Concepts of Adult Health**

**Prerequisites:** RNSG 1412, RNSG 1247, RNSG 1460, RNSG 2213, RNSG 2263; **Must be placed into college-level reading, college-level writing and MATH 0312 in math.**

**Corequisites:** RNSG 2361, RNSG 1144

**Credit: 3 (3 lecture)**

Integration of previous knowledge and skills related to common adult health needs into the continued development of the professional nurse as a provider of care, coordinator of care, and member of a profession in the care of adult clients/families in structured health care settings with complex medical-surgical health care needs associated with each body system. Emphasis on knowledge, judgments, skills, and professional values within a legal/ethical framework. This course lends itself to a blocked approach.

## **RNSG 1360 Clinical Nursing-Foundations**

**Prerequisite:** Admission to the ADN program, RNSG 1301; **Must be placed into college-level reading, college-level writing and MATH 0312 in math.**

**Corequisite:** RNSG 1115, RNSG 1413

**Credit: 3 (9 Clinical)**

A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

## **RNSG 1412 Nursing Care of the Childbearing and Childrearing Family**

**Prerequisites:** RNSG 1413, RNSG 1360, RNSG 2213, RNSG 2263, RNSG 1441, RNSG 1105, RNSG 2360; **Must be placed into college-level reading, college-level writing and MATH 0312 in math.**

**Corequisites:** RNSG 1460

**Credit: 4 (4 lecture)**

Study of the concepts related to the provision of nursing care for childbearing and childrearing families; application of systematic problem-solving processes and critical thinking skills, including a focus on the childbearing family during preconception, prenatal, antipartum, neonatal, and postpartum periods and the childrearing family from birth to adolescence; and competency in knowledge, judgment, skill, and professional values within a legal/ethical framework. This course lends itself to a blocked approach.

## **RNSG 1413 Foundations for Nursing Practice**

**Prerequisites:** Admission to the ADN program, RNSG 1301; **Must be placed into college-level reading, college-level writing and MATH 0312 in math.**

**Corequisites:** RNSG 1115, RNSG 1360, BIOL 2402, PSYC 2314

**Credit: 4 (3 lecture, 2 lab)**

Introduction to the role of the professional nurse as provider of care, coordinator of care, and member of the profession. Topics include but are not limited to the fundamental concepts of nursing practice, history of professional nursing, a systematic framework for decision-making, mechanisms of disease, the needs and problems that nurses help patients manage, and basic psychomotor skills. Emphasis on knowledge, judgment, skills and professional values within a legal/ethical framework. This course lends itself to a blocked approach.

## **RNSG 1441 Common Concepts of Adult Health**

**Prerequisites:** RNSG 1413, RNSG 1360; **Must be placed into college-level reading, college-level writing and MATH 0312 in math.**

**Corequisites:** RNSG 1105, RNSG 2360,

**Credit: 4 (4 lecture)**

Study of the general principles of caring for selected adult clients and families in structured settings with common medical-surgical health care needs related to each body system. Emphasis on knowledge, judgment, skills, and professional values within a legal/ethical framework.

## **RNSG 1460 Clinical-Nursing-Registered Nurse Training**

**Prerequisites:** RNSG 1413, RNSG 1360, RNSG 1115, RNSG 2213, RNSG 2263, RNSG 1441, RNSG 2360, RNSG 1105; **Must be placed into college-level reading, college-level writing and MATH 0312 in math.**

**Corequisites:** RNSG 1412

**Credit: 4 (12 clinical)**

A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

## **RNSG 2121 Management of Client Care**

**Prerequisites:** RNSG 1247; **Must be placed into college-level reading, college-level writing and MATH 0312 in math.**

**Credit: 1 (1 lecture)**

Exploration of leadership and management principles applicable to the role of the nurse as a provider of care, coordinator of care, and member of a profession. Includes application of knowledge, judgment, skills, and professional values within a legal/ethical framework. This course lends itself to a blocked approach.

# Course Descriptions

## **RNSG 2130 Professional Nursing Review and Licensure Preparation**

**Prerequisites:** RNSG 1412, RNSG 1460, RNSG 1247; **Must be placed into college-level reading, college-level writing and MATH 0312 in math.**

**Corequisites:** RNSG 1343 or Department Approval

**Credit: 1 (1 lecture)**

Review of concepts required for licensure examination and entry into the practice of professional nursing. Includes application of National Council Licensure Examination for Registered Nurses (NCLEX-RN) test plan, assessment of knowledge deficits, and remediation. This course lends itself to either a blocked or integrated approach.

## **RNSG 2213 Mental Health Nursing**

**Prerequisites:** RNSG 1413, RNSG 1360; **Must be placed into college-level reading, college-level writing and MATH 0312 in math.**

**Corequisites:** RNSG 2263 or RNSG 1163, RNSG 1327

**Credit: 2 (2 lecture)**

Principles and concepts of mental health, psychopathology, and treatment modalities related to the nursing care of clients and their families.

## **RNSG 2263 Clinical Nursing-Mental Health**

**Prerequisites:** RNSG 1413, RNSG 1360; **Must be placed into college-level reading, college-level writing and MATH 0312 in math.**

**Corequisites:** RNSG 2213 or RNSG 1163, RNSG 1327

**Credit: 2 (6 Clinical)**

A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

## **RNSG 2360 Clinical Nursing-Adult I**

**Prerequisites:** RNSG 1413, RNSG 1360, RNSG 1115; **Must be placed into college-level reading, college-level writing and MATH 0312 in math.**

**Corequisites:** RNSG 1441, RNSG 1105

**Credit: 3 (9 clinical)**

A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

## **RNSG 2361 Clinical Nursing-Adult II**

**Prerequisites:** RNSG 1412, RNSG 1460, RNSG 1247; **Must be placed into college-level reading, college-level writing and MATH 0312 in math.**

**Corequisites:** RNSG 1144, RNSG 1343

**Credit: 3 (9 clinical)**

A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

## **RSPT 1201 Introduction to Respiratory Care**

**Prerequisites:** **Must be placed into college-level reading, writing and math.**

**Credit: 2 (2 lecture)**

An introduction to the field of respiratory care. Topics include the history of respiratory care, hospital organization, medical malpractice, ethics, vital signs, body mechanics, basic cardiopulmonary assessment, infection control, and cardiopulmonary resuscitation (CPR).

## **RSPT 1240 Advanced Cardiopulmonary Anatomy and Physiology**

**Prerequisites:** BIOL 2401, BIOL 2402; **Must be placed into college-level reading, writing and math.**

**Credit: 2 (2 lecture)**

Provides an advanced presentation of anatomy and physiology of the cardiovascular and pulmonary system.

## **RSPT 1310 Respiratory Care Procedures I**

**Prerequisites:** RSPT 1201; **Must be placed into college-level reading, writing and math.**

**Corequisite:** RSPT 1361

**Credit: 3 (2 lecture, 3 lab)**

Essential knowledge of the equipment and techniques used in the treatment of cardiopulmonary disease. Content areas include: oxygen therapy, humidity and aerosol therapy, lung expansion therapy, bronchial hygiene therapy, pulse oximetry, arterial blood gas sampling and interpretation.

## **RSPT 1311 Respiratory Care Procedures II**

**Prerequisites:** RSPT 1361, RSPT 1310; **Must be placed into college-level reading, writing and math.**

**Corequisite:** RSPT 1362

**Credit: 3 (2 lecture, 3 lab)**

Provides essential knowledge of airway care and mechanical ventilation. Airway care includes indications, techniques, equipment, and hazards and complications. Mechanical ventilation includes indications, initiation, modes, clinical application, management, complications, and weaning.

## **RSPT 1325 Respiratory Care Sciences**

**Prerequisites:** RSPT 1201; **Must be placed into college-level reading, writing and math.**

**Credit: 3 (3 lecture)**

Physics, mathematics, and chemistry as related to respiratory care.

## **RSPT 1361 Clinical-Respiratory Care Therapy/Therapist**

**Prerequisites:** **Must be placed into college-level reading, writing and math.**

**Corequisite:** RSPT 1310

**Credit: 3 (16 lab)**

A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

## **RSPT 1362 Clinical-Respiratory care Therapy/Therapist**

**Prerequisites:** RSPT 1201, RSPT 1361, RSPT 2258; **Must be placed into college-level reading, writing and math.**

**Corequisite:** RSPT 1311

**Credit: 3 (16 lab)**

A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

## **RSPT 2231 Simulations in Respiratory Care**

**Prerequisites:** **Must be placed into college-level reading, writing and math.**

**Corequisites:** RSPT 2239, RSPT 2261

**Credit: 2 (1 lecture, 3 lab)**

Theory and history of clinical simulation examinations. Includes construction types, scoring, and mechanics of taking the computerized simulation examination. respiratory care.

## **RSPT 2233 Respiratory Care Case Management**

**Prerequisites:** RSPT 2314, RSPT 2310; **Must be placed into college-level reading, writing and math.**

**Credit: 2 (2 lecture, 1 lab)**

Investigation, organization, and presentation of case studies.

## **RSPT 2239 Advanced Cardiac Life Support**

**Prerequisites:** RSPT 2317, RSPT 2325, RSPT 2255, RSPT 2258; **Must be placed into college-level reading, writing and math.**

**Credit: 2 (1 lecture, 2 lab)**

Advanced Cardiac Life Support (ACLS) with an emphasis on airway management. Designed to develop skills for resuscitation of the adult. Includes strategies for managing and stabilizing the cardiopulmonary arrested patient. May include certification.

## **RSPT 2255 Critical Care Monitoring**

**Prerequisites:** RSPT 2260; **Prerequisites: Must be placed into college-level reading, writing and math.**

**Corequisite:** RSPT 2266

**Credit: 2 (2 lecture)**

Advanced monitoring techniques used to assess a patient in the critical care setting.

## **RSPT 2258 Respiratory Care Patient Assessment**

**Prerequisites:** RSPT 1201; **Must be placed into college-level reading, writing and math.**

**Credit: 2 (2 lecture)**

Integration of patient examination techniques, including patient history and physical exam, lab studies, x-ray, pulmonary function, arterial blood gases, and invasive and noninvasive hemodynamics.

# Course Descriptions

## RSPT 2260 Clinical-Respiratory Care Therapy/Therapist

**Prerequisites:** RSPT 1311, RSPT 1362; **Must be placed into college-level reading, writing and math.**

**Credit: 2 (11 lab)**

A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

## RSPT 2261 Clinical - Respiratory Care Therapy/Therapist

**Prerequisites:** RSPT 2266; **Must be placed into college-level reading, writing and math.**

**Corequisites:** RSPT 2231, RSPT 2239

**Credit: 2 (11 lab)**

A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

## RSPT 2266 Practicum (or Field Experience)-Respiratory Care Therapy/Therapist

**Prerequisites:** RSPT 2260; **Must be placed into college-level reading, writing and math.**

**Corequisite:** RSPT 2231

**Credit: 2 (16 lab)**

Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

## RSPT 2267 Practicum (or Field Experience)-Respiratory Care Therapy/Therapist

**Prerequisites:** RSPT 2266; **Must be placed into college-level reading, writing and math.**

**Credit: 2 (16 lab)**

Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

## RSPT 2310 Cardiopulmonary Disease

**Prerequisites:** RSPT 1240; RSPT 2266; **Must be placed into college-level reading, writing and math.**

**Credit: 3 (3 lecture)**

A discussion of pathogenesis, pathology, diagnosis, history, prognosis, manifestation, treatment, and detection of cardiopulmonary diseases.

## RSPT 2314 Mechanical Ventilation

**Prerequisites:** RSPT 1311, RSPT 1362; **Must be placed into college-level reading, writing and math.**

**Credit: 3 (2 lecture, 2 lab)**

The study of mechanical ventilation with emphasis on ventilator classification, methods, principles, and operational characteristics. Includes indications, complications, and physiologic effects/principles of mechanical ventilation. Emphasizes initiation, management, and weaning of ventilatory support.

## RSPT 2317 Respiratory Care Pharmacology

**Prerequisites:** RSPT 1201; **Must be placed into college-level reading, writing and math.**

**Credit: 3 (3 lecture)**

A study of drugs that affect cardiopulmonary systems. Emphasis on classification, route of administration, dosages/calculations, and physiological interactions.

## RSPT 2325 Cardiopulmonary Diagnostics

**Prerequisites:** RSPT 2255, RSPT 2310; **Must be placed into college-level reading, writing and math.**

**Corequisite:** RSPT 2233

**Credit: 3 (3 lecture)**

A study of physical, radiological, hemodynamic, laboratory, nutritional, and cardiopulmonary diagnostic assessment of the pulmonary patient.

## RSPT 2353 Neonatal/Pediatric

### Cardiopulmonary Care

**Prerequisites:** **Must be placed into college-level reading, writing and math.**

**Corequisite:** RSPT 2267

**Credit: 3 (3 lecture)**

A study of acute care, monitoring, and management as applied to the neonatal and pediatric patient.

## RSTO 1325 Purchasing for Hospitality Operations

**Prerequisites:** **Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (3 lecture)**

Study of purchasing and inventory management of foods and other supplies to include development of purchase specifications, determination of order quantities, formal and informal price comparison, proper receiving procedures, storage management, and issue procedures. Emphasis on product cost analysis, yield, pricing formulas, controls, and record keeping at each stage of the purchasing cycle.

## RSTO 1491 Special Topics in Food and Beverage/Restaurant Operations Manager

**Prerequisites:** **Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 4 (3 lecture, 3 lab)**

This course addresses the general principles of food preparation including the safe use of kitchen tools and equipment and a general survey of basic food preparation.

## RSTO 2301 Principles of Food and Beverage Controls

**Prerequisites:** **Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (3 lecture)**

A study of financial principle and controls of food service operation including review of operation policies and procedures. Topics include financial budgeting and cost analysis emphasizing food and beverage labor costs, operational analysis, and internal and regulatory reporting procedures.

## RTVB 1240 Audio/Radio Production Lab II

**Prerequisites:** MUSC 1427, MUSC 1331; **Must be placed into GUST 0342, ENGL 0310 or 0349 and MATH 0308 in math.**

**Corequisite:** MUSC 2427

**Credit: 2 (1 lecture, 4 lab)**

Introduces through practical hands-on experience the equipment and procedures used in multitrack recording. Includes basic tracking, simple overdubs and operation of specific recording equipment commonly found in audio facilities, mixing, and equalization.

## RTVB 1309 Audio/Radio Production I

**Prerequisites:** **Must be placed into college-level reading, writing and math.**

**Credit: 3 (2 lecture, 4 lab)**

Concepts and techniques of sound production including basic recording, mixing, and editing techniques.

## RTVB 1317 Convergence of

### Electronic Media

**Prerequisites:** **Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0306 in math.**

**Credit: 3 (3 lecture)**

History and future of electronic media. Includes radio, television, Internet, and convergent technologies. Recognizes regulatory and economic issues. Explores career opportunities in electronic media.

## RTVB 1321 TV Field Production

**Prerequisites:** **Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.**

**Credit: 3 (2 lecture, 4 lab)**

Pre-production, production, and post-production process involved in field television production. Topics include field camera setup and operation, field audio, television directing, and in-camera or basic continuity editing with an emphasis on underlying principles of video technology.

## RTVB 1325 TV Studio Production

**Prerequisites:** RTVB 1317; **Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 4 lab)**

Basic television production. Includes studio program content, studio camera operation, and television audio.

## RTVB 1355 Radio and Television

### Announcing

**Prerequisites:** **Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 4 lab)**

Radio and television announcing skills such as voice quality, articulation, enunciation and pronunciation. Preparation for opportunities in announcing employment in news, sports, commercial, voice talent and disk jockey, and radio and TV.

# Course Descriptions

## **RTVB 1401 Broadcast News Writing**

**Prerequisites:** ENGL 1301; **Must be placed into college-level reading, writing and math.**

**Credit:** 4 (3 lecture, 2 lab)

Instruction in the writing of news copy according to standard broadcast formats.

## **RTVB 1429 Scriptwriting**

**Prerequisite:** ENGL 1301

**Credit:** 4 (3 lecture, 2 lab)

Writing scripts for film and electronic media. Emphasizes format and style for commercials, public service announcements, promos, news, and documentaries.

## **RTVB 1447 Audio/Radio Production II**

**Prerequisites:** RTVB 1409; **Must be placed into college-level reading, writing and math.**

**Credit:** 4 (3 lecture, 2 lab)

Audio production theories regarding multitrack recording, studio live production and equipment operation.

## **RTVB 2232 Audio Production Lab III**

**Prerequisites:** MUSC 2427, MUSC 2355; **Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.**

**Corequisite:** MUSC 2447

**Credit:** 2 (1 lecture, 4 lab)

Topics include special effects, automated overdubbing, operation of specific recording equipment commonly found in large format multi-track audio facilities, mixing, and equalization. Complete one recording project using the lab time and facilities

## **RTVB 2330 Film and Video Editing**

**Prerequisites:** **Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.**

**Credit:** 3 (2 lecture, 4 lab)

Film and broadcast editing for the preparation and completion of shorts, trailers, documentaries, and features.

## **RTVB 2335 Television Production**

**Prerequisites:** **Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0306 in math.**

**Credit:** 3 (2 lecture, 4 lab)

Pre-production, production, and post-production process involved in multiple-camera studios. Includes advanced instruction in camera operation, lighting, audio, and television directing.

## **RTVB 2337 TV Production Workshop I**

**Prerequisites:** **Must be placed into college-level reading, writing and math.**

**Credit:** 3 (2 lecture, 4 lab)

Application and design of video productions in location or studio shoots with real deadlines and quality control restrictions.

## **RTVB 2343 Commercial Recording**

### **Techniques**

**Prerequisites:** MUSC 2447; **Must be placed into college-level reading, writing and math.**

**Credit:** 3 (2 lecture, 4 lab)

Student will operate audio production and editing equipment, coordinate and direct music production projects from booking to post-production, and characterize the music industry and surrounding labor market. This class provides a capstone experience during which the student will use all of the skills acquired throughout this program. Students are required to attend additional lab hours outside of class.

## **RTVB 2382 Cooperative Education**

**Prerequisites:** MUSC 2447; **Must be placed into college-level reading, writing and math.**

**Credit:** 3 (1 lecture, 20 lab)

As outlined in the learning plan, the student will master the theory, concepts and skills involving the tools, materials, equipment, procedures, regulations, laws and interactions within and among political, economic, environmental and legal systems associated with the particular occupation and the business/industry; demonstrate ethical behavior, safety practices, interpersonal and teamwork skills, communicating in the applicable technical language of the occupation and the business or industry. This class provides a capstone experience during which the student will use all of the skills acquired throughout this program.

## **RTVB 2386 Internship—Radio and Television Broadcasting**

**Prerequisites:** RTVB 1317 and Department Approval; **Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0306 in math.**

**Credit:** 3 (18 lab)

A work-based learning experience that enables the student to apply specialized occupational theory, skills and concepts. A learning plan is developed by the college and the employer.

## **RUSS 1411 Beginning Russian I**

**Prerequisites:** **Must be placed into college - level reading (or take GUST 0342 as a co-requisite) and be placed into college level writing (or take ENGL 0310/0349 as a co-requisite)**

**Credit:** 4 (3 lecture, 2 lab)

Introduction to Russian language and culture. Development of basic skills in listening comprehension, speaking, reading, writing, and cultural awareness. Course includes vocabulary building, conversation and grammar. Transfers as foreign language credit. Core Curriculum Course.

## **RUSS 1412 Beginning Russian II**

**Prerequisites:** RUSS 1411 or satisfactory score on an advanced placement examination or at least 2 years of high school Russian within the last two years. **Prerequisites: Must be placed into college - level reading (or take GUST 0342 as a co-requisite) and be placed into college level writing (or take ENGL 0310/0349 as a co-requisite)**

**Credit:** 4 (3 lecture, 2 lab)

### **Continuation of RUSS 1411.**

Further development of listening comprehension, speaking, reading, and writing skills, and cultural awareness. More advanced grammar. Transfers as foreign language credit. Core Curriculum Course.

## **RUSS 2311 Intermediate Russian I**

**Prerequisites:** RUSS 1412 or equivalent; **Must be placed into college - level reading (or take GUST 0342 as a co-requisite) and be placed into college level writing (or take ENGL 0310/0349 as a co-requisite)**

**Credit:** 3 (3 lecture)

Further development of listening, speaking, reading and writing skills and cultural awareness acquired in Beginning Russian. Study of more complex language structures. Oral and written practice based on readings and dialogues. Directed composition. Class conducted largely in Russian. Core Curriculum Course.

## **RUSS 2312 Intermediate Russian II**

**Prerequisite:** RUSS 2311 or equivalent; **Must be placed into college - level reading (or take GUST 0342 as a co-requisite) and be placed into college level writing (or take ENGL 0310/0349 as a co-requisite)****Credit:** 3 (3 lecture)

Continuation of RUSS 2311. Oral practice and compositions based on readings. Class conducted mainly in Russian. Core Curriculum Course.

## **SCIT 1407 Applied Human Anatomy and Physiology I**

**Prerequisites:** **Must be placed into GUST 0342 in reading, college-level writing and MATH 0312 in math.**

**Credit:** 4 (4 lecture, 1 lab)

An applied systematic study of the structure and function of the human body designed for students considering a career in the health field. Includes anatomical terminology, cells, tissues, and the following systems: integumentary, skeletal, muscular, nervous, and endocrine. Emphasis on homeostasis.

## **SCIT 1408 Applied Human Anatomy and Physiology II**

**Prerequisites:** SCIT 1407; **Must be placed into GUST 0342 in reading, college-level writing and MATH 0312 in math.**

**Credit:** 4 (4 lecture, 1 lab)

A continuation of Applied Human Anatomy and Physiology I designed for students considering a career in the health field. The following body systems are included: digestive, respiratory, cardiovascular, lymphatic/immune, renal/excretory, and reproductive. Emphasis is on homeostasis.



# Course Descriptions

## **SCIT 1414 Applied General Chemistry I**

**Prerequisites:** Must be placed into GUST 0342 in reading, college-level writing and MATH 0312 in math.

**Credit:** 4 (3 lecture, 3 lab)

Applications of general chemistry emphasizing industry-related laboratory skills and competencies including laboratory safety and report writing. Addresses supporting chemical theories including atomic and molecular structure, nomenclature, chemical reactivity, gas laws, acids and bases, and solutions.

## **SCIT 1415 Applied General Chemistry II**

**Prerequisites:** SCIT 1414 or Department Approval; Must be placed into college-level reading, writing and math.

**Credit:** 4 (3 lecture, 3 lab)

Applications of general chemistry emphasizing industry-related laboratory skills and competencies including laboratory safety and report writing. Addresses supporting chemical theories including covalent bonding, thermodynamics, equilibrium, reaction rates, electrochemistry, nuclear chemistry, and organic compounds.

## **SCIT 1418 Applied Physics**

**Prerequisites:** MATH 1314 or Department Approval; Must be placed into college-level reading, writing and math.

**Credit:** 4 (3 lecture, 3 lab)

Introduction to physics for industrial applications including vectors, motion, mechanics, simple machines, matter, heat, and thermodynamics.

## **SCIT 1420 Physics for Allied Health**

**Prerequisites:** Must be placed into college-level reading, writing and math.

**Credit:** 4 (4 lecture)

An introduction to physics with emphasis on applications to health related fields of study. Topics include forces, motion, work and energy, fluids, heat, electricity and magnetism, wave motion, sound, electromagnetic radiation, and nuclear radiation.

## **SCIT 1543 Applied Analytical Chemistry**

**Prerequisite:** SCIT 1414 and MATH 1314 or CHEM 1411 and MATH 1314 or Department Approval; Must be placed into college-level reading, writing and math.

**Credit:** 5 (4 lecture, 2 lab)

Principles of quantitative analysis as related to industrial applications. Includes gravimetric and titrimetric analysis of practical samples by classical and standard methods.

## **SCIT 2401 Applied Organic Chemistry I**

**Prerequisites:** SCIT 1414 or CHEM 1411 or Department Approval; Must be placed into college-level reading, college-level writing and MATH 0312 in math.

**Credit:** 4 (2 lecture, 4 lab)

Applications of the chemistry carbon emphasizing industry-related laboratory skills and competencies.

## **SCIT 2402 Applied Organic Chemistry II**

**Prerequisite:** SCIT 2401; Must be placed into college-level reading, college-level writing and MATH 0312 in math.

**Credit:** 4 (2 lecture, 4 lab)

Continuation of the applications of the chemistry of carbon compounds emphasizing industry-related laboratory skills and competencies. Includes reaction mechanisms, spectroscopy, and synthetic methods.

## **SCWK 1321 Orientation to Social Services**

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.

**Credit:** 3 (3 lecture)

Introduction to the basic concepts, information, and practices within the field of social services. Topics include a survey of the historical development of social services; social, legal, and clinical definitions; and review of current information regarding indications for and methods of treatment and/or services.

## **SGNL 1401 American Sign**

### **Language (ASL): Beginning I**

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0306 in math.

**Credit:** 4 (3 lecture, 2 lab)

An introduction to the basic skills in production and comprehension of American Sign Language (ASL). Includes the manual alphabet and numbers. Develops conversational ability, culturally appropriate behaviors, and exposes students to ASL grammar. Student must complete the course with a 'B' or better.

## **SGNL 1402 American Sign Language (ASL): Beginning II**

**Prerequisite:** SLNG 1307, SLNG 1311, SGNL 1401; Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0306 in math.

**Credit:** 4 (3 lecture, 2 lab)

Develops receptive and expressive ability and allows recognition and demonstration of more sophisticated grammatical features of American Sign Language (ASL). Increases fluency and accuracy in fingerspelling and numbers. Provides opportunities for interaction within the deaf community. Student must complete the course with a B or better.

## **SGNL 2301 American Sign**

### **Language (ASL) Intermediate I**

**Prerequisite:** SLNG 1311, SGNL 1401, SGNL 1402; Must be placed into college-level reading, college-level writing and MATH 0312 in math.

**Credit:** 3 (2 lecture, 2 lab)

Integrates and refines expressive and receptive skills in American Sign Language (ASL), including recognition of sociolinguistic variation. A practice oriented approach to language acquisition. Student must complete the course with a B or better.

## **SGNL 2302 American Sign Language (ASL) Intermediate II**

**Prerequisite:** SGNL 1401, SGNL 1402, SGNL 2301, SLNG 1311; Must be placed into college-level reading, college-level writing and MATH 0312 in math.

**Credit:** 3 (2 lecture, 2 lab)

An integration of expressive and receptive skills in American Sign Language (ASL) with emphasis on grammar, linguistics, literature, and discourse styles at an intermediate level. Provides students with information on linguistic and cultural variations.

## **SLNG 1248 Vocabulary Development for Interpreters**

**Prerequisites:** Must be placed into college-level reading, college-level writing and MATH 0312 in math.

**Credit:** 2 (1 lecture, 3 lab)

A course in vocabulary building in English and American Sign Language for interpreters.

## **SLNG 1307 Intra-lingual Skills Development for Interpreters**

**Prerequisites:** SGNL 1401, 1402, 2301, 2302; Must be placed into college-level reading, college-level writing and MATH 0312 in math.

**Credit:** 3 (2 lecture, 2 lab)

Concentration on the development of intra-lingual (English to English) skills necessary for future development of inter-lingual (English to American Sign Language [ASL]/ASL to English) skills. Focus on linguistic and cognitive skills development in areas of paraphrasing, summarizing, main idea identification, comprehension, memory, delayed repetition, multi-tasking, vocabulary, and cultural literacy.

## **SLNG 1311 Fingerspelling and Numbers (ASL)**

**Prerequisites:** Must be placed into college-level reading, college-level writing and MATH 0312 in math.

**Credit:** 3 (2 lecture, 2 lab)

Development of expressive and receptive skills in fingerspelling and numbers. Receptive skills focus on whole word phrase recognition and fingerspelling/number comprehension in context. Expressive skills focus on the development of speed, clarity, and fluency.

## **SLNG 1317 Introduction to the Deaf Community**

**Prerequisites:** Must be placed into college-level reading, college-level writing and MATH 0312 in math. **Credit:** 3 (3 lecture)

An overview of the physical, educational, social, and cultural implications within the context of a deaf or hard-of-hearing individual's personal life, family, and community in today's multicultural world. Emphasis on current educational and vocational programs, legislation, technology, oppression, and other issues.

## **SLNG 1321 Introduction to the Interpreting Profession**

**Prerequisites:** Must be placed into college-level reading, college-level writing and MATH 0312 in math. **Credit:** 3 (3 lecture)

An overview of the field of sign language interpretation. Provides a historical framework for the principles, ethics, roles, responsibilities, and standard practices of the interpreting profession.

# Course Descriptions

## SLNG 1347 Deaf Culture

**Prerequisites:** Must be placed into college-level reading, college-level writing and MATH 0312 in math. **Credit:** 3 (3 lecture)

Provides a historical and contemporary perspective of American deaf culture using a sociocultural model. Includes cultural identity and awareness, values, group norms, communication, language, and significant contributions made by deaf people to the world.

## SLNG 1391 Special Topics in Sign

### Language Interpreting

**Prerequisite:** SLNG 1307, SLNG 1311, SLNG 2401, SLNG 2402, SGNL 1401, SGNL 1402, SGNL 2301, Department Approval; **Must be placed into college-level reading, college-level writing and MATH 0312 in math.**

**Credit:** 3 (2 lecture, 2 lab)

Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student.

## SLNG 2315 Interpreting in Educational Settings

**Prerequisites:** Must be placed into college-level reading, college-level writing and MATH 0312 in math.

**Credit:** 3 (2 lecture, 2 lab)

Overview of education programs (K-12 and post secondary), focusing on the roles and skills of the interpreter as a member of the educational team. Includes current practices, communication methods, legislation, trends, and ethical issues. Introduces resources for content-specific vocabulary

## SLNG 2401 Interpreting I

**Prerequisites:** SGNL 1401, SGNL 1402, SGNL 2301, SGNL 2302, SLNG 1307, SLNG 1311, Department Approval; **Must be placed into college-level reading, college-level writing and MATH 0312 in math.**

**Credit:** 4 (3 lecture, 4 lab)

An overview of the interpreting process and models of interpretation. Introduces the skills necessary to achieve dynamic message equivalence in interpreting American Sign Language (ASL) to English and English to ASL.

## SLNG 2402 Interpreting II

**Prerequisites:** SGNL 1401, SGNL 1402, SGNL 2301, SGNL 2302, SLNG 1307, SLNG 1311, SLNG 1321, SLNG 2401; **Department Approval; Must be placed into college-level reading, college-level writing and MATH 0312 in math.**

**Credit:** 4 (3 lecture, 4 lab)

Continued development of discourse analysis and interpreting skills for increasingly complex tasks. Utilization of consecutive and simultaneous interpreting scenarios including monologues and dialogues. Emphasizes skill development, self-analysis, and peer evaluation.

## SLNG 2431 Interpreting III

**Prerequisites:** SGNL 1401, SGNL 1402, SGNL 2301, SGNL 2302, SLNG 1307, 1311, SLNG 1321, SLNG 2401, SLNG 2402; **Department Approval; Must be placed into college-level reading, college-level writing and MATH 0312 in math.**

**Credit:** 4 (3 lecture, 4 lab)

A practice-oriented course to strengthen skills in the integration and application of interpreting using complex source materials. Continued exposure to simulated interpreting/transliterating experiences.

## SLNG 2586 Internship

**Prerequisites:** SLNG 1307, SLNG 1311, SLNG 1321, SLNG 1317, SLNG1347, SGNL 1401, SGNL 1402, SGNL 2301, SGNL 2302, SLNG 1248, SLNG 1317, SLNG 1321, SLNG 1347, SLNG 1391, SLNG 2315, SLNG 2401, SLNG 2402, SLNG 2431

**Credit:**

A work-based learning experience that enables the student to apply specialized occupational theory, skills and concepts. A learning plan is developed by the college and the employer.

## SOCI 1301 Introduction to Sociology

**Prerequisites:** Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).

**Credit:** 3 (3 lecture)

A survey course which focuses on the nature of human groups in American and world societies, their social and cultural adaptations, and the impact which various social processes may have on their social organization and social change. Core Curriculum Course.

## SOCI 1306 Contemporary Social Problems

**Prerequisites:** Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).

**Credit:** 3 (3 lecture)

An inquiry into selected current social problems with specific reference to their original development, and suggested solutions. Core Curriculum Course.

## SOCI 2301 Marriage and the Family

**Prerequisites:** Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).

**Credit:** 3 (3 lecture)

This course is a sociological analysis of marriage and family relations based on fundamental principles in the discipline. Both theory and current research findings are covered. Areas explored include family dynamics, interpersonal relations, demographic trends, and conflict management. Current and classical research is reviewed and applied. Core Curriculum Course.

## SOCI 2319 Minority Studies I

**Prerequisites:** Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).

**Credit:** 3 (3 lecture)

An in depth theoretical and practical Sociological analysis that examines historical and contemporary minority issues, including race and ethnicity, using historical and modern demographic data such as life span, birth rates, marriage patterns, business ownership, educational attainment, migration data, and assimilation/pluralism patterns as well as the impact of economic and social globalization on minorities in the United States and the world. Core Curriculum Course.

## SOCI 2336 Criminology

**Prerequisites:** Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).

**Credit:** 3 (3 lecture)

An analysis of the social dimensions of crime as a form of deviant behavior; the nature and extent of crime; classic and modern theories; the role of the police and the courts, group and community oriented programs, with an evaluation of prevention, control, and treatment programs. Core Curriculum Course.

## SOCI 2374 Global Issues and Social Change

**Prerequisites:** Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).

**Credit:** 3 (3 lecture)

A macro level analysis of the dynamic processes of change affecting the increasingly global community, with emphasis on the role of technology. The course will focus on current trends in the broad topics of human ecology, human rights, the environment, culture and the social institutions. Special attention will be devoted to the conflict and security, international governmental and nongovernmental entities, social movements, and the role of the "global citizen." Core Curriculum Course.

## SOLR 1370 Principles of Solar Photovoltaic

**Prerequisites:** Must be placed into college-level reading, writing and math.

**Credit:** 3 (3 lecture)

Study of basic solar cells, parameters, efficiency limits, spectrum and radiation, and manufacturing concepts; photovoltaic plates and energy conversion; thermal dynamics; basic safety and efficiency performance; basic systems components and applications; careers as PV installers.

## SOLR 1371 Solar Safety Operations

**Prerequisites:** Must be placed into college-level reading, writing and math.

**Credit:** 3 (3 lecture)

Overview of safety, health, and environmental issues associated with the production, installation, maintenance, troubleshooting, and disposal of PV electrical systems.

# Course Descriptions

## SOLR 1372 Off-Grid Solar Energy

**Prerequisites:** Must be placed into college-level reading, writing and math.

**Credit:** 3 (1 lecture, 2 lab)

Principles of policy making regarding interconnecting issues, advantages and disadvantages of battery operating grid-tied systems, benefits and costs, future developments and ramifications.

## SOLR 1373 Solar Energy Systems

**Prerequisite:** SOLR 1370, SOLR 1372, SOLR 1371 or Departmental Approval; Must be placed into college-level reading, writing and math.

**Credit:** 3 (3 lecture)

Overview of solar energy PV & TH systems and their economic and practical impacts.

## SOLR 1374 Principles of Solar Thermal Technology:

**Prerequisites:** Must be placed into college-level reading, writing and math.

**Credit:** 3 (2 lecture, 4 lab)

Study of basic solar heat producing units, parameters, efficiency limits, heat transfer, and manufacturing concepts; thermodynamic variables associated with solar thermal operations; basic safety and efficiency performance; basic systems components and applications; careers as Solar Thermal installers; mechanical devices used in solar thermal installations.

## SOLR 1470 PV Installation Maintenance and Troubleshooting

**Prerequisites:** SOLR 1370, SOLR 1371, SOLR 1372 or Department Approval; Must be placed into college-level reading, writing and math.

**Credit:** 4 (2 lecture, 4 lab)

Overview of site evaluation and installation of batteries, PV arrays, control and inverters, and PV wiring. Principles materials and tools lists, code regulations, PV components maintenance, troubleshooting of: common system faults, wiring problems using measuring equipment, specific PV related problems.

## SOLR 1471 Photovoltaic Electrical Systems

**Prerequisites:** SOLR 1370, SOLR 1371, SOLR 1372 or Departmental Approval; Must be placed into college-level reading, writing and math.

**Credit:** 4 (2 lecture, 4 lab)

Overview of terminology associated with PV power electric principles, PV system applications and electrical circuits, series and parallel connections to power supplies, wiring best practices, and electric loads.

## SOLR 1472 Solar Thermal Installation Maintenance and Troubleshooting

**Prerequisites:** Must be placed into college-level reading, writing and math.

**Credit:** 4 (2 lecture, 4 lab)

Overview of site evaluation and installation of solar thermal generation systems, units, controls and inverters, and thermal plumbing. Principles materials and tools lists, code regulations, heating and cooling components maintenance, troubleshooting of: common system faults, piping problems using measuring equipment, specific heat generation related problems.

## SPAN 1300 Beginning Spanish Conversation I

**Credit:** 3 (3 lecture)

An introductory Spanish course which emphasizes listening comprehension and speaking skills. Reading and writing may be done as reinforcement to oral communication skills. The course is slower-paced and less comprehensive than Spanish 1411. It is highly recommended for students without previous experience in the Spanish language. This course is not open to students whose first language is Spanish. Generally, does not transfer as foreign language credit, but may transfer as elective credit.

## SPAN 1310 Beginning Spanish Conversation II

**Prerequisite:** SPAN 1300 or equivalent

**Credit:** 3 (3 lecture)

Continuation of SPAN 1300. Emphasizes oral communication skills. Generally, does not transfer as foreign language credit, but may transfer as elective credit. Students who continue the study of Spanish following this course must take SPAN 1411.

## SPAN 1411 Beginning Spanish I

**Prerequisites:** Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

**Credit:** 4 (3 lecture, 2 lab)

Introduction to the Spanish language and Hispanic culture. Development of basic skills in listening comprehension, speaking, reading, writing, and cultural awareness. Course includes vocabulary building, conversation and grammar. Transfers as foreign language credit. Core Curriculum Course.

## SPAN 1412 Beginning Spanish II

**Prerequisite:** SPAN 1411 or satisfactory score on an advanced placement examination or at least 2 years of high school Spanish within the last two years; Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

**Credit:** 4 (3 lecture, 2 lab)

Continuation of SPAN 1411. Further development of listening comprehension, speaking, reading, and writing skills, and cultural awareness. More advanced grammar. Transfers as foreign language credit. Core Curriculum Course.

## SPAN 2306 Intermediate Conversational Spanish

**Prerequisite:** SPAN 1412 or SPAN 1310

**Credit:** 3 (3 lecture)

Refinement of conversational skills through practice of idiomatic usage and discussion of contemporary issues and/or current events.

## SPAN 2311 Intermediate Spanish I

**Prerequisite:** SPAN 1412 or equivalent; Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

**Credit:** 3 (3 lecture)

Further development of listening, speaking, reading and writing skills and cultural awareness acquired in Beginning Spanish. Presentation of more complex language structures. Oral and written practice based on selected readings. Class conducted mainly in Spanish. Core Curriculum Course.

## SPAN 2312 Intermediate Spanish II

**Prerequisite:** SPAN 2311 or equivalent; Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

**Credit:** 3 (3 lecture)

Continuation of SPAN 2311. Special emphasis on written communication. Readings, discussions and compositions. Class conducted mainly in Spanish. Core Curriculum Course.

## SPAN 2313 Spanish for Native Speakers I

**Prerequisite:** test placement; Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

**Credit:** 3 (3 lecture)

Designed for Hispanic-American and other students from a Spanish speaking background. Emphasis on basic skills in reading, spelling, and composition. Credit will not be given for both SPAN 2313 and SPAN 2311.

## SPAN 2315 Spanish for Native Speakers II

**Prerequisite:** SPAN 2313; Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.

**Credit:** 3 (3 lecture)

Continuation of SPAN 2313. Continued development of reading and writing skills and control of universal Spanish style.

## SPAN 2316 Career-Oriented

### Conversational Spanish

**Prerequisite:** SPAN 2311

**Credit:** 3 (3 lecture)

A course emphasizing the development of listening and speaking skills at the intermediate level. The course will use vocabulary, structures, conversational situations and cultural information appropriate for a designated activity or topic such as business, music, travel or other specialized areas. Each time the course is offered, the particular focus will be specified. May be repeated for credit with permission of the Dean.

# Course Descriptions

## SPAN 2321 Readings in Spanish Literature

**Prerequisite:** SPAN 2312

**Credit:** 3 (3 lecture)

An introduction to Spanish literature through representative selections by major Spanish authors. Conducted in Spanish. Core Curriculum Course.

## SPAN 2323 Readings in Latin American Literature

**Prerequisite:** SPAN 2312

**Credit:** 3 (3 lecture)

An introduction to Latin American literature through representative selections from major Latin American authors. Conducted in Spanish. Core Curriculum Course.

## SPCH 1146 Parliamentary Law and Procedure

**Credit:** 1 (0 lecture, 3 lab)

Parliamentary law and procedure as needed by club leaders and sponsors of school clubs and other organizations. Course includes lecture material, practice sessions with hypothetical cases and the reading of collateral material from library sources.

## SPCH 1311 Introduction to Speech Communication

**Prerequisites:** Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).

**Credit:** 3 (3 lecture)

A survey course in the basic principles of oral communication. Includes the study of the use of the body and voice, the speaker-listener relationship, and preparation and delivery of platform speeches. Open to all students. Required for speech majors.

## SPCH 1315 Public Speaking

**Prerequisites:** SPCH 1311 or ENGL 1301 or Department Approval.

**Credit:** 3 (3 lecture)

Designed to develop proficiency in public speaking situations; emphasis on content, organization, and delivery of speeches for various occasions. Open to all students. Required for speech majors.

## SPCH 1318 Interpersonal Communication

**Prerequisites:** Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).

**Credit:** 3 (3 lecture)

A course designed to improve the student's effectiveness in small-group and one-to-one communication. Open to all students. Required for speech majors. Core Curriculum Course.

## SPCH 1321 Business and Professional Communication

**Prerequisites:** Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).

**Credit:** 3 (3 lecture)

Applies the techniques of oral communication to situations most common to business and professional people. Covers discussion methods, conference techniques, committee reports, instructions, lectures, and public speeches. Open to all students. Required for speech majors.

## SPCH 1342 Voice and Diction

**Prerequisites:** Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).

**Credit:** 3 (3 lecture)

Training in the effective use of the voice and body. Includes study of the vocal mechanism and the phonetic alphabet; improvement of enunciation, pronunciation, and articulation. Recommended for non-native speakers. Open to all students. Required for speech majors.

## SPCH 2333 Discussion and Small Group Communication

**Prerequisites:** Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).

**Credit:** 3 (3 lecture)

Examines the dynamics of small group communication and discussion situations, including body language. Open to all students, required of majors.

## SPCH 2335 Argumentation and Debate

**Prerequisites:** Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).

**Credit:** 3 (3 lecture)

Study of principles of argumentation and debate. Practice in preparing written and spoken arguments. Open to all students.

## SPCH 2341 Oral Interpretation

**Prerequisites:** Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).

**Credit:** 3 (3 lecture)

Cultivation of the art of oral presentation of literary forms, analysis of thought, development of imagination, communication of emotional values, and individual projects in interpretive reading. Open to all students. Required for speech majors.

## SRGT 1201 Medical Terminology

**Prerequisites:** Must be placed into GUST 0341 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.

**Credit:** 2 (2 lecture)

Study of the basic structure of medical words including prefixes, suffixes, roots, combining forms, plurals, pronunciation, spelling, and the definitions of medical terms. Emphasis is on building a vocabulary required for practice within allied health care professions.

## SRGT 1301 Medical Terminology

**Prerequisites:** Must be placed into college-level reading, writing and math.

**Credit:** 3 (3 lecture)

Study of the basic structure of medical words including prefixes, suffixes, roots, combining forms, plurals, pronunciation, spelling, and the definitions of medical terms. Emphasis is on building a vocabulary required for practice within allied health care professions

## SRGT 1361 Clinical-Surgical Technology/Technologist

**Prerequisites:** Department Approval; Must be placed into GUST 0342 in reading, college-level writing and MATH 0312 in math.

**Credit:** 3 (9 clinical)

A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

## SRGT 1371 Sterile Processing

**Prerequisites:** Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.

**Credit:** 3 (2 lecture, 2 lab)

In-depth coverage of specialized surgical modalities in endoscopy, microsurgery, therapeutic surgical energies, and other integrated science technologies.

## SRGT 1372 Comprehensive Anatomy and Physiology for the Surgical Technologist

**Prerequisites:** Department Approval; Admission to the program. Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.

**Credit:** 3 (3 lecture)

Comprehensive study of the structure and function of human cells, tissues, and organ systems including integumentary, skeletal, muscular, and nervous system, endocrine, digestive, respiratory, cardiovascular, lymphatic/immune, renal/excretory, and reproductive. Fast-paced online course designed for the surgical technologist.

## SRGT 1405 Introduction to Surgical Technology

**Prerequisites:** Must be placed into GUST 0342 in reading, college-level writing and MATH 0312 in math.

**Credit:** 4 (3 lecture, 3 lab)

Orientation to surgical technology theory, surgical pharmacology and anesthesia, technological sciences, and patient care concepts.

# Course Descriptions

## **SRGT 1409 Fundamentals of Aseptic Technique**

**Prerequisites:** Must be placed into GUST 0342 in reading, college-level writing and MATH 0312 in math. **Credit: 4 (3 lecture, 3 lab)**

In-depth coverage of perioperative concepts such as aseptic principles and practices, infectious processes, wound healing, and creation and maintenance of the sterile field.

## **SRGT 1441 Surgical Procedures I**

**Prerequisites:** SRGT 1405, SRGT 1409; **Must be placed into GUST 0342 in reading, college-level writing and MATH 0312 in math.**

**Credit: 4 (3 lecture, 3 lab)**

Introduction to surgical pathology and its relationship to surgical procedures. Emphasis on surgical procedures related to the general, OB/GYN, genitourinary, and orthopedic surgical specialties incorporating instruments, equipment, and supplies required for safe patient care.

## **SRGT 1442 Surgical Procedures II**

**Prerequisite:** SRGT 1441; **Must be placed into GUST 0342 in reading, college-level writing and MATH 0312 in math.**

**Credit: 4 (3 lecture, 3 lab)**

Introduction to surgical pathology and its relationship to surgical procedures. Emphasis on surgical procedures related to the thoracic, peripheral vascular, plastic/reconstructive, EENT, cardiac, and neurological surgical specialties incorporating instruments, equipment, and supplies required for safe patient care.

## **SRGT 1463 Clinical-Surgical Technology/Technologist**

**Prerequisites:** SRGT 1361; **Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.**

**Credit: 4 (24 clinical)**

A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

## **SRGT 1560 Clinical-Surgical Technology/Technologist**

**Prerequisites:** **Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0312 in math.**

**Credit: 5 (25 external hours)**

A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

## **SRGT 2130 Professional Readiness**

**Credit: 1 (1 lecture, 1 lab)**

Transition into the professional role of the surgical technologist. Includes professional readiness for employment, attaining certification, and maintaining certification status. A capstone experience may be included.

## **SRGT 2463 Clinical-Surgical Technology/Technologist**

**Prerequisite:** SRGT 1463; **Must be placed into GUST 0342 in reading, college-level writing and MATH 0312 in math.**

**Credit: 4 (17 clinical)**

A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

## **SRVY 1301 Introduction to Surveying**

**Prerequisites:** **Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 4 lab)**

An overview of the surveying profession. The history of surveying and its impact on the world. Review of the mathematics used in surveying. Introduction to basic surveying equipment with emphasis on measurements. Instruction on surveying procedures and the limitation of errors. Calculation to determine precision and error of closure.

## **SRVY 1341 Land Surveying**

**Prerequisites:** **Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.**

**Credit: 3 (2 lecture, 4 lab)**

A study of the measurement and determination of boundaries, areas, shapes, location through traversing techniques. Instruction in a variety of adjustment methods using programmed and non-programmed hand-held calculators and computers. Methods of traversing and adjustment of errors according to prevailing and applicable professional standards.

## **SRVY 2348 Plane Surveying**

**Prerequisites:** **Must be placed into GUST 0342 in reading, ENGL 0310 or 0349 in writing and MATH 0308 in math.**

**Credit: 3 (2 lecture, 4 lab)**

Surveying instruments, basic measuring procedures, vertical and horizontal control, and traverse closure.

## **TECA 1303 Family, School, and Community**

**Prerequisites:** **Must be placed into college-level reading and college-level writing.**

**Credit: 3 (3 lecture)**

A study of the relationship between the child, the family, the community and early childhood educators, including a study of parent education, family and community life-styles, child abuse and current family issues. Field of Study Course.

## **TECA 1311 Educating Young Children**

**Prerequisites:** **Must be placed into college-level reading and college-level writing.**

**Credit: 3 (3 lecture)**

An introduction to the profession of early childhood education, focusing on developmentally appropriate practices, types of programs, historical perspectives, ethics and current issues. Field of Study Course.

## **TECA 1318 Wellness of the Young Child**

**Prerequisites:** **Must be placed into college-level reading and college-level writing.**

**Credit: 3 (2 lecture, 3 lab)**

A study of nutrition, health, and safety including community health, universal health precautions, and legal implications as well as the practical application of these principles in a variety of settings. Field of Study Course.

## **TECA 1354 Child Growth and Development**

**Credit: 3 (3 lecture)**

A study of the principles of normal child growth and development from conception through adolescence. Focus on physical, cognitive, social and emotional domains of development. Field of Study and Core Curriculum Course. (Cross-listed with PSYC 2308)

## **TECM 1301 Industrial Mathematics**

**Prerequisites:** **Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (3 lecture)**

Math skills applicable to industrial occupations. Includes fraction and decimal manipulation, measurement, percentage, and problem solving techniques for equations and ratio/proportion applications.

## **TRVM 1300 Introduction to Travel and Tourism**

**Prerequisites:** **Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (3 lecture)**

An overview of the travel industry. Emphasis on travel careers and the impact of tourism on society.

## **TRVM 1306 Travel Automation I**

**Prerequisites:** TRVM 1300 and TRVM 1313, or Department Approval; **Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (2 lecture, 2 lab)**

An introduction to computer training using one of the major computer reservation systems for the travel industry.

## **TRVM 1308 Travel Destinations I - Western Hemisphere**

**Prerequisites:** **Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 3 (3 lecture)**

Study of countries located in the Western Hemisphere including Canada, United States, Latin America, South America, and the Caribbean Islands. Emphasis on the culture, customs, seasonal attractions, climate, physical features, language, currency, political conditions, and how they affect both the business and leisure traveler.

# Course Descriptions

## TRVM 1313 Ticketing Forms and Procedures

**Prerequisites:** Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (3 lecture)

An introduction to manual travel agency operations and basic hands-on reservations techniques. An overview of the ARC ticketing, forms, and procedures.

## TRVM 1323 Group Tour Operations

**Prerequisites:** Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (3 lecture)

A study of the role of the group planner, selling to groups, and planning itineraries, including components of a tour package, tour costing, advertising and promotion, group dynamics, and tour guide qualifications.

## TRVM 1327 Special Events Design

**Prerequisites:** Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (3 lecture)

The development of a special event from the conceptual stage through completion. Emphasis on industry terminology, factors to consider when planning a special event, and contingency plans.

## TRVM 1341 Travel Destinations II-Eastern Hemisphere

**Prerequisites:** Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (3 lecture)

Study of countries located in the Eastern Hemisphere including Europe, Asia, Africa, Middle East, Australia, and New Zealand. Emphasis on the culture, customs, climate, physical features, language, currency, and political conditions and how they affect both the business and leisure traveler.

## TRVM 1345 Travel and Tourism Sales and Marketing Techniques

**Prerequisites:** Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (3 lecture)

A study of marketing, sales techniques, promotions, and advertising theories as applied to the travel and tourism industry. Exposure to the marketing mix relating to market segmentation, market planning, advertising, and other communication techniques. Emphasis on role playing scenarios and consumer buying behavior. Product-service mix will be addressed.

## TRVM 1348 International Fare Construction

**Prerequisites:** Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (3 lecture)

A survey of international ticket pricing, fare construction, and ticketing.

## TRVM 1391 Special Topics in Travel and Tourism: Travel Retail Sales

**Prerequisites:** Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (3 lecture)

Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

## TRVM 2305 Travel Industry Management

**Prerequisites:** Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (3 lecture)

An overview of mid-management responsibilities within the travel and tourism industry. Students will describe the management functions including: analyzing, coordinating, implementing, and supervising tasks of managing a business.

## TRVM 2335 Travel Automation II

**Prerequisites:** TRVM 1306; Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (2 lecture, 2 lab)

A continuation of the study of airline computer reservation systems. Emphasis on reserving cars and hotels, using queues, creating passenger profiles, interpreting air fares, rules, and routing, and explaining these to passengers.

## TRVM 2380 Cooperative Education-Tourism and Travel Services Management

**Prerequisite:** Department Approval; Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (1 lecture, 20 hours work experience)

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

## TRVM 2381 Cooperative Education-Tourism and Travel Services Management

**Prerequisites:** TRVM 2380 and Department Approval; Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (1 lecture, 20 hours work experience)

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

## VCPG 2210 Beginning Vocal Pedagogy

**Prerequisite:** MUAP 1281

**Credit:** 2 (2 lecture)

Technical, theoretical and aural instructional strategies for applications to the beginning vocal student. Includes 'how to' set up the business of a teaching studio. Surveys beginning vocal methods books, repertoire, and professional affiliations.

## VCPG 2211 Intermediate Vocal Pedagogy

**Prerequisite:** VCPG 2210

**Credit:** 2 (2 lecture)

Technical, theoretical, and aural instructional strategies for application to the intermediate vocal student. Surveys publications and reference materials germane to the teaching area. Includes major periods of vocal music with emphasis on style, diction, and performance.

## VIET 1411 Beginning Vietnamese I

**Prerequisites:** Must be placed into college - level reading (or take GUST 0342 as a co-requisite) and be placed into college level writing (or take ENGL 0310/0349 as a co-requisite) **Credit:** 4 (3 lecture, 2 lab)

Introduction to Vietnamese language and culture. Development of basic skills in listening comprehension, speaking, reading, writing, and cultural awareness. Course includes vocabulary building, conversation and grammar. Transfers as foreign language credit. Core Curriculum Course.

## VIET 1412 Beginning Vietnamese II

**Prerequisites:** VIET 1411 or satisfactory score on an advanced placement examination or at least 2 years of high school Vietnamese within the last two years. Must be placed into college - level reading (or take GUST 0342 as a co-requisite) and be placed into college level writing (or take ENGL 0310/0349 as a co-requisite) **Credit:** 4 (3 lecture, 2 lab)

Continuation of Vietnamese 1411. Further development of listening comprehension, speaking, reading, and writing skills, and cultural awareness. More advanced grammar. Transfers as foreign language credit. Core Curriculum Course.

## VIET 2311 Intermediate Vietnamese I

**Prerequisites:** VIET 1412 or equivalent; Must be placed into college - level reading (or take GUST 0342 as a co-requisite) and be placed into college level writing (or take ENGL 0310/0349 as a co-requisite) **Credit:** 3 (3 lecture)

Further development of listening, speaking, reading and writing skills and cultural awareness acquired in Beginning Vietnamese. Presentation of more complex language structures. Oral and written practice based on selected readings. Class conducted mainly in Vietnamese. Core Curriculum Course.

## VIET 2312 Intermediate Vietnamese II

**Prerequisites:** VIET 2311 or equivalent; Must be placed into college - level reading (or take GUST 0342 as a co-requisite) and be placed into college level writing (or take ENGL 0310/0349 as a co-requisite) **Credit:** 3 (3 lecture)

Continuation of VIET 2311. Special emphasis on written communication. Readings, discussions and compositions. Class conducted mainly in Vietnamese. Core Curriculum Course.

# Course Descriptions

## **VNSG 1122 Vocational Nursing Concepts**

**Prerequisites:** Admission to program; Must be placed into college-level reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 1 (1 lecture)

Introduction to the nursing profession and its responsibilities. Includes legal and ethical issues in nursing practice. Concepts related to the physical, emotional, and psychosocial self-care of the learner/professional.

## **VNSG 1161 Clinical-Licensed Vocational Nurse (LVN) Training**

**Prerequisites:** Admission to program; Must be placed into college-level reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Corequisite:** VNSG 1423

**Credit:** 1 (6 lab)

A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

## **VNSG 1162 Clinical-Licensed Vocational Nurse (LVN) Training**

**Prerequisites:** VNSG 1161; Must be placed into college-level reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Corequisite:** VNSG 1330

**Credit:** 1 (4 lab)

A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

## **VNSG 1163 Clinical-Licensed Vocational Nurse (LVN) Training**

**Prerequisites:** VNSG 1162; Must be placed into college-level reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Corequisite:** VNSG 1334

**Credit:** 1 (4 lab)

A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

## **VNSG 1216 Nutrition**

**Prerequisites:** Admission to program; Must be placed into college-level reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 2 (2 lecture)

Introduction to nutrients and the role of diet therapy in growth and development and in the maintenance of health.

## **VNSG 1219 Leadership and Professional Development**

**Prerequisites:** VNSG 1122; Must be placed into college-level reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 2 (2 lecture)

Study of the importance of professional growth. Topics include the role of the licensed vocational nurse in the multi-disciplinary health care team, professional organizations, and continuing education.

## **VNSG 1227 Essentials of Medication**

### **Administration**

**Prerequisites:** Admission to program; Must be placed into college-level reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 2 (2 lecture, 1 lab)

General principles of medication administration including determination of dosage, preparation, safe administration, and documentation of multiple forms of drugs. Instruction includes various systems of measurement.

## **VNSG 1238 Mental Illness**

**Prerequisites:** VNSG 1400; Must be placed into college-level reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 2 (2 lecture)

Study of human behavior with emphasis on emotional and mental abnormalities and modes of treatment incorporating the nursing process.

## **VNSG 1266 Practicum-Licensed Vocational Nurse (LVN) Training**

**Prerequisites:** VNSG 1161; Must be placed into college-level reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Corequisite:** VNSG 1409 and VNSG 2331

**Credit:** 2 (15 lab)

Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

## **VNSG 1267 Practicum-Licensed Vocational Nurse (LVN) Training**

**Prerequisites:** VNSG 1266; Must be placed into college-level reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Corequisite:** VNSG 1410

**Credit:** 2 (16 lab)

Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

## **VNSG 1320 Anatomy and Physiology for Allied Health**

**Prerequisites:** Admission to program; Must be placed into college-level reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (3 lecture)

Introduction to the normal structure and function of the body including an understanding of the relationship of body systems in maintaining homeostasis.

## **VNSG 1330 Maternal-Neonatal Nursing**

**Prerequisites:** VNSG 1400; Must be placed into college-level reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Corequisite:** VNSG 1162

**Credit:** 3 (3 lecture)

Utilization of the nursing process in the assessment and management of the childbearing family. Emphasis on the bio-psycho-socio-cultural needs of the family during the phases of pregnancy, childbirth, and the neonatal period including abnormal conditions.

## **VNSG 1334 Pediatrics**

**Prerequisites:** Must be placed into college-level reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Corequisite:** VNSG 1163

**Credit:** 3 (3 lecture)

Study of childhood diseases and childcare from infancy through adolescence. Focus on the care of the well and the ill child utilizing the nursing process.

## **VNSG 1400 Nursing in Health and Illness I**

**Prerequisites:** Admission to program; Must be placed into college-level reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 4 (4 lecture)

Introduction to general principles of growth and development, primary health care needs of the client across the life span, and therapeutic nursing interventions.

## **VNSG 1409 Nursing in Health and Illness II**

**Prerequisites:** VNSG 1400; Must be placed into college-level reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Corequisite:** VNSG 1266

**Credit:** 4 (4 lecture)

Introduction to common health problems requiring medical and surgical interventions.

## **VNSG 1410 Nursing in Health and Illness III**

**Prerequisites:** VNSG 1409; Must be placed into college-level reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Corequisite:** VNSG 1267

**Credit:** 4 (4 lecture)

Continuation of Nursing in Health and Illness II. Further study of common medical-surgical health problems of the client including concepts of mental illness. Incorporates knowledge necessary to make the transition from student to graduate vocational nurse.

## **VNSG 1423 Basic Nursing Skills**

**Prerequisites:** Admission to program; Must be placed into college-level reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Corequisite:** VNSG 1161

**Credit:** 4 (3 lecture, 4 lab)

Mastery of entry level nursing skills and competencies for a variety of health care settings. Utilization of the nursing process as the foundation for all nursing interventions.

## **VNSG 2331 Advanced Nursing Skills**

**Corequisite:** VNSG 1266

**Prerequisites:** Must be placed into college-level reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 4 (2 lecture, 4 lab)

Mastery of advanced level nursing skills and competencies in a variety of health care settings utilizing the nursing process as a problem-solving tool.

# Course Descriptions

## VTHT 1105 Veterinary Medical Terminology

**Prerequisites:** Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0312 in math.

**Credit:** 1 (1 lecture)

Introduction to word parts, directional terminology, and analysis of veterinary terms.

## VTHT 1166 Practicum (or Field Experience)-Veterinary/Animal Health Technology/Technician and Veterinary Assistant

**Prerequisites:** Department Approval; Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 1 (7 lab)

Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student

## VTHT 1229 Large Zoo and Wild Mammals

**Prerequisites:** Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 2 (2 lecture)

Care and management of large zoo and wild mammals commonly encountered in zoological parks, wildlife ranches, and aquariums.

## VTHT 1233 Small Zoo and Wild Mammals

**Prerequisites:** Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 2 (2 lecture)

Care and management of small zoo and wild mammals commonly encountered in zoological parks, wildlife ranches, and aquariums.

## VTHT 1341 Anesthesia and Surgical Assistance

**Prerequisites:** Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (1 lecture, 6 lab)

In-depth application of surgical, obstetrical, and anesthesia techniques including identification and use of instruments and equipment.

## VTHT 1345 Veterinary Radiology

**Prerequisites:** Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (2 lecture, 4 lab)

Presentation of theory and principles and practical application of radiology within the field of veterinary medicine.

## VTHT 1349 Veterinary Pharmacology

**Prerequisites:** Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (2 lecture, 2 lab)

Fundamentals of pharmacology including recognition, calculation, labeling, packaging, and administration of common veterinary drugs, biologics, and therapeutic agents. Discussion of normal and abnormal responses to these agents.

## VTHT 1370 Avian and Reptile Management

**Prerequisites:** Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (3 lecture)

Care and management of avian, reptile, amphibian and aquarium species commonly encountered as pets and in zoological parks and aquariums, wildlife rehabilitation and veterinary clinics.

## VTHT 1371 Shelter Management

**Prerequisites:** Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (1 lecture, 6 lab)

This course covers nutrition, sanitation, commonly encountered shelter diseases as well as breed identification and animal shelter management.

## VTHT 1413 Veterinary Anatomy and Physiology

**Prerequisites:** Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 4 (3 lecture, 4 lab)

Gross anatomy of domestic animals including physiological explanations of how each organ functions.

## VTHT 2201 Canine and Feline Clinical Management

**Prerequisites:** Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 2 (1 lecture, 4 lab)

Survey of feeding, common management practices, and care of canines and felines in a clinical setting. Review of common diseases of canines and felines encountered in the practice of veterinary medicine.

## VTHT 2205 Equine Clinical Management

**Prerequisites:** Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 2 (1 lecture, 4 lab)

Survey of feeding, common management practices, and care of equines in a clinical setting. Review of common diseases of equines encountered in the practice of veterinary medicine.

## VTHT 2323 Veterinary Clinical Pathology I

**Prerequisites:** Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (2 lecture, 4 lab)

In-depth study of hematology and related chemistries with emphasis on lab procedures. Additionally the study of parasites.

## VTHT 2331 Veterinary Clinical Pathology II

**Prerequisites:** Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (2 lecture, 4 lab)

In-depth study of urinalysis and cytology. Survey of microbiological techniques. Exotic animal values will be studied. Emphasis on laboratory procedures.

## WIND 1300 Introduction to Wind Energy

**Prerequisites:** Must be placed into college-level reading, writing and math.

**Credit:** 3 (3 lecture)

Introduction of the evolution of wind technology, wind farm design, and characteristics of energy sources.

## WIND 1302 Wind Safety

**Prerequisites:** Must be placed into college-level reading, writing and math.

**Credit:** 3 (3 lecture, 1 lab)

Introduction to safety procedures and practices relating to turbine towers. Includes first aid training and CPR certifications.

## WIND 2310 Wind Turbine Materials and Electro-Mechanical Equipment

**Prerequisites:** Must be placed into college-level reading, writing and math.

**Credit:** 3 (2 lecture, 2 lab)

Identification and analysis of the components and systems of wind turbine.

## WIND 2459 Wind Power Delivery System

**Prerequisites:** Must be placed into college-level reading, writing and math.

**Credit:** 4 (2 lecture, 4 lab)

Components, equipment, and infrastructure used in the production and transmission of electricity as related to wind turbine power.

## WLDG 1313 Introduction to Blueprint Reading for Welders

**Prerequisites/Corequisites:** TECM 1301; Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 3 (3 lecture)

A study of industrial blueprints. Emphasis placed on terminology, symbols, graphic description, and welding processes. Includes systems of measurement and industry standards. Also includes interpretation of plans and drawings used by industry to facilitate field application and production.

## WLDG 1407 Introduction to Welding Using Multiple Processes

**Prerequisites/Corequisites:** TECM 1301, WLDG 1313 Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.

**Credit:** 4 (2 lecture, 4 lab)

Basic welding processes. Includes oxy-fuel welding (OFW) and cutting, shielded metal arc welding (SMAW), gas metal arc welding (GMAW), and gas tungsten arc welding (GTAW).



# Course Descriptions

## WLDG 1421 Introduction to Welding Fundamentals

**Prerequisites/Corequisites:** TECM 1301; WLDG 1313; **Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 4 (2 lecture, 4 lab)**

An introduction to the fundamentals of equipment used in oxy-fuel and arc welding, including welding and cutting safety, basic oxy-fuel welding and cutting, basic arc welding processes and basic metallurgy.

## WLDG 1430 Introduction to Gas Metal Arc Welding (GMAW)

**Prerequisite:** TECM 1301, WLDG 1313, WLDG 1421 and 1407; **Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 4 (2 lecture, 4 lab)**

A study of the principles of gas metal arc welding, setup and use of Gas Metal Arc Welding (GMAW) equipment, and safe use of tools/equipment. Instruction in various joint designs.

## WLDG 1434 Introduction to Gas Tungsten Arc (GTAW) Welding

**Prerequisite:** TECM 1301, WLDG 1313, WLDG 1421 and 1407; **Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 4 (2 lecture, 4 lab)**

An introduction to the principles of gas tungsten arc welding (GTAW), setup/use of GTAW equipment, and safe use of tools and equipment. Welding instruction in various positions on joint designs.

## WLDG 1435 Introduction to Pipe Welding

**Prerequisite:** TECM 1301, WLDG 1313, WLDG 1421 and 1407; **Must be placed into GUST 0339 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math.**

**Credit: 4 (2 lecture, 4 lab)**

Introduction to the welding of pipe using the shielded-metal arc welding process, including electrodes selection, equipment setup, and safe shop practices. Emphasis on weld position 1G and 2G using various electrodes.

## WLDG 2447 Advanced Gas Metal Arc Welding (GMAW)

**Prerequisites:** WLDG 1430; **Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0308 in math.**

**Credit: 4 (2 lecture, 4 lab)**

Advanced topics in GMAW welding, including welding in various positions and directions.

## WLDG 2451 Advanced Gas Tungsten Arc Welding (GTAW)

**Prerequisites:** WLDG 1434; **Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0308 in math.**

**Credit: 4 (2 lecture, 4 lab)**

Advanced topics in GTAW welding, including welding in various positions and directions.

## WLDG 2453 Advanced Pipe Welding

**Prerequisites:** WLDG 1435; **Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0308 in math.**

**Credit: 4 (2 lecture, 4 lab)**

Advanced topics involving welding of pipe using the shielded metal arc welding (SMAW) process. Topics include electrode selection, equipment setup, and safe shop practices. Emphasis on weld positions 5G and 6G using various electrodes.

# Administration

## District Administration Operations

### Chancellor

#### Mary S. Spangler

Chestnut Hill College, BA  
University of California at Los Angeles, MA  
University of California at Los Angeles, EdD

### Chief Operations Officer/ Deputy Chancellor

#### Arthur Tyler

University of Maryland, BBM  
U.S. Naval Post Graduate School, MA  
University of Phoenix, DM

### Vice Chancellor, Information Technology

#### William E. Carter

University of Houston, BBA, MBA

### Chief Administration Officer

#### Winston Dahse

Sam Houston State University, BBA, MBA

### Chief Human Resources Officer

#### Willie Williams, Jr.

Southern University, BS  
Texas Southern University, MBA, CCP

### Chief Communications Officer

#### Dan Arguijo, Jr.

University of Texas, Pan American, BA

### Executive Director, Business Affairs

#### Ron E. Defalco

University of Houston, BBA, CPA

### Executive Director/ Procurement

#### Rogelio E. Anasagasti

University of South Florida, MEd  
Florida International University, BA

### Executive Director, Construction and Project Management

#### Reynaldo J. Pradia, Sr.

Texas Southern University, BS  
Texas Southern University, MA

### Executive Director, Facilities Development

#### Richard C. Gremillion

Tulane University, MBA

### Executive Director, Foundation

#### Kelly J. Zuniga

San Diego State University, BS  
University of San Diego, MBA  
University of Houston, EdD

### Executive Director, Institutional Research

#### Martha Oburn

Iowa State University, SB  
Harvard University, EdM  
University of Pennsylvania, PhD

### Executive Director, Office of International Initiatives & Community College of Qatar Supreme Education Council

#### Gigi Do

University of Washington, BA  
University of Houston, MA

### Executive Director Government Relations and Sustainability

#### Remmele J. Young

University of South Carolina, BA  
District of Columbia School of Law, JD

### Executive Director, Applications Development, Information Technology

#### Fheryl Prestage

Southern University A&M, BS  
Texas Woman's University, MBA

### Director, Research and Support Services

#### Mario Heredia

Westfield State College-Massachusetts, BS  
University of Houston-Victoria, MBA

### Director, Institutional Assessment

#### Norma Perez

Dominican College, BA  
University of Houston, MEd  
Texas A & M, PhD

### Director, Customer Support, Information Technology

#### Evelyn Josey

### Director, Systems Support, Information Technology

#### Annette Hearn

University of Houston, BS

### Director, Building Operations & Property Management

TBA

### Director, Community Development

#### Sheila Briones

Del Mar College, AA  
University of Texas, BA

### Director, Compensation/ Benefits

#### Diane Blankenship

University of Houston, Clear Lake, BBA

### Director, Debt Administration

#### Brian W. Malone

University of Nebraska at Lincoln, BS

# Administration

## **Director, Employee Learning and Organizational Development**

**Connie Stone**  
Vanderbilt University, BA  
University of Houston, MS

## **Director, Employment**

**Don L. Washington**  
Texas Woman's University, MS

## **Director, Administrative Services, Information Technology**

**Celia A. Gee**  
University of the East Philippines, BBA  
University of Houston, MBA, CPA

## **Director, EEO/Employee Relations**

**James David Cross**  
University of North Texas, BS  
University of Houston, MEd

## **Director, Financial Control and Auxiliary Services**

**Karla Bender**  
University of Nebraska, MBA

## **Director, Grants and Contracts**

**John Bryant**  
University of Houston, BA, BS  
University of Texas at Austin, BA  
Texas A&M University, MA  
University of Texas at Austin, PhD

## **Manager, Grants Development**

**Georgia Carmichael**  
Stephen F. Austin University-  
Nacogdoches, BS, MA

## **Director, Internal Auditing**

**Chester Woodard**  
Tuskegee Institute, BS  
Southern Illinois University, MA, MBA  
Texas Southern University, EdD, CPA

## **Director, Payroll**

**Florene Lea**  
Southern A&M University, BS

## **Chief of Police**

**Greg Cunningham**

## **Director, Print and e-Media**

**Joe Conway**  
McNeese State, BS, MEd

## **Director, Public Relations and Media**

**Lesla M. Spivey**  
University of Houston, BA  
Texas Southern University, MPA

## **Director, Student Financial Services**

**Hernando Baldonado**  
University of East BBA

## **General Manager, HCC-TV**

**Debra Martin McGaughey**  
Boston University, BS

## **Manager, Risk Management**

**Gwendolyn Drumgoole**  
Wiley College, BA  
Texas Southern University, MBA

## **Project Administrator, Information Technology**

**Joseph Diflavio**  
University of Houston, BS

## **District Administration Instruction**

## **Vice Chancellor, Instruction**

**Charles M. Cook**  
University of Texas, BA  
University of Houston, MA, EdD

## **Associate Vice Chancellor, Academic Instruction**

**Stephen Levey**  
Saint Louis University, BA, MA  
University of Texas, EdD

## **Associate Vice Chancellor, Workforce Instruction**

**Madeline Burillo**  
University of Puerto Rico, BA  
University of Phoenix, MA

## **Executive Director, Curriculum**

**Lawrence E. Markey**  
West Virginia University, BA, MA

## **Director, Distance Education**

**Lorah Gough**  
University of Oklahoma, BA  
University of British Columbia, MIT

## **Director, Instructional Initiatives**

**Maria del Pilar Straus**  
University of Houston, BA  
University of Houston, Clear Lake, MA, MS  
University of Houston, EdD

## **Director, Library/LRC Support Services**

**Angela K. Secrest**  
Central University of Iowa, BA  
University of Iowa, MA

## **Director, Academic Resource Development**

**Juan Carlos Reina**  
Boston University, MA, PhD

## **Director, Workforce Program Initiatives**

**Freddie Wade III**  
Prairie View A&M University, BS, MEd  
Texas Southern University, EdD

## **Director, Teaching & Learning Excellence**

**David E. Diehl**  
Houston Baptist University, BA  
Southwestern Baptist Theological  
Seminary, MDIV  
University of Houston, MEd  
Texas Southern University, EdD

## **Director, SACS**

**Judy Cantwell**  
Louisiana State University, BA, MS

## **Director, Instructional Quality**

**Mark W. Tengler**  
University of Wisconsin, BA, MS

# Administration

## Counseling Department Chair Distance Education

**Lesli Lam Rowell**  
Baylor University, BS  
Texas A&M University, MEd, PhD

## Director, School of Continuing Education

**Kathy Housel**  
Northern State University, BS  
Purdue University, MEd

## Director, Corporate College

**Joe Little**  
Indiana State University, BS, MBA

## Director, Adult Education Programs

**David Joost**  
Texas A&M University, BS, MEd  
University of Houston, EdD

## Director, Corrections

**Robert Sims**  
Jackson State University, BA

## Director, Operations ACT Center-Online Continuing Education

**Matias Garza**  
University of Houston, BS

## Director, Apprenticeship

**Douglas Posey**  
University Houston, BSME

## Director, Business Development & Outreach Services

**Marshall McGhee**  
Wilberforce University, BA  
Antioch University, MAT

## Marketing & Communications Coordinator

**Dawnica Jackson**  
Howard University, BA  
American University, MA

## Curriculum Design Coordinator

**Terry Kidd**  
University of Houston, BS, MS, MEd  
Texas A & M University, PhD

## District Administration Student Services

### Vice Chancellor, Student Services

**Diana Pino**  
Our Lady of the Lake University, MS  
University of Texas, BS, PhD

### Director, Admissions and Registrar

**Mary Lemburg**  
Texas State University, BA

### Director, Financial Aid

**Scott Moore**  
University of Houston, BA

### Director, Student Support/ International Services

TBA

### Director, Student Services Special Projects

**Shantay Grays**  
Grambling State University, BA  
Keller Graduate School of Management,  
MPA

### Assistant Director, Admissions

**Robert Castillo**  
Palmer Junior College, AA  
University of Iowa, BA  
Texas Southern University, MA

### Assistant Registrar

**Dana Fields**  
University of St. Thomas, BA  
Prairie View A&M, MEd

### Counselor, ADA

**Donna B. Price**  
Indiana University, BS  
University of Houston, MEd

## Central College Administration

### President

**William W. Harmon**  
Johnson C. Smith University, BS  
Seton Hall University, MA  
Kansas State University, PhD

### Executive Director, Administration Services

**Kathleen Fleming**  
Marquette University, B.S.  
Sam Houston State University, M.B.A.  
Texas A&M University, Ph.D.

### Executive Dean, Instruction and Student Services

**Cheryl Peters**  
Stetson University, BA  
University of Kentucky, MA  
University of Houston, PhD

### Dean, Student Services

**Cheryl Johnson**  
University of Cincinnati, BS  
Texas Southern University, MEd

### Dean, Instruction

**Linda S. Koffel**  
Pensacola Junior College, AA  
University of West Florida, BA  
University of Houston, MS

### Associate Dean, Student Services

TBA

### Associate Dean, Instruction

**Paul J. Quinn**  
Chesterfield College U.K.-City and Guilds of  
London Mechanical Engineering, F.T.C.  
Huddersfield University U.K., BSc.  
Binghamton University N.Y, MSc.

### Director, Public Relations

**Andre Humphrey**  
Prairie View A&M University, BA

### Director, Auxiliary Services

**Debra Robinson**  
University of Houston, MA  
Sam Houston State University, BS

# Administration

## Campus Manager II Central Campus

John Robertson  
Southern Methodist University, BA

## Campus Manager I South Campus

Charles Whigham  
Texas Southern University, BS

## Manager, Child Care

Arthemise Foley  
Prairie View A&M University, BA, MA

## Community Outreach Coordinator

Vicki Luna  
Texas State University, BA  
University of St. Thomas, M.L.A.

## Academic Division Chairs

### English

TBA

### Fine Arts

Scott Carothers  
University of Houston, MFA  
Texas State University, BS

### Social and Behavioral Sciences

Genevieve Stevens  
University of Texas at Austin, BA  
University of Houston, MEd, PhD

### Guided Studies/World Languages/ESL

Margret Eomurain  
University of Texas, BA, MA  
University of Houston, PhD

### Mathematics

Timor Sever  
University of Houston, BS, MS

### Natural/Physical Sciences

Yiyang Bai  
Harbin Institute of Technology, BS, MS  
California State University, Los Angeles, MS  
University of Southern California, PhD

## Career and Technology Education Division Chairs

### Computer Science/Business Technology

Abass Alamnehe  
University of Houston-D, MS

### Lifestyle Arts and Design Careers

Suzette Brimmer  
Louisiana State University, BA  
University of Phoenix, MBAA

### Financial and Legal Studies

Mesfin Genanaw CMA, CFM  
Addis Ababa University, BA  
Catholic University of Leuven, MBA  
Texas Southern University, EdD

### Human Development and Occupational Life Skills

Caprice Lynn Dodson  
Western Kentucky University, BS, MEd

### Manufacturing and Construction Technology

Max Saravia  
University of Houston, AS, BSEE

### Counseling Chair

Rene Garcia  
Oblate School of Theology in  
San Antonio Texas, MDiv  
Texas Southern University, MA

### Librarian Director

Ronald J. Homick  
Temple University, BA  
Louisiana State University, MA, MLS

## Coleman College for Health Sciences

### President

Betty Young  
Capital University, JD, LL.M.  
Ohio University, AS, BBA, MEd, PhD

### Executive Dean of Instruction

Michael Edwards  
Rice University, BA  
University of Texas, JD

### Dean of Student Development

Patricia Ugwu  
Southern Illinois University, BS, MA  
University of Texas at Austin, PhD, LTC

### College Operations Officer

Diana Castillo  
Texas A&I University, BS  
Texas A&M University, MEd  
Sam Houston State University, PhD

### Director Public Relations

Brian Waddle  
Southern Methodist University, BS

### Director of Development, HCC Foundation

Maureen Sander  
Texas A&M University, BBA

## Career and Technology Education Program Directors

### Associate Degree Nursing

Marion V. Cole  
Houston Community College, Certificate  
Texas Woman's University, BSN  
University of Houston, MEd

### Computed Tomography and Radiography

James Byrne  
Ohio University, BS, MEd  
Texas State University, BA

# Administration

## Dental Assisting/Dental Hygiene

**Rosalva Perez**  
Houston Community College, Certificate  
University of Houston, BS

## Diagnostic Medical Sonography

**Elizabeth Ho**  
Houston Community College, AAS, ATC  
Nova Southern University, BHS

## Health Information Technology

**Carla Tyson-Howard**  
Incarnate Word University, BS  
Texas Woman's University, MS  
Texas Southern University, EdD

## Human Service Technology

**Beverly Newman**  
University of Texas Medical Branch, BSPT  
Texas State University, MSHP

## Medical Assistant

**Cynthia K. Lundgren**  
Louisiana State University, BS

## Medical Laboratory Technician and Histologic Technician

**Theresa L. Spain**  
Houston Community College, AAS  
University of Texas Health Science Center, BS  
University of Houston, MEd

## Nuclear Medicine Technology

**Glenn X. Smith**  
Texas A&M University, BS

## Occupational Therapy Assistant

**Beverly Broussard-Solomon**  
Houston Community College, AAS  
St. Edwards University, BS

## Pharmacy Technician

**Jeff Gricar**  
Naval School of Health Sciences, Certificate  
Houston Community College, AGS  
University of Houston, BBA, MEd

## Physical Therapist Assistant

**Jan Myers**  
Texas Woman's University, BS, MS

## Respiratory Therapist

**Theodore Tovar**  
University of Texas Medical Branch, BS

## Surgical Technology and Health Care Career Academy

**Christine Castillo**  
Houston Community College, AAS  
University of St. Thomas, BA

## Vocational Nursing

**Deborah J. Simmons-Johnson**  
Texas Woman's University, BSN  
Texas Southern University, MEd

## Librarian Director

**Richard Conn**  
Baylor University, BBA  
Texas Wesleyan University, MBA  
Texas Woman's University, MLS

## Coordinator Telecommunications & Instructional Computing Support

**Ernest E. Reynolds**  
Houston Community College, AAS  
University of Texas, BS  
Texas Southern University, MS

## Facilitator Program Resources and Evaluation

**Teresa Z. Rice**  
Fairleigh Dickinson University, AS, BS  
Midwestern State University, MS

## Northeast College Administration

### President

**Margaret L. Ford Fisher**  
Wichita State University, BA, MA  
University of Houston, EdD

### College Operations Officer

**Warren Hurd**  
Wayland Baptist University, BSOE, MBA

## Executive Dean, Instruction and Student Services

**Doretha Eason**  
Utica Junior College, AAS  
Mississippi Valley State University, BS  
Delta State University, MEd  
Mississippi State University, EdD

## Dean, Academic Development

**Lois Avery**  
University of Houston, BS, MEd, EdD

## Dean, Student Services

**Kenneth Holden**  
University of Tennessee, BS, MS  
Texas Southern University, EdD

## Associate Dean, Student Services

**Oralia Green**  
Houston Community College, AA  
University of Houston, BA, MEd

## Associate Dean, Workforce

**Johnny Sessums**  
Blinn Junior College, AA  
Midwestern State University, BA  
University of Houston, MA

## Director of Public Relations

**Sheron Bruno**  
Houston Community College, AAS  
University of Phoenix, BS

## Director of College Educational Technology Services (CETS)

**Linda Comte**  
Blinn Junior College, AA  
Midwestern State University, BA  
University of Houston, MA

## Campus Manager I, Pinemont Campus

**Jacqueline Joseph-Howard**  
University of Texas, BS  
Prairie View A&M University, MEd

## Campus Director, Northeast Campus

**Abe Bryant**  
Texas Southern University, BS, MS  
Newport University, EdD

# Administration

## **Campus Manager II, Northline Campus**

**Raul Ortegon**  
University St. Thomas, BA

## **Campus Manager I, North Forest Vocational Technical Campus**

**Michael Fraizer**  
Texas A&M University, BA

## **Academic Division Chairs**

### **Arts, Communication, Journalism, Developmental English, English, Humanities, Philosophy, Foreign Languages**

**Linda Griffin**  
Louisiana Tech University, BA, MA, MBA  
University of Houston, EdD

### **Economics, Geography, Drama, Government, History, Music, Speech**

**James Knight**  
Sam Houston State University, BA, MA  
Texas A&M University, PhD

### **Guided Studies, Teacher Education, Intensive English, Anthropology, Psychology, Sociology, English, Foreign Speakers**

**Paulette Heidbreder**  
University of Texas, BJ  
University of Houston, MA

### **Mathematics, Developmental Mathematics**

**Emmanuel E. Usen**  
Michigan Technological University, BS  
Texas Southern University, MA

### **Biology, Biotechnology, Chemistry, Geology, Physics, Physical Education/Health**

**Beverly Perry**  
Texas Southern University, BS, MEd  
Tuskegee Institute, DVM

## **Career and Technology Education Division Chairs**

### **Chemical Laboratory Technology, Drafting and Design Engineering, Electronics Engineering, Instrumentation and Controls Engineering Technology, Process Technology, Petroleum Engineering Technology (Energy Institute)**

**Morteza Sameei**  
University of Houston, BS  
University of Houston, Clearlake, MS

### **Automotive Technology, Autobody Repair, Heavy Vehicle & Truck Repair, Welding**

**Carl Clark**  
Houston Community College, AAS

### **Business Administration, Accounting, Business Technology, Computer Science, Cosmetology, Music Business**

**Rudy Soliz**  
Sam Houston State University, BS  
Ball State University, MA  
Texas A&M University, PhD

### **Emergency Medical Services Program Director**

**Vicki L. May**  
Houston Community College, Paramedic  
Certificate  
Southwest Texas State University, BS  
University of Houston, MEd

### **Fire Technology & Fire Science Program Director**

**Rufus T. Summers**  
University of Houston, BS, MA

## **Law Enforcement/Criminal Justice Program Director**

**Irl (Chris) Carmean**  
Ohio State University, BA  
University of Nebraska, MS  
Creighton University School of Law, JD

## **Counseling Chair**

**Linda Denkins**  
North Carolina A&T State University, BS  
Prairie View A&M University, MEd

## **Librarian Director**

**Gwendolyn Richard**  
Simmons College, BA  
University of Maryland, MLS

## **Northwest College Administration**

### **President**

**Zachary Hodges**  
East Texas State University, BS, MS, EdD

### **Interim Executive Dean, Academic Affairs and Student Services**

**Mark Tiller**  
University of Texas, BA, MA

### **Dean, Economic and Workforce Development**

**Maya Durnovo**  
Adelphi University, BA  
Florida Atlantic University, MEd  
University of Houston, EdD

### **Associate Dean, Student Services**

**Maria Elda Cisenros**  
Western Washington University, BA  
University of Michigan, MA

### **Interim Associate Dean of Instructional Support**

**Branson Brade**  
University of The West Indies, BS  
Texas Southern University, MS

### **College Operations Officer**

**Virginia Parras**  
University of St. Thomas, MBA

# Administration

## Interim Director, Public Relations

**Kim Montgomery**  
University of Houston, BA

## Campus Manager, Spring Branch

**Rose Sarzoza Pena**  
Southwest Texas Junior College, AA  
Texas State University, BA  
Sul Ross State University, MEd

## Director of Technology and Instructional Computing

**Tom Haymes**  
University of Texas, BA  
Georgetown University, MA

## Academic Division Chairs

### Anthropology, Psychology, Sociology

**Chiehwen (Joanne) Hsu**  
National Taiwan University, BS  
Ohio State University, MA, PhD

### Biological Sciences, Physical Education

**Richard G. Merritt**  
Emory University, BS  
West Texas A&M University, MS  
Utah State University, PhD

### Developmental Studies and Foreign Languages, Teacher/Child Development, Guided Studies

**Peggy Porter**  
Lamar University, BA  
Texas Southern University, MA

### English, Communications, Philosophy, Humanities

**Michael Ronan**  
Wesleyan University, BA  
University of Houston, MA

## Fine Arts

**Betty Shine**  
Baylor University, BM  
Lamar University, MM  
Indiana University, MSM

## Criminal Justice, Government, Economics

**Hildreth (Rudy) Hardy, Jr.**  
Howard University, BA  
University of Houston-Downtown, MS

## History, Geography

**Gisela Ables**  
University of Houston, BA, MA, PhD

## Mathematics

**Ernest Lowery**  
Prairie View A&M University, BS, MS

## Physical Sciences, Astronomy, Chemistry, Environmental Science, Geology, Physics, Pre-Engineering

**William E. Askew**  
University of North Carolina, BA  
East Carolina University, MA  
University of Houston, PhD

## Career and Technology Education Division Chairs

### Audio Recording/Filmmaking

**Ty Welborn**  
Houston Community College, AAS  
University of Houston, BA, MA

### Commercial Music

**Aubrey S. Tucker**  
University of Houston, BM  
Rice University, MM, DMA

### Computer Science, Cosmetology, Drafting

**Homied Asgary**  
Texas Southern University, BS  
University of Houston, MS

## Accounting, Business Administration, Business Technology, Horticulture Technology, Veterinary Paramedic

**Glen Melvin McQueary**  
CPA, CISA, CFE, CISM  
Ball State University, BS, MA

## Counseling Chair

**Robert Harris**  
Prairie View A&M University, BS, MS

## Librarian Director

**George M. Teoh**  
Rangoon Arts and Sciences University, BA  
University of Texas at Dallas, BS  
Louisiana State University, MLS

## Southeast College Administration

### President

**Irene Porcarello**  
South Texas Junior College, AA  
University of Houston, BA, MSW  
Sam Houston State University, EdD

### College Operations Officer

**William M. Tapp**  
College of Santa Fe, BBA  
Monmouth University, MBA  
University of Houston, EdD

### Dean, Career & Technology Education

**Johnella R. Bradford**  
Texas Southern University, BS, MEd, EdD

### Dean, Academic Development

**Pauline Warren**  
University of Houston, BA, MA, PhD

### Dean, Student Services

**Reynaldo Garay**  
South Texas Junior College, AA  
Texas Southern University, MA  
University of Houston, BA, EdD



# Administration

## Associate Dean, Weekend College

### Marie Cromwell

Southern University, BA  
Texas Southern University, MEd  
Nova Southeastern University, EdD

## Director of Public Relations

### Felipe Reyes

University of Houston, BS

## Director of Student Retention and Assessment

### Avis Horde

Southern University A&M College, BS  
Our Lady of the Lake University, MBA

## Campus Manager, Eastside Campus

### Maria Dolores Rios

Universidad Michoacana de San Nicolas Hidalgo, BA

## Campus Manager Felix Fraga Campus

### Catherine Miller

Baylor University, BA  
Southwestern Baptist Theological Seminary, MA

## Academic Division Chairs

### Arts and Languages

#### Kevin A. Clement

Western Washington University, BA

### English Studies

#### Beverly Hixon

Syracuse University, BS, MS

### Liberal Arts and History

#### Grisel Cano

University of Houston, BA, MA, EdD

### Mathematics

#### Michael J. Bohn

State University of New York at Buffalo, BS  
University of Houston, MEd

## Natural Sciences

### Mahtash Moussavi

University of Tehran, BS, MS  
University of California, Berkeley, PhD

## Social Sciences and Teacher Education

### C.S. Shay (Cammy)

Willamette University, BA  
Rice University, MA, PhD

## Psychology, Government, Criminal Justice, Anthropology, Sociology

TBA

## Career and Technology Education Division Chairs

### Barbering, Cosmetology / Business Technology, Heating & Air Conditioning, Welding

#### Meenu Sharma

Himachal Pradesh University, India, MBA

### Business Administration/ Computer Science/Drafting/ Real Estate

#### Rochelle Butler

Texas Southern University, BA  
Texas Woman's University, MBA

### Counseling Chair

#### Luciano Salinas Jr.

University of Houston, BA  
Pan American University, MEd

### Librarian Director

#### Michael Mitchell

North Carolina Wesleyan College, BA  
North Carolina Central University, MA, MLS

## Southwest College Administration

### President

#### Fena Garza

Texas Woman's University, BS  
Texas Southern University, MA  
Texas A&M University, PhD

### College Operations Officer

#### Julian V. Fisher

Houston Community College, AGS  
University of New York Regents College, BS  
Prairie View A&M University, MA

### Dean, Academic Development

#### Betty Fortune

Southern University, BS  
Prairie View A&M, MEd

### Dean, Student Development

#### James E. Shippy

Tuskegee University, BS, MEd

### Dean, Workforce and Economic Development

#### Arnold Goldberg

Pratt Institute, BArch  
University of Wisconsin, BS  
Columbia University, MA  
Nova Southeastern University, EdD

### Associate Dean, Students Development

#### Patricia Jensvold

Waldorf College, AA  
Minnesota State University-Mankato, BS  
University of Houston, MEd

### Associate Dean of Academic Development

#### Judy Hayman

University of Houston, MS

### Director, Public Relations

#### Martha A. Barrera

University of St. Thomas, BA

# Administration

## Senior Director, College Communication and Community Development

**Larry B. Mers**  
Texas A&M University, BA, MA

## Director, College Educational Technical Services

**Doug Rowlett**  
Texas Tech University, BA  
Texas Tech University, MA  
Rice University, PhD

## Director of Facilities/Campus Personnel

**Alex E. Prince**  
Prairie View A&M University, BS, MEd

## Campus Manager, Alief

**Hernan Segovia**  
University of Houston, BBA  
University of Texas, MT

## Campus Manager, Missouri City

**Andrew Johnson**  
Southern Illinois University, BS, MEd

## Campus Manager, Stafford

**Tyrone Cross**  
Texas Southern University, BS

## Campus Manager, West Loop Campus

**William Cole Cathey**  
Tennessee Tech University, BS  
Houston Baptist University, MLA  
University of West Indies, PhD

## Academic Division Chairs

### Developmental Education

**Patricia Davis**  
Texas Woman's University, BS  
Prairie View A&M University, MA

### Fine Arts, Speech, Humanities, Drama, Music, Speech, Spanish, Languages

**John Corley**  
University of Houston, BA, MA

## English, Education, TECA

**Laurel Lacroix**  
University of Texas, BA  
University of Houston, MA, PhD

## Government, Criminal Justice

**John Speer**  
Pan American University, BA  
University of Kentucky, MA, PhD

## History, Geography and Philosophy

**Michael McCormick**  
University of Houston, BA, MA  
University of Texas, PhD

## Intensive English

**David A. Ross**  
Fordham University, BA  
University of Houston, MA

## Life Sciences

**Tom Loesch**  
University of Houston, BS, MS  
University of Texas Tumor Institute, PhD

## Mathematics

**M.A. Shagrani**  
Rice University, MSC  
Colorado School of Mines, MS, PhD

## Physical Sciences, Astronomy, Chemistry, Engineering, Geology, Physics

**Gholam Pahlavan**  
Tehran University, BS  
Texas Southern University, MS  
University of Houston, MS, PhD,  
TEA Certification

## Social Sciences, Economics, Sociology, Anthropology

**Sara Saderion**  
University of Illinois, BS  
University of Houston, MA, PhD

## Career and Technology Education Division Chairs

### Accounting, Real Estate

**Marina Grau**  
University of St. Thomas, BBA, MBA  
Texas Southern University, EdD, CPA

### Business Technology, Business Administration and Marketing Departments

**Willie Caldwell**  
Prairie View A&M University, BA, MS

### Science Technology/ Geographic Information Science (GIS) and Drafting & Design Engineering Technology Departments

**Getachew Haile**  
Central State University, BS  
Oklahoma City University, MBA

### Digital Communication, Digital Gaming and Simulation, Communication Science, Film-Video & Special Effects

**Reginald Leathers**  
Houston Community College, AAS  
Southern University, BS

### Counseling Chair

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Eastern Michigan University, BS  
University of Houston, MEd

### Librarian Director

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Boston University, BA  
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# Faculty

## Accounting

### **Bischoff, Gregory, CMA**

University of Texas at Austin, BA  
Lamar University, MBA  
Northcentral University, EdD

### **Bridges, Suzon K.**

Attorney, CPA, CFE  
Texas Tech University, BA  
North Texas State University, MBA  
University of Houston, JD

### **Butler, Rochelle**

Texas Southern University, BA  
Texas Women's University, MBA

### **Flowers, Linda CPA**

University of Houston, BBA  
Houston Baptist University, MAcc

### **Genanaw, Mesfin CMA, CFM**

Addis Abba University, BA  
Catholic University of Leuven, MBA  
Texas Southern University, EdD

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Texas Southern University, EdD

### **Lewis, Charles L.**

University of Houston-Downtown, BBS, BBA  
University of Houston, MSA

### **Li, Terri CPA**

Cheng-chi University, BA  
University of Northern Iowa, MA  
University of Houston, MS

### **McQueary II, Glenn Melvin**

CPA, CISA, CFE, CISM  
Ball State University, BS, MA

### **Nantz, William C.**

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Texas Tech University, BBA  
South Texas College of Law, JD

### **Pitts, Pietro A.**

Texas Southern University, BBA  
Southern Methodist University, MBA

### **Shintri, Mallikarjun CPA**

Karnatak University, BA  
Utah State University, MBA  
University of Bombay, MCom

### **Sinmaz, Ercan**

Istanbul University, BA, MSA

### **Templeton, John F. CPA**

University of Houston, BA, MBA

## Anthropology

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University of Yaounde (Maitrise), BA  
University of Houston, MA, EdD

### **Bragdon, Ann**

University of Connecticut, BA  
State University of New York  
at Buffalo, MA, PhD  
University of Houston, MA

### **Menon, Sarath K.**

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University of Houston, MA, EdD

### **Moore, Scotty**

Southern Methodist University, BS  
University of Washington, MA

## Art

### **Ackelmire, Corey** Kent State University, MFA

SW Missouri State, BFA

### **Bel, Gladys**

Louisiana State University, BS  
Cranbrook Academy of Art, MFA

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University of Houston, MFA

### **Cherry, Michael**

Christian Brothers University, BS  
University of Dayton, MS  
University of Houston, Clear Lake, MA  
University of Houston, MFA

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University of Notre Dame, BBA  
University of Illinois at Urbana, MFA

### **Gonzales, Michael**

University of Texas, BS  
University of Arizona, MFA

### **House, Perry**

California College of Arts and Crafts, BA,  
MFA

### **Kaminski, Stanley**

West Virginia University, BFA  
Louisiana State University, MFA

### **Kovalchuk, Sergius**

Youngstown State University, BA  
Pratt Institute, MFA

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Austin College, BA  
University of Houston, MFA

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San Diego State, BFA  
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University of St. Thomas, MLA

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State University of New York at Buffalo, BFA  
Rochester Institute of Technology, MFA

### **Potter, Steven**

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Temple University, BFA  
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Fort Hays State University, BS  
University of Houston, MFA

## Associate Degree Nursing

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University of Texas, BSN  
Texas Woman's University, MS  
University of Houston, EdD

### **Cole, Marion V.**

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Certificate  
Texas Woman's University, BSN  
University of Houston, MED

### **De la Cruz, Independencia**

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University of Texas Houston Health Science Center, BSN, MSN

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University of Poona College of Nursing, BS  
Texas Woman's University, MS

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University of South Alabama, BSN, MSN  
Mississippi Gulf Coast Community College, ADN

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Temple University, BS  
University of Texas, MSN  
A&M University, PhD

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University of Toledo, BSN  
Wayne State University, MSN  
Texas Woman's University, Post Graduate Certificate in Family Nurse Practitioner

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Prairie View University MSN, BSN, RN

**Obey, Faye**

Prairie View A&M University, BS  
Texas Woman's University, MS

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Texas Woman's University, BSN, MS  
Certified Family Nurse Practitioner

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University Hospital of the West Indies, Diploma  
University of Texas Houston Health Science Center, BSN, MSN

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Texas Southern University, MEd  
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## Audio Recording

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## Automotive Technology

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Master Automotive Instructor Certificate  
Moog Training Center Certificate  
AC Delco Service Training Program, 11 Certificates

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NIASE Master Auto Technician  
NIASE Diesel, 3 Certificates  
GM Service Technology Group, 5 Certificates  
AC Delco Service Training, 3 Certificates  
Hunter Engineering, 2 Certificates  
Mobile Air Conditioning

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Ohio University, PhD

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Southern University of New Orleans, BS  
University of Texas School of Law, J.D.

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University of Massachusetts, MBA

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# Faculty

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Abilene Christian University, MS

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MBA

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## **Soliz, Rudy**

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Ball State University, MA  
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Clemson University, BS  
Webster University, MBA  
University of Phoenix, DM

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Southern Illinois University at  
Carbondale, BS  
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## **Woodland, Steven**

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## **Business Technology**

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### **Caldwell, Willie T.**

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### **Johnson, Rhonda**

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Our Lady of the Lake, MBA

## **Lewis, Sabrina Y.**

Wiley College, BS  
Texas Southern University, MBA  
University of Phoenix, DM

## **Murphy, Dorothy L.**

Texas Southern University, BBA

## **Nilsen, Joan H.**

Sam Houston State University, BBA  
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## **Nsonamoah, Deloris M.**

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## **Potosky, Jacqueline**

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## **Punch-LaGard, Rita**

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## **Smith, Louis Etta**

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Texas Southern University, MEd

## **Tyson, Velva**

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## **Chemical Engineering Technology**

### **Galiotos, John**

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University of Illinois at Chicago, MS, PhD

### **Taggart, Austin**

University of Houston, EdD

## **Chemical Laboratory Technology**

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Northeastern Illinois University, BS  
University of Illinois at Chicago, MS, PhD

### **Taggart, Austin**

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## **Chemistry**

### **Askew, William E.**

University of North Carolina, BA  
East Carolina University, MA  
University of Houston, PhD

## **Bai, Yiyao**

Harbin Institute of Technology, BS  
California State University, Los Angeles, MS  
University of Southern California, PhD

## **Batamo, Shuhsien**

National Tsing Hua University, BS, MS  
Temple University, PhD

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Kanpur University, BS, MS  
Clarkson University, MS

## **Cherif Abdallah**

Universite de Reims Champagne, BS, MS,  
PhD

## **Dessens, Steven**

Sam Houston State University, BS  
Tulane University, PhD

## **Ewane, Emmanuel**

Southwest Texas State University, BS  
Texas Southern University, PhD

## **John, Jagdish N.**

University of Agra, India, BS, MS  
Texas A&M University, PhD

## **Judd, Carolyn S.**

Rosary College, BA  
University of Texas-Austin, MA

## **Lin, Joanne**

## **Lu, Dongning**

Ohio State University, MS, PhD

## **Pahlavan, Gholam**

Teheran University, BS  
Texas Southern University, MS  
University of Houston, MS, PhD

## **Shaikh, Samshuddin**

Osmania University India, PhD

## **Shukla, Alka**

University of Indore, BSC, MS  
Lamar University, MS

## **Sihi, Supriya**

Jadavpar University, BS  
Louisiana State University, MS

## **Child Development**

### **Delahoussaye, Vanese**

McNeese State University, BA, MEd  
University of Houston, EdD

# Faculty

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Central Missouri State University, BS  
Prairie View A&M University, MEd

**Norwood, Pamela**

San Joaquin Delta College, AA  
University of the Pacific, BA  
University of Houston, MEd, EdD

## Clinical Laboratory Technology

**Hallmark, Robbe**

Southwest Texas State University, BS  
Texas A&M University at Corpus Christi, BS

**Spain, Theresa L.**

Houston Community College, AAS  
University of Texas Health Science Center, BS  
University of Houston, MEd

## Commercial Truck Driver Training

**Bashlor, Richard H.**

Houston Community College, Certificate

**Bell, Valeire**

Howard College, AAS

**Boswell, Tommy**

Houston Community College, Certificate

**Dreger, Jeff**

Houston Community College, Certificate  
University of Wisconsin-Parkside, BS  
University of Houston at Clearlake, MS

**Fletcher, Ronald**

Houston Community College, AAS

**Garcia, Pablo**

Houston Community College, Certificate

**Garsee, Martin**

Houston Community College, Certificate  
Texas Southern University, Certificate in Drivers Education

**Harvey, Henry**

Houston Community College, Certificate

**Maddox, Jay**

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**Moncrief, Ray**

Houston Community College, Certificate

**Mouton, Steve**

Houston Community College, Certificate

**O'Neal, Van**

Texas Southern University, Certificate  
Regents College, AS

**Ray, Harry**

Houston Community College, Certificate

**Reese, Marvin**

Houston Community College, Certificate  
Central Missouri State University, BS  
Texas A&M University at College Station,  
Drivers Education Supervisor's Certificate

**Ross, Thomas**

Houston Community College, Certificate

## Communications

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Sam Houston State University, BA  
Texas State University, MA

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University of Texas at Austin, BA, MA

## Computer Science Technology

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Houston Baptist University, MS

**Alamnehe, Abass B.**

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University of Houston, MS

**Asgary, Homied**

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University of Houston, MS

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University of Texas at Austin, BA  
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Brigham Young University, AA,  
BS, BS, MAcc, CPA

**Haile, Getachew**

University of Central Oklahoma, BS  
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**Hillman, Douglas Scott**

University of Arkansas, BS

**Johnson, Robert B.**

University of Houston, BS

**Linden, Donald P.**

Texas Southern University, BBA  
University of Houston, MEd

**Linkin, Stephen, S.**

Boston University, AS  
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University of New Mexico, BA  
University of Houston, BS  
University of Houston at Clear Lake, MEd

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Hohai University, Nanjing, China, BS  
Texas A&M University, MS

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Southwest Texas State University, MS

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University of Houston, MEd, MBA

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## Construction Technology

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# Faculty

## Corrections

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Culinary Arts

### **Albers, Lisa**

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### **Arnold, Randal**

Texas Institute Building and Design License  
American Institute Building and Design  
License

### **Barrett, Milton**

U.S. Department of Labor, Carpentry  
Certificate

### **Basye, Timothy**

ASE Certificate

### **Bemis, David**

Houston Community College, Certificate

### **Bisch, Tod**

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### **Cason, Arthur B.**

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### **Diaz, Jaime**

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Graphic Arts/Printing

### **Fauss, Terry**

Chaminade University of Hawaii, BA

### **Garcia, Cristina**

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### **Gomez, Gerardo**

ASE Certified: Air Conditioning Non-  
Structural Analyzing/Damage Repair  
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### **Graham, Charles**

Houston Community College, Certificate

### **Hickman, Lynn**

### **Maddox, Donald**

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### **Mosley, Rhonda**

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### **Sims, Robert Earl**

Jackson State University, BA

### **Smith, Billy**

Ferris State Michigan, Certificate

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Airco Technical Institute, Certificate

### **Warren, Alex**

University of Missouri, BS  
Prairie View A&M, MS

### **Washington, Carmen**

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### **Weston, Danny**

Devry University, AS

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Jarvis Christian College, BBA

### **Williams, James**

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### **Wilson, Jimmie**

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## Cosmetology

### **De Leon, Blanca**

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### **Greene, Gloria**

Debbie's School of Beauty Culture,  
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Cosmetology License  
Instructor Certificate

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Sam Houston State, Vocational Certification

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University of Houston, Vocational Teacher  
Certification

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University of Houston, BS,  
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Instructor Certification

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### **Dibrell, Sam C.**

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**Page, Mary L.**

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University of Houston, MA

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Prairie View A&M University, MEd

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Bishop College, BA  
Texas Southern University, MA

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National University, BA  
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University of Houston-Clear Lake, MA  
Texas A&M University, PhD

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Texas A&M University, MEd, PhD

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University of Houston, Central, MSW

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Our Lady of the Lake University, MS

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University of Houston-Clear Lake, MS  
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Western Michigan University, BA, MA

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Tougaloo College, BA  
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**Young, Bobby R.**

Jackson State College, BA  
Oklahoma State University, MS

## Criminal Justice

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City University of New York, MA  
South Texas College of Law, JD

**Carmean, Irl (Chris)**

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University of Nebraska, MS  
Creighton University School of Law, JD

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University of Texas Permian Basin, MS, BA  
Texas Tech University, BS

# Faculty

Midland College, AS

## **Hardy, Hildreth (Rudy), Jr.**

Howard University, BA  
University of Houston-Downtown, MS

## **Goode, Foster A.**

Houston Community College, AA

## **Sessums, Johnny**

Blinn Junior College, AA  
Houston Community College, AA, AAS  
Midwestern State University, BAAS  
University of Houston, Clear Lake, MA  
Law Enforcement Certificate

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Law Enforcement Certificate  
LeTourneau, BA  
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## **Culinary and Pastry Arts**

### **Boland, Nicholas**

Johnson and Wales University, AAS

### **Boykin, Judith**

Culinary Institute of America, AOS

### **Kotyra, Christy**

Johnson and Wales University, AAS

### **Rucker, Charles**

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### **Van Damme, Eddy**

IMOV (Belgium), AOS  
PIVA (Belgium) Certificate of Education  
Pastry Chef Confectioner

## **Dance**

### **Bata, Julie**

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### **Henderson, Shani**

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Florida State University, MFA

### **Lasher, Megan**

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University of Phoenix, BS

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## **Diagnostic Medical Sonography**

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### **Roberts, Paul T.**

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University of New York, BA  
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## **Digital Gaming and Simulation**

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### **Mayer, Ian**

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## **Drafting and Design Engineering Technology**

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Certificate  
Prairie View A&M University, Vocational  
Teaching Certificate, BS, MEd

### **Ha, Francis**

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Union College of California, MA

### **Pham, Minh**

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### **Ortiz, Frank**

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## **Drama**

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# Faculty

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Lamar University, MM  
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## Economics

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University of Houston, MA, PhD

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## Electronic Engineering Technology

**Sameei, Morteza**

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## Emergency Medical Services

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University of Houston, BS, MED

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University of Texas, BSN, MSN, ENP

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### Cox, Patrick D.

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Universidad Federal De Rio De Janeiro, MA  
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International Teaching Training Institute,  
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University of Paris, Diplome Tarkio College,  
BA  
Southern Methodist University, MA

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Texas Southern University, MEd  
University of Houston, EdD

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Texas Southern University, JD

## Starr, Joseph

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University of Paris, MA

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University of Cincinnati, BS  
University of Houston, MEd

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Briarcliff College, BA  
University of Houston, MA

## Fashion Design

### Chapman, Alexander

Fashion Institute of Technology, BFA  
Houston Community College, AAS

### Hua, ViVi

Houston Community College, AAS

### Simmons, Kenneth E.

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## Fashion Merchandising

### Brimmer, Suzette

Louisiana State University, BA  
University of Phoenix, MBA

## Film/Video Production and Special Effects

### Gonzalez, Marcelo

University of Houston, BA  
Florida State University, MFA

## Filmmaking

### Boyd, Richard

Art Institute, AAS

### Harrington, Richard

## Finance (Banking)

### Parr, Janet S.

Sam Houston State University, BBA

### Smith, Earl

American Institute of Banking, Certificate  
Excelsior University, BA, BS

## Fire Protection Technology

### Cooper, Gary

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### Lozano, Peter

Delmar College, AA

### Mayes, John

University of Phoenix, BS

### Summers, Rufus T.

University of Houston, BS, MA

## Geography

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Sam Houston State University, BA, MA

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Shasta College, AA  
Sonoma State University, BA  
University of Arizona, MA

## Geographic Information Science

TBA

## Geology

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## Government

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## **Sutter, John Ben**

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## **Guided Studies**

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Southwestern Baptist  
Theological Seminary, MDiv, MA  
Center For Advanced Legal Studies,  
Paralegal Certificate

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## **Endrinal, Azucena**

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## **Heidbreder, Paulette**

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## **Hixon, Beverly**

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The Victoria College, AAS  
University of Houston at Victoria, MEd  
University of Houston, EdD

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## **Leifeste, Sharon A.**

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## **Moore, William**

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## **Voss, Eugene W.**

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## **Wanamaker, Gary H.**

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## **Health and Fitness Instructor**

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## **Health Information Technology**

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## **Health Science Programs**

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# Faculty

## Health Science Related Professions

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## Heating, Air Conditioning and Refrigeration

### Miller, Calvin Carey

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University of Houston, BA

### Lopez, Raul Anmando

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### Do, Hoang N.

Amarillo College, AAS  
San Jacinto Junior College, AA  
University of Houston, BS  
University of Houston-Clear Lake, MS

## Heavy Vehicle and Truck Repair

### Johnson, Herbert

Detroit Diesel Technician Certificate, ASE  
Certified: Master Truck Technician

### Nagelhout, Gary

ASE Certified Master Medium/Heavy Truck Technician  
Lone Star College, AAS

## Histologic Technician

### Wall, Lawrence

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Western Reserve University, MA, PhD

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### Botson, Michael

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### King, Michael

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