Welcome to the Lone Star College System!

As you are now aware, we have adopted a new name – and set our sights for a bright future. I congratulate you for your decision to pursue higher education opportunities, and appreciate that you have chosen to attend a Lone Star College. In today’s changing world, the value of education and training after high school has never been more important. Whether your goal is to earn an associate’s degree, train for a new career, update your current job skills, or transfer to a four-year university, a Lone Star College can help you succeed.

Lone Star College System will enroll almost 52,000 students in credit courses this year. Already we are the largest college in the greater Houston area, and the third largest community college system in Texas. The system includes five comprehensive colleges – LSC CyFair, LSC-Kingwood, LSC-North Harris, LSC-Montgomery and LSC-Tomball – and six satellite centers – LSC-Carver Center, LSC-Conroe Center, LSC-Fairbanks Center, LSC-Greenspoint Center, LSC-Willow Chase Center and the University Center. These offer convenient access to a full complement of academic and technical programs, through day, evening, weekend, and distance learning courses.

Lone Star College System is committed to Achieving the Dream, a national effort to remove barriers to student success. Throughout the year, you will be hearing about this important initiative. It is but one of several major efforts focused on student achievement and success.

Further, we are placing a new focus on workforce and contract training opportunities. By partnering with area companies to provide flexible and affordable instruction for employees, we will encourage economic development while benefiting workers seeking to improve their long-term job skills. Our goal is to help people and companies – and elevate the quality of life in our region.

Likewise, look for changes in our distance learning area. With more and more students asking for convenient online programs, we are working to make online education easier to access, while improving the learning experience. Lone Star College Online is the fastest growing segment of our enrollment growth. We will continue to “think innovatively” as we develop this area for new generations of students.

As always, our many financial aid programs stand ready to open doors to serious students who lack funds for college. If you need help, please do not hesitate to contact the financial aid office on any campus.

For all these reasons and more, this is a great time to attend a Lone Star College. Welcome!

Richard Carpenter, Ed.D
Chancellor

The chancellor is the chief executive officer of the Lone Star College System
Lone Star College System
Catalog 09/10

Lone Star College-CyFair
9191 Barker Cypress Road / Cypress, TX 77433-1383 / 281.290.3200
CyFair.LoneStar.edu

Lone Star College-Kingwood
20000 Kingwood Drive / Kingwood, TX 77339-3801 / 281.312.1600
Kingwood.LoneStar.edu

Lone Star College-Montgomery
3200 College Park Drive / Conroe, TX 77384-4500 / 936.273.7000
Montgomery.LoneStar.edu

Lone Star College-North Harris
2700 W. W. Thorne Drive / Houston, TX 77073-3499 / 281.618.5400
NorthHarris.LoneStar.edu

Lone Star College-Tomball
30555 Tomball Parkway / Tomball, TX 77375-4036 / 281.351.3300
Tomball.LoneStar.edu

Lone Star College-University Center
3232 College Park Drive / The Woodlands, TX 77384-4500 / 281.618.7140
936.273.7510 / UC.LoneStar.edu

Central Services and Training Center
5000 Research Forest Drive / The Woodlands, TX 77381-4399
832.813.6500 / LoneStar.edu

A system of comprehensive, public, two-year colleges, the Lone Star College System offers academic, workforce development, continuing education, and general programs and services, as well as customized contract training. Residents in the following independent school districts have voted to join the college system and qualify for in-district tuition rates: Aldine, Conroe, Cypress-Fairbanks, Humble, Klein, Magnolia, New Caney, Splendora, Spring, Tomball and Willis.

Lone Star College System 37th Annual Catalog

FRONT COVER
Lone Star College System had more than 1,800 international students from more than 100 countries enrolled during the 2007-2008 academic year and was ranked fifth nationally among leading associate’s institutions for international student enrollment by the International Educational Exchange. International students pictured on the cover of the 2009-2010 LSCS catalog are (starting with the larger photo in the center, right side), Mahsa Fathinejad, from Iran, a pre-pharmacy major at LSC-Montgomery; at the bottom left is Ayooba Edward Adedeji, pre-engineering studies, from Nigeria, LSC-CyFair; center left is Trang Thuy Hoang, from Vietnam, studying ESOL, LSC-Kingwood; and top left is Hetalkumar Patel, from India, studying general studies master’s degree prerequisites, LSC-Fairbanks Center. (photos by Alissa Raddatz)

BACK COVER
Pictured on the back of the 2009-2010 catalog are international students, top, Marina Calzini, from Italy, studying ESOL and who says she plans to also study pre-law, LSC- Kingwood; and bottom, Muhammad, from Pakistan, a pre-chemical engineering major, LSC-Montgomery.
### Phone Numbers

All Lone Star College System phone numbers have a 281 area code unless otherwise noted.

<table>
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<tr>
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<th>LSC-CyFair</th>
<th>LSC-Kingwood</th>
<th>LSC-Montgomery</th>
<th>LSC-North Harris</th>
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Board of Trustees Inside Back Cover
Calendar 09/10

Fall Semester 2009

Registration begins .................................. April 8
Faculty return ....................................... Aug. 17
Last day to register ................................. Aug. 22
Weekday classes begin ............................. Aug. 24
Friday evening, Saturday & Sunday classes begin-Aug. 28-30
Official day of record .............................. Sept. 4
Labor Day holiday ................................. Sept. 5-7
ACT test ............................................... Sept. 12
Last day to file for Dec. graduation ............. Oct. 1
Mid-semester ......................................... Oct. 16
THEA test ............................................... Oct. 17
ACT test ................................................ Oct. 24
Last day to drop class & receive “W” ............ Nov. 6
Thanksgiving holidays ............................. Nov. 26-29
(ACT test)(offices closed-classes dismiss Nov. 25, 4:30 pm)
Final Exams .......................................... Dec. 12
End of semester ..................................... Dec. 13
Faculty grades due MyRecords (noon) .......... Dec. 14
Winter Mini-mester (3 week) .................... Dec. 14-Jan. 8
Winter Mini-mester (4 week) .................... Dec. 14-Jan. 3

Spring Semester 2010

Registration begins .................................. Nov. 9
College offices reopen ................................Jan. 4
Faculty return ....................................... Jan. 11
Last day to register ................................. Jan. 16
M.L. King Jr. holiday (colleges closed) ....... Jan. 18
Weekday classes begin ............................. Jan. 19
Friday evening, Saturday & Sunday classes begin-Jan. 22-24
Official day of record ............................. Feb. 1
Last day to file for May graduation ............ Feb. 1
ACT test ............................................... Feb. 6

July 2009

S M T W T F S
1 2 3 4 5 6 7
8 9 10 11 12 13 14
15 16 17 18 19 20 21
22 23 24 25 26 27 28
29 30 31

August 2009

S M T W T F S
1 2 3 4 5 6 7
8 9 10 11 12 13 14
15 16 17 18 19 20 21
22 23 24 25 26 27 28
29 30 31

September 2009

S M T W T F S
1 2 3 4 5 6 7
8 9 10 11 12 13 14
15 16 17 18 19 20 21
22 23 24 25 26 27 28
29 30

October 2009

S M T W T F S
1 2 3 4 5 6 7
8 9 10 11 12 13 14
15 16 17 18 19 20 21
22 23 24 25 26 27 28
29 30

November 2009

S M T W T F S
1 2 3 4 5 6 7
8 9 10 11 12 13 14
15 16 17 18 19 20 21
22 23 24 25 26 27 28
29 30

December 2009

S M T W T F S
1 2 3 4 5 6 7
8 9 10 11 12 13 14
15 16 17 18 19 20 21
22 23 24 25 26 27 28
29 30 31
Calendar 09/10

LSC System Conference Day....................Feb. 18
(office closed-no classes)
TheA test .............................................Feb. 27
Mid-semester ......................................March 12
Mid-semester break .........................March 15-21
(office closed March 18-21)
Classes resume ....................................March 22
Last day to file for Aug. graduation ....April 1
Spring holiday (office closed) ..........April 2-4
ACT test ............................................April 10
Last day to drop class & receive "W" ...April 13
THEA test .........................................April 24
Final Exams .....................................May 10-16
Commencement ....................................May 14-15
End of semester .................................May 16
Faculty grades due MyRecords (noon) ....May 17

Summer Terms 2010

Registration begins .............................March 3
Mini-term begins ................................March 17
Memorial Day holiday ....................May 17
(office closed) ................................May 29-31
Mini-term ends ..................................June 4
Regular summer term begins .............June 7
(1st summer term June 7-July 13)
(2nd summer term July 15-Aug. 19)
Weekend classes begin ....................June 11-13
ACT test .............................................June 12
THEA test .........................................June 26
Independence Day holiday ................July 4-5
End of summer terms .........................Aug. 22

Fall 2010

Faculty return Aug. 23
Weekday classes begin Aug. 30
Weekend classes begin Sept. 10-12
Final Exams are Dec. 13-19
Consult Class Schedules for registration dates.
ACCREDITATIONS AND MEMBERSHIPS

Accreditations and Memberships

The Lone Star College System District is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools to award associate degrees. Contact the Commission on Colleges at 1866 Southern Lane, Decatur, GA 30033-4097 or call 404/679.4501 for questions about the accreditation of the Lone Star College System.

Membership in

- Achieving the Dream
- Alliance for Community College Innovation
- American Association of Collegiate Registrars and Admissions Officers
- American Association of Community Colleges
- American Association of Intensive English Programs
- American Association of Women in Community Colleges
- American Association for Paralegal Educators
- American Bar Association
- American Choral Directors Association
- American Council on Education
- American Council on International Intercultural Education
- American Health Information Management Association
- American Federation of Art Museums
- American Institute for Foreign Study
- American Library Association
- American Society of Composers, Authors & Publishers
- American Society for Training & Development
- Association of College & Universities Auditors
- Association of Community College Trustees
- Association of Higher Education Facilities Officers
- Association of International Education
- Association of Texas Colleges and Universities
- Association of Texas Leadership Programs
- Broadcast Music, Inc.
- Center for Academic Integrity
- College & University Professional Association for Human Resources
- Co-op for Advancement of Community-Based Postsecondary Education
- Community College Business Officers
- Community College Survey for Student Engagement
- Community Colleges for International Development
- Consortium for Community College Development
- Educause
- Greater Houston Partnership
- Hispanic Association of Colleges and Universities
- Houston Area Database Consortium
- Houston Forum
- Houston Legal Assistants Association
- Houston World Affairs Council
- Institute of International Education
- League for Innovation
- Learning Resource Network
- Microsoft IT Academy
- National Alliance for Community & Technical Colleges
- National Alliance of Business
- National Association of College Auxiliary Services
• National Association of College and University Attorney
• National Association of College and University Business Officers
• National Association of Collegiate Veterans Program Officials
• National Association of Instructional Administrators
• National Association of Legal Assistants
• National Association of Student Financial Aid Administrators
• National Association of Student Personnel Administrators
• National Association for Manufacturing
• National Automotive Education Foundation
• National Community College Hispanic Council
• National Council for Workforce Education
• National Council of Continuing Education & Training
• National Council of Instructional Administrators
• National Council of Staff, Program & Organizational Development
• National Council on Student Development
• National Federation of Paralegal Associations
• National Institute for Staff and Organizational Development
• National Kitchen & Bath Association
• North Houston Association
• Phi Rho Pi, The National Junior & Community College Forensic Association & Honor Society
• Society of European Stage Authors & Composers - Music Licensing
• Southern Association of Colleges and Schools
• Southern Association of Collegiate Registrars and Admissions Officers
• Southern Association of Community, Junior & Technical Colleges
• Southern Economic Development Council
• Texas Administrators of Continuing Education
• Texas Association of Business
• Texas Association of College Technical Educators
• Texas Association of Collegiate Registrars and Admissions Officers
• Texas Association of Collegiate Veterans Program Officials
• Texas Association of Community College Business Officers
• Texas Association of Community College Trustees & Administrators
• Texas Association of Community Colleges
• Texas Association of Music Schools
• Texas Association of School Boards
• Texas Association of Schools of Art
• Texas Association of Student Financial Aid Administrators
• Texas Building & Procurement
• Texas Campus Compact
• Texas Common Course Numbering
• Texas Community College Association
• Texas Community College Teachers Association
• Texas Community College Speech & Theatre Association
• Texas Consortium for Study Abroad
• Texas Council of Arts in Education
• Texas Distance Learning Association
• Texas Economic Development Council
• Texas Healthcare and Bioscience Institute
• Texas Library Association
• Texas State Cosmetology Commission
• Texas Two Year College Band Directors Association
• Texas Two Year College Choral Directors Association
• Texas Workforce Commission for Veteran’s Training
ACCREDITATIONS AND MEMBERSHIPS

• TexShare Texas State Library and Archives Commission
• Western Association of Veterans Education Specialists

Programs approved by

• Accrediting Council for Occupational Therapy Education
• American Dental Association
• American Society of Health-System Pharmacists Commission on Credentialing
• American Veterinary Medical Association
• Building Industry Consulting Services International
• Board of Nurse Examiners for the State of Texas
• Cisco Regional Academy
• Commission on Accreditation for Allied Health Education Programs
• Commission on Accreditation for Physical Therapy Education
• Commission on English Language Program Accreditation
• Committee on Accreditation for Respiratory Care in conjunction with the Commission on Accreditation for Allied Health Education Programs
• Joint Review Committee for Education in Diagnostic Medical Sonography
• Joint Review Committee on Education in Radiologic Technology
• MACTE: Montessori Accreditation Council for Teacher Education
• Microsoft Academy
• Microsoft MOS Certification Test Center
• National League for Nursing Accrediting Commission, Inc.
• Oracle Academic Initiative
• Texas Commission on Alcohol and Drug Abuse
• Texas Commission on Law Enforcement Officer Standards and Education
• Texas Department of State Health Services
• Texas Education Agency
• Texas Commission on Fire Protection
• Texas Education Theatre Association
• Texas Higher Education Coordinating Board
• Texas Real Estate Commission
• Texas State Board of Public Accountancy
• The Community College Speech and Theatre Association
• The Community Leadership Association

STUDENT RIGHTS

Student Right-To-Know

Lone Star College System does not discriminate on the basis of race, color, gender, religion, disability, age, veteran status, nationality, sexual orientation, or ethnicity in provisions of educational opportunities or employment opportunities and benefits.

LSCS colleges make statistics available regarding persistence, completion and graduation rates of full-time undergraduate certificate or degree-seeking students. The colleges also report beginning salaries earned by recent graduates.

LSCS colleges require specific standards of conduct relating to alcohol and substance abuse, and provide education and consultation to students seeking assistance with alcohol and drug issues.

LSCS colleges have in place a process for students to appeal decisions or file formal grievances related to academic progress and student life on campus.

LSCS colleges report campus crime statistics.
Please contact the student services office at any college or access the system’s home page at www.lonestar.edu for complete policies and information.

The provisions and information set forth in this catalog are intended to be informational and not contractual in nature. Lone Star College System reserves and retains the right to amend, alter, change, delete or modify any of the provisions of this catalog at any time or in any manner that the administration or Board of Trustees of the Lone Star College System deems to be in the best interest of the college.

The policies and procedures stated herein are for the student’s benefit and assistance. The administration of the system reserves the right to act as final interpreter of this catalog. Additionally, the administration reserves the right to change, without prior notice, tuition, fees, requirements and regulations, as obligated by district or legislative action.

The system cannot guarantee that courses listed in this catalog will be offered in any given term or year at any college. Registration for a particular section, course or program will be permitted only until available classroom space or facilities have been filled. LSCS reserves the right to cancel any course or section for which enrollment is insufficient.

A student who wishes to review documents regarding the accreditation of Lone Star College System may do so by making an appointment with the chief student-affairs officer.

**Equal Opportunity Statement**

Lone Star College System is committed to the principle of equal opportunity in education and employment. The system does not discriminate against individuals on the basis of race, color, gender, religion, disability, age, veteran status, nationality, sexual orientation, or ethnicity in the administration of its educational policies, admissions policies, employment policies, scholarship and loan programs, and other system or college administered programs and activities.

Inquiries concerning LSCS’s policies, compliance with applicable laws, statutes, and regulations (such as Title VI, Title IX, and Section 504), and complaints may be directed to the associate vice chancellor for human resources and diversity, 832.813.6646. The associate vice chancellor for human resources and diversity is designated as the system’s equal opportunity officer and Title IX coordinator. Inquiries about the laws and about compliance may also be directed to the assistant secretary for civil rights, U.S. Department of Education.

**ADA Statement**

LSCS is dedicated to providing the least restrictive learning environment for all students. The college system promotes equity in academic access through the implementation of reasonable accommodations as required by The Vocational Rehabilitation Act of 1973, Title V, Section 504 and the Americans with Disabilities Act of 1990 (ADA) which will enable students with disabilities to participate in and benefit from all post-secondary educational programs and activities.
STATEMENT OF MISSION/PURPOSE

Lone Star College System as a publicly-supported, two-year, comprehensive community college system involves diverse individuals, businesses, and the community in quality educational opportunities for the successful development of knowledge, skills, and attitudes for a rapidly changing world.

Through its colleges and centers, the Lone Star College System develops learning communities for:

- Workforce programs, leading to associate degrees or certificates, designed to develop marketable skills and support economic development.
- Academic courses in the arts and sciences to transfer to senior institutions.
- Continuing adult education programs for academic, professional, workforce, and cultural enhancement.
- Developmental education and literacy programs designed to improve the basic skills of students.
- A program of student support services, including counseling and learning resources, designed to assist individuals in achieving their educational and career goals.
- Workforce, economic, and community development initiatives designed to meet local and statewide needs.
- Other purposes as may be directed by the Board of Trustees and/or the laws of the State of Texas.

VALUE STATEMENTS

Learning Communities
We believe that the Lone Star Colleges are dynamic learning communities, distinguished by excellence in teaching, allowing citizens to develop to the full extent of their ability, to succeed in a competitive work environment, and to be effective lifelong learners.

Access with Quality
We believe that the Lone Star College System provides an enriching learning environment which meets the needs of its diverse communities through outreach, access, student support systems and a diverse faculty and staff.

Building Communities and Partnerships
We believe that the Lone Star College System is a catalyst for promoting a seamless educational journey and for nurturing the intellectual and cultural life of the community.

Economic and Workforce Development
We believe that the Lone Star College System serves as the critical link for economic and workforce development to improve the prosperity of our region through partnerships with business, government, and community organizations.

Human Resources
We believe that the most important resources of the Lone Star College System are the individual faculty and staff members, who are entitled to a supportive collegial work environment which rewards excellence, provides opportunities for professional development, encourages meaningful involvement in the decision-making process, and provides excellent compensation.
Technology

We believe that students achieve their learning goals best as the Lone Star College System provides responsive and effective support services, learning resources, current technologies and information systems.

Information

The Lone Star College System believes that the achievement of the mission and purpose requires an effective system of communication to both internal and external constituencies.

Leadership

We believe that the Lone Star Colleges, building on a solid foundation of growth and service, are recognized leaders in the community college movement, making important contributions to the profession through partnerships, innovation, scholarship, creative services, and integrated technologies.

Stewardship

We believe that the Lone Star College System is committed to rigorous stewardship of the resources entrusted to its care to assure maximum benefit for the community.

Evaluation

We believe that it is essential that the Lone Star Colleges – working separately for local effectiveness and working cooperatively as a single system for efficiency – must regularly assess the impact and outcomes of our efforts for continuous improvement.

Lone Star College System

at a Glance

www.LoneStar.edu

Once a student enrolls in Lone Star College, that person is making a decision to join one of the finest community colleges in the country. Offering a wide range of academic and workforce courses for recent high school graduates and community residents of all ages, LSCS is one of the largest and fastest growing community colleges in Texas.

Over 50,000 students register for credit courses each semester with an additional 15,000 in continuing education courses. The college system serves an area over 1,400 square miles, encompassing the school districts of Aldine, Conroe, Cypress-Fairbanks, Humble, Klein, Magnolia, New Caney, Splendora, Spring, Tomball, Willis, and the surrounding communities.

LSCS comprises Lone Star College-CyFair, Lone Star College-Kingwood, Lone Star College-Montgomery, Lone Star College-North Harris, and Lone Star College-Tomball as well as satellite centers LSC-Carver Center, LSC-Conroe Center, LSC-East Montgomery County Improvement District (EMCID), LSC-Fairbanks Center, LSC-Greenspoint Center, and LSC-Willow Chase Center. LSC-University Center, a partnership with LSC and six Texas universities, provides over 66 bachelor’s, master’s, and doctorate programs.

Innovative programs, nationally renowned faculty and student-centered learning environments make LSCS the right choice for students to:

- Obtain an associate degree or certificate;
- Transfer to a university;
- Gain new workforce skills;
- Change careers;
- Attain personal development goals; or
- Prepare for college level work.

The staff in our extended learning centers provide seminars, tutoring, computer services, Internet access, study groups and personal assistance to aid student success. Student groups and organizations welcome participation and encourage student involvement.

Education generates a trained workforce, which fuels the community’s economy. Established in 1972, the Lone Star College System remains committed to workforce training, state-of-the-art technological tools and educational excellence.

The Lone Star College System is committed to providing educational access for all through satellite centers, distance learning, dual credit courses for high school juniors and seniors, and course offerings when and where students need them. The system offers a variety of workforce certificates and degrees in addition to university general education transfer programs.
Lone Star College-CyFair
CyFair.LoneStar.edu

Lone Star College-CyFair, the newest addition to the Lone Star College System, has two convenient locations to serve the Cypress-Fairbanks community. The Barker Cypress location is nestled upon a beautiful 200-acre site at Barker Cypress and West Road while the LSC-Fairbanks Center on Hwy 290 allows easy access for students residing in the southeast region of Cy-Fair. As a comprehensive community college for the 21st century, both campuses provide a dynamic environment for life-long learning.

LSC-CyFair on Barker Cypress is a state-of-the-art campus for students seeking associate’s degrees, university-transfer courses, or continuing education. Among the campus features are computer-based classrooms and labs, specialized labs for technology skills training, fine arts and performing arts facilities, a theater for student and community enjoyment, and indoor/outdoor wellness facilities.

The college preserves a strong emphasis on responsiveness, innovation, collaboration, and student access. The vision of the college focuses on a strong commitment to student preparation for the changing world, the removal of barriers that hinder student success and exceptional service to students.

For more information, contact:
LSC-CyFair 281.290.3200
LSC-Fairbanks Center 832.782.5000

Lone Star College-Kingwood
Kingwood.LoneStar.edu

Situated on 264 beautifully landscaped wooded acres, Lone Star College-Kingwood serves the rapidly growing communities of Kingwood, Humble, Atascocita, and eastern Montgomery County. The college is conveniently located at Highway 59 and Kingwood Drive in the northeast sector of the district.

Students can register for a variety of degrees and certificates that include:

- Academy for Lifelong Learning
- Associate of Arts in Teaching
- Business and Management
- Computer Gaming and Simulation
- Computer Graphics Technology
- Computer Information Technology
- Cosmetology
- Dental Hygiene
- Facilities Management
- Interior Design
- Logistics
- Occupational Therapy Assistant
- Nursing – RN and LVN
- Respiratory Care Therapist
- Teacher Alternative Certification

In addition to the main campus, LSC-Kingwood offers both credit and continuing education classes at the LSC-East Montgomery Improvement
District Center (EMCID) located in New Caney. Evening classes are also offered at Cleveland and Atascocita High Schools. For more information contact:

LSC-Kingwood
281.312.1600
or 1.800.883.7939

LSC-EMCID Center
281.312.1750
or 1.800.883.7939

Lone Star College-Montgomery
Montgomery.LoneStar.edu

Completed in 1995, Lone Star College-Montgomery is a 320,000-square-foot campus located on 100 acres of pine forest, between The Woodlands and Conroe, Texas.

The college offers more than 40 career programs as well as academic transfer courses in a variety of subjects. Programs of note include criminal justice, physical therapist assistant, biotechnology, vocational and registered nursing, radiologic technology, human services, computer information technology, land surveying, and management. Academic courses include a wide variety of traditional offerings and specialty areas such as teacher education, art, music, theater, and more.

LSC-Montgomery also works with its surrounding community, establishing programs such as the Academy for Lifelong Learning for active older adults, a popular series of summer camps for youth, and a wide variety of educational and cultural events.

The college’s LSC-Conroe Center provides an array of business and technology courses and programs, as well as some transfer classes. For more information, contact:

LSC-Montgomery
936.321.5161 (metro)
936.273.7000 (local)

LSC-Conroe Center
936.271.6000

Lone Star College-North Harris
NorthHarris.LoneStar.edu

Lone Star College-North Harris was the first college in the system, serving students since 1973. Meeting the needs of the community, LSC-North Harris has many unique programs as well as programs shared by all colleges in the system.

Degree and certificate programs available at LSC-North Harris include:

- Automotive Technology
- Integrated Technologies
- Cosmetology
- Criminal Justice
- Health Information Technology
- Hospitality Management
- Interpreter Training Technology
- Management
- Medical Assisting
- Nursing
GENERAL INFORMATION

- Paralegal Studies
- Pharmacy Technology
- Teacher Education

In addition to the 200-acre campus, LSC-North Harris serves students with two satellite centers. LSC-Greenspoint Center is located off Beltway 8 near I-45 at 250 N. Sam Houston Parkway East in the Greenspoint area, and LSC-Carver Center is located at 2330 S. Victory in Acres Homes.

For more information, contact:

LSC-North Harris 281.618.5400
LSC-Greenspoint Center 281.260.3500
LSC-Carver Center 281.618.5800

Lone Star College-Tomball
Tomball.LoneStar.edu

Lone Star College-Tomball, as do all of the colleges in Lone Star College System, boasts a class ratio as low as 15-20 students per class. This small class size allows for more one-on-one instruction and provides students and teachers the opportunity to explore learning with more personal attention.

Serving the western sector of the college district, Lone Star College-Tomball provides degrees and certificates in a variety of areas, including:

- Accounting
- Computer Gaming
- Electrician
- Engineering Technology
- Management
- Nursing
- Occupational Therapy Assistant
- Pharmacy Technology
- Surgical Technology
- Veterinary Technology

LSC-Willow Chase Center is the primary satellite center located at 249 and Grant Road with over 50,000 square feet for classes and computer labs. LSC-Tomball also offers night courses at local high schools.

For more information, contact:

LSC-Tomball 281.351.3300
LSC-Willow Chase Center 281.401.5300

LSC-University Center
UC.LoneStar.edu

Once you have completed your first two years of college coursework at one of the campuses in LSCS, you may want to continue at Lone Star College-University Center (LSC-UC) to earn your
bachelor’s or master’s degree or doctorate. A partnership with LSCS and six Texas universities, LSC-UC provides programs in over 67 areas of concentration. The partnering universities are:

- Prairie View A&M University
- Sam Houston State University
- Texas A&M University
- Texas Southern University
- University of Houston
- UH - Downtown

Undergraduate and graduate degree programs are offered in many areas, including:

- Business
- Computers
- Criminal Justice
- Educational Leadership
- Engineering
- Healthcare/Nursing
- Liberal Arts
- Mathematics
- Natural Sciences
- Social Sciences
- Teacher Education

Offering the latest in high-tech education, Lone Star College-University Center is fiber optic cabled and is wired for videoconferencing with Internet access in every classroom. This technology, coupled with distance learning options, provides students a variety of formats and times in which they can complete their education.

For more information, contact:

LSC-University Center 281.618.7140 or 936.273.7510

Lone Star College Online

Online.LoneStar.edu.

Lone Star College Online is comprised of online and hybrid classes. The content and transferability of online and hybrid courses are the same as traditional on-campus courses. Similar to classes offered on-campus, instructors in distance learning classes use a variety of learning activities such as discussion, class projects, exams, presentations, and written papers. Many online or hybrid classes require students to complete orientation activities at the beginning of the class. Students can complete all core degree requirements and associate of arts and associate of science degree requirements through distance learning. Students enrolled in distance learning courses have the same rights and responsibilities as they do in traditional campus-based classes.

Online Classes:

Online classes, formerly called distance learning or DL classes, may require proctored (supervised) exams or other necessary learning activities such as orientations or labs. For these activities, online students have the option to go to an LSCS college site or to an off-campus location that is convenient to you and approved by your instructor.
**Hybrid Classes:**
Classes that routinely meet on-campus but also regularly use alternative delivery methods are called hybrid classes (formerly called flex or flexible schedule classes).

For additional information on LSC Online, call 832.813.6700, e-mail distance.learning@lonestar.edu or visit the Web at http://online.lonestar.edu.

**Continuing Education**
LSCS encourages individuals to engage in lifelong learning through participation in seminars, workshops, forums, activities, and workforce and leisure education programs. Continuing education courses address the learning needs of a community, including workforce development, GED, ESOL, literacy, recreation, and leisure offerings.

Leisure offerings for personal growth or enrichment are provided at each of the colleges. Participants can develop a hobby, learn a skill, learn a language or learn about a new topic. Most offerings are available to adults of any age, with special programs for youth and seniors.

Workforce education offerings prepare individuals for jobs as well as improve current job skills. Certificates are awarded for workforce development programs and courses, some of which lead to industry skills certification. Students earn continuing education units (CEUs) for each workforce development course completed. The CEU is an internationally recognized credit unit for successful completion of learning outcomes in a continuing education course/program. Standards are maintained by the International Association for Continuing Education and Training.

Students completing courses for CEUs have a permanent transcript available on request. One CEU is defined as “ten (10) contact hours of participation in an organized continuing education experience under responsible sponsorship, capable direction, and qualified instruction.” All workforce development courses meet criteria established by the Texas Higher Education Coordinating Board, and the Southern Association of Colleges and Schools. For more information, contact the individual college that you are interested in attending.

**Lone Star Corporate College**
Lone Star Corporate College strategically partners with organizations to assist with innovation and productivity, thereby adding profitability through investment in employee training and education. By analyzing a company’s business needs, Corporate College professionals develop relevant training solutions required for a highly skilled and effective workforce.

The system recently streamlined its customized training operations by consolidating efforts at the five colleges into a single office and identity: Lone Star Corporate College. Lone Star Corporate College will serve as single point of contact to business partners throughout the region. This new office will help each college reach beyond traditional service areas to serve industry groups across the LSCS region.

We expect that much of the training will be conducted at the business location; however, we will use college resources and the Greenspoint location when appropriate. And of course our team would not be complete without our highly talented, seasoned trainers who are subject matter experts in the areas they train.

**Training Solutions**
Although our initial focus will be on the manufacturing, energy, government and transportation industries, we also offer training to retail, hospitality, school districts, health care organizations and various non-profit organizations. Staff in our office are continually scanning our business environment to insure we are offering up-to-date programs and courses to meet the needs of an ever-changing workforce and help businesses retain their employees.

Working with Lone Star Corporate College offers several benefits: college credit for attendees (CEUs or transfer credits), curriculum design experts, a source from which to recruit new employees, vast instructional resources including technical labs, and the confidence that these instructional resources are well qualified.
Continuing Education and Credit Linked Courses

Students may enroll in continuing education courses that are linked to semester hour courses in which both credit and continuing education students attend the same class. Continuing education students who register for linked courses must meet the same requirements and prerequisites as credit students. Students registered through continuing education earn continuing education units (CEUs).

Community Partnerships

LSCS’s office of external affairs helps coordinate community, economic, and small business development activities with each LSCS college. The Small Business Development Center (SBDC) and the North Houston Economic Development Alliance provide a central contact point for 10 area chambers of commerce and the North Houston Association.

For more information, contact the LSCS Office of External Affairs at 832.813.6620.

Clery Act


Racial Profiling

The LSCS police department prohibits the practice known as “racial profiling” by its officers. Go to http://www.lonestar.edu/racialprofiling for more information.

Sex Offender Data

Registered sex offenders that work, volunteer, or are enrolled in classes on the campuses of LSCS are listed at www.lonestar.edu on the campus safety registered sex offender link.

Information concerning registered sex offenders can be accessed from the Texas DPS Web site at https://records.txdps.state.tx.us/dps_web/portal/index.aspx.

Sex Offender Policy

Effective September 1, 2003, the Texas Code of Criminal Procedure 62.03(h) requires each person who is required to register as a sex offender and who intends to be employed, work with a contractor, or attend classes at an institution of higher education to register with the campus police department within seven days. Current LSCS board policy requires that sex offenders seeking to enroll at, provide services to, or be employed with LSCS submit information pertinent to his or her offenses to the District Review Committee to determine his or her eligibility for enrollment, vendor services or employment. A person seeking to be a student shall be required to be approved before completing the registration process.

Inclement Weather

In the event of inclement weather or emergency closing, the location executive officer or designee may cancel all or some of the college classes. Generally, such decisions will be made between 5:30 a.m. and 6 a.m. for day classes and by 3 p.m. for evening classes. When off-campus facilities are closed for any reason, the college classes at those sites will also be canceled. The closing announcement will be made on local radio/television stations or go to our Web site at www.lonestar.edu.

Computer Maintenance

Data centers require periodic service and upgrades to operate at their highest capacity and efficiency. To minimize system downtime and promote predictable periods of availability, LSCS has established maintenance windows for all systems. Maintenance on the Blackboard Vista system used for distance learning occurs Friday mornings from 2 a.m. – 4 a.m. Maintenance on all other systems occurs on Sundays from midnight (12:01 a.m.) until noon. Planned outages outside these maintenance windows are announced on LSCS Web sites.
Admission Policies and Procedures

The Lone Star College System is an open admissions system. LSCS prefers that all new LSCS students fill out and submit an LSCS application form at http://www.lonestar.edu/apply to expedite the application process. Alternately, new students may complete the Texas Common Application for Community Colleges at www.applytexas.org understanding that use of the Apply Texas application is not a real-time submission. Those submitting applications using the Texas Common Application process will experience at least a one day delay in processing their requests for LSCS admission. Returning students must update their general information and submit a new residency oath if they have not been enrolled during the preceding fall and spring semesters.

Admissions Criteria For Credit Courses

Once admitted to LSCS, students may elect to attend any college within the system. Admission to LSCS does not guarantee admission to a specific limited-enrollment program. Students may be admitted to the system under any one of the following criteria:

1. Graduate from high school.
2. Transfer from another college or institution.
3. Obtain GED (General Education Development) certificate by passing the test as certified by a state education agency.
4. Meet international student criteria (F-1 Visa). Additional information relating to academic background, financial support as well as a personal interview may be required for admission. See admission procedures for international students on pages 22-23.
5. Meet exceptional admission criteria. Exceptional admission at LSCS is designed for students whose academic needs can best be met by the inclusion of college-level instruction. Students enrolled in high school who do not have a GED certificate or a diploma from high school may qualify for exceptional admission.

6. Obtain individual approval. Students who do not meet any of the above requirements, may be admitted with special individual approval, provided sufficient evidence is presented that the student can do college-level work. Evidence may include, but is not limited to, standardized written exams, other measurement instruments, or a non-written examination for workforce course work.

Exceptional Admissions: Definition

College credits earned through the exceptional admission program will be accepted by most institutions on the same basis as other college credit. There is a possibility, however, that a specific college may add additional requirements for transfer purposes. Contact the college admissions office or a high school counselor for more information.

Entrance into college-level courses may require higher level placement scores than the passing standard for state mandated tests.

An exceptional admissions student may apply for financial aid, such as the Texas Public Education Grant. Funds will be awarded if students meet eligibility criteria. Contact the financial aid office at the college of your choice for more information.

Participation in the exceptional admissions program may make some students ineligible for University Interscholastic League (UIL) competition in certain academic areas, depending on the courses taken. English and history courses do not affect eligibility. Students should contact their high school advisor for specific UIL requirements.
Exceptional Admissions Process

The following must be completed and provided to the college admissions office prior to or when registering:

1. Visit http://www.lonestar.edu/apply to complete the application.
2. Copy of official test scores.
3. Evidence that required course prerequisites have been satisfied such as high school or college transcript, or advising profile.
4. College registration form with college classes authorized by high school counselor or home school administrator.
5. Exceptional admission form signed by student, parents, high school principal, or designee which lists the college classes and high school classes, if enrolling in a dual credit course.
6. Proof that the student has met TSI requirements in the areas that are applicable to the courses that the student wishes to enroll in and have the course prerequisites.

Additionally, students 15 years or younger must receive approval for exceptional admission by the following criterion:
- Student’s parent (or a designated responsible adult) agrees to be available at the college location to monitor the student’s activities outside of class while at an LSCS college and to be immediately available in case of an emergency.

Dual Credit: Definition

Dual credit is part of the Lone Star College System’s exceptional admissions program. It is especially designed for junior and senior secondary education students who qualify to earn high school and college credit simultaneously while still in high school.

LSCS colleges have agreements with several high school districts that permit eligible high school students to earn college credit while satisfying high school graduation requirements at the same time.

Upon approval by the high school principal or designee and college admission through the exceptional admissions program, a student may enroll in college courses taught either at the high school or at LSCS. Students may enroll in a maximum of two college-level courses per semester. Exceptions require approval by the instructional vice president or designee.

Dual Credit: Requirements

In order for students to be eligible for dual credit, all of the following must be met:

- The high school has an agreement with Lone Star College System.
- The student is currently enrolled in a public or private high school or home school.
- The student has an updated LSCS application on file.
- The student meets the requirements for exceptional admission.
- The student has approval from high school designee, college designee and parent/guardian.
- The student has taken an approved assessment:
  1. ASSET, ACCUPLACER, COMPASS, or THEA in all three areas (reading, writing and math) or
  2. Exempt scores based on ACT, SAT, or 10th grade or exit TAKS scores (2200 and 3 on English language arts section and 2200 on math section).
- For dual credit students who do not have exemption scores in all sections of TAKS, SAT or ACT, additional assessment will be required.
- The student must meet prerequisites in the areas that are applicable to the course including reading, writing and math, where appropriate.
- The student may be eligible to enroll in workforce education dual credit courses in the 11th and/or 12th grade if the student achieves the minimum high school passing standard on the English/Language Arts
ADMISSION POLICIES AND PROCEDURES

section of the 10th or 11th grade TAKS and meets the prerequisites of the course being taken.

Note: Courses beyond high school graduation require 11th grade exit level TAKS scores or other placement assessment scores to be submitted to the Admissions Office at any LSC campus.

Dual Credit Class Load and Grades
State regulations allow a dual credit student to take a maximum of two college credit courses per semester. When indicators such as grade point average or assessment scores indicate a student may have the academic ability to handle more than two courses, exceptions may be granted by the college’s instructional vice president or designee. Effective fall 2009 dual credit students receive a 100 percent discounted tuition rate. All other fees will be assessed at the regular rate. High school students must complete each college course attempted with a grade of “C” or better in order to continue in the program. For additional information about dual credit, please contact the college instructional vice president.

Joint Admissions
The Joint Admissions program is a partnership that allows LSCS students the opportunity to apply to and enroll in Sam Houston State University, University of Houston, UH-Downtown, Prairie View A&M, or Texas Southern University while still attending LSCS. This facilitates course transfer directly into a program-specific bachelor’s degree. Students in this program receive all the benefits of being a typical university student, including access to university advisors and degree plans.

Reverse transfer establishes policies and procedures for credits earned at universities to be transferred to LSCS and applied toward associate degrees. For additional information, go to our Web site at www.tuc.edu/services/jointadmissions.htm or contact the articulation and university relations department at Lone Star College-University Center at 936.273.7606.

Admissions Procedures For International Students
LSCS is authorized under federal law to enroll non-immigrant students carrying valid visas. Currently there are over 2,100 international students from 102 different countries. Students residing in the U.S. but who are not U.S. residents or citizens must present proper documentation for an appropriate visa category. These documents include a copy of the student’s valid passport, visa and I-94 card. Additional information is also required to show proof of their academic background. LSCS adheres to Citizenship and Immigration Services (CIS) guidelines. It is the responsibility of the student to have knowledge of CIS regulations pertaining to their visa type.

Enrollment involves three processes: admission, advisement and course registration. Applicants should contact the international student advisor at the college where they plan to attend. To be considered for admission to LSCS on a student visa, the applicant must present the following items with their completed application forms:

1. A LSCS International Student Application, completed and signed by applicant.

2. Evidence of financial support, showing that adequate funding is available to pay for the applicant’s educational and living expenses. Applicants will submit the International Student Financial Responsibility Statement, completed and signed by the applicant and the Financial Responsibility Statement for International Student Sponsor, if applicable, for each sponsor.

3. Proof of English proficiency, if appropriate, which can be assessed at the time of enrollment or by submitting one of the following:
   - Test of English as a foreign language (TOEFL) score of 530 or higher on the paper version of TOEFL or 197 or higher on the computerized version or 71 on the internet-based version.
• Official transcripts from an accredited U.S. college or university showing successful completion of coursework including a college-level writing course (not ESOL).

• Official records from a foreign high school or higher education institution where English is the primary language of instruction may indicate English proficiency.

• Documented completion of the final level of an intensive English language program approved by LSCS.

• Individuals not proficient in English upon arrival will be required to be assessed for placement in the intensive English program.

4. Evidence of high school graduation or college level work including complete official high school records showing completion or college/university transcripts translated into English. Degree-seeking students that have college/university credits outside the U.S. and wish to transfer their credits to LSCS, must submit a course-by-course evaluation by the American Association of Collegiate Registrars and Admissions Officers (AACRAO) International Education Services or by a service that maintains current membership in the National Association of Credential Evaluation Services, Inc. (NACES).

5. International Student Transfer Information Form completed by an international student advisor from the student’s previous institution and current copies of relevant documents including passport pages, U.S. visa, Form I-94, I-20, and financial documents must be submitted by transfer students from U.S. schools.

6. F-1 Status Form, signed and dated by applicant.

F-1 students are required to purchase health insurance or provide proof of adequate and acceptable health insurance by completing the waiver application before registration. The premium for the LSCS International Student Health Insurance Plan will be included with the tuition and fees at registration.

International students must be enrolled in a minimum of 12 semester credit hours.

Visit www.lonestar.edu/ips to access required forms and to learn more about the colleges in the system and the programs each college offers. Once accepted for admission into a college, the student will receive a welcome packet containing an I-20 form. All LSCS students must meet the requirements of the Student Success Initiative (see page 30).

All new (F-1) international students must attend a mandatory international student information session during their first semester. Please check with the international student advisor at the college.
Registration Policies and Procedures

Types of Courses
Lone Star College System offers various course delivery methods and enrollment options. LSCS has offerings in Continuing Education and College Credit. Continuing Education courses range from workforce development to GED to leisure pursuits. College credit courses are designed for students wishing to complete an associate’s degree, complete a certificate or transfer to a four-year university.

Enrollment in courses may be restricted if the prerequisite skills or recommended prior learning are not met, as demonstrated by assessment scores and/or transcripts of previous work.

How To Enroll: Continuing Education
1. Obtain a course schedule.
2. Select classes and register online at http://www.lonestar.edu/apply or in person at any Lone Star College, or by mail, phone or fax.
3. Pay for courses when registering.

Steps to Enrolling: Credit Courses
As an open admissions college system, LSCS makes it easy to get started. The steps are:
• Submit an online admissions application. Forms are available at http://www.lonestar.edu/apply.
• Returning students must update their information and complete a new residency oath if they have not enrolled in the preceding fall and spring semester.
• Submit assessment scores or take an assessment test (ASSET, COMPASS, ACCUPLACER or THEA).
• Submit all official transcripts.
• Make arrangements in the counseling or advising office to discuss instructional plans.
• Apply for financial aid if needed.
• Apply for academic fresh start if needed.
• Register for classes.
• Pay tuition and fees.

Registration Procedures For Non-Degree Seeking Students
A student who is not seeking a degree or certificate from LSCS may enroll for a maximum of 12 semester credit hours without being assessed in reading, writing and mathematics. A student who regularly attends another college and plans to enroll only in the summer, must provide documentation of enrollment in another institution prior to enrolling at LSCS. All students must meet the required prerequisites for courses.

Registration Information
Registration for courses occurs several times throughout the year. Registration dates, procedures, and other pertinent information are printed each semester in the course schedule booklet and are available online at www.lonestar.edu/schedule. Additional registration, assessment testing, and advising information may also be obtained at the college where students register. New students are strongly encouraged to attend new student orientation at any of the colleges.

Auditing a Course
Approval to visit or audit a course may be granted by the instructional vice president or designee during the last week of registration for the class. The charges for auditing courses are the same as charges for credit enrollment. Credit will not be granted for an audited course unless approval to change from audit to credit is granted prior to the official day of record. Students may not change from credit to audit. Refunds for withdrawal from audit classes will be made according to the refund schedule established for credit courses during that semester or term. Students must meet the required prerequisites to audit a class.
Academic Overload
(Recommended Academic Load)
An overload is defined as attempting more than 18 credit hours in the fall or spring terms. An advisor can provide specific information about overloads in summer and other non-traditional length terms. Students may only enroll in one course during a mini-semester. An overload during any term must be approved by the academic vice president or designee.

Prerequisite or Corequisite Courses
Before registering for many courses, a student must complete designated prerequisites. Such requirements are indicated as part of the course description and are subject to change. College-level reading and writing readiness are required prerequisites for most college credit courses. It is the student's responsibility to take courses in sequence and at the proper level. Failure to adhere to prerequisite/corequisite requirements may result in administrative withdrawal from the course. The corequisite notation in a course description indicates that a student who enrolls in the course must enroll concurrently in the listed corequisite unless the course has been taken previously.

Under special circumstances, the instructional vice president or designee may allow a student to register for a course without the required prerequisites. Students are cautioned that, under such circumstances, though they may receive credit toward graduation, another college may not accept such credits in fulfillment of certain specific requirements for a degree. Normally dual credit students are permitted to enroll in only two college courses each semester.

Change of Schedule
Requests for change of schedule should be made prior to the first day of the new course. Changes are allowed only when space is available in the course(s) the student wishes to add. This change is not complete until it has been received and accepted by the admissions office.

Course Withdrawal Policy
Withdrawal from a course after the official day of record will result in a mark of “W” on the student’s transcript and no credit will be awarded for the course(s). Prior to the official withdrawal date, it is the student’s responsibility to initiate a request for withdrawal from any course. The withdrawal will only be processed if the student completes and submits for signature the required withdrawal form(s). The student is strongly encouraged to consult with the faculty member and/or a counselor/advisor prior to submitting the request for withdrawal. Local college procedures are on file in the admissions office for the specific requirements regarding withdrawal requests.

Prior to the withdrawal date, faculty members may initiate requests for withdrawal of students for circumstances that the faculty member believes are appropriate. Any circumstances under which the student may be withdrawn by the faculty member will be included in the class syllabus. Students may not automatically be withdrawn for non-attendance in a class. If a student registers and pays for a course(s), it is the student’s responsibility to drop/withdraw before the “W” date.

Satisfactory academic progress is required for continuing eligibility for financial aid. Consult the college’s financial aid office regarding the course completion requirements prior to withdrawing from any courses.

Under Section 51.907 of the Texas Education Code, “An institution of higher education may not permit a student to drop more than SIX (6) courses, including any course a transfer student has dropped at another Texas public institution of higher education.” This statute was enacted by the State of Texas in Spring 2007 and applies to students who enroll in a public institution of higher education as first-time freshmen in the Fall 2007 semester or later. Students enrolled prior to Fall 2007 are not affected. Any course that a student drops is counted toward the six-course limit unless the student is completely withdrawing from the institution or meets one of the eligible
criteria for a waiver. A “drop” in this instance is considered when a student is dropped or withdrawn from a course after official day resulting in a grade of “W.” Eligible criteria for a waiver include a) change of work schedule prohibiting attendance, b) active military, c) severe illness or debilitating condition, d) death of a family member, e) class cancellation, and f) complete withdrawal.

**Academic Fresh Start Program**

Under the provisions of the Texas Education Code, Section 51.931, a Texas resident is entitled to apply for admission/readmission to a LSCS college or to any specialized admission program at LSCS and elect to have all academic course work earned 10 or more years prior to the requested enrollment date ignored for enrollment purposes. If the applicant completes the right to an academic fresh start agreement with the college admissions office prior to registration confirming the decision to enroll under the academic fresh start statute, this institution will not consider academic course credits or grades earned by the applicant 10 or more years prior to the starting date of the semester in which the applicant seeks to enroll. An applicant who decides to apply under this statute may not receive any course credit for courses taken at any college or university 10 or more years prior to enrollment.

An applicant who chooses to exercise the provisions of the Academic Fresh Start Program must meet all LSCS admission/readmission requirements and must submit official transcripts from all colleges or universities attended. The courses excluded under this provision may not be counted toward a degree, may not be counted in the GPA calculations or academic standing and may not be used to meet prerequisite requirements.

The Academic Fresh Start Program does not apply to the Standards of Academic Progress for financial aid applicants. Therefore, the student may not qualify for financial aid based on prior academic performance.

**Texas Success Initiative (TSI)**

As of September 1, 2003, Senate Bill 286, section 37 replaced the TASP statute with the Texas Success Initiative (TSI). Under the Texas Success Initiative, students will be assessed, receive the help they need to become college-ready, and be evaluated to determine when they are ready to enroll in college-level work.

All students, unless exempt (see Chart A), must take the ASSET, ACCUPLACER, COMPASS or THEA prior to enrolling in college-level courses. Students who do not meet minimum level scores in any section of a state-approved assessment test will need to participate in appropriate developmental coursework. Students are considered “TSI Complete” if they have met minimum scores for each section of the test or completed the highest developmental course in reading, writing, or Mathematics 0308 or TECM 1303 with a grade of “C” or better. (see Chart A on next page)

Please Note: Most “TSI Complete/Exempt” scores do not equate to college-level. If needed, please see your academic advisor for additional explanation.
### REGISTRATION POLICIES AND PROCEDURES

**CHART A**

*(TSI Complete/Exempt)*

**Minimum Score and Course Requirements**

<table>
<thead>
<tr>
<th>Test</th>
<th>MATH</th>
<th>READING</th>
<th>WRITING</th>
</tr>
</thead>
<tbody>
<tr>
<td>THEA/Quick THEA</td>
<td>230</td>
<td>230</td>
<td>220</td>
</tr>
<tr>
<td>ASSET</td>
<td>EA 38 or IA 36</td>
<td>41</td>
<td>40 and 5 essay or 6 essay only*</td>
</tr>
<tr>
<td>COMPASS</td>
<td>A 39</td>
<td>81</td>
<td>59 and 5 essay or 6 essay only*</td>
</tr>
<tr>
<td>ACCUPLACER</td>
<td>EA 63</td>
<td>78</td>
<td>80 and 5 essay or 6 essay only*</td>
</tr>
</tbody>
</table>

**Courses**

<table>
<thead>
<tr>
<th></th>
<th>MATH 0308 ≥ C</th>
<th>ENGL 0305 ≥ C</th>
<th>ENGL 0307 ≥ C</th>
</tr>
</thead>
</table>

### TSI Exemptions: Subject Score

<table>
<thead>
<tr>
<th>Test</th>
<th>Subject Score</th>
<th>Subject Score</th>
<th>Subject Score</th>
</tr>
</thead>
</table>
| **ACT**
23 composite in English & Math and 19 subject score (Valid for 5 years) | 19 | 19 | 19 |
| **SAT**
1070 composite in critical reading/verbal & Math and 500 subject score (Valid for 5 years) | 500 | 500 (verbal/critical reading) | 500 (verbal/critical reading) |
| **TAKS**
(Valid for 3 years)
(student must still be assessed for placement) | 2200 | 2200 w/ 3 on essay | 2200 w/ 3 on essay |

*The writing essay and objective components of the COMPASS, ASSET, and ACCUPLACER test instruments are to be taken at the same time for TSI purposes only.*

** Students may be exempt from an individual section if they have the composite score and the required subject score.

*** Students may be exempt from individual sections based on these scores; Students must still be assessed in math for placement purposes.

**Students will also be considered TSI Complete if:**

- He or she transfers in courses from a private, independent or an accredited out-of-state institution of higher education and has satisfactorily completed, with a “C” or better, college level coursework as determined by the receiving institution. Transfer courses that qualify a student as TSI Complete are listed at [http://www.lonestar.edu/TSI](http://www.lonestar.edu/TSI).

- A student who has previously attended any Texas state college or university and has been determined to be TSI Complete by that institution.

- A student who has graduated with an associate or baccalaureate degree from an institution of higher education. However, students must still meet prerequisites for all classes.

- A student who is enrolled in a certificate program of one year or less (Level-One certificates, 42 or fewer semester credit hours or the equivalent). However, students must still meet prerequisites for all classes.

- A student who is serving on active duty as a member of the armed forces of the United States, the Texas National Guard, or as a member of a reserve component of the armed forces of the United States and has been serving for at least three years preceding enrollment. Also, a student who on or after August 1, 1990, was honorably discharged, retired, or released from active duty as a member of the armed forces of the United States or the Texas National Guard or service as a member of a reserve component of the armed forces of the United States. However, students must still meet prerequisites for all classes.
### CHART B
Course Placement Scores

<table>
<thead>
<tr>
<th>Course</th>
<th>ACCUPLACER</th>
<th>ACT</th>
<th>ASSET</th>
<th>COMPASS</th>
<th>SAT</th>
<th>TAKS (exit level)</th>
<th>THEA</th>
<th>TOEFL</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Math</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Take ASSET, COMPASS, or THEA</td>
<td>EA 0-40</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0306</td>
<td>EA 41-59</td>
<td>NS 23-42 or EA 23-34</td>
<td>A 0-35 or PA 0-100</td>
<td></td>
<td>0:230</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0308</td>
<td>EA 60-71</td>
<td>NS 43+ or EA 35-42</td>
<td>A 36-49 PA - not used</td>
<td></td>
<td>231-252</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0310</td>
<td>EA 72-86</td>
<td>EA 43+ or IA 37-46</td>
<td>A 50-66</td>
<td></td>
<td>253-274</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1314</td>
<td>EA 87+</td>
<td>21</td>
<td>IA 47+ or CA 25+</td>
<td>A 67+ or CA 0-50</td>
<td>520-549</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1316, 1324, 1325, 1342, 1350, 1351</td>
<td>23</td>
<td>CA 44-50</td>
<td>CA 51-100</td>
<td>550-599</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2412</td>
<td>25 and B or better in HS PreCal or Trig</td>
<td>CA 44-50 and B or better in HS PreCal or Trig</td>
<td>CA 51-100 &amp; T 0-50 and B or better in HS PreCal or Trig</td>
<td>600-649 and B or better in HS PreCal or Trig</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2413</td>
<td>27 and B or better in HS PreCal or Trig</td>
<td>CA 51-55 and B or better in HS PreCal or Trig</td>
<td>T 51-100 and B or better in HS PreCal or Trig</td>
<td>650+ and B or better in HS PreCal or Trig</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Writing</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0306</td>
<td>0-50</td>
<td>23-34 and 6 or lower on essay</td>
<td>1-35 and 6 or lower on essay</td>
<td></td>
<td>0-179</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0307</td>
<td>51-79</td>
<td>35-44 and 6 or lower on essay; 45 and 5 or lower on essay</td>
<td>36-84 and 6 or lower on essay; 85 and 5 or lower on essay</td>
<td></td>
<td>180-219</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1301</td>
<td>80+ and 6 essay or 7 essay only</td>
<td>19+</td>
<td>45+ and 6 essay or 7 essay only</td>
<td>85+ and 6 essay or 7 essay only</td>
<td>500+</td>
<td>2200+ with 3+ writing essay</td>
<td>220+</td>
<td>530 Paper 197 Computer 71 Internet</td>
</tr>
<tr>
<td><strong>Reading</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0304</td>
<td>0-56</td>
<td>0-32</td>
<td>0-65</td>
<td></td>
<td>0-199</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0305</td>
<td>57-77</td>
<td>33-40</td>
<td>66-80</td>
<td></td>
<td>200-229</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1301</td>
<td>78+</td>
<td>19+</td>
<td>41+</td>
<td>81+</td>
<td>500+</td>
<td>2200+ with 3+ writing essay</td>
<td>230+</td>
<td>530 paper 197 computer 71 Internet</td>
</tr>
</tbody>
</table>

NS – Numerical Skills  IA – Intermediate Algebra  PA – Pre Algebra  
A – Algebra  EA – Elementary Algebra  CA – College Algebra
**REGISTRATION POLICIES AND PROCEDURES**

**Student Success Initiative (SSI)**
The Lone Star College System’s SSI plan implements appropriate prerequisites for all courses. All college-level courses, with few exceptions, have college-level reading and writing prerequisites. These prerequisites will assure that students have the ability to succeed in courses at the collegiate level. All associate degrees and certificates over 42 credit hours require completion, with a “C” or better, of Math 0308 or higher and college level reading and writing or higher based on degree requirements.

A student enrolling in any college-level academic course must complete, with a “C” or better, all appropriate developmental coursework or retake the section of ASSET, ACCUPLACER, COMPASS, or THEA and score high enough to place into the college-level course (see Chart B).

Please Note: Most “TSI Complete/Exempt” scores do not equate to college-level. If needed, please see your academic advisor for additional explanation.

**Intensive English Program**
The Intensive English Program is designed for non-native English speakers who want to improve their language and culture skills. Students enroll in either credit or continuing education courses depending upon the student’s goal. The program has been accredited by the Commission on English Language Program Accreditation and is a member of the American Association of Intensive English Programs.

### ENGLISH FOR SPEAKERS OF OTHER LANGUAGES PLACEMENT CHART

#### ESOL READING

<table>
<thead>
<tr>
<th>LEVEL</th>
<th>COMPASS ESL</th>
<th>CREDIT</th>
<th>CONTINUING EDUCATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Read 38-64</td>
<td>ENGL 0337 ESOL Reading High Beginning</td>
<td>CENGL 3003701 ESOL Reading High Beginning</td>
</tr>
<tr>
<td></td>
<td>Listen 42-66</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Read 65-79</td>
<td>ENGL 0338 ESOL Reading Low Intermediate</td>
<td>CENGL 3003801 ESOL Reading Low Intermediate</td>
</tr>
<tr>
<td></td>
<td>Listen 67-81</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3*</td>
<td>Read 80-91</td>
<td>ENGL 0339 ESOL Reading High Intermediate</td>
<td>CENGL 3003901 ESOL Reading High Intermediate</td>
</tr>
<tr>
<td></td>
<td>Grammar 84-93</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4*</td>
<td>Read 92-99</td>
<td>ENGL 0305 Reading II Advanced</td>
<td>ENGL 0305 Reading II Advanced</td>
</tr>
<tr>
<td></td>
<td>Grammar 94-99</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### ESOL WRITING

<table>
<thead>
<tr>
<th>LEVEL</th>
<th>COMPASS ESL</th>
<th>CREDIT</th>
<th>CONTINUING EDUCATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Grammar 42-62</td>
<td>ENGL 0353 ESOL Writing High Beginning</td>
<td>CENGL 3005301 ESOL Writing High Beginning</td>
</tr>
<tr>
<td>2</td>
<td>Grammar 63-83</td>
<td>ENGL 0354 ESOL Writing Low Intermediate</td>
<td>CENGL 3005401 ESOL Writing Low Intermediate</td>
</tr>
<tr>
<td>3*</td>
<td>Grammar 84-93</td>
<td>ENGL 0355 ESOL Writing High Intermediate</td>
<td>CENGL 3005501 ESOL Writing High Intermediate</td>
</tr>
<tr>
<td>4*</td>
<td>Grammar 94-99</td>
<td>ENGL 0356 ESOL Writing Advanced</td>
<td>CENGL 3005601 ESOL Writing Advanced</td>
</tr>
</tbody>
</table>

#### ESOL ORAL COMMUNICATION

<table>
<thead>
<tr>
<th>LEVEL</th>
<th>COMPASS ESL</th>
<th>CREDIT</th>
<th>CONTINUING EDUCATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Listen 42-66</td>
<td>ENGL 0343 ESOL Oral Communication High Beginning</td>
<td>CENGL 3004301 ESOL Oral Communication High Beginning</td>
</tr>
<tr>
<td>2</td>
<td>Listen 67-81</td>
<td>ENGL 0344 ESOL Oral Communication Low Intermediate</td>
<td>CENGL 3004401 ESOL Oral Communication Low Intermediate</td>
</tr>
<tr>
<td>3</td>
<td>Listen 82-91</td>
<td>ENGL 0345 ESOL Oral Communication High Intermediate</td>
<td>CENGL 3004501 ESOL Oral Communication High Intermediate</td>
</tr>
<tr>
<td>3</td>
<td>Listen 92-99</td>
<td>ENGL 0346 ESOL Oral Communication Advanced</td>
<td>CENGL 3004601 ESOL Oral Communication Advanced</td>
</tr>
</tbody>
</table>

* Writing sample required
Credit ESOL focuses on academically bound students and emphasizes preparation for college study. Students can earn institutional credit qualifying them for full-time student status, financial aid, and insurance needs. Students are awarded institutional semester credit hours.

Continuing education ESOL is designed for professionals, participants preparing to enter careers requiring English proficiency, and those seeking general broad-based English development. Students are awarded continuing education units for each level.

Admission to the program requires prior admission to the college. International students seeking a student visa should refer to the section on “Admission Procedures for International Students.” Upon completing the application process, students will be directed to take an English placement test before registering for classes.

Articulation

Articulation agreements provide a seamless transition for students moving from one level of education to another by matching curriculum to reduce duplication of course content. Articulation agreements exist between LSCS and various universities, independent school districts, private secondary schools, community education courses, and other training and certification entities. The agreements allow students to earn college credit for competencies outside of the traditional community college classroom.

University Articulation

University articulation for transfer can be for single courses, a group of courses (as listed on transfer planning guides) or entire degree programs (as listed in university articulation agreements). Transfer planning guides or equivalency charts are course specific and are updated annually. University articulation agreements are major or program specific. This type of articulation provides students with the assurance that the course work at LSCS will transfer and satisfy degree requests at a specific university.

High School Articulation

Course articulation agreements match high school courses with college workforce courses and may be included in Tech Prep associate of applied science degree programs. Students must fulfill the following requirements to receive articulated credit:

- Submit a high school transcript documenting a grade of at least 80 percent in the articulating course.
- Submit an application for Prior Learning Assessment by High School Articulation within 15 months of high school graduation.
- Earn an additional six semester credit hours at LSCS within one year of application for articulated credit.
- Complete at least one articulating high school course as a junior or senior.

LSCS participates in the Advanced Technical Credit (ATC) program, formerly known as statewide articulation. A student may receive credit for an ATC designated course at any participating community college in the state of Texas. Local articulation agreements offer additional course options and are designed for credit through LSCS colleges only.

For more information on how to apply for articulated credit, contact the counseling or advising office at any college campus or the curriculum and instruction department located in the Central Services and Training Center. The Web site for Tech Prep and articulated credit is www.lonestar.edu/techprep or visit www.techpreptexas.org for statewide information.
**Advanced Technical Credit Course Crosswalk**

This section contains the high school to college ATC (formerly statewide articulation) course crosswalk. It does not include courses articulated by local agreements. Go to the Web site at [www.lonestar.edu/techprep](http://www.lonestar.edu/techprep) for updates and current local articulation crosswalks.

<table>
<thead>
<tr>
<th>High School</th>
<th>College</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accounting I</td>
<td>ACNT 1303</td>
</tr>
<tr>
<td>Administrative Procedures</td>
<td>POFT 1309</td>
</tr>
<tr>
<td>Animation I</td>
<td>ARTV 1303</td>
</tr>
<tr>
<td>Architectural Graphics</td>
<td>DFTG 1317</td>
</tr>
<tr>
<td>Automotive Technology II (NATEF)</td>
<td>AUMT 1416</td>
</tr>
<tr>
<td><strong>AND</strong> ASE Certification in Steering &amp; Suspension</td>
<td></td>
</tr>
<tr>
<td>Automotive Technician II (NATEF)</td>
<td>AUMT 1410</td>
</tr>
<tr>
<td><strong>AND</strong> ASE Certification in Brakes</td>
<td></td>
</tr>
<tr>
<td>Business Computer Information System I</td>
<td>ITSC 1401</td>
</tr>
<tr>
<td>Business Management</td>
<td>BMGT 1303 or BMGT 1301</td>
</tr>
<tr>
<td><strong>AND</strong> Business Ownership</td>
<td>ITSC 1425</td>
</tr>
<tr>
<td>Computer Maintenance Technician I</td>
<td>EECT 1440</td>
</tr>
<tr>
<td>Computer Cabling and Design</td>
<td>IMED 1301 or ARTV 1303</td>
</tr>
<tr>
<td>Computer Multimedia/Animation Technology</td>
<td>ITSC 1401</td>
</tr>
<tr>
<td>Computer Applications</td>
<td>INMT 1311</td>
</tr>
<tr>
<td>Computer Integrated Manufacturing</td>
<td>ITSE 1445</td>
</tr>
<tr>
<td>Database Programming</td>
<td>INTC 1307 OR CETT 1402</td>
</tr>
<tr>
<td>Electricity/Electronics Technology</td>
<td></td>
</tr>
<tr>
<td>OR PLTW: Digital Electronics</td>
<td>DFTG 1317</td>
</tr>
<tr>
<td>Engineering and Architectural Drafting</td>
<td>DFTG 1309</td>
</tr>
<tr>
<td>Engineering Computer-Aided Drafting I</td>
<td>DFTG 1305 or DFTG 1309</td>
</tr>
<tr>
<td>Engineering Graphics</td>
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</tr>
<tr>
<td>OR PLTW: Introduction to Engineering Design</td>
<td>BUSG 2309</td>
</tr>
<tr>
<td>Entrepreneurship</td>
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</tr>
<tr>
<td>Heating, Ventilation, Air-Conditioning and Refrigeration II</td>
<td>HART 1401 and HART 1407</td>
</tr>
<tr>
<td>Health Science Technology II</td>
<td>VNSG 1323</td>
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<tr>
<td><strong>AND</strong> Health Science Technology III Vocational Nursing</td>
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<tr>
<td>Health Science Technology III EMT-Basic</td>
<td>EMSP 1160 and EMSP 1501</td>
</tr>
<tr>
<td><strong>AND</strong> State Certification in EMT-Basic</td>
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<tr>
<td>Health Science Technology III Pharmacy Aide</td>
<td>PHRA 1309</td>
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<tr>
<td>Housing</td>
<td>INDS 1311</td>
</tr>
<tr>
<td><strong>AND</strong> Interior Design</td>
<td>IBUS 1305</td>
</tr>
<tr>
<td>International Business</td>
<td>ITNW 1425</td>
</tr>
<tr>
<td>Internetworking Technologies I (Non-Cisco Curriculum)</td>
<td></td>
</tr>
</tbody>
</table>
High School

Introduction to Computer Maintenance
Machine Shop I
Media Technology I
Medical Terminology

AND Introduction to Health Science Technology OR
any Statewide-Articulated Health Science Technology Course

Networking Essentials (Non-Cisco curriculum)
Principles of Marketing

OR Marketing Management

OR Marketing Dynamics

Technical Introduction to Computer-Aided Drafting
Telecommunications and Networking
Welding II
Word Processing Applications

Tech Prep

Tech Prep is an education initiative that links high school career and technical courses to college workforce courses on a 2-year associate of applied science degree (AAS) through course articulation. Articulation is a process of matching high school course curriculum and teacher credentials to college workforce course curriculum and faculty credentials. Collaboration between secondary, post-secondary, and business/industry result in a 6-year plan consisting of four years of high school plus two years of college preparation for the workforce. Students may begin coursework toward the degree while in high school and, upon satisfactory completion of these courses, they may apply for articulated college credit toward the linked technical degree.

For more information about Tech Prep programs or articulated credit at LSCS, visit the web site or contact the counseling/advising office at any LSCS college. Students planning to transfer to another college or university should check with that institution's articulated credit transfer policies. Go to www.lonestar.edu/techprep for a list of transfer opportunities.

College

CPMT 1403 or ITSC 1405
MCHN 1338
ARTV 1351
HITT 1305 or MDCA 1213

ITNW 1425
MRKG 1311

DFTG 1305
ITNW 1425
WLDG 1421 or WLDG 1428
ITSW 1301

Continuing Education and Credit Linked Courses

Continuing education (CE) students registered for a CE course linked to a credit course must meet the same requirements and prerequisites as credit students. Students registered through CE earn continuing education units (CEUs). CE students who wish to receive semester credit hours must complete a Prior Learning Assessment by CE-Credit Articulation form and petition for credit. For more details, visit www.lonestar.edu/PLA or see a student advisor.
Alex Loera
Mexico
Mechanical Engineering
LSC-Tomball
# Financial Information & Assistance

## 2009-2010 Tuition & Fees Schedule

TUITION AND FEES ARE SUBJECT TO CHANGE

All tuition and fees must be paid in full before the registration process can be considered complete.

### Tuition & Fees Per Credit Hour

<table>
<thead>
<tr>
<th>Credit Hours</th>
<th>Resident of District ¹</th>
<th>Out-of-District Texas Resident ²</th>
<th>International/Out-of-State ³</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>$61</td>
<td>$131</td>
<td>$223</td>
</tr>
<tr>
<td>2</td>
<td>110</td>
<td>250</td>
<td>280</td>
</tr>
<tr>
<td>3</td>
<td>159</td>
<td>369</td>
<td>414</td>
</tr>
<tr>
<td>4</td>
<td>208</td>
<td>488</td>
<td>548</td>
</tr>
<tr>
<td>5</td>
<td>257</td>
<td>607</td>
<td>682</td>
</tr>
<tr>
<td>6</td>
<td>306</td>
<td>726</td>
<td>816</td>
</tr>
<tr>
<td>7</td>
<td>355</td>
<td>845</td>
<td>950</td>
</tr>
<tr>
<td>8</td>
<td>404</td>
<td>964</td>
<td>1,084</td>
</tr>
<tr>
<td>9</td>
<td>453</td>
<td>1,083</td>
<td>1,218</td>
</tr>
<tr>
<td>10</td>
<td>502</td>
<td>1,202</td>
<td>1,352</td>
</tr>
<tr>
<td>11</td>
<td>551</td>
<td>1,321</td>
<td>1,486</td>
</tr>
<tr>
<td>12</td>
<td>600</td>
<td>1,440</td>
<td>1,620</td>
</tr>
<tr>
<td>13</td>
<td>649</td>
<td>1,559</td>
<td>1,754</td>
</tr>
<tr>
<td>14</td>
<td>698</td>
<td>1,678</td>
<td>1,888</td>
</tr>
<tr>
<td>15</td>
<td>747</td>
<td>1,797</td>
<td>2,022</td>
</tr>
<tr>
<td>16</td>
<td>796</td>
<td>1,916</td>
<td>2,156</td>
</tr>
<tr>
<td>17</td>
<td>845</td>
<td>2,035</td>
<td>2,290</td>
</tr>
<tr>
<td>18</td>
<td>894</td>
<td>2,154</td>
<td>2,424</td>
</tr>
<tr>
<td>19</td>
<td>943</td>
<td>2,273</td>
<td>2,558</td>
</tr>
<tr>
<td>20</td>
<td>992</td>
<td>2,392</td>
<td>2,692</td>
</tr>
</tbody>
</table>

Minimum tuition rates are set by the state legislature and are subject to change. Student tuition and fees are subject to change by the LSCS Board of Trustees. Dual credit students receive a 100 percent discounted tuition rate. All other fees, except some testing, will be assessed at their regular rate. Textbooks and lab fees vary by program.

1. Includes tuition at the rate of $38 per credit hour, a $7 per credit hour technology fee, a $2 per credit hour student activity fee, a $2 per credit hour general use fee, and a registration fee of $12. Applies to U.S. citizens and permanent residents who are residents of Aldine, Conroe, Cypress-Fairbanks, Humble, Klein, Magnolia, New Caney, Splendora, Spring, Tomball and Willis Independent School Districts.

2. Applies to U.S. citizens and permanent residents who are residents of Texas but do not reside in the college district. Includes tuition at the rate of $38 per credit hour plus an additional out-of-district fee of $70 per credit hour; a $7 per credit hour technology fee, a $2 per credit hour student activity fee, a $2 per credit hour general use fee, and a registration fee of $12.

3. Applies to all other students. By legislative action, the tuition may not be less than $200 (minimum tuition). Includes tuition at the rate of $38 per credit hour plus an additional international/out-of-state tuition of $85 per credit hour; in addition to a $7 per credit hour technology fee, a $2 per credit hour student activity fee, a $2 per credit hour general use fee, and a registration fee of $12.

Students who enroll in the same course for the third or more time will be assessed an additional fee of $60 per credit hour unless waived by appeal prior to the payment deadline. The appeal process can be found in the admissions office or online at www.lonestar.edu/repeatcourse.
CREDIT REFUND POLICY

The refund policy for Lone Star College is based upon the assumption that student tuition and fees provide only a portion of the actual incurred costs to provide educational opportunities. When a student enrolls in a class, a place is reserved which cannot be given to another student. This represents a significant cost to LSCS whether or not class enrollment is continued.

Refunds will be made under the following conditions in compliance with the Texas Higher Education Coordinating Board Policy:

1. If the college cancels or discontinues a scheduled course, a 100 percent refund is granted.

2. Students who drop a course or who totally withdraw will have their tuition and fees refunded (EXCEPT for the registration fee, the payment plan service fee, or the late fee – if any are applicable). These refunds are in accordance with the following drops and withdrawals schedule:

   **Note:** Title IV (Federal Pell Grant, FSEOG, FFE Loans) aid recipients are subject to a different policy upon complete withdrawal of classes (refer to page 48.)
Refunds for tuition are processed from the Lone Star College System four to six weeks after the official day of record. Refunds for courses scheduled outside the sessions listed in this section will be made on a prorated basis in accordance with the refund policy.

**Semester Length Courses**

**Fall and Spring Semesters**

Prior to the first calendar day of the semester ........................................ 100%

During the first 15 calendar days of the semester .................................... 70%

During the 16th through 20th calendar days of the semester ...................... 25%

After the 20th calendar day of the semester ........................................ None

**Six-Week Summer Semester**

Prior to the first calendar day of the semester ........................................... 100%

During the first five calendar days of the semester ................................... 70%

During the sixth and seventh calendar days of the semester ...................... 25%

After the seventh calendar day of the semester ...................................... None

**Flex Entry and Non-Semester Length Courses**

Prior to the first scheduled calendar session ............................................. 100%

After classes begin, see drops and withdrawals chart.

---

### Drops and Withdrawals*

<table>
<thead>
<tr>
<th>Length of Class Term in Weeks</th>
<th>Last Day for 70 percent Refund</th>
<th>Last Day for 25 percent Refund</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 weeks or less</td>
<td>2nd day of term</td>
<td>N/A</td>
</tr>
<tr>
<td>3 weeks</td>
<td>3rd day of term</td>
<td>4th day of term</td>
</tr>
<tr>
<td>4 weeks</td>
<td>4th day of term</td>
<td>5th day of term</td>
</tr>
<tr>
<td>5 weeks</td>
<td>5th day of term</td>
<td>6th day of term</td>
</tr>
<tr>
<td>6 weeks</td>
<td>5th day of term</td>
<td>7th day of term</td>
</tr>
<tr>
<td>7 weeks</td>
<td>7th day of term</td>
<td>9th day of term</td>
</tr>
<tr>
<td>8 weeks</td>
<td>8th day of term</td>
<td>10th day of term</td>
</tr>
<tr>
<td>9 weeks</td>
<td>9th day of term</td>
<td>11th day of term</td>
</tr>
<tr>
<td>10 weeks</td>
<td>9th day of term</td>
<td>12th day of term</td>
</tr>
<tr>
<td>11 weeks</td>
<td>10th day of term</td>
<td>14th day of term</td>
</tr>
<tr>
<td>12 weeks</td>
<td>12th day of term</td>
<td>15th day of term</td>
</tr>
<tr>
<td>13 weeks</td>
<td>13th day of term</td>
<td>16th day of term</td>
</tr>
<tr>
<td>14 weeks</td>
<td>13th day of term</td>
<td>17th day of term</td>
</tr>
<tr>
<td>15 weeks</td>
<td>14th day of term</td>
<td>19th day of term</td>
</tr>
<tr>
<td>16 weeks or longer</td>
<td>15th day of term</td>
<td>20th day of term</td>
</tr>
</tbody>
</table>

*Refer to class schedule for exact dates.*
FINANCIAL INFORMATION & ASSISTANCE

REGULATIONS CONCERNING CHECKS

1. A returned check fee of $30 (plus tax, if applicable) will be assessed by the system’s check verification service if a check presented in payment of a student’s obligation to the college is returned for any reason.

2. Checks returned unpaid for any reason must be promptly redeemed, or registration in the college may be cancelled and all records withheld.

3. No check presented in payment of fees, deposit or tuition or for the purchase of books or equipment will be accepted for a sum larger than the total amount due the college in the transaction.

4. No temporary or postdated checks will be accepted by the college.

Charge Cards Accepted

VISA, MasterCard, American Express, and Discover will be accepted for payment of tuition and fees.

Collection Costs

If obligations are not paid in full upon notification by the college, these debts may be referred to an outside collection agency and to appropriate credit bureaus. Resulting collection costs will be added to the original debt and the student must pay these costs, as well as attorney’s fees, if applicable. Furthermore, all unpaid obligations will result in a hold on student records, diplomas, transcripts and future registration activity.

Estimated Costs per Semester

The following estimates are based on an average, full-time course load of 12 hours. Books are estimated at $35 per credit hour, and lab fees are based on an average fee. The costs of textbooks continue to increase. You can check textbook costs at http://www.lonestar.edu/books for current prices.

<table>
<thead>
<tr>
<th>IN-DISTRICT RESIDENT</th>
<th>Cost Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tuition (@ $38 per hour, plus $7 per hour Technology Fee, plus $2 per hour Student Activity Fee, plus $2 per hour General Use Fee)</td>
<td>$588</td>
</tr>
<tr>
<td>Registration Fee</td>
<td>12</td>
</tr>
<tr>
<td>2 Lab Fees (@ $12 per course)</td>
<td>24</td>
</tr>
<tr>
<td>Books</td>
<td>420</td>
</tr>
<tr>
<td>Total Per Semester</td>
<td>$1,044</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>OUT-OF-DISTRICT RESIDENT</th>
<th>Cost Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tuition (@ $38 per hour, plus $7 per hour Technology Fee, plus $2 per hour Student Activity Fee, plus $2 per hour General Use Fee)</td>
<td>$588</td>
</tr>
<tr>
<td>Out-of-District (@ $70 per hour)</td>
<td>840</td>
</tr>
<tr>
<td>Registration Fee</td>
<td>12</td>
</tr>
<tr>
<td>2 Lab Fees (@ $12 per course)</td>
<td>24</td>
</tr>
<tr>
<td>Books</td>
<td>420</td>
</tr>
<tr>
<td>Total Per Semester</td>
<td>$1,884</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>INTERNATIONAL / OUT-OF-STATE RESIDENT</th>
<th>Cost Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tuition (@ $38 per hour, plus $7 per hour Technology Fee, plus $2 per hour Student Activity Fee, plus $2 per hour General Use Fee)</td>
<td>$588</td>
</tr>
<tr>
<td>Out-of-state (@ $85 per hour)</td>
<td>1,020</td>
</tr>
<tr>
<td>Registration Fee</td>
<td>12</td>
</tr>
<tr>
<td>2 Lab Fees (@ $12 per course)</td>
<td>24</td>
</tr>
<tr>
<td>Books</td>
<td>420</td>
</tr>
<tr>
<td>Total Per Semester</td>
<td>$2,064</td>
</tr>
</tbody>
</table>
RESIDENT STATUS

Establishing residency – LSCS must determine the residency status of all students for tuition purposes. All new students will be required to sign an oath of residency and may be required to provide substantiating documentation. Students returning to college after not enrolling for both the prior fall and spring semester will be required to reaffirm their residency status and may be required to provide substantiating documentation.

Some non-US citizens may qualify to pay Texas residency rates:

1. Texas high school graduates or GED certified
   a. Resident of Texas for 36 months prior to receiving high school diploma or GED.
   b. Reside in Texas 12 months prior to enrolling in college.
   c. Provide a notarized affidavit stating that the student will file an application to become a permanent resident at the earliest opportunity that he or she is eligible to do so.

2. Applied to domicile
   The student submits notification (I485) that their petition to domicile has been approved.

Residency is determined at the time of registration and can only be changed prior to the census date of the semester. Residency is determined by the student’s current address or by the address of the parent or legal guardian if the student is eligible to be claimed as a dependent for federal income tax purposes. A post office box can be used as a mailing address but can not be used to establish residency.

It is the responsibility of the student to register under the correct residency classification. If there is a question about classification, it is the student’s responsibility, prior to the time of registration, to discuss this with the admissions office and have an official determination made.

Additional information regarding residency requirements may be found in the college admissions office. The chief student services officer is the final authority on all questions on residency. Deliberate falsification of residence status or documentation will result in the student having to pay the difference in the charges and may subject a student to immediate dismissal. For tuition purposes, students will be classified according to the following guidelines:

1. In-district Texas resident
   Students or dependent students whose parents or legal guardians have been a resident of Texas for the 12 months before the date of registration and who reside in the Lone Star College district (within the boundaries of the independent school districts of Aldine, Conroe, Cypress-Fairbanks, Humble, Klein, Magnolia, New Caney, Splendora, Spring, Tomball, and Willis) on the official reporting date are considered residents of the district. Individuals, or their dependents, who are not residents of the district, but own property which is subject to ad valorem taxation by the district, shall pay tuition and fees at the rate applicable to a student who resides in the district. Persons, or their dependents, applying for such waiver shall verify property ownership by presentation of an ad valorem tax statement or receipt issued by the County Tax Assessor Collector; or by presentation of a deed, property closing statement, or other appropriate evidence of ownership of property which is subject to ad valorem taxation by the district. A foreign student is not eligible for waiver of the nonresident tuition rate due to payment of ad valorem taxes.

2. Out-of-district Texas resident
   A student who has been a Texas resident for the 12 months prior to the official reporting date of the semester in which the student is registering and who resides outside the boundaries of the Lone Star College System is considered an out-of-district Texas resident. Any individual who lives in Texas for 36 months immediately prior to high school graduation from a public, home school program, or an accredited private high school or received the GED certificate as an alternative to high school graduation, lived in Texas the 12 months prior to the official reporting date of the semester in which the student is registering, registers as an entering student not earlier than fall 2001, and if not a US citizen provide an affidavit stating the individual will file an application to become a permanent resident will be considered a Texas resident for payment of tuition. A minor or dependent can establish residency separate from his/her parents.
3. Non-resident of Texas
A student or dependent student whose parent or legal guardian resides out of state or has not been a resident of the state for the 12 months prior to the official reporting date of the semester in which the student is registering is considered a non-resident of Texas.

4. Military personnel
Military personnel or their families should check with the college admissions office for requirements on resident tuition.

5. Transfer students
Students transferring from other Texas higher education institutions and who were enrolled the preceding spring or summer semesters will retain their previous classification unless they apply for residency status change.

Documentation for State Resident/In-District Resident Status
The following documentation may be used to resolve residency issues and may be used to establish that an individual is domiciled in Texas and has maintained a residence in Texas continuously for 12 months prior to the official day of record for the semester.

1. Documents that can support the establishment of a domicile and demonstrate the maintenance of a residency in Texas for 12 months:
   - An employer’s statement of dates of employment.
   - Other documents that show the person has been engaged in activities intended to provide an income to a person or allow a person to avoid the expense of paying another person to perform the tasks (home maintenance or child care).
   - Documents that show a person is self-employed, employed as a homemaker, or living off his/her earnings, or through public assistance.
   - For a homeless person, written statements from the office of one or more social service agencies located in Texas that attests to the provision of services to the homeless person for the 12 months prior to the census date of the term in which the person enrolls.

2. Documents that if maintained for at least 12 months prior to the official reporting date and if accompanied by at least one type of document listed in number three below can support the establishment of a domicile and demonstrate the maintenance of a residence in Texas for 12 months:
   - Title to real property in Texas.
   - Marriage certificate with documentation to support that the spouse is a domiciliary of Texas.
   - Ownership of a business in Texas with documents that evidence the organization or the business as a partnership or corporation and reflect the ownership interest of the person or dependent’s parent.
   - State or local licenses to conduct a business or practice a profession in Texas.

3. Documents that do not show the establishment of a domicile but support a student’s claim to have resided in the state for at least 12 months:
   - A Texas high school transcript for the full senior year preceding the official reporting date.
   - A transcript from a Texas institution showing presence in the state for the 12 months preceding the official reporting date.
   - A Texas driver’s license or Texas ID card with an expiration date of not more than four years.
   - Cancelled checks that reflect a Texas residence for the 12 months preceding the official reporting date.
   - A current credit report that documents the length and place of residence of the person or the dependent student’s parent or legal guardian.
   - Texas voter registration card that has not expired.
   - Pay stubs for the 12 months preceding the official reporting date.
   - Bank statements reflecting a Texas address for the 12 months preceding the official reporting date.
   - Ownership of real property with copies of utility bills for the 12 months preceding the official reporting date.
• Registration or verification from licensor, showing Texas address for licensee.
• Written statements from the office of one or more social service agencies, attesting to the provision of services for at least 12 months preceding the official reporting date.
• Lease or rental of real property, other than campus housing, in the name of the person or the dependent student’s parent or legal guardian for the 12 months preceding the official reporting date.

4. Documents which can be used to demonstrate residency within the boundaries of the independent school districts of Aldine, Conroe, Cypress-Fairbanks, Humble, Klein, Magnolia, New Caney, Splendora, Spring, Tomball, and Willis:
• Driver’s license or Texas ID card showing an address within the district.
• Rental or lease agreement showing an address within the district.
• Deed to real property located within the district.
• Utility bills from an address within the district.
• A current voter registration card.
• A current credit report that documents the place of residence of the person or dependent student’s parents or legal guardians.

Students who hold visas that enable them to domicile in the United States are allowed to be treated like permanent residents of the United States if:
• They reside for 12 months in Texas.
• Students (regardless of their immigration status) for whom a Petition for Permanent Resident Status (I-130 or I-140) has been filed by a sponsor, can also be treated like permanent residents. Students who fall into this category must provide proof of eligibility by showing a copy of their CIS receipt for when the petition was filed. The document must include the student’s name and the form that was filed.

A student, including an international student (regardless of their immigration status) who enters a Texas institution of higher education in fall 2001 or later shall be classified a resident of Texas for tuition purposes if he or she:
1. Attended a Texas public or accredited private high school for at least 36 months immediately prior to high school graduation.
2. Resided in Texas for at least 36 months immediately prior to receiving a GED as an alternative to a high school diploma.
3. Continuously resided in Texas for the 12 months prior to the official day of record for the semester in which the student registers.
5. Provides to the college an affidavit that he or she intends to file an application to become a permanent resident of the United States at the earliest opportunity the individual is eligible to do so.

Changes in Residency Status
If a student continues to enroll in at least one fall or spring semester each year, the student’s residency status will remain the same unless the student files to change the residency status. If the student is changing residency status to in-state or in-district and will qualify for lower fees, the student must file the request to change residency status prior to the official reporting date of the semester. Changes made after this date will be effective for the following term.

FINANCIAL ASSISTANCE
The purpose of financial aid is to remove financial barriers that prevent access to educational opportunities. LSCS participates in programs that provide aid through grants, a variety of scholarships, part-time employment and loans. Students choosing to apply for these programs should contact the financial aid office well in advance of registration. Priority is given to those students who apply and complete the process prior to May 1. After the priority date, awards are made as long as funds are available. Scholarships are usually awarded for the fall and spring terms only. Most grants are available for the fall, spring, and summer.
LONE STAR COLLEGE FOUNDATION ENDOWED SCHOLARSHIPS

Each spring, the Foundation of Lone Star College System announces available scholarships. Application and specific details related to each scholarship are available only through the financial aid offices of each college campus.

LONE STAR COLLEGE SYSTEM ENDOWED SCHOLARSHIPS

Dr. Joe A. Airola - Awarded to a student, with a minimum 2.5 GPA.

Carol Bary Memorial - Awarded to a student enrolled in the VN program and must demonstrate financial need.

Elmer L. and Dorothy M. Beckendorf - A full-time student, minimum 2.5 GPA, health care related career, must demonstrate financial need, student without high school or recent college should have recommendation from employer in place of GPA.

Jim and Nelda Blair - Student attended Conroe ISD, minimum 2.5 GPA, academic discipline is education.

James Buchinger, Lindsey Lamkin and G.T Thompson Memorial - Awarded to a full-time student, minimum 2.5 GPA, preference will be given to a student who graduated from Hauke Alternative school and who has overcome adversity.

Estelle R. Cameron Memorial - Enrolled in the Interpreter Training Technology Program.

Copperfield Baptist Church - Full-time, Christian service and commitment at local church, career goal toward “people services”, minimum 2.0 GPA, and must demonstrate financial need.

Computer Science and Computer Information - Minimum 6 credit hours, with minimum 2.5 GPA, enrolls in a Computer Science or Computer Information Program.

James F. and Amy Eisterhold - Full-time student, academic discipline is nursing, tuition only.

Jack and Lynn Fields - Priority given to a single mother.

Pearl Fincher - Minimum 2.5 GPA, minimum 6 credit hours, must demonstrate financial need.

Future Pipe Industries - 3.0 GPA, any LSCS college.

Glenn Family - Student attended Conroe ISD, minimum 3.0 GPA, academic discipline is Education, Engineering, Science or Mathematics.

Wilda June Glover - Honors program, full-time student, funds to be used for tuition, special fees, books.

Patricia Harless - Must demonstrate financial need, all educational related fees, childcare expenses, transportation, etc.

Hauke - Graduated from Hauke Alternative School, and enrolls in a academic or workforce development program.

Brian Heisler - Minimum 2.5 GPA, and enrolled minimum 6 hours.

Houston Northwest Medical Center - Minimum 2.5 GPA, enrolled minimum 6 hours, funds to be used for tuition, special fees, books.

Humble Police Association - Graduated from Humble high school, and minimum 2.0 GPA.

Humble Police Association/Callaway’s Collision - Grad of Humble High school and Atascocita High School.

Humble Police Association/D&D Collision - Grad of Humble High school and Atascocita High School.

Humble Police Association/Mr. and Mrs. Tim Gill - Grad of Humble High school and Atascocita High School.

Humble Police Association/Gary and Daniel Lee - Grad of Humble High school and Atascocita High School.

Humble Police Association/Carley Summer McNutt - Grad of Humble High school.

Humble Police Association/David Niccum - Grad of Humble High school and Atascocita High School.
Humble Police Association/Leo Medley Memorial - Minimum 2.0 GPA, graduate from Humble High School and Atascocita must demonstrate financial need.

Kingwood Area Emergency Medical Services Association - 2.75 GPA, zip code 77339 or 77345, academic discipline EMS, nursing or Allied Health Services that is EMS certified, or Fire Services, Fire Services Volunteer in good standing that is outside the zip codes (call Foundation for specifics).

Nursing Program - Minimum 2.0 GPA, enrolls in a nursing program, minimum 6 credit hours, and must demonstrate financial need.

Pepsi Cola - Minimum 2.5 GPA, and minimum 6 credit hours.

Seth and Dianne Sharr - Attend any LSCS college.

Society of Petroleum Engineers/Gulf Coast Section - Engineering discipline, funds to be used for tuition, special fees, books, and further expenditures (contact LSC Foundation for specifics).

William J. and Olive H. Upton - Minimum 2.20 GPA, Law Enforcement Academy or EMT program academic discipline, must demonstrate financial need, without recent high school or college attendance a letter of recommendation from a recent supervisor in place of GPA (call Foundation for Specifics).

Wells Fargo - Must demonstrate financial need.

Woodforest National Bank - Minimum 2.5 GPA, education discipline and student must have attended Conroe ISD.

Dr. Nockie Zizelmann - Enrolled in the ADN program, selected by the directors of nursing, and the scholarship is given to the same student for two years, funds to be used for tuition, special fees, books.

LSC-CYFAIR ENDOWED SCHOLARSHIPS

Robert J. Adam Family - Full-time, must demonstrate financial need, tuition, special fees, and books.

Alvis - Single, no children, enrolled in the ADN program, minimum 3.0 GPA, receives no other form of financial aid, funds to be used for tuition, special fees, books.

Jerry Albrecht - Minimum 2.5 GPA, with a documented learning disability, and enrolls in at least 6 hours.

Bertram Family - In memory of Florence T. Bertram - Minimum 3.0 GPA, must demonstrate financial need, enrolled in the ADN program, all educational related expenses.

In Honor of Nancy F. Caldwell - Minimum 3.0 GPA, academic discipline is nursing, and a student with children.

Susan J. Caldwell Endowment for the Arts - Minimum 3.0 GPA, must demonstrate financial need, enrolled in the ADN program, all educational related expenses.

Caldwell Watson Real Estate Group - Minimum 2.5 GPA, minimum of 6 credit hours, same student the following year if s/he meets the criteria and is still enrolled, funds to be used for tuition, fees, books, class supplies.

CLR - Architects/Engineers Surveyors - Must attend LSC-CyFair.

Canyon Gate - Minimum 2.0 GPA, student resides in the Canyon Gate or Canyon Lakes Village Community.

Copperfield Women’s Club - Part-time or full-time student at LSC-CF.

Cypress Fairbanks Medical Center/Tenet Foundation - Minimum 2.5 GPA, and minimum 6 credit hours.

Cy-Fair Houston Chamber of Commerce - Minimum 2.5 GPA, and must demonstrate financial need, funds must be used for tuition, special fees, books.

Cy-Fair Federal Credit Union - Enrolls in the alternative teacher certification program.
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**LSC-CyFair Presidents** - Minimum 2.5 GPA, minimum 6 credit hours, and must demonstrate financial need.

**Cypress Fairbanks Rotary Club** - Full-time student, minimum 2.5 GPA, must demonstrate financial need.

**ESL Student** - Must demonstrate financial need, academic discipline is English as a Second Language, funds to be used for tuition only.

**LSC-CyFair Faculty Senate** - Must demonstrate financial need, funds must be used for tuition, books and special fees.

**John Haskins** - Student must attend LSC-Fairbanks Center, academic discipline is English as a Second Language, no restriction based on citizenship status.

**Dave and Jacque Feldman** - Must demonstrate financial need, full-time student.

**First Community Credit Union** - Enrolled in a financial program and maintains 3.0 GPA, must demonstrate financial need, funds to be used for tuition, special fees, books.

**Fox and Bubela, Inc.** - Must demonstrate financial need, funds to be used for tuition, special fees, books.

**Rosemary A. Freda** - Minimum 3.0 GPA, funds to be used for all education related expenses.

**Gilbane Building Company** - Must attend LSC-CyFair.

**Linda and Donnie Humphries Family** - Must demonstrate financial need, funds to be used for tuition, special fees, books.

**Klein Bank and Trust** - Student has an income which is less than 80 percent of the area adjusted median income, funds to be used for all education related expenses.

**Clarence Kruger Memorial** - GPA is in good standing, education discipline is music, theater, or performing arts, funds to be used for tuition, special fees, and all related education expenses.

**Qwock Lem and Kim Yoke Lau Memorial Scholarship** - Full-time or part-time student, minimum 3.3 GPA, must demonstrate financial need, funds to be used for tuition, special fees, books.

**Beryl A. MacLean** - Academic discipline is speech or communication.

**Methodist Willowbrook Hospital** - Minimum 2.3 GPA, enrolled in nursing, radiology or sonography program, preference given to an employee of the hospital, or if not an employee, the student must volunteer at least ten hours per semester at the hospital, funds to be used for tuition, special fees, books.

**Mingoia Family** - Minimum 2.5 GPA, must demonstrate financial need, funds to be used for tuition, special fees, books.

**Darcy and Robert Mingoia Scholarship** - Must attend LSC-CyFair, funds to be used for all education related expenses including childcare, transportation, etc.

**NCI Building Systems** - Minimum 2.5 GPA overall, academic discipline is drafting/design, major -minimum 3.0 GPA.

**NewQuest Properties** - Full-time student who is single and without children, minimum 3.0 GPA, seeking a bachelors degree in business and receives no other form of financial aid.

**PBK Architects, Inc.** - Must attend LSC-CyFair.

**John E. Pickelman** - Must demonstrate financial need, funds to be used for tuition, special fees, books.

**LSC-CyFair Professional and Support Staff Association** - Must attend LSC-CyFair or LSC-Fairbanks Center, minimum 2.0 GPA, funds to be used for tuition, special fees, books.

**Sterling Bank** - Full-time student, minimum 2.5 GPA, academic discipline is business or undecided, must demonstrate financial need, funds to be used for educational costs and fees.

**Stone Gate** - Minimum 2.0 GPA, resides in the Stone Gate or Canyon Lake Community.

**Texas Process Equipment** - Minimum 3.0 GPA, minimum 9 credit hours, academic discipline is engineering design graphics or machining technology, AAS in Industrial Maintenance, Welding and Inspect Tech, funds to be used for tuition, special fees, books, first consideration given to child of TPE employee who meets criteria.
Dr. Diane K. Troyer - Part-time or full-time student, must demonstrate financial need, funds to be used for tuition, special fees, books, childcare expenses, preference given to single parent.

Evelyn F. and Eugene F. Whitehorne - Part-time or full-time student, minimum 2.5 GPA, must demonstrate financial need, funds to be used for tuition, special fees, books.

Dr. Bob Williams - must attend LSC-CyFair.

Bill and Connie Yancey - Full-time student, minimum 2.5 GPA, must demonstrate financial need, funds to be used for tuition, special fees, books, student should have a clear goal.

LSC-KINGWOOD ENDOWED SCHOLARSHIPS

Administaff - Full-time student, 3.0 GPA, must demonstrate financial need, funds to be used for all education related fees and other expenses such as childcare, transportation, etc.

Andrew Wade Heron Memorial - Full-time student, minimum 3.75 GPA, Associate Nursing Degree program, second year student with interests in Pediatrics and/or Oncology.

David and Pamela Dickson - Awarded to first year students, who are single parents or from abusive families.

Entergy - Student may attend either LSC-Kingwood or LSC-Montgomery, minimum 6 credit hour student, minimum 2.5 GPA.

Friends of LSC-Kingwood - Must demonstrate financial need.

George W. Butler Memorial - Academic discipline is visual or performing arts.

Humble Intercontinental Rotary - Full-time student, minimum 3.0 GPA, must demonstrate financial need, academic discipline is liberal arts, funds to be used for tuition, special fees, books.

Kingwood Medical Center Auxiliary - Minimum 6 credit hours or full-time student, minimum 2.5 GPA, academic discipline is health care, health science or medical/dental, must demonstrate financial need, funds to be used for tuition, special fees, books.

LSC-Kingwood Dental Hygiene - Full-time student, second year dental hygiene, minimum of 49 accumulated hours, minimum 3.0 GPA, funds to cover all education related fees.

LSC-Kingwood Golf Tournament - Minimum 6 credit hour student, minimum 2.5 GPA.

LSC-Kingwood 20th Anniversary - Must demonstrate financial need, funds to be used for tuition, special fees, books.

LSC-Kingwood President’s - Minimum 6 credit hour student, minimum 2.5 GPA, must demonstrate financial need.

LSC-Kingwood Employee and Community - Full-time student, minimum 3.0 GPA, must demonstrate financial need, funds to be used for tuition, special fees, books.

Selma Lilley Memorial - Enrolled in the LVN program.

R.M. Machell Family - Minimum 6 credit hours, minimum 3.4 GPA, enrolled in ADN program, funds to cover all education related fees.

Majorie H. Shifferd - Minimum 3.0 GPA, enrolled at least 9 credit hours, has at least 80% completion rate for the past (3) semesters, must be a student worker in the financial aid office.

Dr. Linda and Ed Stegall - Minimum 6 credit hours or full-time student, minimum 2.5 GPA, academic discipline is business related, must demonstrate financial need, funds to be used for tuition, special fees, books.

Dr. Linda Stegall Excellence in Education - Second year student, full-time credit student, GPA in the current top 20 students who will be matriculating in the subsequent fall semester.

LSC-MONTGOMERY ENDOWED SCHOLARSHIPS

Amegy Bank of Texas - Student must attend LSC-Montgomery.

Conroe New Car and Truck Dealers - Full-time student, minimum 2.5 GPA, resident of Montgomery County.
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Conroe Regional Medical Center and Auxiliary - Minimum 2.5 GPA, resident of Montgomery County, enrolled in either the ADN or LVN program, currently enrolled and completed one term, must demonstrate financial need.

Entergy - Student may attend either LSC-Kingwood or LSC-Montgomery, minimum 6 credit hour student, minimum 2.5 GPA.

Ann Friend - Resident of Montgomery County, must demonstrate financial need, enrolled in courses to gain skills to improve vocational abilities.

Houston Golf Association - Minimum 6 credit hours, minimum 2.5 GPA.

Gwen Hruska - Current or former recipient of services from Montgomery County Youth Services.

Junior League North Harris Montgomery County - Minimum 2.5 GPA, participates in the WINGS program, student may attend LSC-North Harris or LSC-Montgomery, funds to be used for tuition, special fees, books.

Dr. Bill Law, Jr. - Minimum 2.5 GPA.

William D. Law Sr. Memorial - Male student, employed with a dependent, minimum 2.5 GPA, minimum 6 credit hours.

Land Surveying and Mapping Technology - Land, surveying and mapping technology student.

LSC-Montgomery President's - Minimum 6 credit hours, minimum 2.5 GPA, must demonstrate financial need.

LSC-Montgomery 10th Anniversary Legacy - Student must attend LSC-Montgomery.

Donna McVeigh Memorial - Minimum 6 credit hours, minimum 2.5 GPA.

Research Forest Science and Engineering Library - Awarded to single parent minority student enrolled in an AAS degree program, minimum 3.0 GPA.

Rotary Club of Conroe - Student who is a single parent.

Rotary Club of The Woodlands - Full-time student, resident of Montgomery County, must demonstrate financial need.

Brandon Michael Schiltz - Academic discipline is health related, education or social service, HEB employee with 6 months employment, funds to be used for tuition, special fees, books.

Mark and Christine Sculy - Student must attend LSC-Montgomery.

South Montgomery County Lions Club - Minimum 2.5 GPA, resident of Montgomery County.

Splitrock - Female student, single mother, minimum 2.0 GPA, first consideration given to Splitrock employee or family member.

Stan and Suzanne St. Pierre - Full-time student, must demonstrate financial need, funds to be used for all education related fees.

Melissa Trotter Memorial - Student must attend LSC-Montgomery.

The Kelsey Vogel “Shining Star” Memorial - Full-time student, enrolled in a standard theatre course and a theatre practicum course.

Wells Fargo - Must demonstrate financial need.

John Wiesner - Full-time student, minimum 3.0 GPA, must demonstrate financial need, funds to be used for tuition, special fees, books.

The Woodlands Development Company - Student must attend LSC-Montgomery.

The Woodlands Living Arts Council - Enrolled at least 9 credit hours, minimum 3.0 GPA, academic discipline is fine arts, resident of Montgomery County, must demonstrate financial need, funds to be used for all education related fees.

The Woodlands Waterway Marriott Hotel - Student must attend LSC-Montgomery.

LSC-NORTH HARRIS ENDOWED SCHOLARSHIPS

Barbara Benzel Memorial - Female student who is at least thirty years old, minimum 3.0 GPA, academic discipline is English, must demonstrate financial need.

Elizabeth “Beth” Boyd Memorial Nursing - First year ADN student, must demonstrate financial need.
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Dr. Cher Brock - Full-time student, minimum 2.5 GPA, preference given to student attending Carver Center, academic discipline is education, funds to be used for tuition, special fees, books.

Cook Covington Memorial - First year or currently enrolled African-American student, minimum 2.0 GPA.

Cypress Woodlands Junior Forum Scholarship - Minimum 6 credit hours student, minimum 2.5 GPA, must demonstrate financial need.

Fred Fincher Sr. Memorial - Student enrolled in the Automotive Technology program.

Hulon and Marion Madeley - Full-time student, may attend LSC-Tomball or LSC-North Harris, minimum 3.0 GPA, academic discipline is life or earth sciences, completed at least 30 college-level credits.

Brian Ray Olson Memorial - Minimum 6 credit hours, minimum 2.5 GPA, enrolled in Paramedic program, must demonstrate financial need.

LSC-North Harris President's - Minimum 6 credit hours, minimum 2.5 GPA, must demonstrate financial need.

Junior League North Harris Montgomery County - Minimum 2.5 GPA, participates in the WINGS program, student may attend LSC-North Harris or LSC-Montgomery, funds to be used for tuition, special fees, books.

Thelma Jones - Minimum 6 credit hours, based on both need and merit.

Dr. Sandy Shugart - Full-time student, minimum 2.5 GPA, funds to be used for tuition, special fees, books.

Tiffani Stanley Memorial - Minimum 2.5 GPA, enrolled in EMS program and receives a letter of reference from the EMS faculty, funds to be used for tuition, special fees, books, uniforms.

Judy Taylor - Full-time student, minimum 3.0 GPA, enrolled in Math and Science Instructional Division and either: 1) the student or a family member must currently suffer from medical hardship, or 2) has recently overcome a devastating medical hardship.

J. Anthony Walter, M.D. - Full-time student, enrolled in Computer and Programming Technology, funds to be used for tuition, special fees, books.

LSC-TOMBALL ENDOWED SCHOLARSHIPS

Candace Grace Howard Memorial - Full-time student, minimum 3.0 GPA, enrolled in Veterinarian Technology program, first year student, must be a U.S. citizen.


Bill Lawler Memorial - Must attend LSC-Tomball.

Hulon and Marion Madeley - Full-time student, may attend LSC-Tomball or LSC-North Harris, minimum 3.0 GPA, academic discipline is life or earth sciences, completed at least 30 college-level credits.

Ann Glazier McStravick Nursing - Enrolled in ADN program.

LSC-Tomball Mathematics Excellence - Minimum 6 credit hour student, minimum 3.0 GPA, academic discipline is mathematics, mathematics education, or engineering, funds to be used for tuition, special fees, books.

LSC-Tomball Mathematics Faculty - Minimum 6 credit hour student, minimum 3.0 GPA, academic discipline is mathematics education, funds to be used for all education related expenses including calculator and/or software.

LSC-Tomball President's - Minimum 6 credit hour student, minimum 2.5 GPA.

Tomball Rotary Club - Minimum 6 credit hour student, minimum 2.5 GPA.

LSC-Tomball Developmental Mathematics - Minimum 6 credit hour student, minimum 2.8 GPA, enrolled in a math course - may be at a developmental level, funds to be used for tuition, special fees, books, calculator or software.

Nitin B. Sarangapani - Minimum 6 credit hour student, minimum 2.5 GPA, former veteran of armed forces, academic discipline is math,
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computer science or biology, funds to be used for all education related expenses.

Ken and Melba Graham Nursing Endowment in Honor of Kathleen Graham Semmler - Full-time student, enrolled in ADN program.

Bill Stafford Memorial - Full-time student, minimum 3.0 GPA, pursuing a career change and enrolled in a program leading to employment in social work, counseling or teaching, funds to be used for tuition, special fees, books.

J. Anthony Walter, M.D. - Full-time student, enrolled in Engineering Technology, funds to be used for tuition, special fees, books.

Ryan Paul Whitaker Memorial Nursing - Full-time student, minimum 2.5 GPA, student age 25 or older, academic discipline is nursing, funds to be used for all education related expenses.

Grants/Application Processing

1. Apply for aid as soon as possible after January 1 each year for the following fall term.

2. Complete and mail the Free Application for Federal Student Aid (FAFSA) or apply on the Web at www.fafsa.ed.gov. Complete your FAFSA application according to your previous year tax return. If you need assistance in completing the form, contact a financial aid advisor at the college you plan to attend. Complete the required LSCS financial aid worksheet available at any of the system’s financial aid offices and Web site.

3. Allow four to six weeks after submitting the FAFSA application to the federal processing center to receive a response. If you complete the FAFSA via the Web, this process could take as little as four days. You will receive a Student Aid Report (SAR) and any institution you list on the FAFSA will receive an Institutional Student Information Record (ISIR).

4. Complete the additional LSCS forms and submit them to the college financial aid office along with your student aid report. Once the LSCS application for financial assistance and your SAR report are received by the financial aid office, the verification of your paperwork can begin.

5. The financial aid office at the college you plan to attend will review your application and provide you with needed additional forms and help you resolve any issues that may exist in your file. It is recommended that you respond promptly to any request made by the financial aid office.

6. In order to receive financial aid at any college in the system, a student must have been admitted as a regular student, must have officially declared a degree or certificate major and must make satisfactory academic progress in accordance with system policy. For a copy of this policy, contact the financial aid office at the college you plan to attend.

Need-Based (Title IV) Programs

NOTE: Most need-based grants (with the exception of a Federal Pell Grant) are awarded on a first-come, first-served basis. Students who wish to be considered for these awards should have their file completed PRIOR to May 1 for the following fall and spring enrollment periods.

Federal Pell Grant (PELL) - A federal grant designed to help students with financial need obtain their first undergraduate degree. The maximum annual grant for the 2009-10 year is $5,350. Eligible students may still be considered after May 1 for the Pell Grant.

Federal Supplemental Educational Opportunity Grant (FSEOG) - A federal and institution-matched need-based grant. Priority is given to those students who demonstrate a significant need and qualify for a Federal Pell Grant. Most awards at LSCS range from $500 to $4,000 per year.

Leveraging Educational Assistance Partnership (LEAP) and Special Educational Assistance Partnership (SLEAP) - A federal and state-matched need-based grant designed to assist students who have a high financial need.

Federal Work Study Program (FWS) - A federal and college-matched work program which provides jobs for students who have a financial need. Students apply for these jobs through the employment/financial aid office at the college they plan to attend during the school year. Students normally work 15 to 19 hours per week and begin at minimum wage. Awards at LSCS range from $2,000 to $6,000 per year. Diverse positions are available at the campuses.
Texas College Work Study Program (TCWS)-A state and institutionally-matched work study program similar to the federal work study program. Awards at LSCS range from $2,000 to $3,200 per year. Program participation is limited to fall and spring terms only.

Texas Educational Opportunity Grant (TEOG)-A state grant made available to students who demonstrate high financial need and who are enrolled in at least six hours. The student may not qualify for TEXAS Grant in order to qualify for TEOG. The maximum award is $1,730 per year for fall and spring only.

Texas Public Education Grant (TPEG) - A grant fund made available from tuition revenues to assist LSCS students in financial need. Awards generally range from $100 to $2,000 per year.

Towards Excellence and Success Grant (TEXAS)-A state grant made available to students who graduate from high school with a “Recommended Advanced High School, Advanced High School Honor, or Distinguished High School” seal on their high school transcript. A high school transcript with this seal must be on file at the college the student will be attending. Students must enroll in at least nine hours. Enrollment has to be within 16 months after the month of high school graduation. The maximum award is $1,730 per year for fall and spring only.

Students may contact the financial aid office at the college they plan to attend or may visit our Web site at www.lonestar.edu for a copy of the LSCS award guidelines.

Refund Policy For Students Receiving Financial Aid

Any student attending LSCS and receiving Title IV (PELL, FSEOG, FFE loans) assistance is treated differently for refund purposes effective Oct. 7, 2000. This procedure applies only to Title IV recipients who totally withdraw prior to the 60 percent date in the enrollment term.

1. The percent of the term that the student completes will be the percent of the amount of Title IV assistance that the student will be permitted to keep.

2. The percent will be calculated and the remaining amount that the student received will have to be returned to the Title IV funds in the order that the law prescribes.

3. The student must also repay the portion of unearned institution charges which are returned to the Department of Education on their behalf.

4. The student will be notified by the financial aid office of the amount owed to the Department of Education (ED). The student will be allowed 45 days to pay in full to LSCS the debt they owe to ED. After the 45 days, the debt will be referred to the Department of Education for collection.

5. The student must either pay the debt in full to LSCS or make payment arrangements with ED in order to maintain eligibility for Title IV funds.

6. All students who receive Title IV assistance will need to consider very carefully the ramifications of completely withdrawing from all of their classes. Examples and information are available in the financial aid offices.

7. Once refund amounts have been determined for any Title IV recipient, they will be refunded to the Title IV programs in the following order:
   - Unsubsidized Stafford Student Loans
   - Subsidized Stafford Student Loans
   - Plus Loan program
   - Pell Grant program
   - SEOG Grant program
   - Robert C. Byrd Honor Scholarship

Other Financial Information

On-Campus Employment - A limited number of jobs are available at each college to employ students part time at minimum wage. These jobs are primarily clerical and aim to assist the student with the cost of education. Students interested in applying for these positions should obtain an application for employment or visit the financial aid office at the college where they desire to work.

Federal Stafford (subsidized & non-subsidized) - Students must complete the grants application process on page 48 and attend an entrance counseling session in order to be processed for a loan. Dependent students can receive up to $5,500 in Stafford loans,
a maximum of which $3,500 can be subsidized in the first year and $6,500 of which $4,500 can be subsidized for second year students. Independent students can receive $9,500 (first year) and $10,500 (second year) of which $3,500 (first year) and $4,500 (second year) can be subsidized. All federal student loans are disbursed no earlier than 30 days after classes begin.

Federal Parent Loan for the Undergraduate Student (PLUS) - Dependent students whose parents request a PLUS loan are eligible to borrow up to the cost of attendance minus any other financial aid received. This loan is a credit-based loan. Students who are not making satisfactory academic progress as defined by the college may have a restriction imposed on their application for these loans. Additional information and applications are available in the financial aid offices.

Deferred Payment Plan - Students desiring to use this plan must pay the down payment and a $20 application fee that is required before the first day of the semester. Payment dates and late fees of $25 are established for each semester and spelled out in a promissory note signed by the student. Specific information and contracts can be obtained at the business office of each college. This option is not available for summer classes.

LSCS Short-Term Loans - Funds may be available to students with special financial needs to defer the initial cost of registration. The loan is to be repaid according to a schedule that is given to the student when the loan is approved.

The Hazlewood Act for Texas Veterans - The State of Texas provides a tuition and fee exemption for any student who:

1. Was a U.S. citizen and a resident of the state of Texas at the time of entry into active duty, and
2. Was honorably discharged from the military (this does not include general or dishonorable discharges), and
3. Has exhausted or is not entitled to any VA educational benefits, and
4. Is classified as a Texas resident for tuition purposes, and
5. Is not in default on a loan made or guaranteed by the Federal Government or the state of Texas, and
6. Has attempted fewer than 15 credit hours using the Hazlewood Act exemption beginning with fall 2005.

Students who wish to use this program for this academic year must have the following:

- Completed Hazlewood application
- VA form DD214 indicating “Honorable Discharge,” a non-entitlement letter from the VA
- Proof of current status regarding eligibility
- Documentation of Texas residency at the time of veteran service
- Benefits letter from Muskogee, Oklahoma.

Scholarships - Various individuals, local businesses, civic groups and organizations contribute to the LSCS scholarship programs. Requirements and award amounts vary. General scholarship applications are available at each of the financial aid offices. College scholarship committees evaluate scholarship applications. For a comprehensive list of opportunities and application deadlines, check with each college’s financial aid office. The LSCS application deadline is April 1 for fall and Oct. 1 for spring.

The Hope Scholarship Tax Credit - The Hope Scholarship is actually a tax credit, not a scholarship. A family must file a tax return and owe taxes to take advantage of it. The Hope credit is not refundable for families who do not pay taxes, who owe less in taxes than the maximum amount of the Hope tax credit for which the family is eligible or who receive financial assistance that pays tuition and fees. Generally, the Hope Tax Credit is available for freshman and sophomore students only.

A family may claim a tax credit of up to $1,500 per tax year for each eligible dependent. This can be done for up to two tax years. A family may claim up to 100 percent of the first $1,000 of eligible expenses and 50 percent of the next $1,000 for a maximum credit of $1,500.

The actual amount of the credit depends on the family’s income, the amount of qualified
tuition and fees paid, and the amount of certain scholarships, grants and exemptions subtracted from tuition. The total maximum credit also is based on the number of eligible dependents.

Students must keep a copy of the payments made to LSCS for tuition and fees or ask the business office at the college they are attending for this amount. The form 1098T will be mailed to the IRS and to the students reporting enrollment for the previous fiscal year by January 31.

**Tuition Exemptions for Fire Science & Emergency Medical Services**

Eligibility for tuition exemptions under Texas Education Code 54.208:

- A student must be employed as a firefighter in Texas and have documentation from the Fire Chief of their paid status.
- Tuition exemptions will be granted for all FIRS, FIRT and EMSP courses and will be granted for both credit and non-credit courses.
- Laboratory, equipment rental and other fees will not be exempted.
- Students enrolled in an Associate Degree or Certificate Program in Fire Science of Emergency Medical Services may request an exemption for all courses including general education courses required for the degree program. General Education courses not required for degree/certificate completion or applied toward that degree or certificate completion will not be exempted.

**VETERAN BENEFITS**

LSCS is approved by the Texas Veterans Commission under the provisions of Title 38, U.S. Code for VA educational benefits to train veterans and other eligible persons for approved programs and courses required for those programs.

Students requesting the Montgomery GI Bill or Vocational Rehabilitation educational benefits must complete an application and provide additional forms to the LSCS Veteran Services office. Applications can be picked up at the financial aid office or downloaded from the Veteran Services Web site www.lonestar.edu/goto/veterans.

All tuition and fees are the student’s responsibility. Benefits are paid directly to the student after the VA has approved educational benefits and the student has attended at least the first month of classes.

Additional information can be found on the VA Web site www.gibill.va.gov or by contacting the VA Regional Processing Office at 1.888.442.4551.

**Certification Requirements:**

- Students must follow an LSCS degree plan. Only courses that apply to the specific degree plan will be approved for benefits.
- Students must provide an official transcript from all previously attended post secondary schools by the end of the first semester. This includes non-accredited institutions.
- Students must notify the LSCS Veteran Services office upon registration in order to request certification for each semester.
- Students should allow 4 to 6 weeks for processing paperwork at the LSCS Veteran Services office and additional processing time for the VA Regional Office.

**Note:** Please refer to the LSCS Veteran Services Web site for additional requirements, updates, and information, as well as, resources for your education and benefits.

**Standard of Progress:**

VA regulations require that a student receiving VA educational benefits make satisfactory progress according to the “academic policies” section in the LSCS catalog. If a student is placed on suspension, the VA may suspend the students VA benefits for the following semester. Please refer to the VA GI Bill Web site at www.gibill.va.gov for policies pertaining to suspension.

**Tutorial assistance:**

The VA provides additional financial assistance for students who need tutorial help. There are certain restrictions and requirements in order to obtain this assistance. Please contact the LSCS Veteran Services office to apply for this assistance.

Contact LSCS Veteran Services office at 832.813.6651 or 832.813.6574 or e-mail gibill@lonestar.edu.
Huong Tran
Vietnam
Hotel & Restaurant
Management
LSC-Tomball
Transfer of Credit from Other Institutions
Equivalent college course credits earned at other regionally accredited institutions may apply to degrees awarded by LSCS if at least a grade of “D” was earned. Transcripts from previously attended regionally accredited institutions are needed before registration for prerequisites and placement. Official transcripts must be received before subsequent registration or before a student is admitted to any degree or certificate program. If requested, it is the student’s responsibility to bring in course descriptions so the evaluator may determine if it is equivalent to a LSCS course.

International Transcripts
Should a student wish to use credits obtained from an institution outside the boundaries and territories of the United States toward a certificate or degree from LSCS, a course by course evaluation must be completed by one of the following:

1. American Association for Collegiate Registrars and Admissions Officers (AACRAO) International Education Services, or
2. An evaluation service which is a member of the National Association of Credential Evaluation Services Inc. (NACES)

Evaluations must be provided in addition to the official transcripts of credit. A list of evaluation providers affiliated with NACES is available from the admissions office. This evaluation must be mailed directly from the agency to the college or student information services office.

Transcripts of Credit from Lone Star College
The transcript of credit earned is an official copy of the student’s complete academic record accumulated at the Lone Star College System. Transcripts can be requested through the MyRecords Web site at http://myrecords.lonestar.edu. After the request has been submitted or after the close of a semester, the student should allow approximately one week for delivery.

Copies of student transcripts from another school will not be released through LSCS. Official transcripts should always be requested from the institution at which credit was earned.

Official transcripts may be withheld if any financial obligations to the college system have not been paid.

Registration in subsequent semesters will not be allowed until all outstanding debts with the college system are cleared and/or official transcripts received.

Grade Reports
Students are expected to monitor progress in their courses. Final grade reports are available at https://myrecords.lonestar.edu/datatel/openweb at the end of each semester.

Students should review the transcript/grade report for accuracy. All requests for corrections or review must be submitted to the admissions office within 12 months of the close of the semester in which the course was taken. Requests submitted after this period will not be accepted.

Repetition of Courses
When a student repeats a course, all grades remain on the record with a notation for the course no longer used in GPA calculation. It is the student’s responsibility to fill out a course repeat form which will adjust the cumulative grade point average to reflect the higher grade received for the course. When a course is repeated, the credit hours will be counted only once toward graduation, unless a degree plan specifies that a course may be repeated for additional credit. If a student registers again for a course with a current mark of “I,” the “I” becomes an “F.” Most courses that are repeated three or more times will have an additional fee of $60 per credit hour.

Classification Status
First year student: 0 to 29 semester hours of credit earned.
Second year student: 30 to 72 semester hours of credit earned.
**Enrollment Status**

For the fall, spring or summer semester, a full-time student is one enrolled in at least 12 semester hours as of the official day of record of the semester. Verifications of enrollment are not released until the official day of the semester. Exceptions may be permitted for special programs. Contact the admissions office for additional information concerning certification of enrollment status.

Veteran’s status must be verified with the veteran services office at gibill@lonestar.edu or 832.813.6651.

**Release of Student Records Policy**

In compliance with the Family Educational Rights and Privacy Act of 1974, the Lone Star College System gives notice that the following types of information will be released upon request and may require approval of the appropriate administrator, unless the student desires to withhold all or any portion of it: student’s name, address, LSCS e-mail address, telephone listing, date and place of birth, major field of study, participation in officially recognized activities and sports, semesters enrolled, degrees, certificates and awards received, photograph, enrollment status, student classification, and the most recent previous educational agency or institution attended by the student.

Any student objecting to the release of all or any portion of such information must notify the admissions office in writing as soon as possible during each semester of enrollment.

Release of any additional information pertaining to student records must be authorized by the student (i.e., grades, transcripts). The student’s parents may authorize release of information if the student is younger than 18 years of age and a dependent as defined by the Internal Revenue Service. A student or parents of a student under the age of 18 may request to view the student’s educational records with a written request to the student services office at the college(s) attended.

**Degree Plans and Transfer Guides**

Advisors, counselors, and faculty will assist students in planning course schedules to meet specific degree plans or certificates as outlined in this catalog. A currently enrolled student whose goal is to pursue a baccalaureate degree may request a transfer guide which provides specific information relating to course transfer to other colleges or universities.

**Transfer to Other Institutions**

It is the responsibility of each student to check with the institution to which he or she expects to transfer as soon as this choice is made. It is also the student’s responsibility to be sure that courses are selected that will be acceptable for the chosen program of study at the four-year institution. A careful review of the current catalog from the chosen college or university will answer most questions. There have been some statewide fields of study (agreements between community colleges and universities) that have been approved by the Texas Higher Education Coordinating Board (THECB) for a selected group of majors. See the advising/counseling office for additional information. Students may also sign up for the Joint Admissions Program. Visit www.tuc.edu/services/jointadmissions.htm for more information.

1. A 2.0 “C” grade point average is generally sufficient to gain admission to a four-year college upon transfer, but there are some colleges and universities which require a grade point average above 2.0. Admission to certain fields of study may require a higher grade point average than the general college requirements for admission.

2. Students who enroll in classes in excess of 30 hours beyond the baccalaureate degree plan may be required to pay out-of-state tuition rates for additional credits.

3. The student should consult with the counseling/advising office for information regarding transferability of course work. In addition, the student should contact the admissions office of the college or university to which the transfer is planned for specific admission requirements and evaluation of transfer work. The THECB has enacted specific steps to resolve transfer disputes involving first- or second-year courses.

   a. If an institution of higher education does not accept course credit earned by a student at another institution of higher education, the receiving institution shall give written notice to the student and to the sending institution that transfer of the course credit...
is denied. A receiving institution shall also provide written notice of the reasons for denying credit for a particular course or set of courses at the request of the sending institution.

b. A student who receives notice as specified in Subsection (1) may dispute the denial of credit by contacting a designated official at either the sending or the receiving institution.

c. The two institutions and the student shall attempt to resolve the transfer of the course credit in accordance with THECB rules and guidelines.

d. If the transfer dispute is not resolved to the satisfaction of the student or the sending institution within 45 days after the date the student received written notice of denial, the institution that denies the course credit for transfer shall notify the commissioner of its denial and the reasons for the denial.

e. The commissioner of higher education or the commissioner’s designee shall make the final determination about a dispute concerning the transfer of course credit and give written notice of the determination to the involved student and institutions.

f. The THECB shall collect data on the types of transfer disputes that are reported and the disposition of each case that is considered by the commissioner or the commissioner’s designee.

The commissioner of higher education or the commissioner’s designee shall make the final determination about a dispute concerning the transfer of course credit and give written notice of the determination to the involved student and institutions.

f. The THECB shall collect data on the types of transfer disputes that are reported and the disposition of each case that is considered by the commissioner or the commissioner’s designee.

g. If a receiving institution has cause to believe that a course being presented by a student for transfer from another school is not of an acceptable level of quality, it should first contact the sending institution and attempt to resolve the problem. In the event that the two institutions are unable to come to a satisfactory resolution, the receiving institution may notify the commissioner of higher education, who may investigate the course. If its quality is found to be unacceptable, the Board may discontinue funding for the course.

4. Some courses in the program of instruction may not transfer. Several are designed specifically for job entry or career preparation, and these frequently are not transferable. Such courses are listed in the associate of applied science degree plans and the requirements for a certificate. Since developmental courses will not apply toward the completion of a degree, they do not transfer. In other instances, courses in our curriculum which are taught at the junior level or above in a senior institution usually will transfer only as electives, not as equivalent courses. Check with the counseling/advising office for specific information.

5. An official transcript of credit earned at LSCS will be forwarded only upon the student’s written or electronic request. Transcripts of credit earned at colleges or universities other than LSCS must be requested from that school by the student.

6. Tuition rebates up to $1,000 are available to students if they complete their bachelor’s degree with having attempted no more than three hours above the requirements for the degree. This program is available for coursework related to the first baccalaureate degree received from a Texas public university, and it is available for students who have enrolled for the first time in higher education in the fall 1997 semester or later. The student must be a Texas resident and attempted all coursework at a Texas public institution of higher education.

Common Course Numbering System

LSCS is part of a group of Texas colleges and universities that teach courses similar in nature and have been designated with common numbers. The purpose of assigning a common number is to facilitate transferability of courses among participating institutions.

The Texas Common Course Numbering System (TCCNS) is designed to help identify courses needed when transferring to another member institution after completion of course work at LSCS. Courses contained in the TCCNS are general academic courses (not developmental courses and workforce courses).

More information about the TCCNS at LSCS may be obtained at www.tccns.org or by visiting the admissions office.

Students currently enrolled at another institution should contact the appropriate departments at that institution for information.
Academic Policies, Procedures and Services

Course Numbering System
Courses numbered from 1000 to 2999 are college-level courses.
Courses numbered 0000 to 0999 are considered developmental/pre-college level. These courses carry institutional credit, but are not considered transferable. Credits from these courses do not meet degree requirements.

Credit for Courses
The semester hour is the unit of measurement at Lone Star College. One semester credit hour is generally defined as one hour of class per week for a 16-week semester lecture course. The number of semester hours for a course which includes a laboratory, practicum, or internship component varies.
It is the student’s responsibility to take courses in sequence and at the proper level. Students are encouraged to seek advising prior to enrollment each semester.

Flexible Schedule Options
The colleges of LSCS offer a number of alternative scheduling options in addition to the traditional semester length college credit courses. Some of these options require fewer student trips to campus.

Hybrid Classes:
Classes that routinely meet on-campus but also regularly use alternative delivery methods are called hybrid classes (formerly called flex or flexible schedule classes).

Online Learning:
The instruction for online learning classes is delivered via the Internet. Students must have access to a computer and Internet services. Proctored exams at an approved location may be required. Students enrolling in online classes are expected to login to their classes before the end of the first day of the class. Students having any difficulties should contact the LSC Online helpdesk by going to http://online.lonestar.edu to chat with a helpdesk representative or call 832.813.6700 or e-mail distance.learning@lonestar.edu.

Weekend College:
Courses are scheduled Friday night, Saturday or Sunday. Meeting times vary by campus.

Mini-mester courses:
Mini-mester courses are credit courses offered in a condensed time frame but with the standard number of contact hours. Typically, mini-mesters are offered in December and May each year.

Class Attendance
Students are expected to abide by the faculty member’s attendance policy as stated in the course syllabus. It is the student’s responsibility to consult with faculty members regarding absences and the possibility of make-up work. Attendance in hybrid or other classes is not optional.

Student Absence on Religious Holy Days
The student must notify the faculty member in writing within the first 12 days of the semester of the intent to be absent due to a religious holy day. Under Texas Education Code 51.911, a student who is absent from classes for the observance of a religious holy day shall be allowed to take an examination or complete an assignment scheduled for that day within a reasonable time as established by the faculty member.

Course Outcomes and Examinations
Course outcomes are provided in the faculty member’s course syllabus to students at the beginning of each course. The evaluation of student course progress and the final grade are based on the degree of mastery of course outcomes.
A final examination or evaluation activity will be given in each course at the end of each semester during the scheduled examination period unless the faculty member has made special arrangements with the appropriate vice president.
Grading Standards

There are four grades indicating that grade point credit has been received. One grade (F) and marks listed below indicate that no credit has been achieved. The marks are an accounting device to indicate enrollment in courses with no credit received and no grade points awarded. A mark of CR indicates that the student has received credit for a course but no grade was awarded. In some program areas such as developmental studies and nursing, a grade of “C” or above is required to meet degree requirements or indicates that credit has been received.

Using the following system, final grades or marks are reported for each student for every course taken:

<table>
<thead>
<tr>
<th>Grade/Marks Interpretation</th>
<th>Grade Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Excellent Performance</td>
<td>4</td>
</tr>
<tr>
<td>B Good Performance</td>
<td>3</td>
</tr>
<tr>
<td>C Acceptable Performance</td>
<td>2</td>
</tr>
<tr>
<td>D Passing (not available for developmental studies courses)</td>
<td>1</td>
</tr>
<tr>
<td>F Failing</td>
<td>0</td>
</tr>
<tr>
<td>I Incomplete. Given instructor approval, work must be completed according to the timelines on the “I” contract but no later than the end of the subsequent fall or spring semester. Failure to complete the work within the specified time will result in an “F.” A student should not register again for a course in which a mark of “I” has been given. If the student registers for the course, the “I” will change to a grade of “F.”</td>
<td>Not Computed</td>
</tr>
<tr>
<td>W Withdrawal</td>
<td>Not Computed</td>
</tr>
<tr>
<td>IP Course in progress (for developmental courses, or approved special circumstances courses only). Students who earn an IP have participated fully in the class but have not met all criteria for making progress to the next level of courses. IP remains on the transcript.</td>
<td>Not Computed</td>
</tr>
<tr>
<td>NR No Grade reported by faculty member</td>
<td>Not Computed</td>
</tr>
<tr>
<td>* Course repeated at LSCS</td>
<td>Not Computed</td>
</tr>
<tr>
<td>NC No credit (prior to September 1982)</td>
<td>Not Computed</td>
</tr>
<tr>
<td>X No credit (prior to September 1975)</td>
<td>Not Computed</td>
</tr>
<tr>
<td>P Course in Progress (prior to September 1993)</td>
<td>Not Computed</td>
</tr>
<tr>
<td>CR Credit awarded</td>
<td>Not Computed</td>
</tr>
</tbody>
</table>

Grade Point Average

Grade points earned for each course are determined by multiplying the number of points for each grade by the number of credit hours the course carries. For example, a student who takes a three-hour course and earns an “A” accumulates 12 grade points for that course. A student’s grade point average is computed by adding the grade point values for all college-level courses for which grade point values (A, B, C, D, F) may be computed, and dividing this total by the appropriate number of credit hours attempted during the same period. Only hours for which grades are awarded are used in calculating the grade point average.

Academic Accountability

The academic standards of LSCS are based on a philosophy of maximizing student progress toward successful course and program completion.
Academic success in college requires maturity and dedication to regular and well-defined study habits. Academic standards criteria are designed to monitor student progress so that student and college staff can intervene and explore options to assist students who have difficulty meeting minimum requirements for successful course or program completion.

Academic standing is computed at the end of each enrollment period and is based upon the following grades and marks (A, B, C, D, F) earned by the student at LSCS. Different grade point average calculations are used in determining academic standing:

- **Semester Grade Point Average (GPA):** Includes grades earned in all courses at LSCS during the most recent semester (includes developmental courses).
- **Cumulative Credit GPA:** Includes grades earned in all college-level classes at LSCS (does not include developmental courses).

**Academic Standing Categories:**

**Good Standing:** A student will be considered to be in good academic standing when the student earns both a semester and a cumulative GPA of at least a 2.0.

**Academic Progress:** A student will be considered to be making academic progress when the student earns a semester GPA of at least a 2.0 but has a cumulative GPA less than 2.0.

Students who do not maintain the minimum GPA outlined above will be placed on academic warning, academic probation, continued academic probation or academic suspension. These four academic status levels alert the student, faculty and staff to problems in the student’s academic performance so that strategies for intervention and assistance can be employed.

Students placed into one of the following academic standing categories are expected to take advantage of the many resources available on each campus and are encouraged to establish contact with their college counseling center for additional support and assistance.

In addition, students whose status is other than “good standing” may be required to register for a reduced course load; register for specific courses or to participate in specially designed programs designated by the college.

**Academic Warning:** The first time a student earns a semester GPA of less than a 2.0, the student is placed on academic warning.

**Academic Probation:** The second time a student earns a semester GPA of less than a 2.0, the student is placed on academic probation.

**Continued Academic Probation:** A student will be placed on continued academic probation when the student: 1) Has been on academic warning and probation and; 2) Has a cumulative GPA that is 2.0 or higher and; 3) Has a semester GPA that is less than 2.0. Students may still enroll in courses under the guidelines stated above.

**Academic Suspension:** A student with a continuing history of low academic performance is placed on academic suspension when the student: 1) Has been on academic warning and probation and; 2) Has a cumulative GPA below 2.0 and; 3) Has a semester GPA below 2.0. An academic suspension will result in a student being denied enrollment for a minimum of one spring or fall semester. Students desiring to appeal a suspension must follow the guidelines stipulated by the individual college at which the majority of their courses have been completed. For more information on appealing a suspension, students may contact their college counseling center.

A student who re-enters the college after having been suspended will return on academic probation status and will be subject to the requirements outlined above.

**Financial Aid Students:** Students receiving financial assistance must make satisfactory academic progress in accordance with this system policy and are also subject to the academic progress requirements governing financial assistance awards. Students on academic warning, probation, continued probation, or suspension, and also receiving financial assistance are encouraged to contact their college financial aid office to determine further eligibility.
ACADEMIC POLICIES, PROCEDURES AND SERVICES

Academic Achievement Recognition
There are several ways that outstanding academic achievement by students is recognized at LSCS colleges. Graduates are recognized as follows:

- Students who earn a degree from a LSCS college with a cumulative GPA of 3.9-4.0 will be acknowledged by **Summa Cum Laude** on the diploma.
- Students who attain a cumulative GPA of 3.7 - 3.899 will be acknowledged by **Magna Cum Laude** on the diploma.
- Students who attain a cumulative GPA of 3.5 - 3.699 will be acknowledged by **Cum Laude** on the diploma.
- Students receiving a certificate with a cumulative 4.0 GPA will be acknowledged by **With Distinction** on the diploma in recognition of this achievement.
- Currently enrolled students are acknowledged each semester through the President’s List if they have accumulated at least 12 credit hours (including developmental studies hours) and have a semester grade point average of 3.30 or above for 6 or more credit hours completed that semester. All “I” grades must be changed to a letter grade prior to computing the semester GPA for President’s List status.

Honors Program:
LSCS offers an innovative honors program for highly motivated, academically capable students. Honors students enjoy the freedom to work independently and collaboratively with faculty who encourage lively, engaging discourse and challenging activities inside and outside the classroom.

Honors credit is earned through special contracts or classes with faculty members who are committed to an open-ended approach to learning. Students have many opportunities to contribute extensively and creatively through small group interaction, seminars, laboratories, oral reports, special research topics, informed discussion, and/or individual and group projects.

Involvement in the **Honors Program** can result in several levels of recognition for students. These are:

- Students successfully completing an **honors course** will receive appropriate designation on their transcripts.
- Students who complete 15 hours of honors credit with a 3.5 GPA will be recognized at commencement and will receive the designation of **Honors Program Graduate** on their transcript.
- Students completing 9 hours of honors credit with a 3.5 GPA and 25 hours of community service will be recognized at commencement and will receive the designation of **Honors Scholar Graduate** on their transcript.
- Students who complete 15 hours of honors credit with a 3.5 GPA and 25 hours of community service will be recognized at commencement and will receive the designation of **Honors Scholar with Distinction** on their transcript.

Phi Theta Kappa:
Colleges within the system all have active chapters of Phi Theta Kappa International Honor Society. Students who have a 3.5 cumulative GPA or higher, have completed at least 12 college-level credit hours, and are currently enrolled in at least three credit hours are eligible for membership. In addition to emphasizing academic excellence, Phi Theta Kappa International Honor Society promotes the hallmarks of leadership, service, and fellowship among its members. In recent years, members from the colleges’ chapters have held several leadership positions within both the international and the Texas region of this society and have been recognized with numerous awards. Graduating students belonging to the local and national Phi Theta Kappa International Honor Society will be recognized in the commencement program and wear the Phi Theta Kappa International Honor Society stole with their regalia.

Service Learning:
Service learning combines community service with academic instruction to create an opportunity for experiential learning. Students will find service learning opportunities offered in a variety of courses system-wide. Students who engage in a minimum of 15 contact hours of service learning activities in a course will receive service learning designation for the course on the transcript.
Award of Credit for NonTraditional Experiences

Advanced Standing

Advanced standing permits the student to move to more advanced work by the equating of test results, previous grades, and/or interviews by the appropriate department. Advanced standing is not placed on a student’s official transcript. No credit is awarded. There is no fee for this evaluation. Contact the dean of the specific subject area for more information.

For additional information and levels/scores for advanced standing, contact the counseling/advising office.

Credit by Internal Challenge Exams

Course challenge exams are developed and approved by LSCS curriculum teams, and administered by the college division. The same course challenge exam, cooperatively developed by the curriculum team for the department, is used at all campuses. Credit awarded by LSCS through course challenge exams applies to its programs of study. Other academic institutions may not accept credit obtained through LSCS course challenge exams.

1. Students receiving credit by examination must be fully admitted to LSCS at the time credit is awarded.
2. All credit by examination must be equated with an LSCS course number and description.
3. Each examination may only be attempted one time.
4. Credit by examination will be recorded on the student’s official transcript without grade equivalent or inclusion in the student’s GPA.
5. Applicable test fees must be paid in advance.

The following courses can be completed by taking an internal challenge exam. A student may not take a challenge exam for a course in which he/she has already been enrolled on or after official day. For further information on exams and other course requirements, go to www.lonestar.edu/PLA/ or contact the program area of interest at a LSCS college.

Credit by External Examination

The purpose of the credit by examination program is to provide college credit for work experience and/or educational work without transcript credit. This allows a student to complete undergraduate requirements in less time and at lower cost and to enrich educational experience by taking courses other than those that merely repeat previously learned material.

LSCS curriculum teams recommend if external examinations may be used for awarding of credits. For more information, contact the counseling/advising office.

LSCS offers course credit to academically qualified entering students. Such credit may be obtained by different methods in certain subject areas.

1. Achievement Test (ACT)
2. College level examination program (CLEP): Specific subject areas only. No general examinations will be accepted.
3. Advanced placement program by the college board. The AP College Board tests are offered through the high schools.
4. International baccalaureate (IB) diploma program examinations.

Lone Star College-Tomball is the official testing site for CLEP exams at LSCS. The registered LSC-Tomball CLEP test center number is 8720 and the LSC-Tomball phone number is 832.559.4245. Scores made on the CLEP should be submitted to the counseling office four weeks prior to enrollment.

A list of available credits through external examination follows.
<table>
<thead>
<tr>
<th>Subject Area</th>
<th>Examination</th>
<th>LSCS Course</th>
<th>Min. Score</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ENGLISH</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>English</td>
<td>IB (SL)</td>
<td>ENGL 1301 &amp; 1302</td>
<td>4</td>
</tr>
<tr>
<td>English</td>
<td>IB (HL)</td>
<td>ENGL 1301, 1302 &amp; 2332</td>
<td>4</td>
</tr>
<tr>
<td>English Usage</td>
<td>ACT</td>
<td>ENGL 1301</td>
<td>31</td>
</tr>
<tr>
<td>English Language &amp; Composition</td>
<td>AP College Board</td>
<td>ENGL 1301</td>
<td>3</td>
</tr>
<tr>
<td>American Literature</td>
<td>CLEP</td>
<td>ENGL 2327 &amp; 2328</td>
<td>46</td>
</tr>
<tr>
<td>English Literature</td>
<td>CLEP</td>
<td>ENGL 2322 &amp; 2323</td>
<td>46</td>
</tr>
<tr>
<td>English Literature &amp; Composition</td>
<td>AP College Board</td>
<td>ENGL 1302</td>
<td>3</td>
</tr>
<tr>
<td><strong>FOREIGN LANGUAGES</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>French *</td>
<td>CLEP</td>
<td>FREN 1411 &amp; 1412</td>
<td>50</td>
</tr>
<tr>
<td>French *</td>
<td>CLEP</td>
<td>FREN 1411, 1412 &amp; 2311</td>
<td>55</td>
</tr>
<tr>
<td>French *</td>
<td>CLEP</td>
<td>FREN 1411, 1412, 2311 &amp; 2312</td>
<td>61</td>
</tr>
<tr>
<td>Spanish</td>
<td>IB (AB)</td>
<td>SPAN 1411</td>
<td>4</td>
</tr>
<tr>
<td>Spanish</td>
<td>IB (B) (SL)</td>
<td>SPAN 1411 &amp; 1412</td>
<td>4</td>
</tr>
<tr>
<td>Spanish</td>
<td>IB (HL)</td>
<td>SPAN 1411, 1412, 2311 &amp; 2312</td>
<td>4</td>
</tr>
<tr>
<td>Spanish *</td>
<td>CLEP</td>
<td>SPAN 1411 &amp; 1412</td>
<td>4</td>
</tr>
<tr>
<td>Spanish *</td>
<td>CLEP</td>
<td>SPAN 1411, 1412 &amp; 2311</td>
<td>55</td>
</tr>
<tr>
<td>Spanish *</td>
<td>CLEP</td>
<td>SPAN 1411, 1412, 2311, 2306 &amp; 2312</td>
<td>61</td>
</tr>
<tr>
<td>German *</td>
<td>CLEP</td>
<td>GERM 1411 &amp; 1412</td>
<td>50</td>
</tr>
<tr>
<td>German *</td>
<td>CLEP</td>
<td>GERM 1411, 1412 &amp; 2311</td>
<td>55</td>
</tr>
<tr>
<td>German *</td>
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<td>GERM 1411, 1412, 2311 &amp; 2312</td>
<td>61</td>
</tr>
<tr>
<td>Spanish Language</td>
<td>AP College Board</td>
<td>SPAN 1411 &amp; 1412</td>
<td>3</td>
</tr>
<tr>
<td>Spanish Language</td>
<td>AP College Board</td>
<td>SPAN 1411, 1412 &amp; 2311</td>
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</tr>
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<td>French</td>
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<td>4</td>
</tr>
<tr>
<td>French</td>
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<td>4</td>
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<tr>
<td>French Language</td>
<td>AP College Board</td>
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<td>4</td>
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<td>French Language</td>
<td>AP College Board</td>
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<tr>
<td>German</td>
<td>IB (AB)</td>
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<tr>
<td>German</td>
<td>IB (B) (SL)</td>
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</tr>
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<td>German</td>
<td>IB (HL)</td>
<td>GERM 1411, 1412, 2311 &amp; 2312</td>
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<td>German Language</td>
<td>AP College Board</td>
<td>GERM 1411 &amp; 1412</td>
<td>3</td>
</tr>
<tr>
<td>German Language</td>
<td>AP College Board</td>
<td>GERM 1411, 1412 &amp; 2311</td>
<td>4</td>
</tr>
<tr>
<td>German Language</td>
<td>AP College Board</td>
<td>GERM 1411, 1412, 2311 &amp; 2312</td>
<td>5</td>
</tr>
<tr>
<td>Italian</td>
<td>IB (AB)</td>
<td>ITAL 1411</td>
<td>4</td>
</tr>
<tr>
<td>Italian</td>
<td>IB (B) (SL)</td>
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<td>ITAL 1411, 1412, 2311 &amp; 2312</td>
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<td>Italian Language</td>
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<td>Italian Language</td>
<td>AP College Board</td>
<td>ITAL 1411, 1412 &amp; 2311</td>
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<td>5</td>
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<tr>
<td><strong>SOCIAL &amp; BEHAVIORAL SCIENCE</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>American Government</td>
<td>CLEP</td>
<td>GOVT 2301</td>
<td>50</td>
</tr>
<tr>
<td>US History I</td>
<td>CLEP</td>
<td>HIST 1301</td>
<td>50</td>
</tr>
<tr>
<td>US History II</td>
<td>CLEP</td>
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<td>50</td>
</tr>
<tr>
<td>US History</td>
<td>AP College Board</td>
<td>HIST 1301 or 1302</td>
<td>4</td>
</tr>
<tr>
<td>World History</td>
<td>IB (SL)</td>
<td>HIST 2321 or 2322</td>
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</tr>
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<td>World History</td>
<td>IB (HL)</td>
<td>HIST 2321 or 2322</td>
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</tr>
<tr>
<td>Western Civilization I</td>
<td>CLEP</td>
<td>HIST 2311</td>
<td>46</td>
</tr>
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<td>Western Civilization II</td>
<td>CLEP</td>
<td>HIST 2312</td>
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</tr>
<tr>
<td>Sociology</td>
<td>CLEP</td>
<td>SOCI 1301</td>
<td>53</td>
</tr>
<tr>
<td>Social &amp; Cultural Anthropology</td>
<td>IB (HL)</td>
<td>ANTH 2346</td>
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</tr>
<tr>
<td>Statistics **</td>
<td>CLEP</td>
<td>PSYC 2317</td>
<td>50</td>
</tr>
<tr>
<td>Philosophy</td>
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<td>4</td>
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<td>PSYC 2301</td>
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<tr>
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<td>IB (SL)</td>
<td>PSYC 2301</td>
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<td>IB (HL)</td>
<td>PSYC 2301</td>
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### ACADEMIC POLICIES, PROCEDURES AND SERVICES

#### Subject Area

<table>
<thead>
<tr>
<th>Examination</th>
<th>LSCS Course</th>
<th>Min. Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Psychology **</td>
<td>CLEP</td>
<td>PSYC 2301</td>
</tr>
<tr>
<td>Geography</td>
<td>IB (HL)</td>
<td>GEOG 1303</td>
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#### BUSINESS

<table>
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<tr>
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</thead>
<tbody>
<tr>
<td>Financial Accounting</td>
<td>CLEP</td>
<td>ACCT 2401</td>
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#### MATH AND SCIENCE

<table>
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<tbody>
<tr>
<td>Mathematical Studies</td>
<td>IB (SL)</td>
<td>MATH 1332</td>
</tr>
<tr>
<td>Further Mathematical Studies</td>
<td>IB (SL)</td>
<td>MATH 1332</td>
</tr>
<tr>
<td>Mathematics</td>
<td>IB (HL)</td>
<td>MATH 1325</td>
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<tr>
<td>Math</td>
<td>ACT</td>
<td>MATH 1314</td>
</tr>
<tr>
<td>College Algebra</td>
<td>CLEP</td>
<td>MATH 1314</td>
</tr>
<tr>
<td>Precalculus</td>
<td>CLEP</td>
<td>MATH 2412</td>
</tr>
<tr>
<td>Calculus with Elementary Functions</td>
<td>CLEP</td>
<td>MATH 2413</td>
</tr>
<tr>
<td>Biology</td>
<td>IB (SL)</td>
<td>BIOL 1406</td>
</tr>
<tr>
<td>Biology</td>
<td>IB (HL)</td>
<td>BIOL 1406 &amp; 1407</td>
</tr>
<tr>
<td>Biology</td>
<td>AP College Board</td>
<td>BIOL 1406 &amp; 1407</td>
</tr>
<tr>
<td>Math Calculus AB</td>
<td>AP College Board</td>
<td>MATH 2413</td>
</tr>
<tr>
<td>Math Calculus BC</td>
<td>AP College Board</td>
<td>MATH 2413 &amp; 2414</td>
</tr>
<tr>
<td>Math Calculus BC</td>
<td>AP College Board</td>
<td>MATH 2413</td>
</tr>
<tr>
<td>Statistics</td>
<td>AP College Board</td>
<td>MATH 1342</td>
</tr>
<tr>
<td>Chemistry</td>
<td>AP College Board</td>
<td>CHEM 1411 &amp; 1412</td>
</tr>
<tr>
<td>Chemistry</td>
<td>IB (SL)</td>
<td>CHEM 1411</td>
</tr>
<tr>
<td>Chemistry</td>
<td>IB (HL)</td>
<td>CHEM 1411 &amp; 1412</td>
</tr>
<tr>
<td>Physics</td>
<td>IB</td>
<td>PHYS 1401</td>
</tr>
<tr>
<td>Geology</td>
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<td>ENVR 1401 or GEOL 1405</td>
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#### ARTS, MUSIC

<table>
<thead>
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<th>Min. Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Music</td>
<td>IB</td>
<td>MUSI 1306</td>
</tr>
<tr>
<td>Music Theory</td>
<td>AP College Board</td>
<td>MUSI 1211 &amp; 1216</td>
</tr>
<tr>
<td>Drawing Studio Art ***</td>
<td>AP College Board</td>
<td>ARTS 1316</td>
</tr>
<tr>
<td>Design Studio Art ***</td>
<td>AP College Board</td>
<td>ARTS 1311</td>
</tr>
<tr>
<td>History of Art</td>
<td>AP College Board</td>
<td>ARTS 1303</td>
</tr>
<tr>
<td>Visual Arts</td>
<td>IB</td>
<td>ARTS 1301 or 1311 or 1316</td>
</tr>
<tr>
<td>Theatre Arts</td>
<td>IB</td>
<td>DRAM 1310</td>
</tr>
</tbody>
</table>

A student who wishes to take the French/German/Spanish (F/G/S)-CAPE placement exam will be placed into the following classes:

<table>
<thead>
<tr>
<th>EXAM</th>
<th>CAPE SCORE</th>
<th>CLASS PLACEMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>F/G/S-CAPE</td>
<td>277-329</td>
<td>Student places in 1412 *</td>
</tr>
<tr>
<td>F/G/S-CAPE</td>
<td>330-389</td>
<td>Student places in 2311 *</td>
</tr>
<tr>
<td>F/G/S-CAPE</td>
<td>390-424</td>
<td>Student places in 2312 *</td>
</tr>
</tbody>
</table>

The following footnotes refer to activities which must take place on campus. Please contact the counseling office for additional information.

* Students are placed according to the score they obtain on the computerized test. Further assessment may be required for students without formal learning experience. Upon completion of the course with a grade of C or better, the student receives credit for the course and can request credit for the lower level courses. See www.lonestar.edu/pla to determine the lower level courses for which a student may be eligible.

* The CLEP score determines maximum possible credit. Additionally, an interview and essay in foreign language are required. The actual credit decision is based on the professional judgment of the faculty member evaluating the results of the interview and essay component of the assessment.

** LSCS essay required.

*** Portfolio review with LSCS faculty.

Note: A fee of $25 per assessment will be charged for any additional assessments needed including portfolio review or foreign language interviews.
Academic Integrity

The Lone Star College System upholds the core values of learning: honesty, respect, fairness, and accountability. The system promotes the importance of personal and academic honesty. The system embraces the belief that all learners – students, faculty, staff and administrators – will act with integrity and honesty and must produce their own work and give appropriate credit to the work of others. Fabrication of sources, cheating, or unauthorized collaboration is not permitted on any work submitted within the system.

The consequences for academic dishonesty are determined by the professor, or the professor and academic dean, or the professor and chief student services officer and can include but are not limited to:

1. Having additional class requirements imposed,
2. Receiving a grade of zero or “F” for an exam or assignment,
3. Receiving a grade of “F” for the course,
4. Being withdrawn from the course or program,
5. Being expelled from the college system.

Professors should clearly explain how the student’s actions violated the academic integrity policy, how a grade was calculated, and the actions taken.

Academic Appeals

An academic appeal is a formal request by a student to change a grade or to challenge a penalty imposed for violation of standards of academic integrity such as plagiarism or cheating. A request to change a grade or to challenge a penalty must be made within 12 months of the action. A grade may only be changed by the instructor of record (or by a full-time instructor in the absence of the instructor of record) or by the Academic Appeals Committee. Students in specialized disciplines should check their student handbook for program-specific appeal procedures.

An academic appeal will be considered if there is evidence that one or more of the following conditions exist: (1) error in calculation of grade; (2) deviation from the syllabus or system policy manual; (3) disparate academic treatment of a student that is not addressed by EEO processes; or (4) inappropriate penalties imposed for an academic integrity violation. An appeal will not be considered because of general dissatisfaction with a grade, penalty, or outcome of a course. Disagreement with the instructor’s professional judgment of the quality of the student’s work and performance is also not an admissible basis for an academic appeal.

Before a student brings an academic appeal, he or she should first meet with the instructor to request that a change be made. If the student is not satisfied with the outcome or cannot consult with the instructor, he or she must meet with the appropriate dean to determine if resolution can be reached.

If resolution is not reached and the student desires to pursue the appeal, the student will state specifically the basis of the appeal in writing to the instructional vice president. If the instructional vice president determines that the appeal does not meet the requirements of this policy, he/she shall communicate this in writing to the student. The decision of the vice president is final.

If the instructional vice president determines that the appeal is appropriate under this policy, he/she will convene the Academic Appeals Committee to consider the complaint. The instructional vice president will notify the student regarding the Academic Appeals Committee meeting date, his/her rights, and next steps in the process.

An Academic Appeals Standing Committee will be appointed at each college for one year by the instructional vice president and shall consist of:

1. Four full-time faculty members who will be appointed by the instructional vice president. One of the four faculty members will be appointed by the instructional vice president as chairperson of the committee.
2. Two students who will be nominated by the chief student affairs officer.
3. Members will be replaced or added by the instructional vice president if conflict of interest is apparent or specific expertise is required in regard to the circumstances of an appeal.

The committee will be convened by the chairperson in a timely manner and will conduct its activities in private. The student and the faculty member will be permitted to present witnesses and evidence relevant to the appeal.

The committee will not be bound by rules of evidence and will conduct its hearing in an informal manner. The student or faculty member may have a representative present but that person is not allowed to participate during the hearing. A two-thirds majority vote of the full committee shall be required to change the grade, penalty or academic action at issue.
The committee will inform the instructional vice president of its decision in writing. The instructional vice president will notify the student and faculty member in writing of the committee’s decision. The decision of the Academic Appeals Committee is final.

Requests for Courses

Students’ suggestions of courses to offer are an important part of course and curriculum planning. Requests should be made as follows:

- If the course is listed in the catalog, a student may present a request to either the dean or the instructional vice president that the course be placed on the schedule.
- If the course or program is not listed in the catalog, a written request may be made to the dean or to the vice president of instruction for the course or program to be added to the curriculum.

Library

The library at each college provides print, electronic, and audiovisual resources and services for students and faculty. The materials have been selected to serve the curricular, workforce and leisure needs of the college community.

LSCS libraries participate in several reciprocal/joint borrowing agreements, including the statewide program known as TexShare and the local Harmonic Consortium group which includes both Montgomery and Harris County public library systems. TexShare is a state-wide academic library cooperative program that encourages reciprocal borrowing privileges at all participating college and university libraries in Texas. Through the Harmonic Consortium, two of the LSCS libraries, located at Lone Star College-CyFair and Lone Star College-Tomball, provide borrowing privileges with the Montgomery County Memorial Library system and the Harris County Public Library system.

The libraries maintain a common electronic catalog of holdings, so that students at any college have online access to the system-wide collection. Each college library also provides online access to a variety of information including full-text databases, indexes to journals, and a variety of internet resources. Library users are able to access the library’s electronic resources remotely from their home computers or from their job workstations. Library facilities and selected services are available to the community according to system-wide policies.

LSCS is also a member of Online Computer Library Center Inc. (OCLC). Affiliation with this international organization enables the system to supplement the collection by cooperative arrangements for sharing resources with other institutions in the community, region, state and nation through affiliation with the OCLC Interlibrary Loan Subsystem. Further information on both intra- and interlibrary loans is available from the library at any college. Students are responsible for clearing their library records before the end of each semester. Official transcripts will not be released and registration for subsequent semesters may not be allowed until all obligations with the library are cleared.

Learning Centers

Learning Centers at each college provide facilities and services to extend learning beyond the classroom and to enable students to achieve academic goals. Services may include individualized tutoring in reading, writing, math, science, foreign languages, ESOL and other disciplines, group sessions and workshops on student success skills, research skills, course related materials, internet access, and computer programs, as well as academic testing. Facilities may include computer labs providing access to e-mail, the Internet, and course related software, as well as specialized labs supporting specific disciplines. Materials supporting both direct course outcomes and generalized study skills are available from the Internet, in print, or through audio-visual aids.

The Developmental Studies Program

The function of the developmental studies program is to involve students in building relevant skills necessary for success in college-level courses and programs. The program includes courses, lab assignments, tutorials, seminars, learning activities, and a referral system. Developmental courses are offered in English, English for speakers of other languages (ESOL), study skills, and math. Developmental course numbers begin with a zero; the course description section of this catalog provides specific information about these courses.

Developmental courses appear on transcripts from LSCS but do not transfer to four-year institutions, nor do they apply to LSCS degrees or certificates.

GED, High School Equivalency

LSCS offers a high school equivalency preparation and examination program. The GED exam is administered on a regular schedule. Consult the continuing education office or Web site at www.lonestar.edu for further information and for registration.
Sandra Delgado
Mexico
Elementary Education
LSC-Montgomery
Student Development
Programs and Services

A wide range of student development programs are provided by Lone Star College. These services are designed to complement the instructional programs and to provide individual attention to the needs of students.

Counseling and Advising Services
Counseling and advising offices provide individual attention to all students enrolled in the college. These services assist students in achieving educational and personal goals. Students are encouraged to make realistic choices between curricula that are specifically designed to prepare them for an occupation upon completion of course work at LSCS and those that are designed for an extended academic education in four-year institutions.

Counselors and advisors are available for day and evening appointments. The following services are available to students:

- Educational Academic Counseling/Advising - for help in selecting a major, resolving academic difficulties and planning for further educational pursuits.
- Career Exploration - for information concerning abilities, interests and personality traits, essential knowledge in making an informed and intelligent career choice. Occupational information is available in the counseling/advising office, the career services office, the library, and online.
- Human Enrichment Seminars and Group Counseling - for support in values clarification, goals, life adjustments, study skills, and other concerns.
- Referral Services - for specialized services in the geographical area of disability assessment, depression, substance abuse, etc.
- Transfer Planning - for assistance in selecting course work to transfer to a four-year college or university.

Faculty Advisement - for course selection and career decision-making.
Disability Services - for students with special needs. Requests for these services should be made through the counseling/advising office at any LSCS college.

LSCS is an official test center for the American College Testing (ACT) program, the Texas Higher Education Assessment (THEA), and the College Level Exam Placement (CLEP). See below for college exam codes.

<table>
<thead>
<tr>
<th>ACT</th>
<th>THEA</th>
<th>CLEP</th>
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</thead>
<tbody>
<tr>
<td>Lone Star College-CyFair</td>
<td>4786</td>
<td>144</td>
</tr>
<tr>
<td>Lone Star College-Kingwood</td>
<td>4260</td>
<td>219</td>
</tr>
<tr>
<td>Lone Star College-Montgomery</td>
<td>n/a</td>
<td>226</td>
</tr>
<tr>
<td>Lone Star College-North Harris</td>
<td>4139</td>
<td>221</td>
</tr>
<tr>
<td>Lone Star College-Tomball</td>
<td>4261</td>
<td>222</td>
</tr>
</tbody>
</table>

Career Services
Career Services offers a variety of resources to assist students and graduates in developing career strategies. Services include:

- Career Counseling: Assistance with making a career decision; choosing a major; career planning; job search coaching; interview preparation; résumé preparation; personality and interest assessments; and career exploration assessments.
- Career Resource Library: Career fields and majors; agencies and organizations; career planning information; résumé and cover letter guides; and resources for special populations.
- Employment Resources: Job fairs; on-campus recruiting; resume and interviewing seminars; résumé critiques; job search coaching; and job postings on system databases.

Visit www.lonestar.edu/cc for more information.
Student Organizations

Lone Star College recognizes that student organizations provide a framework for students to develop their own special talents and interests. Objectives of organizations include assisting students in developing leadership qualities and providing beneficial use of leisure time. Information about current organizations and guidelines for starting a new organization may be obtained from the student services office.

Examples of organizations

(may not be available at each college):

- 2nd Amendment Academy
- 30-Something & Beyond (non-traditional student) Club
- Accounting Club
- African American Student Association/Umoja
- American Association of University Women
- American Society of Interior Designers
- Anime Club
- Art & Culture Club
- Art Club
- Ballroom Dance Club
- Baptist Student Ministry
- Be A Teacher/Future Teachers Club
- Black Student Alliance
- Camarata Music Club
- Campus Crusade for Christ
- Catholic Student Union
- Chess Club
- Choir Club
- Circle K
- Clay Club
- College Democrats
- College Republican Club
- Colleges Against Cancer
- Computer Club
- Cosmetology Club
- Creative Writing Club
- Criminal Justice Student Association
- Cultural Awareness Club/Intercultural Student Organization
- Dance Team/Upbeat Dance Group
- Debate Club
- Delta Epsilon Chi (Marketing, Management, Entrepreneurship)
- Desi Student Association
- Drama Club
- Emergency Medical Services
- Student Association
- Engineering Student Organization
- Environmental Club/Earth Alliance
- Film Club
- Forensics
- Forza Italia
- Future Professional Educators
- Generation Student Ministries
- Geology Club
- Geomatics Association
- GLBTQ Association
- Habitat for Humanity
- Hip Hop Congress
- Hispanic/Latin American Student Organization/Una Voz
- Honors Student Organization
- Interfaith Association
- International GO/Games Association
- International Student Organization/Int’l Heritage Society
- Intramural Sports
- Japanese Language & Culture Club
- Latter Day Saints Club
- Le French Club
- Literary & Arts Magazine/Swirl/Inkling
- LVN Club
- Math Club/AfterMath
- Medical Assisting Club
- Men’s Baseball Club
- Men’s Basketball Club
- Men’s Soccer Club
- Military History Club
- Model United Nations
- Music Ensemble Recruitment & Retention Club
- Music Teachers National Association
- National Kitchen & Bath Association
- Nerd Culture & Awareness Organization
- Newspaper/News Club
- Outdoor Adventure Club
- Paralegal Association
- Phi Beta Lambda (Business Club)
- Phi Theta Kappa (International Junior College Honor Society)
- Physical Therapy Assistant Student Organization
- Pool/Billiards Club
- Pre-Medical & Health Science Society
Psychology Club/PSI Beta National Honor Society
Racquetball & Handball Club
Radiology Student Association
SALSA (Spanish Association Leading Students Ahead)
Science Club
Sigma Kappa Delta (National English Honor Society)
Sign Language/Deaf Culture Club
Society for Mathematics & Engineering
Sonography Organization
Stand Now (Relief for Darfur)
STARS
Steel Drum Band
Student Ambassadors
Student American Dental Hygienist’s Association
Student Entrepreneurs
Student Government Association
Student Nurses Association
Student Occupational Therapy Association
Student Troupe of Astronomical Research
Surgical Technology Club
Technology Society
Tennis Club
Texas State Teachers Association-Student Program
Veteran’s Club
Veterinary Technician’s Student Organization
Video Game Club
Video Production Club
Wildlife Society
Women’s Basketball Club
Women’s Soccer Club
Women’s Volleyball Club
Writer’s Club

**Student Activities**

Student activities are coordinated through the college student services office. Suggestions for activities and programs may be submitted to this office by students and faculty.

**Student Publications**

Various publications of interest to students, faculty and staff are distributed periodically. These publications include announcements of forthcoming events, activities, and programs to be held at each college. A student newspaper is published periodically by journalism students; contributions of articles, literary pieces, essays and letters to the editor are encouraged.

Creative and literary arts publications are produced by some of the colleges to provide students opportunities to publish poetry, photography, art, essays and short stories. Contact the student services office for further information.

**Intramural and Club Sports**

Intramural and club sports provide athletic and recreational activities for students at most colleges in a variety of on-campus events. Most activities allow for different skill levels. Tournaments, leagues, and special events are scheduled throughout the semester with individual and team competition for men, women and co-ed groups. Athletic activities include flag football, basketball, soccer, tennis, frisbee, golf, softball, baseball, fun-runs, racquetball and more. Recreational activities include backgammon, chess, eight-ball, canoe trips, open recreation in the gym, etc. Intramural and club sports offices are located at each college.

**Bulletins and Posters**

Official notices and bulletins are posted on bulletin boards throughout each college. Information can be found about job opportunities, class schedules, events on the school calendar and student activities. Any written material to be posted or distributed must be approved by the college student services office. Any notices or bulletins should be posted in designated areas in such a manner as not to detract from or deface the building. Specific guidelines are available from each college’s student services office.

**Student Conduct**

Lone Star College is dedicated to providing a quality comprehensive educational program designed to meet and balance the diverse and changing educational, social, economic, and cultural needs of the community, consistent with a safe and healthful environment. The system is committed not only to learning and to the advancement of knowledge, but also to the education...
of ethically sensitive and responsible persons. It seeks to achieve these goals through a solid educational program and through regulations and policies governing student life that encourages responsibility and respect for the rights and viewpoints of others.

The general morale of the student body is dependent upon many factors; among these are the success of its graduates, the attitude of the faculty and administration, the general behavior of individual students and the reputation of the school. We believe that a primary factor in strong student morale is an overall regard for good citizenship on the part of the student body. The system assumes that students eligible to perform on the college level are familiar with the ordinary rules governing proper conduct and that they will observe these rules as a matter of training and habit.

Regulations of the system forbid gambling, the use of controlled substances and alcoholic beverages, and the appearance of anyone under the influence of any of these on the campus or when attending or participating in activities sponsored by the college. All LSCS buildings are tobacco free.

The possession of firearms, illegal knives and prohibited weapons on system facilities, including parking areas and publicly accessed facilities, is a violation of criminal law and board policies. Persons who violate the law and these policies will be subject to serious consequences, including referral for criminal prosecution and dismissal from school.

No person or group of people acting in concert may willfully engage in disruptive activity or disrupt a lawful assembly on any campus or property of LSCS; further, the administration is charged with the responsibility of keeping the system free of disruptive activities and may take whatever disciplinary action is deemed necessary in instances of disruption or threat of disruption.

Students are expected to dress and groom themselves in an appropriate manner while on campus or while participating in activities sponsored by the system. Students whose conduct casts an unfavorable reflection upon the system, and thereby upon all students, are subject to disciplinary action. Refer to www.lonestar.edu/studenthandbook for more information.

Lone Star College seeks to provide an environment where discussion and expression of all views relevant to the subject matter of the class are recognized as essential to the teaching and learning process. However, students do not have the right to interfere with the freedom of faculty to teach or the rights of other students to learn. Faculty members set the standards of conduct that are acceptable.

Student Discipline Procedures

Any alleged violation or flagrant disregard of LSCS rules and regulations shall be brought to the attention of the chief student services officer, who will initiate an investigation of the situation. After a complete and thorough investigation, the chief student services officer will determine the course of action. Discipline may result in expulsion. The decision of this administrator may be appealed to the college discipline committee. The complete discipline policy may be found on-line at www.lonestar.edu/student handbook.

Emergency Procedures

In the event an emergency due to illness or accident occurs on campus, students should contact the college switchboard operator (dial 0) or the administrator on duty as soon as possible.

The Lone Star College System does not provide insurance coverage for its students. Section 101.051 of Texas Civil Practice and Remedies Code expressly exempts community college systems from liability for any personal or property damage that occurs on campus. The student, therefore, should make arrangements for adequate personal insurance coverage while attending LSCS. F1 international students are required to purchase health insurance or provide proof of adequate and acceptable health insurance by completing the waiver application before registration. The premium for the LSCS international student health insurance plan will be included with the tuition and fees.
at registration. Information regarding personal insurance for students is available from the office of student services.

**Contagious/Communicable Diseases**

LSCS conforms to all requirements of the Communicable Disease Prevention and Control Act and the Open Records Act. With a physician’s written approval, students with a contagious/communicable disease normally will be allowed to attend class. The identity of such students is confined to those persons within the college with a direct need to know (i.e., president, vice president, faculty member or counselor) and will not be revealed without the student’s consent. Questions concerning the system’s policy and enrollment procedures of a student with a contagious/communicable disease should be referred to the student services office.

Bacterial meningitis is a serious, potentially deadly disease that can progress extremely fast. It is an inflammation of the membranes that surround the brain and spinal cord. More information concerning this disease and its treatment can be found online at www.lonestar.edu/meningitis or in the student services office at each campus.

**College Police**

The police officers of the Lone Star College System are commissioned peace officers with the State of Texas and are granted the same law enforcement authority as any other police or sheriff’s department. The officers are obligated to enforce all federal, state and local laws, in addition to college policies. The police department works with state and local police agencies, as needed, to ensure a safe and comfortable environment for students, staff, faculty and visitors to the college. More detailed information is available at www.lonestar.edu/police regarding campus safety and security. Contact the LSCS police at emergency line 281.290.5911 (dial 5911 from any campus telephone) or non-emergency line 832.813.6800 (dial 6800 from any campus telephone).

**Lost and Found**

Each college maintains a “Lost and Found” for students, faculty and staff. Unclaimed items are kept only through the end of each semester.

**Parking**

Parking is provided free to LSCS students and visitors. Parking and traffic regulations are outlined in the student information brochure available at registration or from the student services office. Students and staff are requested to adhere to good manners and consideration of others when parking on campus. Students should follow the directions given on the traffic signs and park in designated areas only. Violators may be subject to a citation.

Parking permits are required only for faculty and staff and for handicapped parking spaces.

When a parked vehicle obstructs traffic or flagrantly disregards good parking practices, the college administrative personnel reserves the right to call a towing service and have the vehicle removed from the campus at the owner’s expense.

**Student Center/Food Service**

A cafeteria/snack bar/lounge area is provided at each college. Hot meals and snacks are available for students and college personnel. A variety of vending machines are also available at each college.

Students are asked to refrain from consuming food or drinks in any of the classrooms and laboratory areas. All LSCS buildings and facilities are smoke-free.

**Student Housing**

The Lone Star College System serves only commuting students. There are no dormitories available.

**College Bookstore**

A bookstore is located at each college. A list of required textbooks, study aids and supplies for all subjects is available. Bookstore hours are announced each semester. Information concerning book refunds and used book purchases is available from the bookstore.
Graduation Requirements

PROGRAMS OF INSTRUCTION

The Lone Star College System offers courses and programs to suit the needs of individual students. In keeping with the mission of a community college, the college offers university-parallel or transfer courses, workforce or career programs, and continuing education courses for lifelong learning opportunities.

While individual courses are available in a variety of subjects and fields of study, many students have as their educational goal a prescribed program of study. Students are responsible for taking courses in the proper sequence and at the proper level as well as determining the applicability of a particular course to their educational objectives.

Students who fulfill the requirements of such programs of study may attain one or more of the following degrees or certificates:

Associate of Arts Degree (AA) - A collegiate degree related to the baccalaureate degree. This is not a degree with a declared major; rather it is a program of first and second year courses which will generally transfer to a four-year college or university. Requirements are on page 80.

Associate of Science Degree (AS) - A collegiate degree related to the baccalaureate degree. This is not a degree with a declared major; rather it is a program of first and second year courses which will generally transfer to a four-year college or university. Requirements are on page 81.

Associate of Arts in Teaching (AAT) - A collegiate degree that will satisfy the lower division requirements for a bachelor’s degree leading to initial teacher certification. Course transferability for area of concentration courses should be checked with the transfer university. (page 87)

Questions regarding course sequence and degree objectives should be referred to the appropriate faculty advisor or counseling office.

Certificate - A program of study that varies in length and is designed to prepare the student for occupational employment. The certificate is awarded upon completion of specific courses that have been industry validated and sequenced for the purpose of developing and upgrading skills in an occupation. Requirements are on page 76.

Area of Concentration - A program which combines either the associate of arts or associate of science degree with an emphasis in a specific academic discipline. Course transferability for area of concentration courses should be checked with the transfer university. (page 87)

LSCS Core Perspectives

The Lone Star College System has defined student outcomes and skill development as students complete their degree or certificate.
GRADUATION REQUIREMENTS

program. When appropriate and applicable to the course content, the faculty will integrate course activities and assignments that reflect these values, behaviors, and skills.

**Perspectives in the Core Curriculum**

1. Establish broad and multiple perspectives of the individual in relationship to the larger society and world in which he or she lives, and to understand the responsibilities of living in a culturally and ethnically diversified world;
2. Stimulate a capacity to discuss and reflect upon individual, political, economic, and social aspects of life in order to understand ways in which to be a responsible member of society;
3. Recognize the importance of maintaining health and wellness;
4. Develop a capacity to use knowledge of how technology and science affect their lives;
5. Develop personal values for ethical behavior;
6. Develop the ability to make aesthetic judgments;
7. Use logical reasoning in problem solving; and
8. Integrate knowledge and understand the interrelationships of the scholarly disciplines.

**Basic Intellectual Competencies in the Core Curriculum**

**READING:** Reading at the college level means the ability to analyze and interpret a variety of printed materials – books, articles, and documents including both general methods of analyzing printed materials and specific methods for analyzing the subject matter of individual disciplines.

**WRITING:** Competency in writing is the ability to produce clear, correct, and coherent prose adapted to purpose, occasion, and audience. Although correct grammar, spelling, and punctuation are each a sine qua non in any composition, they do not automatically ensure that the composition itself makes sense or that the writer has much of anything to say. Students need to be familiar with the writing process including how to discover a topic, how to develop and organize it, and how to phrase it effectively for their audience. These abilities can be acquired only through practice and reflection.

**SPEAKING:** Competence in speaking is the ability to communicate orally in clear, coherent, and persuasive language appropriate to purpose, occasion, and audience. Developing this competency includes acquiring poise and developing control of the language through experience in making presentations to small groups, to large groups, and through the media.

**LISTENING:** Listening at the college level means the ability to 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.

**COMPUTER LITERACY:** Computer literacy at the college level means the ability to use computer-based technology in communicating, solving problems, and acquiring information. Includes an understanding of the limits, problems, and possibilities associated with the use of technology, and development of the tools necessary to evaluate and learn new technologies as they become available.

**MULTICULTURAL COMPETENCIES:** Demonstrates knowledge of those elements and processes that create and define culture. Develops an understanding of the values, practices, beliefs, and responsibilities of living in a multicultural world. Develops cross-cultural understanding, empathy, and communication. Demonstrates an understanding of diverse cultural expressions and their influences on cross-cultural interactions.

**MATHEMATICS:** Applies mathematical techniques to solve problems utilizing quantitative and qualitative strategies. Applies
quantitative concepts, logic, and symbolic systems, and mathematics techniques as required in both discipline-specific and employment situations. Demonstrates ability to understand and apply the basics of quantitative relationships and to recognize the logical systems underlying them.

**Demonstration of Mastery**

Each professor will select strategies and activities throughout the course that foster the development and mastery of the above educational skills and competencies. Some strategies are book reviews, article reviews, chapter reviews, writing assignments, role playing, question groups, role reversal, free association discussion, group presentation, Socratic method, group projects, individual projects, case studies, open-ended essay exams, interviews, panel discussions, team problem solving, group tests, organizing data, group investigations, self assignments, discussion leaders, team evaluations, and critical panels.

**General Associate Degree Requirements**

Within five years of initial enrollment in credit courses at LSCS, a student may graduate according to the catalog degree requirements in effect at the time of first enrollment or any subsequent catalog degree requirements provided the degree, the program, and requisite courses are still being offered. Course prerequisite changes need to be followed. If a student fails to complete within five years all degree requirements of the catalog in effect at the time of initial enrollment, the student will be required to graduate under a catalog not older than five years. The five year initial enrollment period for specialized admissions programs begins upon acceptance into the program. Exception to this requirement may be approved in extenuating circumstances by the instructional vice president.

Students whose first year of enrollment in credit courses is prior to fall 1993 may graduate according to requirements in effect at that time provided the degree, the program, and requisite courses are still being offered.

1. At least 61 semester hours of earned credit, 18 of which must be courses taken at LSCS and apply to the degree. Courses transferred from regionally-accredited institutions will be evaluated and applied to degree requirements if:
   a. At least a grade of “D” was earned.
   b. The cumulative GPA of the transfer courses applied to the degree or certificate must be at least a 2.00.
   c. AAS graduates may be required to demonstrate skills/proficiencies in the discipline.
2. Satisfy core competency requirements.
3. Students must have at least a 2.0 cumulative GPA for LSCS courses applying toward their degree requirements.
4. Students must have a cumulative 2.0 GPA on all credit courses earned at LSCS (graduation GPA).
5. Satisfy LSCS Student Success Initiative requirements (college level reading and writing, and at least completion of Math 0308) even if students are exempt from the Texas Success Initiative.
6. Complete formal application for graduation in admissions office on or before the announced deadline.
7. All transcripts must be on file and all financial obligations to the college complete, including all records cleared in the library.

**Associate of Applied Science Degree**

The associate of applied science degree is issued to students who complete a college-level career-education curriculum. This degree is designed to prepare students for employment in a specific career. It is issued to students who successfully fulfill the general requirements, in addition to the specific technical or workforce curriculum for each program and the general education core requirements listed below.
Requirements

The general education block for each program must contain a minimum of 15 college credit hours.

1. The general education block for each program must include ENGL 1301.
2. The general education block for each program must contain at least one course from each of the following categories:
   - Math/Natural Sciences
   - Social/Behavioral Sciences
   - Humanities/Fine Arts
   - General Education Core Requirement
3. In addition, graduates are expected to master the LSCS perspectives in the core curriculum and the basic intellectual competencies in the core curriculum (pages 73-74). These requirements can be fulfilled through successful completion of identified courses or attainment of identified competencies in a specific certificate or program. Program administrators, faculty, or advisors will provide specific information.
4. Furthermore, graduates must meet the computer literacy, math (minimum completion of Math 0308 plus any math degree requirements), oral communication competencies, wellness, and multicultural requirements.

Earning Additional Associate Degrees

A student who has received an associate degree from LSCS or any other regionally-accredited institution of higher education may obtain an additional associate degree in another area. However, students should seek appropriate academic advising before initiating the pursuit of another associate degree. This provision is subject to the following stipulations:

1. For each additional associate degree, a minimum of 18 semester credit hours must be completed at LSCS. These credit hours may not repeat credit applied to a previous degree and must apply to the additional degree.
2. All courses required by any specific program must be completed.

Certificate Programs and General Requirements

Certificates are awarded upon the completion of specific courses which have been industry-validated and sequenced for the purpose of developing and upgrading skills in an occupation. The programs vary in length and are designed to prepare the student for employment. Students will receive their certificate from the LSCS college authorized to offer the total certificate program at which he/she has completed the greatest number of technical program credit hours applicable to the degree or certificate. To be awarded a certificate from LSCS, a student must:

1. Have fulfilled all the course requirements for a certificate program, completing at least 50 percent of coursework at LSCS.
2. Earn a cumulative grade point average of 2.00 in all courses required for the certificate.
3. APPLY FOR GRADUATION before a certificate can be awarded.

If pursuing an Enhanced Skills Certificate, students must complete the related LSCS associate’s degree prior to enrollment.

Students desiring an Advanced Technical Certificate must complete a related associate’s or bachelor’s degree prior to enrollment.

All associate degrees and certificates over 42 credit hours require completion of Math 0308 or higher and college level reading and writing or higher based on degree requirements.

Graduation

Students will be awarded a LSCS diploma when they graduate from one of the five LSCS colleges in accordance with the following criteria:

Associate of Arts (AA) and Associate of Science (AS) Degrees – Students will graduate from the LSCS college where he/she has completed the greatest number of credit hours applicable to the degree.
Associate of Applied Science (AAS) Degree and Certificates – Students will graduate from the LSCS college authorized to offer the total degree program or certificate at which he/she has completed the greatest number of technical program credit hours applicable to the degree or certificate. Nursing students will graduate from the college where they successfully complete the capstone course for the program.

Associate of Arts in Teaching (AAT) – Students will graduate from the LSCS college authorized to offer the total degree program or certificate at which he/she has completed the greatest number of program credit hours applicable to the degree or certificate.

Annual commencement exercises are held at the close of the spring semester. Students who complete all degree or certificate requirements or who are candidates for graduation are invited to participate in the college commencement exercise. An application for graduation should be submitted prior to the semester that all course work is completed.

**AA, AS, AAT Transferability**

Requirements for a baccalaureate degree in any given major are set by the university granting that degree. Students who wish to receive an associate of arts degree or an associate of science degree from LSCS must incorporate the degree requirements previously listed with those of the college/university of their choice. To minimize problems with transferability of courses, students should make their choice of a college or university as soon as possible and obtain a catalog from that institution. A faculty advisor or counselor should be consulted and a degree plan developed to ensure progress toward the student’s educational goal. A student who enrolls in 30 or more credit hours above the baccalaureate degree plan may have to pay out-of-state tuition rates for the excess hours.

Reverse transfer establishes policies and procedures for credits earned at universities to be transferred to LSCS and applied toward associate degrees.

For additional information, go to our Web site at www.tuc.edu/services/jointadmissions.htm or contact the articulation and university relations department at Lone Star College-University Center at 936.273.7606.

**Graduate Guarantee**

Lone Star College guarantees that graduates who complete the requirements for the associate of arts or the associate of science degree will be able to perform at a senior college or university at a level equivalent to other transfer students or to the college’s native students. To meet this commitment to its graduates, the system will provide additional academic coursework or tutoring support tuition-free.

The system also guarantees that graduates with the associate of applied science degree or a certificate will have acquired the job skills for entry level employment in the field of their award. To meet this commitment, the system will provide additional technical skills training tuition-free for up to one year following graduation if the graduate’s employer decides he/she lacks relevant entry level technical skills taught as part of the LSCS program.

For information related to the guarantee, please contact the instructional vice president at any LSCS college.
While certain courses are recommended, the requirements are essentially the basic first year and second year offerings appropriate for the first two years of many baccalaureate degree programs. Students who successfully complete the degree requirements of the programs of study will be eligible to receive the associate of arts degree or the associate of science degree from Lone Star College System.

### Core Requirements for the Associate of Arts and the Associate of Science:

A course cannot count toward more than one requirement of the degree with one exception – the **multicultural requirement**.

<table>
<thead>
<tr>
<th>Core Component</th>
<th>Course Options</th>
<th>Semester credit hours</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>COMMUNICATION</strong></td>
<td>ENGL 1301 and 1302 and 3 hours of Speech: SPCH 1144, 1145, 1311, 1315, 1318, 1321, 2144, 2145</td>
<td>9 hours</td>
</tr>
<tr>
<td><strong>MATHEMATICS</strong></td>
<td>MATH 1314, 1316, 1324, 1325, 1332, 1342, *1350, *1351, 2318, 3 hours 2320, †2412, †2413, †2414, †2415</td>
<td>3 hours</td>
</tr>
<tr>
<td><strong>NATURAL SCIENCES</strong></td>
<td>BIOL 1406 OR 1408, 1407 OR 1409, 2401, 2402, 2404, 2406, 2416, 2420, 2421; CHEM 1405, 1411, 1412, 1419, 2423, 2425; ENV 1401, 1402; GEO 1403, 1404, 1405, 2307; PHYS 1401, 1402, 1403, 1404, 1410, 2425, 2426</td>
<td>8 hours</td>
</tr>
<tr>
<td><strong>VISUAL &amp; PERFORMING ARTS</strong></td>
<td>ARTS 1301, 1303, 1304, 1316, 2346, 2356; DANC 2303; DRAM 1120, 1121, 1310, 1330, 1351, 1352, 2120, 2331, 2361, 2362, 2366; MUSI 1301, 1306, 1308, 1309, 1310</td>
<td>3 hours</td>
</tr>
<tr>
<td><strong>HUMANITIES</strong></td>
<td>ENGL 2307, 2322, 2323, 2327, 2328, 2332, 2333, 2341, 2342, 2343, 2351; HUMA 1301, 1302; PHIL 1301, 1304, 2306, 2321; SPCH 2341; FREN 2311, 2312; GERM 231, 2312; ITAL 2311, 2312; SPAN 2311, 2312, 2313, 2315</td>
<td>3 hours</td>
</tr>
<tr>
<td><strong>SOCIAL/BEHAVIORAL SCIENCES</strong></td>
<td>HIST 1301, 1302, or 2301 (select 6 hours with 3 hours in U. S. History)</td>
<td>6 hours</td>
</tr>
<tr>
<td><strong>GOVT</strong></td>
<td>2301 and 2302</td>
<td>6 hours</td>
</tr>
<tr>
<td><strong>ANTH</strong></td>
<td>2301, 2346, 2351; CRJ 1301, 1307; ECON 2301, 2302</td>
<td>3 hours</td>
</tr>
<tr>
<td><strong>GEOG</strong></td>
<td>1300, 1303; GOVT 2304; HIST 2311, 2312, 2321, 2322; PSYC 2301, 2306, 2308; SOCI 1301, 1306, 2301, 2319, 2326</td>
<td>6 hours</td>
</tr>
<tr>
<td><strong>KINESIOLOGY</strong></td>
<td>Select any activity course 1111-2184 excluding 3 credit-hour KINE classes</td>
<td>1 hour</td>
</tr>
<tr>
<td><strong>MULTICULTURAL REQUIREMENT</strong></td>
<td>Students must take one of the above underlined courses or one of the following to meet the multicultural requirement of this degree: FREN 1300, 1310, 1411, 1412; GERM 1411, 1412; ITAL 1411, 1412; JAPN 1411, 1412; SGNL 1401, 1402, 2301, 2302, 2306; SPAN 1300, 1310, 1411, 1412, 2306</td>
<td>6 hours</td>
</tr>
</tbody>
</table>

**TOTAL 42 hours**

* Specifically designed for elementary and middle school teachers.
† This course satisfies the mathematics core requirement of three semester hours; however, the fourth hour is not a part of the transfer core curriculum and may be transferred as an elective hour.
Requirements for the Associate of Arts:

A course cannot count toward more than one requirement of the degree with one exception – the multicultural requirement.

<table>
<thead>
<tr>
<th>Core Component</th>
<th>Course Options</th>
<th>Semester credit hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMMUNICATION</td>
<td>ENGL 1301 and 1302</td>
<td>9 hours</td>
</tr>
<tr>
<td></td>
<td>And 3 hours of Speech: SPCH 1144, 1145, 1311, 1315, 1318, 1321, 2144, 2145</td>
<td></td>
</tr>
<tr>
<td>LITERATURE</td>
<td>ENGL 2322, 2323, 2327, 2328, 2332, 2333, 2341, 2342, 2343, 2351</td>
<td>3 hours</td>
</tr>
<tr>
<td>MATHEMATICS</td>
<td>MATH 1314, 1316, 1324, 1325, 1332, 1342, *1350, *1351, 2318, 2320, 2412, 2413, 2414, 2415</td>
<td>3 hours</td>
</tr>
<tr>
<td>NATURAL SCIENCES</td>
<td>BIOL 1406 OR 1408, 1407 OR 1409, 2401, 2402, 2404, 2406, 2416, 2420, 2421; CHEM 1405, 1411, 1412, 1419, 2423, 2425; ENV 1401, 1402, GEOL 1403, 1404, 1405, 2307; PHYS 1401, 1402, 1403, 1404, 1410, 2425, 2426</td>
<td>8 hours</td>
</tr>
<tr>
<td>VISUAL &amp; PERFORMING ARTS</td>
<td>ARTS 1301, 1303, 1304, 1316, 2346, 2356; DANC 2303; DRAM 1120, 1121, 1130, 1330, 1351, 1352, 2120, 2331, 2361, 2362, 2366; MUSI 1301, 1306, 1308, 1309, 1310</td>
<td>3 hours</td>
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<td>HUMANITIES</td>
<td>ENGL 2307, 2322, 2323, 2327, 2328, 2332, 2333, 2341, 2342, 2343, 2351; HUMA 1301, 1302; PHIL 1301, 1304, 2306, 2321; SPCH 2341; FREN 2311, 2312; GERM 2311, 2312; ITAL 2311, 2312; SPAN 2311, 2312, 2313, 2315</td>
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<tr>
<td>SOCIAL/BEHAVIORAL SCIENCES</td>
<td>HIST 1301, 1302, or 2301 (select 6 hours with 3 hours in U.S. History)</td>
<td>6 hours</td>
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<tr>
<td></td>
<td>GOVT 2301 and 2302</td>
<td>6 hours</td>
</tr>
<tr>
<td></td>
<td>ANTH 2301, 2346, 2351; CRJ 1301, 1307; ECON 2301, 2302; GEOG 1300, 1303; GOVT 2304; HIST 2311, 2312, 2321, 2322; PSYC 2301, 2306, 2308; SOCI 1301, 1306, 2301, 2319, 2326</td>
<td>3 hours</td>
</tr>
<tr>
<td>KINESIOLOGY</td>
<td>Select any activity course: 1111-2184 excluding 3 credit-hour KINE classes</td>
<td>1 hour</td>
</tr>
<tr>
<td>ELECTIVES</td>
<td>ITSC 1401 or COSC 1401 or equivalent if course or competency challenge exams are not chosen and successfully completed</td>
<td>16 hours</td>
</tr>
<tr>
<td>MULTICULTURAL REQUIREMENT</td>
<td>Students must take one of the above underlined courses or one of the following to meet the multicultural requirement of this degree: FREN 1300, 1310, 1411, 1412; GERM 1411, 1412; ITAL 1411, 1412; JAPN 1411, 1412; SGNL 1401, 1402, 2301, 2302; SPAN 1300, 1310, 1411, 1412, 2306</td>
<td>6 hours</td>
</tr>
</tbody>
</table>

TOTAL 61 hours

* Specifically designed for elementary and middle school teachers.
Requirements for the Associate of Science:

A course cannot count toward more than one requirement of the degree with one exception – the multicultural requirement.

<table>
<thead>
<tr>
<th>Core Component</th>
<th>Course Options</th>
<th>Semester credit hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMMUNICATION</td>
<td><strong>ENGL</strong> 1301 and 1302</td>
<td>9 hours</td>
</tr>
<tr>
<td></td>
<td>And 3 hours of Speech: <strong>SPCH</strong> 1144, 1145, 1311, 1315, 1318, 1321, 2144, 2145</td>
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</tr>
<tr>
<td>MATHEMATICS</td>
<td><strong>MATH</strong> 1314, 1316, 1324, 1325, 1332, 1342, *1350, *1351, 2318, 2320, 2412, 2413, 2414, 2415</td>
<td>6 hours</td>
</tr>
<tr>
<td>NATURAL SCIENCES</td>
<td><strong>BIOL</strong> 1406 OR 1408, 1407 OR 1409, 2401, 2402, 2404, 2406, 2416, 2420, 2421; <strong>CHEM</strong> 1405, 1411, 1412, 1419, 2423, 2425; <strong>ENVR</strong> 1401, 1402; <strong>GEOL</strong> 1403, 1404, 1405, 2307; <strong>PHYS</strong> 1401, 1402, 1403, 1404, 1410, 2425, 2426</td>
<td>16 hours</td>
</tr>
<tr>
<td>VISUAL &amp; PERFORMING ARTS</td>
<td><strong>ARTS</strong> 1301, 1303, 1304, 1316, 2346, 2356; <strong>DANC</strong> 2303; <strong>DRAM</strong> 1120, 1121, 1310, 1330, 1351, 1352, 2120, 2331, 2361, 2362, 2366; <strong>MUSI</strong> 1301, 1306, 1308, 1309, 1310</td>
<td>3 hours</td>
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<tr>
<td>HUMANITIES</td>
<td><strong>ENGL</strong> 2307, 2322, 2323, 2327, 2328, 2332, 2333, 2341, 2342, 2343, 2351; <strong>HUMA</strong> 1301, 1302; <strong>PHIL</strong> 1301, 1304, 2306, 2321; <strong>SPCH</strong> 2341; <strong>FREN</strong> 2311, 2312; <strong>GERM</strong> 2311, 2312; <strong>ITAL</strong> 2311, 2312; <strong>SPAN</strong> 2311, 2312, 2313, 2315</td>
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</tr>
<tr>
<td>SOCIAL/BEHAVIORAL SCIENCES</td>
<td><strong>HIST</strong> 1301, 1302, or 2301 (select 6 hours with 3 hours in U. S. History)</td>
<td>6 hours</td>
</tr>
<tr>
<td></td>
<td><strong>GOVT</strong> 2301 and 2302</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>ANTH</strong> 2301, 2346, 2351; <strong>CRJ</strong> 1301, 1307; <strong>ECON</strong> 2301, 2302; <strong>GEOG</strong> 1300, 1303; <strong>GOVT</strong> 2304; <strong>HIST</strong> 2311, 2312, 2321, 2322; <strong>PSYC</strong> 2301, 2306, 2308; <strong>SOCI</strong> 1301, 1306, 2301, 2312, 2326</td>
<td>3 hours</td>
</tr>
<tr>
<td>KINESIOLOGY</td>
<td>Select any activity course: 1111-2184 excluding 3 credit-hour <strong>KINE</strong> classes</td>
<td>1 hour</td>
</tr>
<tr>
<td>ELECTIVES</td>
<td><strong>ITSC</strong> 1401 or <strong>COSC</strong> 1401 or equivalent (if course or competency challenge exams are not chosen and successfully completed)</td>
<td>8 hours</td>
</tr>
<tr>
<td>MULTICULTURAL REQUIREMENT</td>
<td>Students must take one of the above underlined courses or one of the following to meet the multicultural requirement of this degree:</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>FREN</strong> 1300, 1310, 1411, 1412; <strong>GERM</strong> 1411, 1412; <strong>ITAL</strong> 1411, 1412; <strong>JAPN</strong> 1411, 1412; <strong>SGNL</strong> 1401, 1402, 2301, 2302; <strong>SPAN</strong> 1300, 1310, 1411, 1412, 2306</td>
<td></td>
</tr>
</tbody>
</table>

* Specifically designed for elementary and middle school teachers.
**ACAdeMiC TrAnSfer**

ASSOCiaTe of Arts in Teaching

**EC-6 Generalist**

Leading to a bachelor’s degree for individuals seeking Texas teacher certification.

(AAT degree offered at LSC-CyFair, Kingwood, Montgomery, North Harris, and Tomball)

**FIRST YEAR**

First Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>GOVT 2301</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 1301</td>
<td>3</td>
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<tr>
<td>SPCH</td>
<td></td>
</tr>
<tr>
<td>EDUC 1301</td>
<td>3</td>
</tr>
<tr>
<td>MATH 1314</td>
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**SEMESTER TOTAL**  

15

Second Semester

<table>
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<tbody>
<tr>
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<tr>
<td>HIST 1301</td>
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<td>ENGL 1302</td>
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<td>MATH 1350</td>
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**SEMESTER TOTAL**  

16

**SECOND YEAR**

First Semester

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<td>MATH 1351</td>
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**SEMESTER TOTAL**  

14

Second Semester

<table>
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<td>TECA 1354 OR Elective</td>
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<tr>
<td>PSYC 2301 OR GEOL 1403 OR PHYS 1410</td>
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<td>GOVT 2302</td>
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<tr>
<td>ENGL 1304 OR GEOG 1303</td>
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**SEMESTER TOTAL**  

16

**Total Credit Hours for AA Degree in Teaching** 61

1. Choose from SPCH 1311, 1315, 1318, or 1321
2. ARTS 1301 meets the multicultural requirement. If DRAM, ARTS, or MUSI elective option is chosen, select a course that will meet multicultural requirements. See core requirements.
3. Eight total hours of science must consist of four hours each of two science courses with labs. Choose BIOL 1406, 1407, 1408, 1409, CHEM 1405, 1411, 1412, GEOL 1403, or PHYS 1410. It is recommended (not required) that the courses be chosen from two different areas for a broader understanding of the sciences.
4. Select from: ENGL 2322, 2323, 2332, 2333, 2331, 2341, 2342, 2343, or 2351

---

**Associate of Arts in Teaching**

**EC-4 Early Childhood Specialization**

Leading to a highly qualified designation for para-professionals (teachers aides) who desire specialized training in the area of early childhood development.

(AAT degree offered at LSC-Kingwood, Montgomery, North Harris, and Tomball)

**FIRST YEAR**

First Semester

<table>
<thead>
<tr>
<th>Course</th>
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<tr>
<td>ENGL 1301</td>
<td>3</td>
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<tr>
<td>TECA 1311 OR Elective</td>
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<tr>
<td>MATH 1314</td>
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15

Second Semester

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<td>TECA 1303 OR Elective</td>
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<tr>
<td>ENGL 1302</td>
<td>3</td>
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**SEMESTER TOTAL**  

16

**SECOND YEAR**

First Semester

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**SEMESTER TOTAL**  

16

Second Semester

<table>
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<tbody>
<tr>
<td>SPCH Elective</td>
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<tr>
<td>TECA 1354 OR Elective</td>
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<td>ENGL 1304 OR Elective</td>
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---

LSCS requires that students meet computer literacy competency.

It is strongly recommended that students speak with an advisor at the transferring institution to confirm transferability of courses into degree plans, THEA score requirements, and SBEC requirements.
SECOND YEAR

First Semester

<table>
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<tr>
<th>Course</th>
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<tbody>
<tr>
<td>HIST 1302 U.S. History since 1877</td>
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<td>MATH 1351 Foundations of Math II</td>
<td>3</td>
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<td>EDUC 2301 Intro to Special Populations</td>
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<td>Elective$^3$</td>
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<td>KINE Any physical activity course</td>
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SEASON TOTAL 14

Second Semester

<table>
<thead>
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<tbody>
<tr>
<td>TECA 1354 Child Growth and Development OR</td>
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<td>PSYC 2301 General Psychology</td>
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<tr>
<td>GEOL 1403 Physical Geology OR</td>
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<tr>
<td>PHYS 1410 Elementary Physics</td>
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</tr>
<tr>
<td>GOVT 2302 American Government II</td>
<td>3</td>
</tr>
<tr>
<td>ENGL$^4$</td>
<td>3</td>
</tr>
<tr>
<td>GEOG 1300 Principles of Geography OR</td>
<td>3</td>
</tr>
<tr>
<td>GEOG 1303 World Geography</td>
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</table>

SEASON TOTAL 16

Total Credit Hours for AA Degree in Teaching 63

1 Choose from SPCH 1311, 1315, 1318, or 1321
2 ARTS 1301 meets the multicultural requirement. If DRAM, ARTS, or MUSI elective option is chosen, select a course that will meet multicultural requirements. See core requirements.
3 Eight total hours of science must consist of four hours each of two science courses with labs. Choose BIOL 1406, 1407, 1408, 1409, CHEM 1405, 1411, 1412, GEOL 1403, or PHYS 1410. It is recommended (not required) that the courses be chosen from two different areas for a broader understanding of the sciences.
4 Select from: ENGL 2322, 2323, 2327, 2328, 2332, 2333, 2341, 2342, 2343, or 2351

LSCS requires that students meet the computer literacy competency.

It is strongly recommended that students speak with an advisor at the transferring institution to confirm transferability of courses into degree plans, THEA score requirements, and SBEC requirements.
FIELD OF STUDY CURRICULUM

Field of study curricula were mandated in Senate Bill 148 of the 75th Texas Legislature (1997). The field of study curricula will satisfy the lower division requirements for a bachelor’s degree in a specific academic area at a general academic teaching institution. The student will receive full academic credit toward the degree program for the block of courses transferred which will meet the institution’s lower division requirements for the degree program in the field of study into which the student transfers.

A student who transfers from one institution of higher education to another without completing the field of study curriculum of the sending institution shall receive academic credit in the field of study curriculum of the receiving institution for each of the courses that the student has successfully completed in the field of study. The field of study curricula which have been approved are: Business, Computer Science, Criminal Justice, Music and Speech Communication.

Field of Study Curriculum in Business

Business

Leading to the bachelor of business administration degree at the awarding institution.

Associate of Arts Degree with Field of Study Transfer Curriculum for Business
[degree offered at LSC-CyFair, Kingwood, Montgomery, North Harris, and Tomball]

<table>
<thead>
<tr>
<th>FIRST YEAR</th>
<th>Credit</th>
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<tbody>
<tr>
<td><strong>First Semester</strong></td>
<td></td>
</tr>
<tr>
<td>ENGL  1301 Composition &amp; Rhetoric I</td>
<td>3</td>
</tr>
<tr>
<td>BCIS  1405 Business Computer Applications</td>
<td>4</td>
</tr>
<tr>
<td>HIST 1</td>
<td>Elective</td>
</tr>
<tr>
<td>SPCH 2</td>
<td>Elective</td>
</tr>
<tr>
<td>Elective Visual and Performing Arts</td>
<td>3</td>
</tr>
<tr>
<td><strong>SEMIESTER TOTAL</strong></td>
<td>16</td>
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<table>
<thead>
<tr>
<th>Second Semester</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIST 1</td>
<td>Elective</td>
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<tr>
<td>ACCT  2401 Principles of Accounting I</td>
<td>4</td>
</tr>
<tr>
<td>MATH  1314 College Algebra</td>
<td>3</td>
</tr>
<tr>
<td>ECON  2301 Macroeconomics</td>
<td>3</td>
</tr>
<tr>
<td>ENGL  1302 Composition &amp; Rhetoric II</td>
<td>3</td>
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<td><strong>SEMIESTER TOTAL</strong></td>
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SECOND YEAR

<table>
<thead>
<tr>
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<th>Credit</th>
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<tbody>
<tr>
<td>ECON  2302 Microeconomics</td>
<td>3</td>
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<tr>
<td>GOVT  2301 Amer Govt: Natl, State &amp; Local I</td>
<td>3</td>
</tr>
<tr>
<td>ACCT  2402 Principles of Accounting II</td>
<td>4</td>
</tr>
<tr>
<td>Elective Humanities</td>
<td>3</td>
</tr>
<tr>
<td>Elective Natural Sciences</td>
<td>4</td>
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<table>
<thead>
<tr>
<th>Second Semester</th>
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<tbody>
<tr>
<td>GOVT  2302 Amer Govt: Natl, State &amp; Local II</td>
<td>3</td>
</tr>
<tr>
<td>Math  1325 Elements Calculus w/Applications</td>
<td>3</td>
</tr>
<tr>
<td>Elective Business</td>
<td>3</td>
</tr>
<tr>
<td>Elective Natural Sciences</td>
<td>4</td>
</tr>
<tr>
<td>ENGL 2</td>
<td>Literature Elective</td>
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<tr>
<td>KINE  1111 Fitness for Life I</td>
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<td><strong>SEMIESTER TOTAL</strong></td>
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**Total Credit Hours for Field of Study** 66

1 Select 2 from HIST 1301, 1302, 2301 (3 hrs. U.S. History)
2 Select from: SPCH 1311, 1315, or 1321 (preferred)
3 Select course to meet multicultural requirement.
4 Select from: BUSI 1301, 1307, 2301, 2304, or 2372 (according to preference of college transfer)
5 Select from: ENGL 2322, 2323, 2327, 2328, 2332, 2333

Field of Study Curriculum in Computer Science

Computer Science

Leading to the bachelor of science degree in computer science or computer management information system.

Associate of Arts with Field of Study Transfer Curriculum for Computer Science
[degree offered at LSC-CyFair, Kingwood, Montgomery, and Tomball]

<table>
<thead>
<tr>
<th>FIRST YEAR</th>
<th>Credit</th>
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<tbody>
<tr>
<td>ENGL  1301 Composition &amp; Rhetoric I</td>
<td>3</td>
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<tr>
<td>BCIS  1405 Business Computer Applications</td>
<td>4</td>
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<tr>
<td>HIST  Elective</td>
<td>3</td>
</tr>
<tr>
<td>SPCH  Elective</td>
<td>3</td>
</tr>
<tr>
<td>Elective Visual and Performing Arts</td>
<td>3</td>
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<tr>
<td><strong>SEMIESTER TOTAL</strong></td>
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<table>
<thead>
<tr>
<th>Second Semester</th>
<th>Credit</th>
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</thead>
<tbody>
<tr>
<td>HIST</td>
<td>Elective</td>
</tr>
<tr>
<td>ACCT  2401 Principles of Accounting I</td>
<td>4</td>
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<tr>
<td>MATH  1314 College Algebra</td>
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<tr>
<td>ECON  2301 Macroeconomics</td>
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<td>ENGL  1302 Composition &amp; Rhetoric II</td>
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<th>Summer Semester</th>
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<tr>
<td>MATH  1314 College Algebra</td>
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<td>MATH  1316 Trigonometry</td>
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<tr>
<td>COSC  1436 Programming Fundamentals I</td>
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<tr>
<td>ENGL  1301 Composition and Rhetoric I</td>
<td>3</td>
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<tr>
<td>HIST  1301 U.S. History to 1877</td>
<td>3</td>
</tr>
<tr>
<td>MATH  2412 Pre-Calculus</td>
<td>4</td>
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<td>KINE 1</td>
<td>Any physical activity course</td>
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<td><strong>SEMIESTER TOTAL</strong></td>
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### Field of Study Curriculum in Criminal Justice

**Criminal Justice**
Leading to the bachelor of criminal justice degree.

#### Associate of Arts with Field of Study Transfer Curriculum for Criminal Justice
(degree offered at LSC-CyFair, Kingwood, Montgomery, North Harris, and Tomball)

**FIRST YEAR**

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Credit</th>
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<tbody>
<tr>
<td>ENGL 1301 Composition and Rhetoric I</td>
<td>3</td>
</tr>
<tr>
<td>HIST 1301 U.S. History since 1877</td>
<td>3</td>
</tr>
<tr>
<td>CRJU 1301 Introduction to Criminal Justice</td>
<td>3</td>
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<tr>
<td>ITSC 1401 Intro to Computer Information OR</td>
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<tr>
<td>COSC 1401 Intro to Computer Information</td>
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<td>KINE Any physical activity course</td>
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**SECOND YEAR**

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<tr>
<td>GOVT 2301 Amer Govt: Natl, State &amp; Local I</td>
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<tr>
<td>ENGL2 Literature Elective</td>
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<tr>
<td>CRJU 1310 Fundamentals of Criminal Law</td>
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<td>CRJU 2313 Correctional Systems &amp; Practices</td>
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### Field of Study Curriculum in Mexican-American Studies

**Mexican-American Studies**
Leading to the bachelor of arts degree with a major in Mexican-American Studies.

#### Associate of Arts with Field of Study Transfer Curriculum for Mexican-American Studies
(degree offered at LSC-CyFair, Kingwood, Montgomery, North Harris, and Tomball)

**FIRST YEAR**

<table>
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<tr>
<td>ENGL 1301 Composition &amp; Rhetoric I</td>
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<tr>
<td>HIST 1301 United States History to 1877 OR</td>
<td>3</td>
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<tr>
<td>HIST 2301 Texas History</td>
<td>3</td>
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<tr>
<td>COSC 1401 Microcomputer Applications</td>
<td>4</td>
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<tr>
<td>HUMA 1305 Intro to Mexican-American Studies</td>
<td>3</td>
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<tr>
<td>SPAN 1411 Beginning Spanish I</td>
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### Second Semester

<table>
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<tr>
<td>ENGL 1302 Composition &amp; Rhetoric II</td>
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<tr>
<td>HIST 1302 US History Since 1877 OR</td>
<td>3</td>
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<td>HIST 2301 Texas History</td>
<td>3</td>
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<tr>
<td>MATH Elective (select MATH course from core requirements)</td>
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<td>GOVT 2301 American Government I</td>
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<td>SPAN 1412 Beginning Spanish II</td>
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**SEMESTER TOTAL** 16-17

### SECOND YEAR

#### First Semester

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<tbody>
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<td>HIST 2327 Mexican-American History I OR</td>
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<tr>
<td>HIST 2328 Mexican-American History II</td>
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<td>Elective Lab Science</td>
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<tr>
<td>GOVT 2302 American Government II</td>
<td>3</td>
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<tr>
<td>SPAN 2311 Intermediate Spanish I OR</td>
<td>3</td>
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<td>SPAN 2313 Spanish for Native Speakers I</td>
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**SEMESTER TOTAL** 17

#### Second Semester

<table>
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<td>Elective Lab Science</td>
<td>4</td>
</tr>
<tr>
<td>GOVT 2311 Mexican-American Politics</td>
<td>3</td>
</tr>
<tr>
<td>SPAN 2312 Intermediate Spanish II OR</td>
<td>3</td>
</tr>
<tr>
<td>SPAN 2315 Spanish for Native Speakers II</td>
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<tr>
<td>SPCH Elective</td>
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</table>

**SEMESTER TOTAL** 16

**Total Credit Hours for Field of Study** 66-67

---

1. Choose from SPCH 1311, 1315, 1318, or 1321

### Field of Study Curriculum in Music

**Music**

Leading to the bachelor of music degree but may also be applied to the bachelor of arts or other baccalaureate-level music degrees as deemed appropriate by the awarding institution.

***Associate of Arts with Field of Study Transfer Curriculum for Music***

(degree offered at LSC-CyFair, Kingwood, Montgomery, North Harris, and Tomball)

#### FIRST YEAR

##### First Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
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</thead>
<tbody>
<tr>
<td>MUSI Theory I</td>
<td>2</td>
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<tr>
<td>MUSI Ear Training &amp; Sight Singing I</td>
<td>2</td>
</tr>
<tr>
<td>MUSI Class Piano I</td>
<td>1</td>
</tr>
<tr>
<td>MUAP Private Lesson</td>
<td>2</td>
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<tr>
<td>ENGL Composition &amp; Rhetoric I</td>
<td>3</td>
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<tr>
<td>HIST United States History to 1877</td>
<td>3</td>
</tr>
<tr>
<td>MUEN Major Performance Ensemble</td>
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**SEMESTER TOTAL** 14

##### Second Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
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</thead>
<tbody>
<tr>
<td>MUSI Theory II</td>
<td>2</td>
</tr>
<tr>
<td>MUSI Ear Training &amp; Sight Singing II</td>
<td>2</td>
</tr>
<tr>
<td>MUSI Class Piano II</td>
<td>1</td>
</tr>
<tr>
<td>MUAP Private Lesson</td>
<td>2</td>
</tr>
<tr>
<td>ENGL Composition &amp; Rhetoric II</td>
<td>3</td>
</tr>
<tr>
<td>HIST United States History since 1877</td>
<td>3</td>
</tr>
<tr>
<td>MATH College Algebra or higher</td>
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<tr>
<td>MUEN Major Performance Ensemble</td>
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**SEMESTER TOTAL** 17

#### Second Year

##### First Semester

<table>
<thead>
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<th>Course</th>
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<tbody>
<tr>
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<tr>
<td>MUSI Ear Training &amp; Sight Singing III</td>
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<tr>
<td>MUSI Class Piano III</td>
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<tr>
<td>MUSI Music Literature to 1827</td>
<td>3</td>
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<tr>
<td>MUAP Private Lesson</td>
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<tr>
<td>GOVT Amer Govt: Natl, State &amp; Local I</td>
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<tr>
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<tr>
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**SEMESTER TOTAL** 17

##### Second Semester

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<td>MUSI Theory IV</td>
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<td>MUSI Ear Training and Sight Singing IV</td>
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<td>MUSI Class Piano IV</td>
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<td>MUAP Private Lesson</td>
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<tr>
<td>GOVT Amer Govt: Natl, State &amp; Local II</td>
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<td>SPCH Public Speaking</td>
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<tr>
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**SEMESTER TOTAL** 17

**Total Credit Hours for Field of Study Music** 65

Students must also complete the core competency test in computer skills rather than taking the credit class that develops those skills.

1. Corequisites: Students will be required to take 0-4 hours of class piano as secondary applied until they pass their piano proficiency exam. Students taking keyboard as a major instrument should be encouraged to take another secondary applied area (voice).

2. Symphonic band, concert choir, symphony orchestra; guitar and bass majors may use jazz ensemble.

3. ENGL 2322, 2323, 2327, 2328
Field of Study Curriculum in Speech Communication

Speech Communication
Leading to the bachelor of arts degree with a speech communication major.

Associate of Arts with Field of Study Transfer Curriculum for Speech Communication
(degree offered at LSC-CyFair, Kingwood, Montgomery, North Harris and Tomball)

FIRST YEAR

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<tr>
<th>First Semester</th>
<th>Credit</th>
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<tbody>
<tr>
<td>ENGL 1301 Composition and Rhetoric I</td>
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<td>HIST 1301 US History to 1877</td>
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<td>SPCH 1311 Introduction to Speech Communication</td>
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<td>COSC 1401 Microcomputer Applications</td>
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Second Semester

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<td>ENGL 1302 Composition and Rhetoric II</td>
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<td>HIST 1302 US History since 1877</td>
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<td>SPCH 1318 Interpersonal Communication</td>
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<td>MATH 1314 College Algebra</td>
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SECOND YEAR

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<td>SPCH 1315 Public Speaking</td>
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<td>Elective Social/Behavioral Science</td>
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Second Semester

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<td>PSYC 2301 General Psychology</td>
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<tr>
<td>SPCH 1321 Business Speech OR</td>
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<tr>
<td>SPCH 1342 Voice and Diction OR</td>
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<td>SPCH 2341 Oral Interpretation OR</td>
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<tr>
<td>SPCH 2333 Discussion &amp; Small Group Communication</td>
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<td><strong>SEMESTER TOTAL</strong></td>
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Total Credit Hours for Field of Study Speech Communications 61

1 See AA degree core requirements for science elective options.
2 The elective for either English literature, social/behavioral science, visual performing arts or humanities must also meet multicultural requirement.

International Studies
Area of Concentration (AOC)

The International Studies AOC is an introduction for freshman/sophomore college students to global studies with an emphasis on the 20th and 21st centuries. By taking a diverse set of courses with a world view, students will broaden their perspectives and gain an appreciation and awareness of the global community. Students desiring to work toward a major in international education can complete the requirements for the associate of arts degree and the AOC hours for international education. There is a 15-hour minimum for this area of concentration with a two-year foreign language component. Students must complete at least 50% of the courses within the colleges of the LSCS to receive this AOC designation. Upon successful completion, graduates will receive an AA degree with an AOC in international education. AOC courses must be selected from those sections designated in the schedule as international studies sections (IS).

Elective Modern Language 6-8
GEOG 1303 World Geography 3
Elective Modern Language or 6-8
International Studies

Total Credit Hours for International Studies Area of Concentration 15-19

Students must also complete the core computer literacy requirement.
**BACHELOR’S DEGREE**
*undergraduate programs*

**Accounting**  
Sam Houston State University

**Applied Arts and Sciences**  
Sam Houston State University

**Banking and Financial Institutions**  
Sam Houston State University

**Biological and Physical Sciences**  
UH-Downtown

**Biotechnology**  
UH-Downtown

**Computer Information Systems**  
UH-Downtown

**Consumer Science and Merchandising**  
University of Houston

**Criminal Justice**  
Sam Houston State University

**English**  
University of Houston

**Finance**  
UH-Downtown

**General Business Administration**  
Sam Houston State University

**History**  
University of Houston

**Hotel and Restaurant Management**  
University of Houston

**Human Performance**  
Texas Southern University

**Humanities**  
UH-Downtown

**Interdisciplinary Academic Studies in Elementary Certification**  
Sam Houston State University  
Texas Southern University

**Interdisciplinary Studies**  
UH-Downtown

**Management**  
Sam Houston State University

**Marketing**  
UH-Downtown

**Nursing**  
Prairie View A&M University

**Political Science**  
Sam Houston State University

**Psychology**  
Sam Houston State University

**Social Sciences**  
UH-Downtown

**Social Work**  
Prairie View A&M University

**Sociology**  
Prairie View A&M University

**Technology Leadership and Supervision**  
University of Houston

**MASTER’S DEGREES**
*graduate programs*

**Business Administration**  
Sam Houston State University

**Business Administration - Executive MBA**  
Texas A&M University

**Communication Studies**  
Sam Houston State University

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**LSC-UNIVERSITY CENTER DEGREE PLANS**
http://UC.LoneStar.edu
Computer Science
University of Houston

Counselor Education
Texas Southern University

Criminal Justice
Sam Houston State University

Curriculum and Instruction: EC-12 Physical Education Certification
Sam Houston State University

Curriculum and Instruction: Gifted & Talented
University of Houston

Educational Administration
Prairie View A&M University

Educational Human Resource Development
Texas A&M University

Educational Leadership: Administrators/Supervisors Certificate
Sam Houston State University

Educational Psychology: Hispanic Bilingual Education
Texas A&M University

Educational Psychology: Special Education
Texas A&M University

Educational Technology
Texas A&M University

Electrical Engineering
University of Houston

Elementary/Early Childhood
Prairie View A&M University

Elementary Education
Sam Houston State University

Engineering
Prairie View A&M University

Engineering Management
University of Houston

Engineering Systems Management
Texas A&M University

English
Sam Houston State University

History
Sam Houston State University

Hospitality Management
University of Houston

Nursing
Prairie View A&M University

Petroleum Engineering
Texas A&M University

Political Science
Sam Houston State University

Psychology
Sam Houston State University

Public Administration (MPA)
Sam Houston State University

Secondary Education
Sam Houston State University

Sociology
Sam Houston State University

Special Education: Educational Diagnostician Certification
Sam Houston State University

Sports Management
Sam Houston State University

Training and Development
University of Houston

SPECIAL PROGRAMS

Educational Leadership Doctorate
Sam Houston State University

Post Baccalaureate Teacher Certification
Prairie View A&M University
Sam Houston State University
## Workforce Degrees and Certificates

Designed primarily for students desiring Associate of Applied Science (AAS) Degrees and Certificates

★ Total Certificate or Degree Offered  ☆ Some Courses Offered

### DEGREES AND CERTIFICATES CLUSTERS  CF  K  M  NH  T  DL

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## WORKFORCE DEGREES AND CERTIFICATES

### DEGREES AND CERTIFICATES CLUSTERS

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## Workforce Degrees and Certificates

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### Manufacturing and Industrial Professions

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- AAS Degree, Tech Prep (AAS.AUTO)
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- Certificate, Chassis and Electrical Technician Specialization (C1.CET1)
  - ★
- Certificate, Power Train and Driveability Specialization (C1.PTD1)
  - ★
- Certificate, General Service Technician (C1.GST1)
  - ★ ★

**Corrosion Technology** *(page 113)*
- AAS Degree (AAS.CRNT)
  - ★

**Electrician** *(page 119)*
- Residential/Commercial Electrician Certification (C1.REC1)
  - ★

**Engineering Technology** *(page 123)*
- Architectural Engineering Technology, Tech Prep (AAS.EDAE)
  - ✩ ✩ ★
- Mechanical Engineering Technology, Tech Prep (AAS.EDME)
  - ✩ ★ ★
- Pre-Engineered Metl Bldg Draft/Design Specialz, Tech Prep (AAS.EDMB)
  - ★ ★
- Certificate, Basic Electronics (C1.ELTE)
  - ★ ★ ★

**Heating, Ventilation, AC & Refrigeration Technology** *(page 135)*
- AAS Degree, Tech Prep (AAS.AIRC)
  - ★
- Certificate, Heating, Ventilation, AC Residential Servicing (C1.AIR1)
  - ★
- Certificate, Heating, Ventilation, AC Commercial Servicing (C1.HCS1)
  - ★

**Industrial Maintenance** *(page 139)*
- Industrial Maintenance Technology (AAS.IDMT)
  - ★
- Certificate, Industrial Maintenance Technology (C1.IMT1)
  - ★

**Land Surveyor** *(page 143)*
- AAS Degree, Land Surveying & Mapping Technology (AAS.SRVY)
  - ★
- Certificate, Land Surveyor Level 1 (C1.SRV1)
  - ★
- Marketable Skills Award, Land Surveyor (MSC.SRVY)
  - ★

**Machining Technology** *(page 146)*
- Certificate, Computer Numeric Control Operator I (C1.CNA1)
  - ★ ★
- Certificate, Computer Numeric Control Operator II (C1.CNB1)
  - ★ ★
- Certificate, Machinist I (C1.MAC1)
  - ★ ★

**Machinatics Technology** *(page 149)*
- Certificate, Machinatics Technology-Level II (C2.MET2)
  - ★ ★
- Certificate, Machinatics Technology-Level I (C1.MET1)
  - ★ ★
- Marketable Skills Award, Machinatics Technology (MSC.METC)
  - ★ ★

**Welding and Inspection Technology** *(page 180)*
- AAS Degree, Welding Technology, Tech Prep (AAS.WELD)
  - ★ ★
- Certificate, Welding Technology Advanced (C1.WTA1)
  - ★ ★
- Certificate, Welding Technology Intermediate (C1.WEL1)
  - ★ ★
- Certificate, Welding Technology Basic (C1.WTB1)
  - ★ ★
- AAS Degree, Inspection Technology (AAS.INSP)
  - ★
- Certificate, Inspection Technology (C1.INS1)
  - ★
- Certificate, Metal Arts (C1.WMA1)
  - ★
- Certificate, Metal Sculpture (C2.WMS2)
  - ★
## Requirements for the Associate of Applied Science:

A course cannot count toward more than one requirement of the degree, with one exception – the multicultural requirement. See individual program or certificate degree plans for specific courses.

See individual programs for specific information

<table>
<thead>
<tr>
<th>Core Component</th>
<th>Course Options</th>
<th>Semester credit hours</th>
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<tbody>
<tr>
<td><strong>COMPOSITION</strong></td>
<td>ENGL 1301</td>
<td>3 hours</td>
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<td><strong>MATH/NATURAL SCIENCES</strong></td>
<td>BIO 1322, 1406 or 1408, 1407 or 1409, 2401, 2402, 2404, 2406, 2416, 2420, 2421; CHEM 1405, 1411, 1412, 1419, 2423, 2425; ENVR 1401, 1402; GEO 1403, 1404, 1405, 2307; MATH 1314, 1316, 1324, 1325, 1332, 1342; *1350, *1351, 2320, 2412, 2413, 2414, 2415; PHIL 2303; PHYS 1401, 1402, 1403, 1404, 1410, 2425, 2426</td>
<td>3 hours</td>
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<tr>
<td><strong>SOCIAL/BEHAVIORAL SCIENCES</strong></td>
<td>ANTH 2301, 2346, 2351; CRJ 1301, 1307; ECON 2301, 2302; GEOG 1300, 1303; GOVT 2301, 2302, 2304; HIST 1301, 1302, 2301, 2311, 2312, 2321, 2322; PSYC 2301, 2302, 2306, 2308, 2314, 2315, 2316, 2317, 2319; SOCI 1301, 1306, 2301, 2319, 2326</td>
<td>3 hours</td>
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<td><strong>HUMANITIES/ FINE ARTS</strong></td>
<td>ARTS 1301, 1303, 1304, 1316, 2346, 2356; COMM 1318; DANC 2303; DRAM 1120, 1121, 1310, 1330, 1351, 1352, 2120, 2331, 2361, 2362, 2366; ENGL 2307, 2322, 2323, 2327, 2328, 2332, 2333, 2341, 2342, 2343, 2351; HUMA 1301, 1302; MUSI 1301, 1306, 1308, 1309, 1310; PHIL 1301, 1304, 2306, 2321; FREN 2311, 2312; GER 2311, 2312; ITAL 2311, 2312; SPAN 2311, 2312, 2313, 2315</td>
<td>3 hours</td>
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<tr>
<td><strong>ELECTIVE</strong></td>
<td>To meet LSCS core requirements (general education courses), see individual program degree plans for specific course.</td>
<td>3 hours</td>
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<tr>
<td><strong>SPECIFIC WORKFORCE OR SUPPORT PROGRAM COURSES</strong></td>
<td></td>
<td>45-57 hours</td>
</tr>
<tr>
<td><strong>MULTICULTURAL REQUIREMENTS</strong></td>
<td>Students must take one of the above underlined courses to meet the multicultural requirement of this degree, or master the multicultural competencies contained in a specific degree program, or take one of the following courses to meet the multicultural requirement of this degree. FREN 1300, 1310, 1411, 1412; GER 1411, 1412; ITAL 1411, 1412; JAPN 1411, 1412; SGNL 1401, 1402, 2301, 2302; SPAN 1300, 1310, 1411, 1412, 2306.</td>
<td>60-72 hours</td>
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</table>

1 Students must meet math competency. In AAS awards that include natural sciences rather than math courses, students must complete or place out of MATH 0308.

NOTE: Students must also meet computer literacy, wellness and communication competencies. The core component of this degree is 15 semester hours.

* Specifically designed for elementary and middle school teachers. Please see graduation requirements.
## WORKFORCE DEGREES AND CERTIFICATES

### Prefixes Assigned to Programs & Disciplines

<table>
<thead>
<tr>
<th>Program/Discipline</th>
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<tr>
<td>Accounting</td>
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<td>American Sign Language</td>
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<td>Aviation Management</td>
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<td>Biotechnology</td>
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<td>Chinese</td>
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<tr>
<td>Computer Information Technology</td>
<td>BCIS, COCS, INEW, ITCC, ITMT, ITNW, ITSC, ITSE, ITSW, ITSY</td>
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<td>Corrosion Technology</td>
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<td>Cosmetology</td>
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<td>Diagnostic Medical Sonography</td>
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<td>Professional Office Technology</td>
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Crosswalk of Courses

Visit our Web site at www.lonestar.edu/coursecrosswalk to see a crosswalk of course revisions. This crosswalk revision will identify the new course & the course it replaces due to course number, course prefix or title changes.

<table>
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<tr>
<td>BMGT 1303 Principles of Management</td>
<td>BMGT 1327 Principles of Management</td>
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<td>CMSW 1301 Introduction to Social Services</td>
<td>SCWK 1321 Orientation to Social Services</td>
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<td>CMSW 1345 Abnormal Behavior</td>
<td>SCWK 2331 Abnormal Behavior</td>
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<td>DHYG 1341 Preclinical Dental Hygiene</td>
<td>DHYG 1331 Preclinical Dental Hygiene</td>
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<td>EMSP 2359 EMS Supervision/Management</td>
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<td>IBUS 1301 Principles of Import/Export</td>
<td>IBUS 1371 Principles of Import/Export</td>
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<td>INTC 1240 Principles of Automatic Control</td>
<td>INTC 1341 Principles of Automatic Control</td>
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<td>MUSI 1309 Music Literature II</td>
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<td>POFL 2305 Introduction to Legal Research</td>
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<tr>
<td>TECM 1303 Technical Mathematics</td>
<td>TECM 1303 Technical Calculations</td>
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</tbody>
</table>
Maha Alkhatib
Jordan
Business Administration
LSC-CyFair
Degrees and Certificates

ACCOUNTING

The accounting associate of applied science degree is designed to prepare students for occupations in the accounting profession. Job responsibilities depend on the area of specialization: public accounting, managerial accounting, or governmental accounting. Accountants help individuals and businesses manage their money by setting up and maintaining accounting systems, preparing budgets, studying company operations, performing audits, and preparing government forms. They help management plan and control company activities.

Accounting graduates have a wide variety of job opportunities available to them in industry, in governmental agencies, or in the public accounting sector. Beginning accountants usually start as ledger accountants, internal auditors, or as trainees for technical accounting positions.

The associate of applied science degree is awarded for successful completion of 61-62 credit hours as outlined. Students desiring a less comprehensive program should consider one of the accounting certificate programs also listed below.

Accounting Advanced Technical Certificate-CPA Exam Preparation: The Texas State Board of Public Accountancy (TSBPA) awarded Lone Star College System (LSCS) the designation to offer “Qualifying Educational Credit for the CPA Examination.” Eleven of the LSCS accounting courses meet the TSBPA’s definition of upper-division accounting courses required to take the CPA exam. This designation allows individuals who have already earned a baccalaureate or higher degree from a recognized educational institution to gain the thirty (30) advanced accounting hours required to take the CPA exam. This individual should be enrolled in the accounting advanced technical certificate-CPA exam preparation and take no less than 24 semester hours of accounting from LSCS toward meeting the 30 semester hours. Contact the Accounting department at LSC-CyFair, Montgomery, or Tomball for specific information, advising, and recommended sequencing of courses.

The general education core courses and several individual accounting courses will transfer to a variety of universities. Contact the counselor or advisor at any college for specific information and to obtain the recommended sequencing of courses.

ACCOUNTING CERTIFICATE
(certificate offered at LSC-CyFair, Montgomery, North Harris and Tomball)

FIRST YEAR

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Credit</th>
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<tbody>
<tr>
<td>ACCT 2401 Principles of Accounting I</td>
<td>4</td>
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<tr>
<td>ACNT 1331 Fed. Income Tax: Individual</td>
<td>3</td>
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<tr>
<td>ITSC 1401 Introduction to Computers</td>
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Second Semester

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<td>ACCT 2402 Principles of Accounting II 4</td>
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<tr>
<td>ACNT 2303 Intermediate Accounting I 3</td>
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Third Semester

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<td>ACNT 2304 Intermediate Accounting II 3</td>
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<td>ACNT 2309 Cost Accounting</td>
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<tr>
<td>ACNT² 2331 Internal Control and Auditing</td>
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<td><strong>SEMMESTER TOTAL</strong></td>
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**TOTAL Credit Hours for Accounting Certificate**

28-31

¹ Electives to be selected from ACNT 1193, 1340, 1347, 1391, 1393, 2330, 2332, 2333, 2380, 2381; BUSI 1301, 2301, 2304; ITSW 1404, 1407. Other electives may be chosen with Accounting department approval.

² Capstone course

ACCOUNTING

Associate of applied science degree
(degree offered at LSC-CyFair, Montgomery, North Harris and Tomball)

FIRST YEAR

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<tr>
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<th>Credit</th>
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<tbody>
<tr>
<td>ACCT 2401 Principles of Accounting I</td>
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<tr>
<td>ACNT 1331 Federal Income Tax: Individual</td>
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<tr>
<td>HRPO 1311 Human Relations OR</td>
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<td>PSYC 2301 General Psychology</td>
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## DEGREES AND CERTIFICATES

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### Second Semester

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<td>ACNT 1347</td>
<td>Federal Income Tax for Partnerships/Corporations</td>
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<td>BMGT 1327</td>
<td>Principles of Management</td>
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<td>BUSI 2301</td>
<td>Business Law</td>
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<td>ENGL 1301</td>
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### SECOND YEAR

#### First Semester

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#### Second Semester

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### Second Semester

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<tr>
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<tr>
<td>ACNT² 1333</td>
<td>Advanced Accounting</td>
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<tr>
<td>ACNT 2330</td>
<td>Governmental and Not-for-Profit Accounting</td>
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<tr>
<td>ACNT² 1393</td>
<td>Federal Income Tax: Advanced</td>
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### TOTAL Credit Hours for AAS Degree

61-62

1. Capstone course
2. Must meet multicultural requirement
3. Electives to be selected from ACNT 1193, 1340, 1391, 1393, 2330, 2332, 2333, 2380, 2381; HRPO 2301; BMGT 1331; BUSI 1307, 2304; ITSW 1404, 1407. Other electives may be chosen with Accounting department approval.

## ACCOUNTING ADVANCED TECHNICAL CERTIFICATE-CPA EXAM PREPARATION

(certificate offered at LSC-CyFair, Montgomery and Tomball)

Prerequisite: Bachelor’s degree that includes the equivalent of ACCT 2401, ACCT 2402, ECON 2301, ECON 2302 and BUSI 2301. If these courses are not included in the bachelor’s degree, they must be completed in order to be admitted into the certificate program.

### FIRST YEAR

#### First Semester

<table>
<thead>
<tr>
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<tr>
<td>ACNT 2303</td>
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<tr>
<td>Elective³</td>
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### TOTAL Credit Hours for Accounting Advanced Technical Certificate

48

1. Choose business electives from the following: BMGT 1303, BMGT 1331, HRPO 2307, MRKG 2348, MRKG 1311, BUSI 2302 and BUSI 2372. Other electives may be chosen with accounting department approval.
2. Courses pending approval by TSPCA to meet Skills Specifications Outline (SSOs) for CPA Exam
3. Choose accounting electives from the following: ACNT 1393, ACNT 2332, ACNT 1391
4. Approved by Texas State Board of Public Accountancy
5. Capstone course

## AUDIO VISUAL SYSTEMS

The level one certificate, level two certificate, and associate of applied science degree to train audio visual systems specialists are designed to prepare students with the fundamental knowledge, skills and abilities to design, maintain, and operate audio/visual/lighting systems and equipment in a variety of work environments that include entertainment venues, churches, auditoriums, theatres, and any other locale that requires audio/video/lighting systems and equipment. The program inherently provides career ladder options to its graduates.
DEGREES AND CERTIFICATES

AUDIO VISUAL SYSTEMS SPECIALIST-
LEVEL I
(certificate offered at LSC-Montgomery)

Prerequisite Semester Credit
ITSC 1401 Intro to Computers OR 4
COSC 1401 Microcomputer Applications
SEMESTER TOTAL 4

FIRST YEAR
First Semester Credit
DRAM 1330 Stagecraft I 3
DFTG 1309 Basic Computer-Aided Drafting 3
SPCH 1318 Interpersonal Communication 3
ITNW 1425 Fundamentals of Networking Technologies 4
ITSC 1405 Intro to PC Operating Systems 4
SEMESTER TOTAL 17

Second Semester Credit
DRAM 1220 Theatre Practicum: Lighting & Sound 2
CPMT1 2302 Home Technology Integration 3
ITSC 1425 Personal Computer Hardware 4
ITSC 2331 Integrated Software Applications III 3
AVTS 1371 Intro to AV Lighting & Sound 3
SEMESTER TOTAL 15

TOTAL Credit Hours for Audio Visual Systems Specialist-Level I Certificate 36

1 Capstone course
Note: Students must meet math competency (MATH 0308 or higher)

AUDIO VISUAL SYSTEMS SPECIALIST-
LEVEL II
(certificate offered at LSC-Montgomery)

Prerequisite Semester Credit
ITSC 1401 Intro to Computers OR 4
COSC 1401 Microcomputer Applications
SEMESTER TOTAL 4

FIRST YEAR
First Semester Credit
DRAM 1330 Stagecraft I 3
DFTG 1309 Basic Computer-Aided Drafting 3
SPCH 1318 Interpersonal Communication 3
ITNW 1425 Fundamentals of Networking Technologies 4
ITSC 1405 Intro to PC Operating Systems 4
SEMESTER TOTAL 17

Second Semester Credit
DRAM 1220 Theatre Practicum: Lighting & Sound 2
CPMT1 2302 Home Technology Integration 3
ITSC 1425 Personal Computer Hardware 4
ITSC 2331 Integrated Software Applications III 3
AVTS 1371 Intro to AV Lighting & Sound 3
SEMESTER TOTAL 15

SECOND YEAR
First Semester Credit
CPMT 2302 Home Technology Integration 3
ITSC 1425 Personal Computer Hardware 4
ENGL 2311 Technical Communications 3
AVTS 2371 AV Lighting/Sound Troubleshooting 3
AVTS 1372 Intermediate AV Cooperative Education 3
SEMESTER TOTAL 16

Second Semester Credit
SPCH 1318 Interpersonal Communication 3
Elective2 Social/Behavioral Science 3
BMGT 1309 Information & Project Management 3
AVTS3 2373 Advanced AV Coop Education 3
AVTS 2372 AV Lighting & Sound Project & Presentation 3
SEMESTER TOTAL 15

1 Capstone course
Note: Students must meet math competency (MATH 0308 or higher)

DEGREES AND CERTIFICATES
DEGREES AND CERTIFICATES

TOTAL Credit Hours for Audio Visual Systems  64-65
Specialist Degree

1 See core requirements for AAS degree for options. If science option is chosen, math competency must be met (MATH 0308 or higher).
2 Must meet the multicultural requirement
3 Capstone course

AUTOMOTIVE TECHNOLOGY

The automotive technology associate of applied science degree is designed to provide the broad academic and technical education and training necessary to function in today’s automotive service industry. The student will study the mechanical, electrical/electronic and environmental systems of the contemporary automobile and light truck. The graduate will be well prepared for entry-level employment as a career technician within dealership service departments or other major retail or service firms. The academic requirements of the program provide a foundation for continued studies should the student decide to further pursue his or her education or training.

The automotive technology program has been reviewed by the National Automotive Technician Education Foundation and has full Automotive Service Excellence (ASE) certification. The student is prepared and is encouraged to take the appropriate ASE certification exams.

The general service technician certificate program prepares the individual for basic, entry-level employment in the automotive service industry. The program provides course work specializing in brakes, undercar mechanical, and the steering and suspension of the contemporary automobile and light truck that affect vehicle control and safety.

The chassis and electrical technician specialization certificate program prepares the individual for basic, entry-level employment in the automotive service industry. The essentials of the mechanical, electrical and environmental systems of the contemporary automobile and light truck are major components of the program.

The power train and driveability technician specialization certificate program prepares the individual for basic, entry-level employment in the automotive service industry. The program provides course work specializing in the mechanical and electrical systems of the contemporary automobile and light truck that affect optimum operation and driveability.

Courses completed in the certificate programs may be applied toward the associate degree in automotive technology.

The general education core will transfer to a variety of colleges and universities. Contact a counselor or faculty member at any of the colleges for specific information and to obtain the recommended sequencing of courses.

GENERAL SERVICE TECHNICIAN CERTIFICATE
(certificate offered at LSC-Montgomery and North Harris)

FIRST YEAR

First Semester  Credit
AUMT 1405 Intro to Automotive Technology  4
AUMT 1407 Automotive Electrical Systems  4
AUMT 1410 Automotive Brake Systems  4
AUMT 1416 Suspension and Steering  4
SEMMESTER TOTAL  16

Second Semester  Credit
AUMT Elective  3
AUMT 2328 Automotive Service
SEMMESTER TOTAL  3

TOTAL Credit Hours for General Service Technician Certificate  19

1 Capstone course

CHASSIS AND ELECTRICAL TECHNICIAN SPECIALIZATION CERTIFICATE
(certificate offered at LSC-North Harris)

FIRST YEAR

First Semester  Credit
AUMT 1405 Intro to Automotive Technology  4
AUMT 1407 Automotive Electrical Systems  4
AUMT 1410 Automotive Brake Systems  4
AUMT 2425 Auto Transmission & Transaxle  4
SEMMESTER TOTAL  16

Second Semester  Credit
AUMT Elective  4
AUMT 1416 Suspension and Steering  4
AUMT 1445 Auto Heating & Air Conditioning  4
AUMT 2437 Automotive Electronics 4
SEMICER TOTAL 16

TOTAL Credit Hours for Chassis and Electrical Technician Specialization Certificate 32

1 To be selected from the remaining AUMT courses for which prerequisites have been met.

Note: The required Capstone experience will be completed by taking a departmental exam. It is strongly suggested that the following A.S.E. exams be taken by the student: the Electrical exam and one elective exam.

POWER TRAIN AND DRIVEABILITY TECHNICIAN SPECIALIZATION CERTIFICATE
(certificate offered at LSC-North Harris)

FIRST YEAR
First Semester Credit
AUMT 1405 Intro to Automotive Technology 4
AUMT 1407 Automotive Electrical Systems 4
SEMICER TOTAL 8

Second Semester Credit
AUMT 2417 Engine Performance Analysis I 4
AUMT 2425 Auto Transmissions & Transaxle 4
AUMT 1419 Automotive Engine Repair 4
SEMICER TOTAL 12

Third Semester Credit
AUMT 2434 Engine Performance Analysis II 4
AUMT 2437 Automotive Electronics 4
AUMT 2413 Manual Drive Train and Axles 4
SEMICER TOTAL 12

TOTAL Credit Hours for Power Train and Driveability Technician Specialization Certificate 32

Note: The required capstone experience will be completed by taking a departmental exam. It is strongly suggested that the following A.S.E. exams be taken by the student: the Engine Performance exam and the Electrical exam.

AUTOMOTIVE TECHNOLOGY
Associate of applied science degree, Tech Prep
(degree offered at LSC-North Harris)

SECOND YEAR
First Semester Credit
AUMT Elective 4
AUMT 2434 Engine Performance Analysis II 4
AUMT 2380 Cooperative Education OR AUMT 2328 Automotive Service 3
CHEM 1405 Introductory Chemistry 4
SEMICER TOTAL 15

Second Semester Credit
AUMT Elective 4
AUMT 1445 Auto Heating & Air Conditioning 4
AUMT 2381 Cooperative Education 3
AUMT 2437 Automotive Electronics 4
SEMICER TOTAL 15

TOTAL Credit Hours for Automotive Technology Specialization 70

1 See core requirements for AAS degree for options.
2 Meets multicultural requirement
3 Automotive electives to be selected from AUMT 1416, 2413, 2425

The required capstone experience will be completed by taking a departmental exit exam. It is strongly suggested that the following A.S.E. exams be taken by the student: the Engine Repair exam, Engine Performance exam, Electrical exam and one elective exam.

Note: Students must meet math competency (MATH 0308 or higher).

AVIATION MANAGEMENT
The aviation management program provides students with the opportunity to prepare for careers in airport and aviation management. Through the collaboration of educators and experts in these fields, the program includes courses in airport management, finance, meteorology, operations, safety, and airport design. Students will gain knowledge and experience through classes focused on management
skills, knowledge of the aviation industry, general education and cooperative education. Employment opportunities are available at airports, private and commercial airlines, government agencies and aviation service companies. For more information, contact counseling or a faculty member.

**Aviation Management**

Associate of applied science degree (degree offered at LSC-North Harris)

<table>
<thead>
<tr>
<th>Prerequisite Semester</th>
<th>Credit</th>
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**First Year**

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<tr>
<td>AIRP 1313 Introduction to Aviation</td>
<td>3</td>
</tr>
<tr>
<td>AIRP 1317 Private Pilot Ground School</td>
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<td>ENGL 1301 Composition and Rhetoric I</td>
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<td>BMGT 1309 Information and Project Mgmt.</td>
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<td>PSYC 1301 Human Relations</td>
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<td>AIRP 1307 Aviation Meteorology</td>
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<td>ACCT 2401 Principles of Accounting I</td>
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<tr>
<td>AVIM 2339 Aviation Marketing</td>
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<tr>
<td>ACCT 2402 Principles of Accounting II</td>
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<td>HRPO 2307 Organizational Behavior</td>
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<td>AVIM 2337 Aviation Law</td>
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<tr>
<td>ECON 2302 Microeconomics</td>
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<td>AVIM 2335 Airport Management</td>
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<td>GEOL 1405 Environmental Geology</td>
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TOTAL Credit Hours for Aviation Management AAS Degree: 68

1. Choose from SPCH 1311, 1318, 1321 or BUSI 2304
2. Must meet multicultural requirement
3. Capstone course

**Biotechnology**

Biotechnology is a continually evolving field offering solutions to problems in fields such as forensics, pharmaceutical, medical research, alternative fuels, and agriculture. LSC-Montgomery offers the skills necessary for entry-level work in the bioscience industry. The biotechnology associate of applied science (AAS) degree program offers experiences in cell culture, laboratory methods, molecular biology, and laboratory instrumentation. Additionally, the program includes a sequence of biology, chemistry, and microbiology. In the final semester of the program, students work as interns in area biotechnology companies or medical center research labs to complete their training. The LSC-Montgomery biotechnology program is the top-ranked program in Texas and the only one to be rated as “Exemplary” by the Texas Higher Education Coordinating Board.

After completing the AAS degree, students may choose to transfer to a neighboring university and enroll in a “2+2” program leading to a bachelor’s degree in biotechnology or related fields. Currently, such a program exists with the UH–Downtown and the University of Texas, Medical Branch. The courses for several of these bachelor degree programs are offered at the LSC-University Center, located on the LSC-Montgomery campus.

For students with an AS or BS degree in the natural sciences, LSC-Montgomery offers an advanced technical certificate (ATC) in biotechnology. Students who have taken the prerequisite courses in chemistry and biology can complete the Biotechnology ATC in one year. The program requires only seven courses, including an internship, and thus allows students rapid entry into the biotech workforce.

Students with the appropriate level of prior training may elect to take individual courses within the biotechnology core, with the exception of the internship course. A student, for example, may take the Molecular Biology Techniques course (BITC 2441) to gain skills in that area.

The LSC-Montgomery Biotechnology Institute (MCBI) was created to establish a point of contact for all biotechnology training inquiries. The Institute’s goal is to prepare students for all levels of entry into the biotechnology industry. The MCBI functions to
identify and meet biotechnology industry training needs, recruit students using a variety of outreach programs, help retrain workers changing careers through the Biotechnology ATC, and partner with four-year programs. Please e-mail mcbiotech@LoneStar.edu, call 936.273.7060, or visit our Web site at http://montgomery.lonestar.edu/biotech for more information about the MCBI.

BIOTECHNOLOGY

Associate of applied science degree
(degree offered at LSC-Montgomery)

FIRST YEAR

First Semester

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<td>MATH 1314</td>
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Second Semester

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SECOND YEAR

First Semester

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Second Semester

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TOTAL Credit Hours for Biotechnology AAS Degree 71

1 Meets multicultural requirement
2 Capstone course

BIOTECHNOLOGY ADVANCED
TECHNICAL CERTIFICATE
(certificate offered at LSC-Montgomery)

FIRST YEAR

First Semester

<table>
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<td>BITC 1191</td>
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Second Semester

<table>
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<td>BITC 2431</td>
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Third Semester

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TOTAL Credit Hours for Biotechnology Advanced Technical Certificate 26

COMPUTER INFORMATION TECHNOLOGY

The computer information technology department offers educational programs designed to provide students with current technological skills needed for the workplace. Working closely with local business and community leaders, several certificates and degrees have been developed for many workforce needs, including advancing career or college transfer goals. The program is suitable for:

- First time computer users
- High school graduates with some computer training
- Professionals seeking cross-training or updated skills
The information technology certificate is designed for those with little or minimal computer training and allows students to choose an area of concentration from the more advanced specialty certificates. The computer core courses allow students to explore technology software, hardware and telecommunications before deciding on an area of specialization.

The specialty certificates designed for those who want advanced skills include:

- PC Desktop or PC Support
- Computer Networking
- Cisco Internetworking
- Database Administration
- E-Business Web Developer
- Network Security

Some of the job market titles addressed by these certificates are:

- PC Desktop Support Technician
- Network Technician
- Integrated Technology Specialist
- Network Administrator
- Network Engineer/Designer
- Network Security Specialist
- Programmer (Visual BASIC, C++, RPG, Access database, Java, XML & C#)
- Microcomputer Specialist
- E-Commerce Application Specialist
- Internet Developer
- Database Administration

Students seeking degrees in computer information technology may follow a plan that adds academic courses to the two levels of certificates. Students who have degrees or who have articulated courses from high school may receive additional training in areas such as Visual Basic.NET, C, RPG programming, and Network Security. In reviewing student placement, consideration is given for significant work experience.

Students will find coursework, taught by certified instructors, in our certificate and degree programs that lead to professional certification from vendors such as Microsoft, Cisco and Oracle.

The general education core courses, COSC classes, and some technical courses transfer to a variety of universities. Technical AAS degrees transfer in total to some universities. Contact a counselor or advisor at any college for specific information and to obtain the recommended sequencing of courses.

Students interested in transferring to a bachelor’s program in computer science should consider completing the A.A. degree with a field of study in computer science. See the academic transfer section of this catalog for details.

**INFORMATION TECHNOLOGY CERTIFICATE**

(certificate offered at LSC-CyFair, Kingwood, Montgomery, North Harris and Tomball)

**FIRST YEAR**

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<td>ITSC 1405</td>
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<td>ITCW 1425</td>
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1 Capstone course

**MICROSOFT OFFICE SPECIALIST CERTIFICATE**

(certificate offered at LSC-CyFair, Kingwood, Montgomery, North Harris and Tomball)

**FIRST YEAR**

<table>
<thead>
<tr>
<th>Semester</th>
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<tbody>
<tr>
<td>ITSC 1401</td>
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**SECOND SEMESTER**

<table>
<thead>
<tr>
<th>Semester</th>
<th>Credit</th>
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<tbody>
<tr>
<td>ITCW 2331</td>
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<tr>
<td>ITCW 2380</td>
<td>3</td>
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<tr>
<td>ITCW 1404</td>
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</table>
### DEGREES AND CERTIFICATES

**INTEGRATED TECHNOLOGY BASIC CERTIFICATE**  
(certificate offered at LSC-North Harris)

<table>
<thead>
<tr>
<th>Prerequisite Semester</th>
<th>Credit</th>
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<tbody>
<tr>
<td>ITSC 1401</td>
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<tr>
<td>COSC 1401</td>
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**FIRST YEAR**

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Credit</th>
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<tbody>
<tr>
<td>ITSC 1405</td>
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<tr>
<td>ITSC 1425</td>
<td><strong>4</strong></td>
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<tr>
<td>ENGL 1301</td>
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**SECOND YEAR**

<table>
<thead>
<tr>
<th>Second Semester</th>
<th>Credit</th>
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<tbody>
<tr>
<td>ITCC 1401</td>
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<tr>
<td>SPCH 1321</td>
<td><strong>3</strong></td>
</tr>
<tr>
<td>CPMT 2302</td>
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| TOTAL Credit Hours for Integrated Technology Basic Certificate | **29** |

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**INTEGRATED TECHNOLOGY ADVANCED CERTIFICATE**  
(certificate offered at LSC-North Harris)

<table>
<thead>
<tr>
<th>Prerequisite Semester</th>
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<tbody>
<tr>
<td>ITSC 1401</td>
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<td>COSC 1401</td>
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**FIRST YEAR**

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<th>Credit</th>
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<tr>
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<tr>
<td>ITSC 1425</td>
<td><strong>4</strong></td>
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<tr>
<td>ENGL 1301</td>
<td><strong>3</strong></td>
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<table>
<thead>
<tr>
<th>Second Semester</th>
<th>Credit</th>
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<tbody>
<tr>
<td>ITCC 1401</td>
<td><strong>4</strong></td>
</tr>
<tr>
<td>ITCC 1404</td>
<td><strong>4</strong></td>
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<tr>
<td>SPCH 1321</td>
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<tr>
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<table>
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<tbody>
<tr>
<td>ITCC 2408</td>
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</table>

| TOTAL Credit Hours for Integrated Technology Advanced Certificate | **55-56** |

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**INTEGRATED TECHNOLOGY**  
Associate of applied science degree, Tech Prep  
(degree offered at LSC-North Harris)

<table>
<thead>
<tr>
<th>Prerequisite Semester</th>
<th>Credit</th>
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<tbody>
<tr>
<td>ITSC 1401</td>
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<td>COSC 1401</td>
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**FIRST YEAR**

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Credit</th>
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<tbody>
<tr>
<td>ITSC 1405</td>
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<td>ITSC 1425</td>
<td><strong>4</strong></td>
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<tr>
<td>ENGL 1301</td>
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<table>
<thead>
<tr>
<th>Second Semester</th>
<th>Credit</th>
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<tbody>
<tr>
<td>ITCC 1401</td>
<td><strong>4</strong></td>
</tr>
<tr>
<td>ITCC 1404</td>
<td><strong>4</strong></td>
</tr>
<tr>
<td>SPCH 1321</td>
<td><strong>3</strong></td>
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<tr>
<td>CPMT 2302</td>
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</table>

<table>
<thead>
<tr>
<th>Third Semester</th>
<th>Credit</th>
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</thead>
<tbody>
<tr>
<td>ITCC 2408</td>
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</table>

| TOTAL Credit Hours for Integrated Technology Advanced Certificate | **55-56** |

---

1. Capstone course
### DEGREES AND CERTIFICATES

#### MATH 1314 College Algebra 3

**SEMEATER TOTAL 11**

#### SECOND YEAR

<table>
<thead>
<tr>
<th>Semester</th>
<th>Credit</th>
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<tbody>
<tr>
<td>First Semester</td>
<td>ITMT 1400 Implementing &amp; Supporting MS Windows XP Professional 4</td>
</tr>
<tr>
<td>Second Semester</td>
<td>Elective 1 Technical Elective 3-4</td>
</tr>
</tbody>
</table>

**TOTAL Credit Hours for Integrated Technology AAS 68-71**

1. Choose from ITSE 1445, ITNW 2452, ITSY 2400, ITSY 2401, EECT 1371, EECT 1307, ITMT 1450, ITMT 2400.

2. Capstone choose from ITSC 2381, ITSY 2443, ITSE 2433 or ITSE 2456

3. Meets multicultural requirement

#### COMPUTER NETWORKING SPECIALIZATION

**Associate of applied science degree, Tech Prep**

(specialization offered at LSC-CyFair, Kingwood, North Harris and Tomball)

<table>
<thead>
<tr>
<th>Prerequisite Semester</th>
<th>Credit</th>
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<tbody>
<tr>
<td>ITSC 1401 Introduction to Computers OR COSC 1401 Microcomputer Applications OR CPMT 1403 Intro. to Computer Technology</td>
<td><strong>SEMEATER TOTAL 4</strong></td>
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#### FIRST YEAR

<table>
<thead>
<tr>
<th>Semester</th>
<th>Credit</th>
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</thead>
<tbody>
<tr>
<td>First Semester</td>
<td>BMGT 1309 Information &amp; Project Management 3</td>
</tr>
<tr>
<td>Second Semester</td>
<td>Elective 1 Humanities/Fine Arts 3</td>
</tr>
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</table>

#### SECOND YEAR

<table>
<thead>
<tr>
<th>Semester</th>
<th>Credit</th>
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</thead>
<tbody>
<tr>
<td>First Semester</td>
<td>Elective 1 Math/Natural Science 3-4</td>
</tr>
<tr>
<td>Second Semester</td>
<td>Elective 1 General Education 3</td>
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</tbody>
</table>

**TOTAL Credit Hours for Computer Networking Specialization AAS 63-67**

1. To meet multicultural requirement, choose an approved course from either social/behavioral science or humanities/fine art elective

2. All Technical Networking courses must be chosen from the same track:
   - **Microsoft Track**: ITMT 1400, ITMT 1440, ITMT 1450, ITMT 2400
   - **Cisco Track**: ITCC 1401, ITCC 1404, ITCC 2408, ITCC 2410

3. Course meets speech competency

4. Choose elective from general education requirements

5. Choose Technical Elective from ITMT 2xxx, ITCC 2xxx, ITSC, ITSW, ITNW, IMED, GRPH, or CPMT

6. Capstone Course

7. If science option is chosen, math competency must be met (MATH 0308 or higher)

Note: Technical electives taken in the ITMT or ITCC category used to meet requirements in AAS cannot be used toward requirements in advanced technical certificates.

#### NETWORK ADMINISTRATOR CERTIFICATE - MCSA/CCNA

(certificate offered at LSC-CyFair, Kingwood, North Harris and Tomball)

<table>
<thead>
<tr>
<th>Prerequisite Semester</th>
<th>Credit</th>
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<tbody>
<tr>
<td>ITNW 1425 Fundamentals of Netwkg Technlgs 4</td>
<td>ITSC 1401 Introduction to Computers OR 4</td>
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FIRST YEAR

First Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
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<tbody>
<tr>
<td>Tech. Track* Technical Networking (1st 8 weeks)</td>
<td>4</td>
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<tr>
<td>Tech. Track* Technical Networking (2nd 8 weeks)</td>
<td>4</td>
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<tr>
<td><strong>SEMESTER TOTAL</strong></td>
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Second Semester

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<thead>
<tr>
<th>Course</th>
<th>Credit</th>
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<tbody>
<tr>
<td>Tech. Track* Technical Networking (1st 8 weeks)</td>
<td>4</td>
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<td>Tech. Track* Technical Networking (2nd 8 weeks)</td>
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<tr>
<td><strong>SEMESTER TOTAL</strong></td>
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TOTAL Credit Hours for Network Administrator MCSA/CCNA Certificate 24

* All Technical Networking courses must be chosen from the same track:
  Microsoft Track: ITMT 1400, ITMT 1440, ITMT 1450, ITMT 2400
  Cisco Track: ITCC 1401, ITCC 1404, ITCC 2408, ITCC 2410
1 ITNW 1425 Fundamentals of Networking Technologies is required for Microsoft track only

NETWORK ENGINEER CERTIFICATE - MCSE/CCNP
(certificate offered at LSC-CyFair, Kingwood, North Harris and Tomball)

Prerequisite Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
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<tbody>
<tr>
<td>ITNW1 1425 Fundmntls of Netwkg Technlgs OR</td>
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<tr>
<td>ITCC1 1401 Exploration-Network Fundamentals</td>
<td>4</td>
</tr>
<tr>
<td>ITSC 1401 Introduction to Computers OR</td>
<td>4</td>
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<tr>
<td>COSC 1401 Microcomputer Applications</td>
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<td><strong>SEMESTER TOTAL</strong></td>
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FIRST YEAR

First Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
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<tbody>
<tr>
<td>Tech. Track* Technical Networking (1st 8 weeks)</td>
<td>4</td>
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<tr>
<td>Tech. Track* Technical Networking (2nd 8 weeks)</td>
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Second Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
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<tbody>
<tr>
<td>Tech. Track* Technical Networking (1st 8 weeks)</td>
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<tr>
<td>Tech. Track* Technical Networking (2nd 8 weeks)</td>
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SECOND YEAR

First Semester

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<thead>
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<th>Credit</th>
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<tr>
<td>Tech. Track* Technical Networking (1st 8 weeks)</td>
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<tr>
<td>Tech. Track* Technical Networking (2nd 8 weeks)</td>
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Second Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
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<tr>
<td>Tech. Track* Technical Networking</td>
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<tr>
<td>Elective2 Technical Networking Elective</td>
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TOTAL Credit Hours for Network Engineer MCSE/CCNP Certificate 40

* All Technical Networking courses must be chosen from the same track:
  Microsoft Track: ITMT 1400, ITMT 1440, ITMT 1450, ITMT 2400, ITMT 24XX, ITNW 24XX or departmental approved course
  Cisco Track: ITCC 1404, ITCC 2408, ITCC 2410, ITCC 2450, ITCC 2451, ITCC 2452, ITCC 2453
1 ITNW 1425 Fundamentals of Networking Technologies is required for Microsoft track only. ITCC 1401 Exploration-Network Fundamentals is required for the Cisco track only.
2 Select Technical Networking Elective from ITNW, ITMT, ITSC, ITCC

NETWORK SECURITY ADVANCED TECHNICAL CERTIFICATE
(certificate offered at LSC-CyFair, Kingwood, North Harris and Tomball)

The networking security advanced technical certificate is considered to be a continuation of the networking AAS degree.

FIRST YEAR

First Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
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<tbody>
<tr>
<td>ITSC 1407 UNIX Operating System I</td>
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Second Semester

<table>
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<th>Course</th>
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<tbody>
<tr>
<td>ITSY 2401 Firewalls and Network Security</td>
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<td>ITSY 2400 Operating System Security</td>
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Third Semester

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<td>ITSY¹ Elective</td>
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<td>ITMT/ITYS¹ Elective</td>
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TOTAL Credit Hours for Network Security Advanced Technical Certificate 20

GRAND TOTAL for AAS degree with Advanced Technical Certificate 83-87

1 In the third semester choose one elective from ITSY courses, choose second elective from ITMT/ITYS courses.

PC DESKTOP SPECIALIST CERTIFICATE
(certificate offered at LSC-CyFair, Kingwood, Montgomery, North Harris and Tomball)

FIRST YEAR

First Semester

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>ITSC 1401 Introduction to Computers OR</td>
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</table>
DEGREES AND CERTIFICATES

COSC 1401 Microcomputer Applications 4

Second Semester Credit
BMGT 1309 Information & Project Management 3
ITNW 1425 Fundamentals of Netwkg Technlgs OR
ITCC 1401 Exploration-Network Fundamentals 4
ITSC 1405 Intro to PC Operating Systems 4
POFT 1301 Business English 3
SEMMESTER TOTAL 14

Third Semester Credit
ITSW 1301 Intro to Word Processing 3
ITSW 1404 Introduction to Spreadsheets 4
POFT 1325 Bus Math & Machine Applications 3
POFT 2331 Administrative Systems 3
IMED 1316 Web Design I 3
SEMMESTER TOTAL 16

TOTAL Credit Hours for PC Support Specialist Certificate 51-53

1 Select from ITCC, ITSC, ITSE, ITSW, ITNW, ITMT, IMED, GRPH or CPMT
2 Capstone course
Note: Students must meet math competency (MATH 0308 or higher)

PROGRAMMING SPECIALIST CERTIFICATE
(certificate offered at LSC-CyFair, Kingwood, Montgomery, North Harris and Tomball)

FIRST YEAR
First Semester Credit
ITSC 1401 Introduction to Computers OR
COSC 1401 Microcomputer Applications 4
SEMMESTER TOTAL 4

Second Semester Credit
BMGT 1309 Information & Project Mgmt 3
ITNW 1425 Fundamentals of Netwkg Technlgs OR
ITCC 1401 Exploration-Network Fundamentals 4
ITSC 1405 Intro to PC Operating Systems 4
POFT 1301 Business English 3
SEMMESTER TOTAL 14

Third Semester Credit
IMED 1316 Web Design I 3
ITSW 1404 Introduction to Spreadsheets 4
POFT 1325 Bus Math/Machine Applications 3
POFT 2331 Administrative Systems 3
SEMMESTER TOTAL 16

SECOND YEAR
First Semester Credit
Elective1 Technical OR
ACNT 1303 Introduction to Accounting I 3
ENGL 1301 Composition & Rhetoric I 3
ITSC 1425 Personal Computer Hardware 4
ITSC2 2439 Personal Computer Help Desk Support OR
ITSC2 2380 Cooperative Education 4
ITSW 1407 Introduction to Database 4
SEMMESTER TOTAL 17-19

TOTAL Credit Hours for PC Support Specialist Certificate 51-53

1 Select from ITCC, ITSC, ITSE, ITSW, ITNW, ITMT, IMED, GRPH or CPMT
2 Capstone course
Note: Students must meet math competency (MATH 0308 or higher)

1 Capstone course

PC SUPPORT SPECIALIST CERTIFICATE
(certificate offered at LSC-CyFair, Kingwood, Montgomery, North Harris and Tomball)

FIRST YEAR
First Semester Credit
ITSC 1401 Introduction to Computers OR
COSC 1401 Microcomputer Applications 4
SEMMESTER TOTAL 4

Second Semester Credit
BMGT 1309 Information & Project Mgmt 3
ITNW 1425 Fundamentals of Netwkg Technlgs OR
ITCC 1401 Exploration-Network Fundamentals 4
ITSC 1405 Intro to PC Operating Systems 4
POFT 1301 Business English 3
SEMMESTER TOTAL 14

Third Semester Credit
IMED 1316 Web Design I 3
ITSW 1404 Introduction to Spreadsheets 4
POFT 1325 Bus Math/Machine Applications 3
POFT 2331 Administrative Systems 3
SEMMESTER TOTAL 16

SECOND YEAR
First Semester Credit
Elective1 Technical OR
ACNT 1303 Introduction to Accounting I 3
ENGL 1301 Composition & Rhetoric I 3
ITSC 1425 Personal Computer Hardware 4
ITSC2 2459 Adv. Computer Programming OR
ITSC2 2431 Administrative Systems 3
ITSC3 2459 Adv. Computer Programming OR
ITSC3 2431 Administrative Systems 3
ITSC3 2449 Grphic Design I OR
ITSC3 2451 Grphic Design II 3
POFT 1325 Bus Math/Machine Applications 3
POFT 2331 Administrative Systems 3
SEMMESTER TOTAL 15-16

TOTAL Credit Hours for PC Support Specialist Certificate 51-53

1 Select from ITCC, ITSC, ITSE, ITSW, ITNW, ITMT, IMED, GRPH or CPMT
2 Capstone course
Note: Students must meet math competency (MATH 0308 or higher)


**PROGRAMMING SPECIALIST SPECIALIZATION**

_Degree of Associate of Applied Science_, Tech Prep  
(Degree offered at LSC-CyFair, Kingwood, Montgomery, North Harris and Tomball)

**FIRST YEAR**

First Semester  
 Elective  
  _General Education_  
  _ENGL 1301 Composition & Rhetoric I_  
  ITSC 1401 _Introduction to Computers_ OR  
  COSC 1401 _Microcomputer Applications_  
  ITSE 1402 _Computer Programming_ OR  
  COSC 1309 _Logic Design_  
  MATH 2 _Elective_  
  SEMESTER TOTAL 16-18

Second Semester  
 ACNT 1303 _Introduction to Accounting I_ OR  
 ACCT 2401 _Principles of Accounting I_  
 Elective  
  _Programming Language_  
  _Programming Language_  
  ITSC 1405 _Intro to PC Operating Systems_  
  SEMESTER TOTAL 14-16

**SECOND YEAR**

First Semester  
 Elective  
  _Social/Behavioral Science_  
  Elective  
  _Programming Language_ (sequence course)  
  Elective  
  _Programming Language_ (sequence course)  
  KINE Any physical activity course  
  SPCH 1318 _Interpersonal Communications_  
  SEMESTER TOTAL 15

Second Semester  
 Elective  
  _Technical_  
  Elective  
  _Humanities/Fine Arts_  
  ITNW 1425 _Fundamentals of Network Technlgs_ OR  
  ITCC 1401 _Exploration-Network Fundamentals_  
  ITSE 1350 _System Analysis and Design_  
  ITSE 2459 _Adv. Computer Programming_ OR  
  ITSE 2380 _Cooperative Education_  
  SEMESTER TOTAL 16-18

TOTAL Credit hours for Programming Specialist Specialization 61-67

1 Choose from general education courses  
2 Choose from MATH 1314 or higher level course  
3 ITSE 1356, 1407, 1430, 1432, 1418, 1414, or 2417  
4 To meet multicultural requirement, choose an approved course from either social/behavioral science or humanities/fine art elective.  
5 ITSE 1492, 2449, 2431, 2451, 2435 or INEW 2438  
6 Choose from ITSE, ITSW, ITNW, ITSC, IMED, GRPH  
7 Capstone course

**C++ PROGRAMMING Enhanced Skills Certificate**  
(Certificate offered at LSC-CyFair, Kingwood, North Harris and Tomball)

**FIRST YEAR**

First Semester  
 ITSE 1407 _Intro to C++ Programming_  
 SEMESTER TOTAL 4

Second Semester  
 ITSE 2431 _Adv. C++ Programming_  
 ITSE 2459 _Adv. Computer Programming_  
 SEMESTER TOTAL 8

TOTAL Credit Hours for Enhanced Skills Certificate 12

GRAND TOTAL for AAS Degree with Enhanced Skills Certificate 73-79

1 Courses used to meet requirements in AAS cannot be used toward requirements in enhanced skills certificate.

**VISUAL BASIC Enhanced Skills Certificate**  
(Certificate offered at LSC-CyFair, Kingwood, North Harris and Tomball)

**FIRST YEAR**

First Semester  
 ITSE 1432 _Introduction to Visual Basic.Net Programming_  
 SEMESTER TOTAL 4

Second Semester  
 ITSE 2449 _Adv. Visual BASIC Programming_  
 ITSE 2459 _Adv. Computer Programming_  
 SEMESTER TOTAL 8

TOTAL Credit Hours for Enhanced Skills Certificate 12

GRAND TOTAL for AAS Degree with Enhanced Skills Certificate 73-79

1 Courses used to meet AAS requirements cannot be used to meet requirements in enhanced skills certificate.

**E-BUSINESS WEB DEVELOPER CERTIFICATE**  
(Certificate offered at LSC-CyFair, Kingwood, Montgomery and North Harris)

Prerequisite Semester  
 ITSC 1401 _Introduction to Computers_ OR  
 ITSE 1402 _Computer Programming_ OR  
 ITSE 1430 _Microcomputer Applications_  
 ITSE 1492 _Intro to PC Operating Systems_  
 ITSE 2459 _Adv. Computer Programming_ OR  
 ITSE 2380 _Cooperative Education_  
 SEMESTER TOTAL 16-18

TOTAL Credit Hours for Enhanced Skills Certificate 12

GRAND TOTAL for AAS Degree with Enhanced Skills Certificate 73-79

1 Courses used to meet AAS requirements cannot be used to meet requirements in enhanced skills certificate.
### DEGREES AND CERTIFICATES

<table>
<thead>
<tr>
<th>Degree/Program</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>COSC 1401 Microcomputer Applications</td>
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#### FIRST YEAR

**First Semester**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credit</th>
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</thead>
<tbody>
<tr>
<td>IMED 1316</td>
<td>Web Design I</td>
<td>3</td>
</tr>
<tr>
<td>ITSE 1402</td>
<td>Computer Programming</td>
<td>4</td>
</tr>
<tr>
<td>ITCW 1407</td>
<td>Introduction to Database</td>
<td>4</td>
</tr>
<tr>
<td>POFT 1301</td>
<td>Business English</td>
<td>3</td>
</tr>
<tr>
<td><strong>SEMSRET TOTAL</strong></td>
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</table>

**Second Semester**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elective¹</td>
<td>Programming Language</td>
<td>4</td>
</tr>
<tr>
<td>ITSC 1405</td>
<td>Intro to PC Operating Systems</td>
<td>4</td>
</tr>
<tr>
<td>ITCW 1425</td>
<td>Fundamentals of Networking</td>
<td>OR</td>
</tr>
<tr>
<td>ITCC 1401</td>
<td>Exploration-Network Fundamentals</td>
<td>4</td>
</tr>
<tr>
<td><strong>SEMSRET TOTAL</strong></td>
<td></td>
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</table>

**Third Semester**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elective²</td>
<td>Programming Language</td>
<td>4</td>
</tr>
<tr>
<td>ITSC 1407</td>
<td>UNIX Operating System I</td>
<td>4</td>
</tr>
<tr>
<td>ITSE 2472</td>
<td>Web Application Development</td>
<td>4</td>
</tr>
<tr>
<td><strong>SEMSRET TOTAL</strong></td>
<td></td>
<td><strong>12</strong></td>
</tr>
</tbody>
</table>

**TOTAL Credit Hours for**

<table>
<thead>
<tr>
<th>Program</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>E-Business Web Developer Certificate</td>
<td>42</td>
</tr>
</tbody>
</table>

¹ ITSE 1432, 1407, 1445, 1492
² ITSE 2449, 2431, 2454, 2417, 1492
³ Capstone course

---

### E-BUSINESS WEB DEVELOPER SPECIALIZATION

**Associate of applied science degree, Tech Prep**

(specialization offered at LSC-CyFair, Kingwood, and North Harris)

**Prerequisite Semester**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>ITSC 1401</td>
<td>Introduction to Computers OR</td>
<td>4</td>
</tr>
<tr>
<td>COSC 1401</td>
<td>Microcomputer Applications</td>
<td>4</td>
</tr>
<tr>
<td><strong>SEMSRET TOTAL</strong></td>
<td></td>
<td><strong>18</strong></td>
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**FIRST YEAR**

**First Semester**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>BMGT 1309</td>
<td>Information &amp; Project Management</td>
<td>3</td>
</tr>
<tr>
<td>ITCW 1425</td>
<td>Fundamentals of Networking OR</td>
<td>4</td>
</tr>
<tr>
<td>ITCC 1401</td>
<td>Exploration-Network Fundamentals</td>
<td>4</td>
</tr>
<tr>
<td>ITSC 1405</td>
<td>Intro to PC Operating Systems</td>
<td>4</td>
</tr>
<tr>
<td>ITSE 1402</td>
<td>Computer Programming</td>
<td>4</td>
</tr>
<tr>
<td>POFT 1301</td>
<td>Business English</td>
<td>3</td>
</tr>
<tr>
<td><strong>SEMSRET TOTAL</strong></td>
<td></td>
<td><strong>18</strong></td>
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</table>

**Second Semester**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credit</th>
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<tbody>
<tr>
<td>Elective³</td>
<td>Programming Language</td>
<td>4</td>
</tr>
<tr>
<td>IMED 1316</td>
<td>Web Design I</td>
<td>3</td>
</tr>
<tr>
<td>ITSC 1407</td>
<td>UNIX Operating System I</td>
<td>4</td>
</tr>
<tr>
<td>ITCW 1407</td>
<td>Introduction to Database</td>
<td>4</td>
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<tr>
<td><strong>SEMSRET TOTAL</strong></td>
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**SECOND YEAR**

**First Semester**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credit</th>
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</thead>
<tbody>
<tr>
<td>Elective⁴</td>
<td>Advanced Databases (SQL)</td>
<td>4</td>
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<tr>
<td>Elective⁵</td>
<td>Humanities/Fine Arts</td>
<td>3</td>
</tr>
<tr>
<td>Elective⁶</td>
<td>Social/Behavioral Science</td>
<td>3</td>
</tr>
<tr>
<td>Elective⁷</td>
<td>Programming Language (sequence course)</td>
<td>4</td>
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<tr>
<td>ENGL 1301</td>
<td>Composition &amp; Rhetoric I</td>
<td>3</td>
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<tr>
<td><strong>SEMSRET TOTAL</strong></td>
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**Second Semester**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credit</th>
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<tbody>
<tr>
<td>Elective⁸</td>
<td>General Education</td>
<td>3</td>
</tr>
<tr>
<td>Math⁹</td>
<td>Elective</td>
<td>3-4</td>
</tr>
<tr>
<td>ITSE 2472</td>
<td>Web Application Development</td>
<td>4</td>
</tr>
<tr>
<td>ITSE 2380</td>
<td>Cooperative Education OR</td>
<td>3</td>
</tr>
<tr>
<td>IMED 2309</td>
<td>Internet Commerce OR</td>
<td>4</td>
</tr>
<tr>
<td>ITSC 2335</td>
<td>Application Software Problem Solving</td>
<td>1</td>
</tr>
<tr>
<td>KINE</td>
<td>Any physical activity course</td>
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<tr>
<td><strong>SEMSRET TOTAL</strong></td>
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<td><strong>14-15</strong></td>
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**TOTAL Credit hours for E-Business Web Developer Specialization**

<table>
<thead>
<tr>
<th>Credit Hours</th>
<th>Total</th>
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<tbody>
<tr>
<td>71-72</td>
<td></td>
</tr>
</tbody>
</table>

¹ Course meets communication competency
² Choose from ITSE 1432, 1407, 1445, 1492
³ ITSE 2433, 2456, or ITSW 2437 depending on concentration
⁴ To meet the multicultural component for the AAS degree, choose a social/behavioral science OR humanities/fine arts elective from one of these courses: GEOG 1303, SOCI 1301, ARTS 1301, HUMA 1301, or PHIL 1304
⁵ Choose from ITSE 2449, 2431, 2454, 2417, 1492
⁶ Choose from general education electives
⁷ Choose MATH 1314 or higher level course
⁸ Capstone course

---

### DATABASE ADMINISTRATION SPECIALIZATION

**Associate of applied science degree, Tech Prep**

(specialization offered at LSC-Tomball)

**FIRST YEAR**

**First Semester**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elective¹</td>
<td>General Education</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 1301</td>
<td>Composition &amp; Rhetoric I</td>
<td>3</td>
</tr>
<tr>
<td>KINE</td>
<td>Any physical activity course</td>
<td>1</td>
</tr>
<tr>
<td>ITSE 1402</td>
<td>Computer Programming OR</td>
<td>3-4</td>
</tr>
<tr>
<td>COSC 1309</td>
<td>Logic Design</td>
<td>4</td>
</tr>
<tr>
<td>ITSC 1401</td>
<td>Introduction to Computers OR</td>
<td>4</td>
</tr>
<tr>
<td>COSC 1401</td>
<td>Microcomputer Applications</td>
<td>4</td>
</tr>
<tr>
<td><strong>SEMSRET TOTAL</strong></td>
<td></td>
<td><strong>14-15</strong></td>
</tr>
</tbody>
</table>

**Second Semester**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>ITSC 1405</td>
<td>Intro to PC Operating Systems</td>
<td>4</td>
</tr>
<tr>
<td><strong>SEMSRET TOTAL</strong></td>
<td></td>
<td><strong>4</strong></td>
</tr>
</tbody>
</table>

---

1 Course meets communication competency
2 Choose from ITSE 1432, 1407, 1445, 1492
3 ITSE 2433, 2456, or ITSW 2437 depending on concentration
4 To meet the multicultural component for the AAS degree, choose a social/behavioral science OR humanities/fine arts elective from one of these courses: GEOG 1303, SOCI 1301, ARTS 1301, HUMA 1301, or PHIL 1304
5 Choose from ITSE 2449, 2431, 2454, 2417, 1492
6 Choose from general education electives
7 Choose MATH 1314 or higher level course
8 Capstone course
ITNW 1425 Fundamentals Networking Technlgs  4
ITSW 1407 Introduction to Database  4
BMGT 1309 Information & Project Management  3
POFT 1301 Business English OR  3
BUSI 2304 Business Communications  

SEMESTER TOTAL  18

SECOND YEAR
First Semester  Credit
Elective  Social/Behavioral Science  3
ITSW 2437 Advanced Database  4
ITSE 1445 Intro to Oracle SQL  4
ITSE 2456 Oracle Database Administration I  4

SEMESTER TOTAL  15

Second Semester  Credit
Elective  Humanities/Fine Arts  3
MATH 1314 College Algebra or higher  3
ITSC 2380 Cooperative Education - Computer and Information Sciences, General  3
ITSE 2458 Oracle Database Administration II  4
ITSE 2429 Oracle Network Administration & Performance Tuning  4

SEMESTER TOTAL  17

TOTAL Credit hours for 
Database Administration Specialization  64-65

1 Select from general education requirement
2 Course meets communication competency
3 To meet the multicultural component for the associate of applied science degree, choose from these courses: ARTS 1301, HUMA 1301, or PHIL 1304
4 Capstone course

DATABASE ADMINISTRATION 
CERTIFICATE
(certificate offered at LSC-Tomball)

FIRST YEAR
First Semester  Credit
ITSC 1401 Introduction to Computers OR  4
COSC 1401 Microcomputer Applications  4
ITSE 1402 Computer Programming OR  3-4
COSC 1309 Logic Design  

SEMESTER TOTAL  7-8

Second Semester  Credit
ITSE 1445 Intro to Oracle SQL  4
ITSE 2456 Oracle Database Administration I  4

SEMESTER TOTAL  8

Third Semester  Credit
ITSE 2458 Oracle Database Administration II  4
ITSE 2429 Oracle Network Administration & Performance Tuning  4

SEMESTER TOTAL  8

TOTAL Credit Hours for 
Database Administration Certificate  23-24
1 Capstone course

CORROSION TECHNOLOGY

Corrosion Technology is one of the fastest growing job markets in the process industry. Technicians that can prevent, identify and treat corrosion on pipe lines, bridges, ships and buildings will be able to help safegaurd the environment, maintain production lines and assist in saving the U.S.A. billions of dollars each year. Students will be using chemistry, metallurgy, physics and electronics in a cross-discipline approach to prevent and control corrosion damage. Studies will include lab simulations, field work, mechanical applications and scientific applications to prepare students for a career that even the US Department of Defense recognizes.

The National Association of Corrosion Engineers (NACE) certifications will be targeted as the course standard and are considered the most widely accepted corrosion certification in the world. Certifications can specialize in, cathodic protection, coating inspectors, corrosion assessment, internal corrosion and other specialist programs as students direct their careers to the areas of the workforce that meets their needs and the specific needs of area industries.

CORROSION TECHNOLOGY

Associate of applied science degree
(degree offered at LSC-CyFair)

FIRST YEAR
First Semester  Credit
ENGL 1301 Composition and Rhetoric I  3
MATH 1314 College Algebra  3
METL 1301 Introduction to Metallurgy  3
CHEM 1405 Introductory Chemistry  4
METL 1313 Introduction to Corrosion  

SEMESTER TOTAL  16

Second Semester  Credit
CHEM 1411 General Chemistry I  4
CETT 1409 AC/DC Circuits  4
MATH 1316 Trigonometry  3
METL 2441 Cathodic Protection  4

SEMESTER TOTAL  15
### DEGREES AND CERTIFICATES

#### Third Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
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</thead>
<tbody>
<tr>
<td>METL 1266</td>
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<tr>
<td></td>
<td>Practicum - Metallurgical Technology/Technician</td>
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**SEMMESTER TOTAL** 2

#### SECOND YEAR

**First Semester**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
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</thead>
<tbody>
<tr>
<td>CHEM 1412</td>
<td>4</td>
</tr>
<tr>
<td>ENGL 2311</td>
<td>3</td>
</tr>
<tr>
<td>Elective ¹</td>
<td>3</td>
</tr>
<tr>
<td>SPCH 1311</td>
<td>3</td>
</tr>
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<td>SPCH 1321</td>
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<td>KINE</td>
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**SEMMESTER TOTAL** 14

**Second Semester**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
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<tbody>
<tr>
<td>METL 2401</td>
<td>4</td>
</tr>
<tr>
<td>DFTG 1305</td>
<td>3</td>
</tr>
<tr>
<td>COSC 1401</td>
<td>4</td>
</tr>
<tr>
<td>ITSC 1401</td>
<td></td>
</tr>
<tr>
<td>BCIS 1405</td>
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<tr>
<td>Elective ²</td>
<td>3</td>
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**SEMMESTER TOTAL** 14

**Third Semester**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
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<tbody>
<tr>
<td>METL 2405</td>
<td>4</td>
</tr>
<tr>
<td>PTRT 1301</td>
<td>3</td>
</tr>
<tr>
<td>GISC 1302</td>
<td>3</td>
</tr>
<tr>
<td>METL² 2168</td>
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</table>

**SEMMESTER TOTAL** 11

**TOTAL Credit Hours for Corrosion AAS degree** 72

1. Either Social/behavioral science or humanities/fine arts elective must meet multicultural requirement.
2. Capstone course

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**COSMETOLOGY**

The professional field of cosmetology is very diverse with regard to training requirements and areas of employment. The program offers certificates for the facial specialist, instructor license and operator license. An associate of applied science degree is available to an individual who completes degree requirements for the operator license. All of the cosmetology certificate programs are approved by the Texas Department of Licensing and Regulations. Upon successful completion of the program requirements, graduates are eligible to take their state exam. Upon passing their state exam, program graduates become licensed to practice in the state of Texas.

The cosmetology certificate program is a full time, 12 month program. Graduates of the cosmetology certificate programs have many employment opportunities including becoming a stylist, skin care specialist, make-up artist, or hair coloring and chemical technician. Other areas may be to become a research assistant in the cosmetology industry, a sales representative for a beauty product, or beauty editor for newspapers and magazines. Salaries vary depending upon the place of employment and the graduate’s skills and number of work hours.

The facial specialist certificate will prepare an individual to perform all aspects of skin care and make-up. This certificate is approximately half of the length of the cosmetology certificate program.

The general education core courses will transfer to a variety of universities. Contact the counselor or advisor at any college for specific information and to obtain the recommended sequencing of courses.

**Admission Criteria for Operator or Facial Certificates**

In addition to the system admission requirements, the following are requirements for admission to the cosmetology program.

1. High school diploma or GED.
2. Completed ENGL 0304 and ENGL 0306 or (ESOL) equivalent, or higher level ENGL course or placement by testing.
3. Minimum age of 17 years.
4. Mandatory attendance at a scheduled orientation session or departmental approval.
5. Program admission for students with previous college experience requires that the student be in disciplinary good standing at all former institutions. No student will be admitted who is under disciplinary suspension status from another college or institution. Any such status requires positive resolution from the other institution before a student will be considered for cosmetology admission.

After program admission approval, the student must have the registration form approved by the cosmetology academic counselor. Applicants who have completed hours in cosmetology in other educational programs may apply for placement by examination for CSME 1254, 1310, 1501, and 1505. Official verification of the hours completed is required.
Progression Requirements
Once admitted to the cosmetology program, a student must attain a grade of “C” or better in each cosmetology course in order to progress in the program.

Readmission Policy
A student who withdraws from the cosmetology program may be readmitted only once with the recommendation of the department faculty.

Cosmetology Instructor Certificate
In addition to the system admission requirements the following are requirements for admission to the cosmetology instructor certificate.

1. High school diploma or GED.
2. Current Texas operator’s license.
3. Within the past five years, applicants must have a minimum of three years work experience as a licensed cosmetologist versed in all phases of cosmetology. Verification will be required.
4. Completion of 12 semester hours in general education including ENGL 1301.
5. Minimum age of 18 years.
6. Must pass comprehensive cosmetology placement examination before taking any cosmetology instructor classes.

COSMETOLOGY INSTRUCTOR CERTIFICATE
(certificate offered at LSC-Kingwood and North Harris)

<table>
<thead>
<tr>
<th>Prerequisite Semester</th>
<th>Credit</th>
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</thead>
<tbody>
<tr>
<td>ENGL 1301 Composition &amp; Rhetoric I</td>
<td>3</td>
</tr>
<tr>
<td>Electives General Education</td>
<td>9</td>
</tr>
<tr>
<td><strong>SEMESTER TOTAL</strong></td>
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**FIRST YEAR**

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSME 1434 Cosmetology Instructor I</td>
<td>4</td>
</tr>
<tr>
<td>CSME 1435 Orientation to the Instruction of Cosmetology</td>
<td>4</td>
</tr>
<tr>
<td>CSME 2414 Cosmetology Instructor II</td>
<td>4</td>
</tr>
<tr>
<td><strong>SEMESTER TOTAL</strong></td>
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<table>
<thead>
<tr>
<th>Second Semester</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSME 2415 Cosmetology Instructor III</td>
<td>4</td>
</tr>
<tr>
<td>CSME 2444 Cosmetology Instructor IV</td>
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</tr>
<tr>
<td>CSME 2445 Instructional Theory &amp; Clinical Oper</td>
<td>4</td>
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<tr>
<td><strong>SEMESTER TOTAL</strong></td>
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</table>

**TOTAL Credit Hours for Cosmetology Instructor Certificate** 36

Note: Capstone experience is completed by taking a departmental exam.

COSMETOLOGY OPERATOR CERTIFICATE
(certificate offered at LSC-Kingwood and North Harris)

**FIRST YEAR**

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Credit</th>
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</thead>
<tbody>
<tr>
<td>CSME 1254 Artistry of Hair Design I</td>
<td>2</td>
</tr>
<tr>
<td>CSME 1310 Intro to Haircutting &amp; Related Theory</td>
<td>3</td>
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<tr>
<td>CSME 1501 Orientation to Cosmetology</td>
<td>5</td>
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<tr>
<td>CSME 1505 Fundamentals of Cosmetology</td>
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<table>
<thead>
<tr>
<th>Second Semester</th>
<th>Credit</th>
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<tbody>
<tr>
<td>CSME 1553 Chemical Reformation and Related Theory</td>
<td>5</td>
</tr>
<tr>
<td>CSME 2310 Intermediate Haircutting and Related Theory</td>
<td>3</td>
</tr>
<tr>
<td>CSME 2337 Advanced Cosmetology Techniques</td>
<td>3</td>
</tr>
<tr>
<td>CSME 2501 Principles of Hair Coloring and Related Theory</td>
<td>5</td>
</tr>
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<td><strong>SEMESTER TOTAL</strong></td>
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<table>
<thead>
<tr>
<th>Third Semester</th>
<th>Credit</th>
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</thead>
<tbody>
<tr>
<td>CSME 2539 Advanced Hair Design</td>
<td>5</td>
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<tr>
<td>CSME 2541 Prep. for the State Licensing Exam</td>
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<tr>
<td><strong>SEMESTER TOTAL</strong></td>
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</table>

**TOTAL Credit Hours for Cosmetology Operator Certificate** 41

Note: Capstone experience is completed by taking a departmental exam.

FACIAL SPECIALIST CERTIFICATE
(certificate offered at LSC-Kingwood and North Harris)

**FIRST YEAR**

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Credit</th>
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</thead>
<tbody>
<tr>
<td>CSME 1420 Orientation to Facial Specialist</td>
<td>4</td>
</tr>
<tr>
<td>CSME 1421 Principles of Facial/Esthetic Technology I</td>
<td>4</td>
</tr>
<tr>
<td>CSME 1248 Principles of Skin Care</td>
<td>2</td>
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<tr>
<td><strong>SEMESTER TOTAL</strong></td>
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<table>
<thead>
<tr>
<th>Second Semester</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSME 1447 Principles of Skin Care/Facials and Related Theory</td>
<td>4</td>
</tr>
<tr>
<td>CSME 1445 Principles of Facial/Esthetic Technology II</td>
<td>4</td>
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<tr>
<td><strong>SEMESTER TOTAL</strong></td>
<td><strong>10</strong></td>
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</table>
DEGREES AND CERTIFICATES

CSME 2431 Principles of Facial/Esthetic Technology III 4
SEMESTER TOTAL 12

TOTAL Credit Hours for Facial Specialist Certificate 22

Note: Capstone experience is completed by taking a departmental exam

COSMETOLOGY

Associate of applied science degree
(degree offered at LSC-Kingwood and North Harris)

FIRST YEAR

First Semester Credit
ENGL 1301 Composition and Rhetoric I 3
KINE Any physical activity course 1
SPCH1 Elective 3
Elective2 Math/Natural Science 3-4
PSYC 2301 General Psychology 3
SEMESTER TOTAL 13-14

Second Semester Credit
CSME 1254 Artistry of Hair Design I 2
CSME 1310 Intro to Haircutting & Related Theory 3
CSME 1501 Orientation to Cosmetology 5
CSME 1505 Fundamentals of Cosmetology 5
SEMESTER TOTAL 15

SECOND YEAR

First Semester Credit
CSME 1553 Chemical Reformation & Related Theory 5
CSME 2310 Intermediate Haircutting & Related Theory 3
CSME 2337 Advanced Cosmetology Techniques 3
CSME 2501 Principles of Hair Coloring & Related Theory 5
SEMESTER TOTAL 16

Second Semester Credit
CSME 2539 Advanced Hair Design 5
CSME 2541 Prep. for the State Licensing Exam 5
Elective3 Humanities/Fine Arts 3
ITSC 1401 Introduction to Computers 4
SEMESTER TOTAL 17

TOTAL Credit Hours for AAS Degree 61-62

1 Choose from SPCH 1311, 1315, 1318, or 1321
2 See core requirements for AAS degree for options. If science option is chosen, math competency must be met (MATH 0308 or higher).
3 Must meet the multicultural requirement.

Note: Capstone experience is completed by taking a departmental exam.

DENTAL HYGIENE

The Lone Star College System (LSCS) offers an associate of applied science in dental hygiene at LSC-Kingwood. The dental hygiene curriculum offered at LSC-Kingwood is a structured intense program with didactic and clinical practice taking place in the health science building on the LSC-Kingwood campus. External rotations are integrated into the second year curriculum for experiences outside of the school setting. This program is designed for those interested in becoming a registered dental hygienist. 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 dental hygiene program includes general education courses as a foundation for dental hygiene courses. Prerequisite courses are designed to allow the student an opportunity to experience the type of coursework that will be involved in the study of dental hygiene.

The dental hygiene program is a competitive entrance admissions program. Go to http://Kingwood.LoneStar.edu/dentalhygiene for information about admission requirements, selection criteria and application process for the program.

Students may be required to successfully pass a background check and drug screen. Also, regulations require that students complete the Hepatitis B immunization series prior to the first day of class. This immunization series takes 6 months to complete.

DENTAL HYGIENE

Associate of applied science degree
(degree offered at LSC-Kingwood)

Prerequisite Semester Credit
CHEM 1405 Introduction to Chemistry 4
ENGL 1301 Composition and Rhetoric I 3
BIOI 2401 Human Anatomy and Physiology I 4
SOCII 1301 Principles of Sociology 3
SEMESTER TOTAL 14

FIRST YEAR

First Semester Credit
BIOI 2402 Human Anatomy and Physiology II 4
DHYG 1301 Orofacial Anatomy, Histology & Embryology 3
The associate of applied science degree in diagnostic medical sonography, the associate of applied science degree in echocardiography and the advanced technical certificate in diagnostic medical sonography are designed to prepare graduates for employment in the healthcare industry in the sonography field. The program is also designed to provide opportunities for job advancement and retention for currently employed radiologic technologists.

Students must complete all appropriate developmental coursework or retake the section of ASSET, ACCUPLACER, COMPASS, or THEA and score high enough to place into college-level course. To determine your Student Success Initiative (SSI) status, see a college advisor. Students must complete ENGL 1301, MATH 1314, PHYS 1401 or 1410, BIOL 2401 and 2402 prior to the first DMSO course in the AAS degree. RADR 1313 and RADR 2305 may be substituted for the PHYS course requirement. Interested students should visit the website, http://cyfair.LoneStar.edu/sonography for information regarding technical standards for the profession, application and admission to the program.

Students who currently hold an ARRT certification or a two-year degree in a patient care health program are eligible for admission to the certificate program. Students who do not hold an ARRT certification or a two-year degree in a patient care health program would apply for the AAS in DMS.

Students are required to successfully pass a background check and at some facilities may also be required to successfully pass a drug screening. Regulations also require that students complete the Hepatitis B immunization series that may take 3 to 6 months prior to direct patient contact. Prospective students are required to attend an information session.

### DIAGNOSTIC MEDICAL SONOGRAPHY

The associate of applied science degree in diagnostic medical sonography, the associate of applied science degree in echocardiography and the advanced technical certificate in diagnostic medical sonography are designed to prepare graduates for employment in the healthcare industry in the sonography field. The program is also designed to provide opportunities for job advancement and retention for currently employed radiologic technologists.

Students must complete all appropriate developmental coursework or retake the section of ASSET, ACCUPLACER, COMPASS, or THEA and score high enough to place into college-level course. To determine your Student Success Initiative (SSI) status, see a college advisor. Students must complete ENGL 1301, MATH 1314, PHYS 1401 or 1410, BIOL 2401 and 2402 prior to the first DMSO course in the AAS degree. RADR 1313 and RADR 2305 may be substituted for the PHYS course requirement. Interested students should visit the website, http://cyfair.LoneStar.edu/sonography for information regarding technical standards for the profession, application and admission to the program.

Students who currently hold an ARRT certification or a two-year degree in a patient care health program are eligible for admission to the certificate program. Students who do not hold an ARRT certification or a two-year degree in a patient care health program would apply for the AAS in DMS.

Students are required to successfully pass a background check and at some facilities may also be required to successfully pass a drug screening. Regulations also require that students complete the Hepatitis B immunization series that may take 3 to 6 months prior to direct patient contact. Prospective students are required to attend an information session.

### DIAGNOSTIC MEDICAL SONOGRAPHY

**Associate of applied science degree**

(degree offered at LSC-CyFair)

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<tbody>
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<td>BIOL 2402 Human Anatomy and Physiology II</td>
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<tr>
<td>PHYS 1401 General Physics I OR PHYS 1410 Elementary Physics</td>
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<td>ENGL 1301 Composition and Rhetoric I</td>
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<td>DMSO 1360 Clinical</td>
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<td>DMSO 1405 Sonography of Abdominopelvic Cavity</td>
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<td>DMSO 1302 Basic Ultrasound Physics</td>
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<td>DMSO 1351 Sonographic Sectional Anatomy</td>
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<td>DMSO 2253 Sonography of Superficial Structures</td>
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<td>SOCI 1301 Introduction to Sociology</td>
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<td>DMSO 2405 Sonography of Obstetrics/Gynecology</td>
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<td><strong>Third Semester</strong></td>
<td>DMSO 2342 Sonography of High Risk Obstetrics (12 weeks)</td>
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<td>DMSO 2351 Doppler Physics (12 weeks)</td>
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<td>ITSC 1401 Introduction to Computers OR COSC 1401 Microcomputer Applications</td>
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<td>DMSO 2366 Practicum III</td>
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**TOTAL Credit Hours for Diagnostic Medical Sonography AAS Degree**: **72**

1. RADR 1313 AND RADR 2305 may be substituted for the PHYS course requirement.
2. Meets communication competency
3. Meets multicultural course requirement
4. Capstone course

Students must pass the THEA test and place into college level reading, writing and math prior to entering program. Students must complete PHYS 1401 OR 1410, ENGL 1301, MATH 1314, BIOL 2401 and 2402 prior to the first DMSO course. Oral communications will be woven throughout laboratory courses and clinical courses.

### Echocardiography

**Associate of applied science degree**  
(degree offered at LSC-CyFair)

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course Details</th>
<th>Credit</th>
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<tbody>
<tr>
<td><strong>Prerequisite Semester</strong></td>
<td>ITSC 1401 Introduction to Computers OR COSC 1401 Microcomputer Applications</td>
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<td>BIOL 2401 Human Anatomy and Physiology I</td>
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<td>MATH 1314 College Algebra</td>
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<tr>
<th>Semester</th>
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<tr>
<td><strong>Second Semester</strong></td>
<td>BIOL 2402 Human Anatomy and Physiology II</td>
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<td>PHYS 1401 General Physics I OR PHYS 1410 Elementary Physics</td>
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### First Year

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<td>DMSO 1210 Introduction to Sonography</td>
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<td>DMSO 1302 Basic Ultrasound Physics</td>
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<td>DMSO 1351 Sonographic Sectional Anatomy</td>
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<td><strong>Second Semester</strong></td>
<td>DMSO 1366 Practicum I</td>
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<td>DMSO 2253 Sonography of Superficial Structures</td>
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<td>SOCI 1301 Introduction to Sociology</td>
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<td>DMSO 2405 Sonography of Obstetrics/Gynecology</td>
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### Second Year

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<tbody>
<tr>
<td><strong>First Semester</strong></td>
<td>DMSO 2245 Advanced Sonography Practices</td>
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<td>DMSO 2366 Practicum III</td>
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<td>DSVT 2200 Vascular Technology Applications</td>
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**TOTAL Credit Hours for Echocardiography AAS Degree**: **71**

1. RADR 1313 AND RADR 2305 may be substituted for the PHYS course requirement.
2. Meets communication competency
3. Meets multicultural course requirement
4. Capstone course
Students must pass the THEA test and place into college level reading, writing and math prior to entering program. Students must complete PHYS 1401 OR 1410, ENGL 1301, MATH 1314, BIOL 2401 and 2402 prior to the first DSAE course. Oral communications will be woven throughout laboratory courses and clinical courses.

**SONOGRAPHY NON-INVASIVE VASCULAR TECHNOLOGY ENHANCED SKILLS CERTIFICATE**  
(certificate offered at LSC-CyFair)

**FIRST YEAR**

First Semester  
<table>
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<th>Course Title</th>
<th>Credit</th>
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<tr>
<td>DSVT 2330</td>
<td>Non-Invasive Cerebral Vascular Evaluation</td>
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<td>DSVT 2418</td>
<td>Non-Invasive Peripheral Vascular Evaluation</td>
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<td>DSVT 1364</td>
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Second Semester  
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<tr>
<td>DSVT 1265</td>
<td>Practicum II</td>
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<td>DSVT 2335</td>
<td>Advanced Non-Invasive Vascular Technology</td>
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**TOTAL Credit Hours for Sonography Enhanced Skills Certificate 15**  
1 Capstone course

**SECOND YEAR**

First Semester  
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<td>Introduction to Sonography</td>
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<td>DMSO 1351</td>
<td>Sonographic Sectional Anatomy</td>
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<td>DMSO 1405</td>
<td>Sonography of Abdominopelvic Cavity</td>
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<td>DMSO 1302</td>
<td>Basic Ultrasound Physics</td>
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<td>DMSO 1360</td>
<td>Clinical</td>
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Second Semester  
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<tr>
<td>DMSO 1366</td>
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<td>Intermediate Ultrasound Physics</td>
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<td>DMSO 2403</td>
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<td>DMSO 2253</td>
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<td>DMSO 1367</td>
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<td>DMSO 2342</td>
<td>Sonography of High Risk Obstetrics</td>
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<td></td>
<td>(12 weeks)</td>
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<td>DMSO 2351</td>
<td>Doppler Physics (12 weeks)</td>
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**TOTAL Credit Hours for Sonography Advanced Technical Certificate 44**  
1 Capstone course

Note: Admission to the program requires graduation from a two-year patient-care allied health program.

**ELECTRICIAN**

If you have been fascinated by electricity, then you might want to look at a career as an electrician. Electricians enjoy one of the higher paid specialty-industry fields with a solid future as America becomes more dependent on consistent and well-maintained supplies of electricity.

There are two general types of electrical work:

- Construction work, which includes reading blueprints, wiring, installing, and testing electrical systems; and
- Maintenance work, which involves troubleshooting, testing, fixing and upgrading already installed, improperly functioning, electrical systems.

Some electricians become electrical inspectors, enter teaching programs, or work as construction consultants. A few enter training programs to become contractors. Electricians are also finding that their profession is becoming linked with those who do computer and telecommunications wiring. Over 15 percent of electricians take additional classes on telecommunications systems, wiring, and electrical interfaces.

At LSC-Tomball, specialized electrician courses are offered that emphasize application more than theoretical development. The courses complement on-the-job training and mirror real world situations.
by providing classroom studies with hands-on applications in high-tech laboratories. The program also works with local electrician providers/companies to ensure that the class focus meets their needs and on preparing the student to pass the Texas State Licensing exam.

The core courses will transfer to a variety of colleges and universities. Contact a counselor or faculty advisor for specific information or to obtain the recommended sequencing of courses.

**RESIDENTIAL/COMMERCIAL ELECTRICIAN CERTIFICATE**
(certificate offered at LSC-Tomball)

**FIRST YEAR**

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<td>ELPT 1311</td>
<td>Basic Electrical Theory</td>
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<td>ELPT 1315</td>
<td>Electrical Calculations I</td>
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<td>ELPT 1321</td>
<td>Intro to Electrical Safety and Tools</td>
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<td>ELPT 1325</td>
<td>National Electrical Code I</td>
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<td>National Electrical Code II</td>
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<td>DFTG 1325</td>
<td>Blueprint Reading and Sketching</td>
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<td>ELPT 1429</td>
<td>Residential Wiring</td>
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<td>ELPT 1445</td>
<td>Commercial Wiring</td>
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**TOTAL Credit Hours for Residential/Commercial Electrician Certificate** 26

1 Capstone course

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**EMERGENCY MEDICAL SERVICES PROFESSIONS**

The emergency medical services professions associate of applied science degree includes knowledge, skills and behaviors necessary to recognize, assess, and manage medical emergencies under the supervision and direction of a physician. Graduates can expect career opportunities predominantly with transfer and emergency ambulance services.

Students completing course work in this program are eligible to take National Registry exams. Advanced placement is available for EMT’s, EMT-I’s and paramedics who are currently certified in the State of Texas and who enter the EMS professions program having taken approved EMS training courses for which college credit was not given. Contact the EMSP program director for additional information concerning advanced placement questions.

The general education core will transfer to a variety of colleges and universities. Contact a counselor or faculty member at any of the colleges for specific information and to obtain the recommended sequencing of courses.

**Admissions Criteria:**

To be admitted to the EMSP program, students must first meet the basic requirements for admission to Lone Star College System (LSCS). However, admission to LSCS does not constitute automatic acceptance into the EMSP program.

Admission to the program does not guarantee eligibility for the National Registry Exams or certification by Texas Department of State Health Services. Criminal background checks are a part of the screening process conducted by the Texas Department of State Health Services. As a result, some candidates may be ineligible for certification. Clinical facilities require students to successfully pass a background check and possibly a drug screen. Applicants must cover the costs of the background check and drug screen. Candidates with concerns about their background in this regard should contact the Texas Department of State Health Services in Austin with specific concerns. LSCS personnel are unable to make any determinations as to a potential candidate’s eligibility. If at any time during enrollment in any LSCS emergency medical services program a student is convicted of a felony or misdemeanor, the student must inform the director and clinical coordinator in writing and submit a current background check.

Persons wishing to enroll in the EMT-Basic course (EMSP 1501/1160) must:

1. Hold a high school diploma or a GED.
2. Apply for and achieve admission to LSCS.
3. Present proof of successful completion of the American Heart Association’s Basic Life Support for Health Care Providers, or an equivalent course approved by the program director, within the previous two years.
4. Document immunization against tetanus, diphtheria, pertussis, mumps, measles, rubella, varicella and Hepatitis B prior to first scheduled clinical rotation.
5. Document negative results from a tuberculosis test (Mantoux) or chest x-ray performed within the previous 12 months.

Students must make formal application to the EMSP department to pursue course work beyond EMSP 1501/1160. Applicants who are currently certified at the EMT-Basic or EMT-Intermediate level or have completed EMSP 1501 (EMT-Basic) and EMSP 1160 (EMT-Basic Clinical) but who do not hold EMT-Basic certification may be accepted with the provision that they obtain EMT-Basic certification prior to beginning the first paramedic clinical rotation. Students are accepted for advanced course work only in the fall semester.

The number of students is limited by spaces available for clinical experience in affiliated hospitals and EMS provider organizations. Competitive selection of students may be necessary if the number of applicants exceeds the number of seats available.

An application portfolio must be submitted according to the deadlines established by the EMSP department of each college program. The portfolio must include:

1. A completed application for admission.
2. Documentation of high school diploma or a GED.
3. Copies of all relevant academic transcripts: high school, college or university, military service schools, and other (propriety schools).
4. A resume or curriculum vitae showing work history with emphasis on EMS or other health care experience.
5. Documentation of EMT-Basic certification. Students who currently are enrolled in an EMT-Basic course or who have completed EMT-Basic course work and are engaged in the credentialing process should provide a statement to this effect.
6. Verification of immunization against tetanus, diphtheria, pertussis, mumps, measles, rubella, varicella, and Hepatitis B.
7. Negative results from a tuberculosis skin test (Mantoux) or chest x-ray performed within the last 12 months.
8. Proof of successful completion of the American Heart Association’s Basic Life Support for Health Care Providers, or an equivalent course approved by the program director, within the previous two years.

Letters regarding admission status will be mailed out at the conclusion of the application process. Additional program costs to be assumed by the student include uniforms, malpractice insurance, background checks, and skills examination fees.

For additional information, including a downloadable application at LSC-North Harris, please visit the Web site at http://northharris.lonestar.edu/ems. LSC-North Harris is a nationally accredited program through the Commission on Accreditation of Allied Health Education Programs.

To meet community needs, LSC-CyFair offers a one year paramedic academy. Please visit the Web site at http://cyfair.LoneStar.edu/EMS for additional information concerning the LSC-CyFair EMS program including a downloadable application.

**EMERGENCY MEDICAL SERVICES PROFESSIONS INTERMEDIATE CERTIFICATE**

(certificate offered at LSC-CyFair and North Harris)

LSC-CyFair offers this certificate in an accelerated schedule. Following completion of the prerequisite semester, students can complete all courses necessary to earn the Intermediate Certificate within one semester. Contact the faculty for more information.

<table>
<thead>
<tr>
<th>Prerequisite Semester</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMSP 1160 Clinical - EMT Basic</td>
<td>1</td>
</tr>
<tr>
<td>EMSP 1501 EMT - Basic</td>
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<td><strong>SEMESTER TOTAL</strong></td>
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</table>

**FIRST YEAR**

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMSP 1161 Clinical - Paramedic I</td>
<td>1</td>
</tr>
<tr>
<td>EMSP 1338 Introduction to Advanced Practice</td>
<td>3</td>
</tr>
<tr>
<td>EMSP 1356 Pt. Assessment &amp; Airway Mgmt</td>
<td>3</td>
</tr>
<tr>
<td>EMSP 2348 Emergency Pharmacology</td>
<td>3</td>
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<tr>
<td><strong>SEMESTER TOTAL</strong></td>
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<table>
<thead>
<tr>
<th>Second Semester</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMSP 1162 Clinical - Paramedic II</td>
<td>1</td>
</tr>
<tr>
<td>EMSP 1355 Trauma Management</td>
<td>3</td>
</tr>
<tr>
<td>EMSP 2338 EMS Operation</td>
<td>3</td>
</tr>
<tr>
<td><strong>SEMESTER TOTAL</strong></td>
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**TOTAL Credit Hours for Emergency Medical Services Professions Intermediate Certificate** | **23**
Note: It is recommended that students complete BIOL 2401 prior to beginning paramedic coursework. Students will be prepared to take The National Registry Exam-Intermediate 85 after completion of certificate.

EMERGENCY MEDICAL SERVICES PROFESSIONS PARAMEDIC CERTIFICATE
(certificate offered at LSC-CyFair and North Harris) LSC-CyFair offers this certificate in an accelerated schedule. Following completion of the prerequisite semester, students can complete all courses necessary to earn the paramedic certificate within one academic year. Contact the faculty for more information.

<table>
<thead>
<tr>
<th>Prerequisite Semester</th>
<th>Credit</th>
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<tbody>
<tr>
<td>EMSP 1160 Clinical - EMT Basic</td>
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<tr>
<td>EMSP 1501 EMT - Basic</td>
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FIRST YEAR

First Semester

<table>
<thead>
<tr>
<th>Credit</th>
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<tbody>
<tr>
<td>EMSP 1161 Clinical - Paramedic I</td>
</tr>
<tr>
<td>EMSP 1338 Introduction to Advanced Practice</td>
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<tr>
<td>EMSP 1356 Pt. Assessment &amp; Airway Mgmt</td>
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<tr>
<td>EMSP 2348 Emergency Pharmacology</td>
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Second Semester

<table>
<thead>
<tr>
<th>Credit</th>
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<tbody>
<tr>
<td>EMSP 1162 Clinical - Paramedic II</td>
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<tr>
<td>EMSP 1355 Trauma Management</td>
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<td>EMSP 2338 EMS Operation</td>
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Third Semester

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<th>Credit</th>
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<td>EMSP 2444 Cardiology</td>
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SECOND YEAR

First Semester

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<tr>
<td>EMSP 2160 Clinical - Paramedic III</td>
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<tr>
<td>EMSP 2330 Special Populations</td>
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<tr>
<td>EMSP 2434 Medical Emergencies</td>
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Second Semester

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<tr>
<td>EMSP 2143 Assessment Based Management</td>
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<tr>
<td>EMSP 2361 Clinical - EMS</td>
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TOTAL Credit Hours for Emergency Medical Services Professions Paramedic Certificate 39

1. Choose from EMSP 2300, 2352 or 2359
2. See the catalog for appropriate choices and requirements for the associate of applied science degree
ENGINEERING TECHNOLOGY

ENGINEERING DESIGN GRAPHICS TECHNOLOGY

The engineering design graphics technology associate of applied science degree program prepares graduates for entry-level careers as engineering design technicians. Courses within the program include technical design graphics applications, computer-aided design software and programming, solid modeling design, applied strength of materials, statics, technical specialty courses, and general academic courses.

The engineering design graphics technology associate of applied science degree is awarded for successful completion of the 62-69 semester credit hours required in the degree plan. Students may specialize in architectural engineering technology, mechanical engineering technology or metal building drafting and design. Students desiring a less comprehensive program may consider the computer-aided design operator/drafting certificate. This certificate program includes 30 semester credit hours of required technical courses.

Graduates of the engineering design graphics technology associate of applied science degree possess the technical skills and knowledge to perform essential design layout, prepare supporting documentation, and create finished engineering documentation for production in the engineering, construction, or manufacturing industries. A wide variety of employment opportunities are available to graduates.

The general education core and many technical courses will transfer to a variety of colleges and universities. Contact a counselor or faculty member at any of the colleges for specific information and to obtain the recommended sequencing of courses.

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COMPUTER-AIDED DESIGN OPERATOR/DRAFTING CERTIFICATE

(certificate offered at LSC-CyFair, North Harris and Tomball)

**FIRST YEAR**

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Credit</th>
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<tbody>
<tr>
<td>DFTG 1305 Technical Drafting</td>
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<tr>
<td>DFTG 1309 Basic Computer-Aided Drafting</td>
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</tr>
<tr>
<td>Elective¹ Discipline Track</td>
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<tr>
<td>TECM 1303 Technical Calculations</td>
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<tr>
<td>MATH² 1314 College Algebra</td>
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<tbody>
<tr>
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<tr>
<td>Elective¹ Discipline Track</td>
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<tr>
<td>DFTG 2319 Interm. Computer-Aided Drafting</td>
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<td>DFTG 2340 Solid Modeling/Design</td>
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<tr>
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</table>

**TOTAL Credit Hours for Computer-Aided Design Operator/Drafting Certificate:** **30**

¹ Students must select one of the two tracks below and may not deviate from them as they progress through the certificate.

Discipline Track Courses

**Track 1: Architectural, Civil/Structural** - CNBT 1311, DFTG 2331, DFTG 1317, ARCE 1352, DFTG 2328

**Track 2: Mechanical, Manufacturing, Product Design** - MCHN 1319, DFTG 2302, DFTG 2323, METL 1301, INMT 1311, DFTG 2335 OR CETT 1409

² Students planning to complete the AAS degree in architectural engineering technology, pre-engineered metal building drafting and design, or mechanical engineering should take MATH 1314-College Algebra.

Note: A capstone certification exam is required of all certificate students completing the certificate program. The certificate will not be awarded without completion and passing with a minimum grade of 75 percent. Courses should be taken sequentially, in the order shown, considering individual published course prerequisites.
### Architectural Engineering Technology Specialization

**Associate of applied science degree, Tech Prep**  
(specialization offered at LSC-North Harris)

**FIRST YEAR**

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course</th>
<th>Credit</th>
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</thead>
<tbody>
<tr>
<td><strong>First Semester</strong></td>
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<td></td>
</tr>
<tr>
<td>ENGL 1301</td>
<td>Composition and Rhetoric I</td>
<td>3</td>
</tr>
<tr>
<td>DFTG 1305</td>
<td>Technical Drafting</td>
<td>3</td>
</tr>
<tr>
<td>MATH 1314</td>
<td>College Algebra</td>
<td>3</td>
</tr>
<tr>
<td>CNBT 1311</td>
<td>Construction Methods &amp; Materials I</td>
<td>3</td>
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<tr>
<td>DFTG 1309</td>
<td>Basic Computer-Aided Drafting</td>
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<tr>
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</tr>
<tr>
<td><strong>Second Semester</strong></td>
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<td></td>
</tr>
<tr>
<td>ARCE 1352</td>
<td>Structural Drafting</td>
<td>3</td>
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<tr>
<td>MATH 1316</td>
<td>Trigonometry</td>
<td>3</td>
</tr>
<tr>
<td>CNBT 1342</td>
<td>Building Codes &amp; Inspection</td>
<td>3</td>
</tr>
<tr>
<td>DFTG 2331</td>
<td>Adv Technologies Architectural Design and Drafting</td>
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<td>DFTG 2319</td>
<td>Intermediate Computer-Aided Drafting</td>
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<tr>
<td><strong>Third Semester</strong></td>
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<td></td>
</tr>
<tr>
<td>DFTG 2328</td>
<td>Architectural Drafting-Commercial</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 2311</td>
<td>Technical Communications OR</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 1302</td>
<td>Composition and Rhetoric II</td>
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<tr>
<td>KINE</td>
<td>Any physical activity course</td>
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<tr>
<td><strong>SEMESTER TOTAL</strong></td>
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**SECOND YEAR**

<table>
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<tr>
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<th>Course</th>
<th>Credit</th>
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<tbody>
<tr>
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<tr>
<td>ARTS¹ 1304</td>
<td>Art History Survey II</td>
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<tr>
<td>ENTC 1343</td>
<td>Statics</td>
<td>3</td>
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<tr>
<td>DFTG 1371</td>
<td>Metal Building Systems I</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 1401</td>
<td>General Physics I</td>
<td>4</td>
</tr>
<tr>
<td>DFTG 1317</td>
<td>Architectural Drafting - Residential</td>
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<tr>
<td><strong>SEMESTER TOTAL</strong></td>
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<td>16</td>
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<tr>
<td><strong>Second Semester</strong></td>
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<tr>
<td>DFTG 1372</td>
<td>Structural Steel Detailing</td>
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<tr>
<td>Elective²</td>
<td>Social/Behavioral Science</td>
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<tr>
<td>SPCH³</td>
<td>Speech Elective</td>
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<td>ENTC 1423</td>
<td>Strength of Materials</td>
<td>4</td>
</tr>
<tr>
<td>ENTC² 2380</td>
<td>Cooperative Education OR</td>
<td>3</td>
</tr>
<tr>
<td>DFTG² 2338</td>
<td>Final Project - Advanced Drafting</td>
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</tr>
<tr>
<td><strong>SEMESTER TOTAL</strong></td>
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<td>16</td>
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</table>

**TOTAL Credit Hours for Architectural Engineering Technology Specialization** 69

1. Meets multicultural requirement.  
2. See college catalog for associate of applied science degree graduation requirements for a listing of electives.  
3. Choose elective from SPCH 1311, 1315, or 1321  
4. Capstone course

### Mechanical Engineering Technology Specialization

**Associate of applied science degree, Tech Prep**  
(specialization offered at LSC-North Harris)

**FIRST YEAR**

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>First Semester</strong></td>
<td></td>
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</tr>
<tr>
<td>MATH 1314</td>
<td>College Algebra</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 1301</td>
<td>Composition and Rhetoric I</td>
<td>3</td>
</tr>
<tr>
<td>DFTG 1305</td>
<td>Technical Drafting</td>
<td>3</td>
</tr>
<tr>
<td>MCHN 1319</td>
<td>Manufacturing Mat. &amp; Processes</td>
<td>3</td>
</tr>
<tr>
<td>DFTG 1309</td>
<td>Basic Computer-Aided Drafting</td>
<td>3</td>
</tr>
<tr>
<td><strong>SEMESTER TOTAL</strong></td>
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<td>15</td>
</tr>
<tr>
<td><strong>Second Semester</strong></td>
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<tr>
<td>DFTG 2340</td>
<td>Solid Modeling/Design</td>
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<td>METL 1301</td>
<td>Introduction to Metallurgy</td>
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</tr>
<tr>
<td>MATH 1316</td>
<td>Trigonometry</td>
<td>3</td>
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<tr>
<td>DFTG 2302</td>
<td>Machine Drafting</td>
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<tr>
<td>DFTG 2319</td>
<td>Intermediate Computer-Aided Drafting</td>
<td>3</td>
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<tr>
<td><strong>SEMESTER TOTAL</strong></td>
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<tr>
<td><strong>Third Semester</strong></td>
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<tr>
<td>CETT 1409</td>
<td>DC-AC Circuits</td>
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<tr>
<td>ENGL 1302</td>
<td>Composition and Rhetoric II</td>
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<tr>
<td>Elective¹</td>
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**SECOND YEAR**

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<tbody>
<tr>
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<tr>
<td>ENTC 1343</td>
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<td>Advanced Technologies in Mechanical Design &amp; Drafting</td>
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<tr>
<td>IEIR² 1310</td>
<td>Motor Controls OR</td>
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<td>QCTC³ 1303</td>
<td>Quality Control</td>
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<tr>
<td>ENTC 1423</td>
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<td>Elective¹</td>
<td>Social/Behavioral Science</td>
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<td><strong>SEMESTER TOTAL</strong></td>
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</table>

**TOTAL Credit Hours for Mechanical Engineering Technology Specialization** 67

1. See college catalog for associate of applied science degree graduation requirements for a listing of electives. Select course from either of these areas to meet multicultural requirement.
DEGREES AND CERTIFICATES

PRE-ENGINEERED METAL BUILDING DRAFTING & DESIGN SPECIALIZATION

Associate of applied science degree, Tech Prep
(specialization offered at LSC-CyFair and North Harris)

FIRST YEAR

First Semester

<table>
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<tr>
<th>Course</th>
<th>Credit</th>
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Second Semester

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SECOND YEAR

First Semester

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<td>DFTG 1371</td>
<td>3</td>
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<tr>
<td>Elective OR ENGL 1302</td>
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Second Semester

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<td>ENTC 1423</td>
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<tr>
<td>Elective OR ENTC 2380</td>
<td>3</td>
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<td>DFTG 2338 OR KINE</td>
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<tr>
<td><strong>SEMESTER TOTAL</strong></td>
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</tbody>
</table>

TOTAL Credit Hours for Pre-Engineered Metal Building Drafting & Design Specialization 62

1 See college catalog for associate of applied science degree graduation requirements for a listing of electives. Select course from either of these areas to meet multicultural requirement
2 Capstone course

ELECTRONICS TECHNOLOGY

If you are interested in an exciting and rewarding career where people and technology come together, engineering technology may be for you. Specialized courses in engineering technology emphasize application more than theoretical development. The program provides classroom studies with hands-on, high-tech laboratories. The student will use the tools of mathematics, science and telecommunications, as well as the calculator, computer, telecommunication networks and other laboratory equipment.

Engineering technologists fill entry-level positions in industry, which include: circuit diagnostics, laboratory and field-testing, manufacturing and assembly, quality assurance, technical sales, field service and certification of new installation projects. They are involved with all products and systems of industry, including radios, radars, computers, network/wireless telecommunications applications and security systems, robots, audio and video systems, automotive electronics, medical instruments and navigation systems.

Offered specializations provide our students the opportunity for employment in some of the following job functions:

- Service Shop Technician
- Industrial Manufacturing Technician
- Laboratory Technician
- Field Service Technician
- Wireless Telecommunication Technician
- Engineering Assistant/Associate Engineer
- Technical Writer
- Technical Sales

The core courses will transfer to a variety of colleges and universities. Contact a counselor or faculty advisor for specific information.


DEGREES AND CERTIFICATES

BASIC ELECTRONICS CERTIFICATE
(certificate offered at LSC-CyFair)

FIRST YEAR

First Semester
ITSC 1401 Introduction to Computers OR COSC 1401 Microcomputer Applications
SEMESTER TOTAL 4

Second Semester
CETT 1403 DC Circuits MATH 1314 College Algebra CETT 1405 AC Circuits
SEMESTER TOTAL 11

Third Semester
CETT1 1425 Digital Fundamentals CETT 1429 Solid State Devices OR Elective Technical
SEMESTER TOTAL 7-8

TOTAL Credit Hours for Basic Electronics Certificate 22-23

1 Capstone course
2 Approved electives include any CETT, CPMT, EECT, or ITCC course.

COMPUTER ENGINEERING TECHNOLOGY SPECIALIZATION

Associate of applied science degree, Tech Prep
(specialization offered at LSC-CyFair and Kingwood)

Prerequisite Semester
ITSC 1401 Introduction to Computers OR COSC 1401 Microcomputer Applications
CPMT 1403 Introduction to Computer Technology
SEMESTER TOTAL 4

FIRST YEAR

First Semester
CETT 1403 DC Circuits Elective Humanities/Fine Arts
Elective Social/Behavioral Sciences
ITSE 1402 Computer Programming MATH 1314 College Algebra
SEMESTER TOTAL 17

Second Semester
CETT 1409 DC-AC Circuits SPCH 1318 Interpersonal Communications CETT 1425 Digital Fundamentals
Elective Technical ENGL 1301 Composition & Rhetoric I
SEMESTER TOTAL 18

SECOND YEAR

First Semester
CETT 1429 Solid State Devices CETT 1445 Microprocessor CPMT 1445 Computer Systems Maintenance MATH 1316 Trigonometry
SEMESTER TOTAL 15

Second Semester
ITSY 1442 Information Technology Security CPMT 2433 Computer Integration Elective Technical (Capstone Course) KINE Any physical activity course
SEMESTER TOTAL 12-13

TOTAL Credit Hours for Computer Engineering Technology Specialization 66-67

1 To meet multicultural requirement, choose either SOCI 1301 or any foreign language
2 Choose technical elective from CPMT 1449, EECT 2439, ELMT 2433, or departmental approval
3 Capstone course. Choose from CETT 2449, EECT 2380 or ELMT 2433

WIRELESS TELECOMMUNICATIONS TECHNOLOGY

Associate of applied science degree, Tech Prep
(specialization offered at LSC-Tomball)

Prerequisite Semester
ITSC 1401 Introduction to Computers OR COSC 1401 Microcomputer Applications ENGL 1301 Composition & Rhetoric I
SEMESTER TOTAL 7

FIRST YEAR

First Semester
EECT 1307 Convergence Technologies MATH 1314 College Algebra EECT 1403 Introduction to Telecommunications ITNW 1425 Fundamentals of Networking OR ITCC 1401 Exploration-Network Fundamentals Elective Humanities/Fine Arts
SEMESTER TOTAL 17

Second Semester
ITSY 1417 Wireless Foundations SPCH 1318 Interpersonal Communications ITCC 1409 Cisco Voice and Data Cabling Elective Social/Behavioral Science
SEMESTER TOTAL 18

SECOND YEAR

First Semester
ITSY 2417 Wireless Security Development
### DEGREES AND CERTIFICATES

#### FIRE SCIENCE TECHNOLOGY

The associate of applied science degree in fire science technology is designed to prepare graduates for employment in the fire service field. The program is also designed to provide opportunities for job advancement for currently employed fire fighters. The structural firefighting certificate is for students wanting to pursue entry level opportunities as fire fighters. Interested students should contact fire science technology faculty for information regarding application and admission to the program. The associate of applied science degree in fire science technology is designed to enhance firefighters knowledge base and help students obtain advancement opportunities in the fire service field.

### WIRELESS TELECOMMUNICATIONS TECHNOLOGY CERTIFICATE

(specialization offered at LSC-Tomball)

<table>
<thead>
<tr>
<th>Prerequisite Semester</th>
<th>Credit</th>
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</thead>
<tbody>
<tr>
<td>ITSC 1401 Introduction to Computers OR COSC 1401 Microcomputer Applications</td>
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**FIRST YEAR**

**First Semester**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
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<tbody>
<tr>
<td>CETT 1409 DC-AC Circuits</td>
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</tr>
<tr>
<td>ENGL 1301 Composition &amp; Rhetoric I</td>
<td>3</td>
</tr>
<tr>
<td>EECT 1307 Convergence Technologies</td>
<td>3</td>
</tr>
<tr>
<td>ITNW 1425 Fundamentals of Networking OR ITCC 1401 Exploration-Network Fundamentals</td>
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**SEMESTER TOTAL**: 14

**Second Semester**

<table>
<thead>
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<th>Course</th>
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<tbody>
<tr>
<td>ITCC 1409 Cisco Voice and Data Cabling</td>
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<td>SPCH 1318 Interpersonal Communications</td>
<td>3</td>
</tr>
<tr>
<td>ITSY 1417 Wireless Foundations</td>
<td>4</td>
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<tr>
<td>BUSI 2304 Business Communications</td>
<td>3</td>
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**SEMESTER TOTAL**: 14

**Third Semester**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
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<tbody>
<tr>
<td>ITSY 2417 Wireless Security Development</td>
<td>4</td>
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<tr>
<td>EECT 2380 Cooperative Education</td>
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</table>

**SEMESTER TOTAL**: 7

**TOTAL Credit Hours for Wireless Telecommunications Technology Certificate**: 39

1. Students must take a humanities/fine arts elective and a social behavioral science elective. One of these electives should also meet the multicultural requirement. See catalog for associate of applied science degree requirements.

2. Choose any 3-4 credit ITCC, ITSY, ITNW, ITSE or ITSC course.

3. Capstone course. Instructor approval needed.
DEGREES AND CERTIFICATES

FIRE SCIENCE TECHNOLOGY
Associate of applied science degree
(degree offered at LSC-CyFair)

FIRST YEAR

First Semester Credit
- **FIRS 1301** Firefighter Certification I 3
- **FIRS 1407** Firefighter Certification II 4
- **FIRS 1313** Basic Firefighter Certification III 3
- **FIRS 1319** Firefighter Certification IV 3
- **FIRT 1171** Firefighter Agility & Fitness Prep 1

**SEMESTER TOTAL** 14

Second Semester Credit
- **FIRT Elective** OR 3-5
- **EMSP1 1501** Emergency Medical Technician Basic 3
- **FIRT Elective** 1-3
- **EMSP1 1160** Clinical - Basic EMT 1
- **FIRS 1423** Fire Certification V 4
- **FIRS 1329** Fire Certification VI 3
- **FIRS 1433** Fire Certification VII 4

**SEMESTER TOTAL** 17

Third Semester Credit
- **ENGL 1301** Composition and Rhetoric I 3
- **MATH 1314** College Algebra 3
- **COSC 1401** Microcomputer Applications 4

**SEMESTER TOTAL** 10

SECOND YEAR

First Semester Credit
- **FIRT 1315** Hazardous Materials I 3
- **FIRT 1319** Firefighter Health and Safety 3
- **Elective2** Humanities/Fine Arts 3
- **SPCH Elective** 3
- **Elective2** Social/Behavioral Science 3

**SEMESTER TOTAL** 15

Second Semester Credit
- **FIRT 1327** Building Construction in the 3
  Fire Service
- **FIRT3 Elective** 3
- **FIRT3 Elective** 3
- **Elective4** Core Elective 3-4
- **FIRT3 2380** Cooperative Education 3

**SEMESTER TOTAL** 15-16

**TOTAL Credit Hours for Fire Science**
**AAS Degree** 71-72

1 Courses must be taken as corequisites.
2 One course must meet multicultural requirement.
3 Select from FIRT 1303, 1305, 1307, 1338, 1345, 2305, 2307, 2309 or 2333
4 Course must be selected from the AAS core requirements.
5 Capstone course

GAME DESIGN AND SIMULATION

The game design and simulation program will allow students to take their passion for playing games and shape it into the development of games. Upon completion, students will have experienced all aspects of the game design process from concept to completion. They will have studied the function of games and game play, developed interactive projects that address the technical challenges of a game’s production. Students will gain valuable experience walking an original game idea through every phase of development, with a completed and playable game at the end of the program to show for it.

The degree and certificate programs are based on two areas of specialization; artist/designer and programmer/developer. Game artists and designers will learn what it takes to create the “who, what, where, and why” behind the stories, characters, artwork, and gameplay needed for great game design. Utilizing industry standard software, artists and designers will also create the assets, characters, and environments called for in their original game idea.

Game programmers and developers will learn what it takes to make the game world and gameplay work properly. They determine the “how,” aligning the technical side of gaming with the designer’s vision. This includes programming characters, actions and triggered events to how the artificial intelligence runs in the game. Students pursuing game development will graduate with a solid background in programming using C++ and the knowledge of manipulating game engines and level editors.

GAME DESIGN AND SIMULATION
DESIGNER (ARTIST) CERTIFICATE
(certificate offered at LSC-Kingwood and Tomball)

FIRST YEAR

First Semester Credit
- **ENGL 1301** Composition and Rhetoric I 3
- **GAME 1303** Introduction to Game Design 3
- **ARTV 1303** Basic Animation 3
- **ARTC 1302** Digital Imaging I 3

**SEMESTER TOTAL** 12
### DEGREES AND CERTIFICATES

#### GAME DESIGN AND SIMULATION DEVELOPER (ARTIST) SPECIALIZATION

**Associate of applied science degree**  
(degree offered at LSC-Kingwood)

**FIRST YEAR**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ITSC 1401 Introduction to Computer OR</td>
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<tr>
<td>COSC 1401 Microcomputer Applications</td>
<td>4</td>
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<tr>
<td>GAME 1303 Introduction to Game Design and Development</td>
<td>3</td>
</tr>
<tr>
<td>ARTV 1303 Basic Animation</td>
<td>3</td>
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<tr>
<td>ENGL 1301 Composition and Rhetoric I</td>
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**SECOND YEAR**

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<th>Course</th>
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<tbody>
<tr>
<td>ARTS 1316 Drawing I</td>
<td>3</td>
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<tr>
<td>GAME 2371 Writing and Storyboarding for Interactive Games</td>
<td>3</td>
</tr>
<tr>
<td>ITSE 1402 Computer Programming OR</td>
<td>3-4</td>
</tr>
<tr>
<td>COSC 1309 Logic Design</td>
<td>3</td>
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<tr>
<td>MATH 1314 College Algebra</td>
<td>3</td>
</tr>
<tr>
<td><strong>SEMESTER TOTAL</strong></td>
<td>12-13</td>
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#### GAME DESIGN AND SIMULATION DEVELOPER (PROGRAMMING) CERTIFICATE

(certificate offered at LSC-Kingwood and Tomball)

**FIRST YEAR**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ITSC 1401 Introduction to Computer OR</td>
<td>4</td>
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<tr>
<td>COSC 1401 Microcomputer Applications</td>
<td>4</td>
</tr>
<tr>
<td>GAME 1303 Introduction to Game Design and Development</td>
<td>3</td>
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<td>ARTV 1303 Basic Animation</td>
<td>3</td>
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<tr>
<td>ARTS 1316 Drawing I</td>
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**SECOND YEAR**

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<tr>
<td>ARTS 1316 Drawing I</td>
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<td>GAME 2371 Writing and Storyboarding for Interactive Games</td>
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<td><strong>SEMESTER TOTAL</strong></td>
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#### GAME DESIGN AND SIMULATION DEVELOPER (ARTIST) CERTIFICATE

Note: Students must meet math competency (MATH 0308 or higher)
DEGREES AND CERTIFICATES

Second Semester

<table>
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<tbody>
<tr>
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<td>GAME 2332 Project Development I</td>
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<td>MATH 1314 College Algebra</td>
<td>3</td>
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<tr>
<td>GAME 2338 Game Testing</td>
<td>3</td>
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<td>SPCH 1318 Interpersonal Communications</td>
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<td><strong>SEMMESTER TOTAL</strong></td>
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Third Semester

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<thead>
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<th>Course</th>
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<tbody>
<tr>
<td>GAME2 2334 Project Development II <strong>OR</strong></td>
<td>3</td>
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<tr>
<td>GAME2 2386 Internship</td>
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</tr>
<tr>
<td><strong>TOTAL Credit Hours for Gaming Design and Simulation Designer (Artist) AAS</strong></td>
<td><strong>65</strong></td>
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</table>

1. Meets multicultural requirement
2. Capstone course

GAME DESIGN AND SIMULATION DEVELOPER (PROGRAMMING) SPECIALIZATION

Associate of applied science degree (degree offered at LSC-Kingwood)

FIRST YEAR

First Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ITSC 1401 Introduction to Computer <strong>OR</strong></td>
<td>4</td>
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<tr>
<td>COSC 1401 Microcomputer Applications</td>
<td>3</td>
</tr>
<tr>
<td>GAME 1303 Introduction to Game Design and Development</td>
<td>3</td>
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<tr>
<td>MATH 1314 College Algebra</td>
<td>3</td>
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<tr>
<td>ARTV 1303 Basic Animation</td>
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<td><strong>SEMMESTER TOTAL</strong></td>
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Second Semester

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<tr>
<td>ARTS 1316 Drawing I</td>
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<tr>
<td>ENGL 1301 Composition and Rhetoric I</td>
<td>3</td>
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<tr>
<td>ITSE 1402 Computer Programming <strong>OR</strong></td>
<td>3-4</td>
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<td>COSC 1309 Logic Design</td>
<td>3</td>
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<tr>
<td>PHYS 1410 Elementary Physics</td>
<td>4</td>
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<td><strong>SEMMESTER TOTAL</strong></td>
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SECOND YEAR

First Semester

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<tr>
<td>ITSE 1407 Introduction to C++ <strong>OR</strong></td>
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<td>COSC 1420 “C” Language</td>
<td>3</td>
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<td>GAME 2371 Writing and Storyboarding for Interactive Games</td>
<td>3</td>
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<tr>
<td>GAME 1304 Level Design</td>
<td>3</td>
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<td>SOCI1 1301 Principles of Sociology</td>
<td>3</td>
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<td>KINE Any physical activity course</td>
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<td><strong>SEMMESTER TOTAL</strong></td>
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Second Semester

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<tr>
<td>ITSE 2431 Advanced C++ Programming</td>
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<td>GAME 2332 Project Development I</td>
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<tr>
<td>GAME 1343 Graphics &amp; Simulation Programming I</td>
<td>3</td>
</tr>
<tr>
<td>GAME 2338 Game Testing</td>
<td>3</td>
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<td>SPCH 1318 Interpersonal Communications</td>
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<td><strong>SEMMESTER TOTAL</strong></td>
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Third Semester

<table>
<thead>
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<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>GAME2 2334 Project Development II <strong>OR</strong></td>
<td>3</td>
</tr>
<tr>
<td>GAME2 2386 Internship</td>
<td>3</td>
</tr>
<tr>
<td><strong>TOTAL Credit Hours for Gaming Design and Simulation Developer AAS</strong></td>
<td><strong>65-66</strong></td>
</tr>
</tbody>
</table>

1. Meets multicultural requirement
2. Capstone course

GEOGRAPHIC INFORMATION SYSTEMS

The geographic information systems (GIS) certificates and degree program prepare graduates for wide ranging career possibilities as entry-level technicians to data analysts and project managers in diverse fields of GIS application. From data collection and input, to management and analysis, to project completion and information delivery, individuals will develop the skills to work at many levels of business, industry, government agencies and research and development.

The GIS technician certificate is awarded for completion of 23 credit hours of course work focusing on proficiency in GIS software applications and data management. The GIS analyst certificate is awarded for completion of 34-35 credit hours of course work and provides graduates additional skills to develop and analyze data and prepare projects for delivery to clients. The associate of applied science degree for GIS is awarded for the completion of 63-64 credit hours of course work and cooperative work experience. Graduates will have the essential skills to manage the initiation, development and completion of GIS projects requiring data collection, data management, analysis, map product development and final report writing for presentation.
Employment opportunities are far reaching at the present time. The increasing use of GIS in nearly every field of education, business and government is creating a strong need for skilled personnel.

The general education core will transfer to a variety of colleges and universities. Contact counselors or GIS, geography or geology faculty for specific information or to obtain the recommended sequencing of courses.

**DEGREES AND CERTIFICATES**

**GEOGRAPHIC INFORMATION SYSTEMS TECHNICIAN CERTIFICATE**

(4 certificate offered at LSC-CyFair)

**FIRST YEAR**

**First Semester**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
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<tbody>
<tr>
<td>COSC 1401 Microcomputer Applications OR</td>
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<tr>
<td>ITSC 1401 Introduction to Computers</td>
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</tr>
<tr>
<td>GISC 1411 Intro to Geographic Information Systems (GIS)</td>
<td>4</td>
</tr>
<tr>
<td>MATH1 1314 College Algebra OR</td>
<td>3</td>
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<tr>
<td>TECM1 1303 Technical Calculations</td>
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**Second Semester**

<table>
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<tr>
<th>Course</th>
<th>Credit</th>
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<tr>
<td>GISC 1401 Cartography and Geography in GIS and GPS</td>
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</tr>
<tr>
<td>GISC 1421 Intro to Raster-Based GIS</td>
<td>4</td>
</tr>
<tr>
<td>ITSW 1407 Introduction to Databases</td>
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</table>

**TOTAL Credit Hours for Geographic Information Systems Technician Certificate** 23

1 MATH 1314 is required for the analyst certificate and the AAS degree

**GEOGRAPHIC INFORMATION SYSTEMS ANALYST CERTIFICATE**

(4 certificate offered at LSC-CyFair)

**FIRST YEAR**

**First Semester**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
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<tbody>
<tr>
<td>COSC 1401 Microcomputer Applications OR</td>
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<tr>
<td>ITSC 1401 Introduction to Computers</td>
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<tr>
<td>GISC 1411 Intro to Geographic Information Systems (GIS)</td>
<td>4</td>
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<tr>
<td>DFTG 1305 Technical Drafting</td>
<td>3</td>
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<tr>
<td>GEOG 1300 Principles of Geography</td>
<td>3</td>
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<tr>
<td>MATH 1314 College Algebra</td>
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**Second Semester**

<table>
<thead>
<tr>
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<th>Credit</th>
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<tbody>
<tr>
<td>GISC 1401 Cartography and Geography in GIS and GPS</td>
<td>4</td>
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<tr>
<td>DFTG 1309 Basic Computer-Aided Drafting</td>
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<td>ENGL 1301 Composition &amp; Rhetoric I</td>
<td>3</td>
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<tr>
<td>MATH 1316 Trigonometry</td>
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</table>

**TOTAL Credit Hours for Geographic Information Systems Analyst Certificate** 34-35

1 Capstone

2 Capstone

**GEOGRAPHIC INFORMATION SYSTEMS**

Associate of applied science degree, Tech Prep

(degree offered at LSC-CyFair)

**FIRST YEAR**

**First Semester**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
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<tbody>
<tr>
<td>COSC 1401 Microcomputer Applications OR</td>
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<tr>
<td>ITSC 1401 Introduction to Computers</td>
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<tr>
<td>GISC 1411 Intro to Geographic Information Systems (GIS)</td>
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<tr>
<td>DFTG 1305 Technical Drafting</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 2311 Technical Communications</td>
<td>3</td>
</tr>
<tr>
<td>GEOL 1403 Physical Geology</td>
<td>4</td>
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</table>

**SECOND YEAR**

**First Semester**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
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<tbody>
<tr>
<td>GISC 1421 Intro to Raster-Based GIS</td>
<td>4</td>
</tr>
<tr>
<td>GISC 2411 GIS Applications</td>
<td>4</td>
</tr>
<tr>
<td>ENGL 2311 Technical Communications</td>
<td>3</td>
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</tbody>
</table>

**Second Semester**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
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</thead>
<tbody>
<tr>
<td>GISC 1421 Cooperative Education OR</td>
<td>3-4</td>
</tr>
<tr>
<td>GISC 1491 Special Topics</td>
<td></td>
</tr>
<tr>
<td>SPCH 1315 Public Speaking</td>
<td>3</td>
</tr>
<tr>
<td>KINE Physical Activity</td>
<td>1</td>
</tr>
<tr>
<td>Elective2 Humanities/Fine Arts</td>
<td>3</td>
</tr>
<tr>
<td>Elective3 Technical</td>
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</tr>
</tbody>
</table>

**TOTAL Credit Hours for AAS Degree** 63-64

2 Capstone

3 Capstone
HEALTH INFORMATION TECHNOLOGY

The health information technology (HIT), tech prep associate of applied science degree is designed to prepare graduates for entry-level employment as health information technicians. The associate of applied science degree program is accredited by the Commission on Accreditation for Health Informatics and Information Management Education. The hospital-based coding certificate is currently approved by the Council on Certification of the American Health Information Management Association (AHIMA). Program accreditation allows AAS degree graduates to apply for certification examination to become Registered Health Information Technicians (RHIT).

Registered health information technicians perform technical medical record functions vital to the operation of the organization, including analyzing, coding, and health record evaluation. Registered health information technicians process, maintain, complete and report health information data for reimbursement, facility planning, marketing, risk management, utilization management, quality assessment and research. Graduates may be employed in a variety of settings including hospitals, health maintenance organizations, and other health care facilities.

The general education core will transfer to a variety of colleges and universities. Contact a counselor or faculty member at any of the colleges/universities for specific information and to obtain the recommended sequencing of courses.

To meet graduation requirements for any of the certificate or degree programs in the health information technology department, students must attain a grade of “C” or better in each major and general education course. Courses with grades less than a “C” must be repeated.

In addition, students must meet the Student Success Initiative requirements as established by Lone Star College System. Students must demonstrate proficiency in MATH 0308 prior to graduation. Even though the prerequisite for the HIT major courses is MATH 0306, other academic courses such as BIOL 2401 require the completion of MATH 0308. Once the prerequisite for BIOL 2401 is met, the student has met this requirement for graduation.

Admission Criteria for AAS degree:

In order to be considered for admission to the HIT program, students must pass the college’s Student Success Initiative requirements and THEA test. Students who are exempt from the THEA test must take the ASSET or COMPASS test and receive college-level placement in reading, writing, and completion of MATH 0306 or higher. Students must submit an application that can be found on the college’s website under the HIT department. Prospective students may submit the form online or download the form and mail or bring to the departmental office in WN3P-174M. Applications are due July 30 for fall entry into the program. Students wishing to begin the program at any other time besides the fall may take some of the support classes or prerequisites for the program such as COSC or ITSC 1401 Introduction to Computers or HITT 1305 Medical Terminology.

Applicants seeking admission into the health information technology AAS degree program and coding certificate program must successfully pass a criminal background check. A drug screen may also be required based on terms of our clinical affiliation agreement. Information on approved vendors will be provided by the program director. Students may be required to show proof of immunizations such as tetanus and MMR (mumps, measles, rubella). Students may also be required to document negative results from a tuberculosis test. Applicants must cover the cost of the background check, immunizations and drug screen if required by clinical affiliates.
Admission Criteria for the hospital-based coding or the physician office-based certificate:

Admission to either coding certificate program requires completion of an application found on the LSC-North Harris website. Applications are due July 30 for fall entry. Applicants seeking admission into these programs must successfully pass a criminal background check. Students may also be required to document negative results from a tuberculosis test. Students may also be required to show proof of immunizations such as tetanus and MMR (mumps, measles, rubella). Applications are due July 30 for fall entry. Applicants seeking admission into these programs must successfully pass a criminal background check. Students may also be required to document negative results from a tuberculosis test. Students may also be required to show proof of immunizations such as tetanus and MMR (mumps, measles, rubella). Admissions are due July 30 for fall entry. Applicants seeking admission into these programs must successfully pass a criminal background check. Students may also be required to document negative results from a tuberculosis test. Students may also be required to show proof of immunizations such as tetanus and MMR (mumps, measles, rubella).

1. college-level reading and writing readiness skill;
2. completion of ENGL 0305 & ENGL 0307 or higher;
3. completion of MATH 0306 or higher.

A certificate in hospital-based medical coding prepares the technician to assign a code to a medical diagnosis or procedure. Medical coders consult classification manuals and rely on their knowledge of disease processes to assign codes. After completion of the certificate, graduates are eligible to sit for a national certification exam administered by AHIMA and become certified as a certified coding associate. The coding certificate program begins in the summer semester. Students wishing to begin the certificate program at any other time besides the summer may take some of the core classes or prerequisites for the program.

Admission Criteria for medical transcription certificate:

This certificate is a multi-entry program for fall or spring. Students may also take classes in this certificate during the summer. An application is required for admission to the LSC-North Harris program and can be found on the health information technology program Web site at LSC-North Harris. An application is due July 30 for fall entry. Applicants seeking admission into these programs must successfully pass a criminal background check. Students may also be required to document negative results from a tuberculosis test. Students may also be required to show proof of immunizations such as tetanus and MMR (mumps, measles, rubella). Admissions are due July 30 for fall entry. Applicants seeking admission into these programs must successfully pass a criminal background check. Students may also be required to document negative results from a tuberculosis test. Students may also be required to show proof of immunizations such as tetanus and MMR (mumps, measles, rubella). Admissions are due July 30 for fall entry. Applicants seeking admission into these programs must successfully pass a criminal background check. Students may also be required to document negative results from a tuberculosis test. Students may also be required to show proof of immunizations such as tetanus and MMR (mumps, measles, rubella). Admissions are due July 30 for fall entry. Applicants seeking admission into these programs must successfully pass a criminal background check. Students may also be required to document negative results from a tuberculosis test. Students may also be required to show proof of immunizations such as tetanus and MMR (mumps, measles, rubella).

1. college-level reading and writing readiness skill;
2. completion of ENGL 0305 & ENGL 0307 or higher;
3. completion of MATH 0306 or higher.

Medical transcriptionists listen to dictated recordings made by physicians or other healthcare professionals and transcribe those recordings into medical reports, correspondence, and other administrative material. These documents are then returned by the medical transcriptionists to the dictator for review/correction and signature. Medical transcriptionists must have a grasp of medical terminology, anatomy and physiology, diagnostic procedures, and treatment. They also must be able to translate medical jargon and abbreviations into their expanded forms. After completion of the certificate, graduates are eligible to sit for a voluntary certification exam administered by the American Association of Medical Transcriptionists.

Employment of medical records and health information technicians is expected to increase by 18 percent through 2016 according to the Bureau of Labor Statistics. This is faster than the average for all occupations because of rapid growth in the number of medical tests, treatments, and procedures that will be increasingly scrutinized by health insurance companies, regulators, courts, and consumers. Technicians will be needed to enter patient information into computer databases to comply with Federal legislation mandating the use of electronic medical records.

Students admitted to the program will be required to pay liability insurance during the semesters involving off-campus practicums or internships. At some facilities, students may be required to successfully pass a criminal background check and drug screen, as well as to show proof of immunizations.
such tetanus and MMR (mumps, measles, rubella). Students may also be required to document negative results from a tuberculosis test. These costs are borne by the student.

HOSPITAL-BASED CODING CERTIFICATE
(Certificate offered at LSC-North Harris)

**Prerequisite Semester**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
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</thead>
<tbody>
<tr>
<td>BIOL 2401 Human Anatomy &amp; Physiology I</td>
<td>4</td>
</tr>
<tr>
<td>HITT 1305 Medical Terminology I</td>
<td>3</td>
</tr>
<tr>
<td>COSC 1401 Microcomputer Applications</td>
<td>4</td>
</tr>
<tr>
<td><strong>SEMESTER TOTAL</strong></td>
<td><strong>11</strong></td>
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</table>

**First Year**

**First Semester**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
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</thead>
<tbody>
<tr>
<td>BIOL 2402 Human Anatomy &amp; Physiology II</td>
<td>4</td>
</tr>
<tr>
<td>HITT 1401 Health Data Content &amp; Structure</td>
<td>4</td>
</tr>
<tr>
<td>HPRS 2301 Pathophysiology</td>
<td>3</td>
</tr>
<tr>
<td>HITT 1441 Coding &amp; Classification Systems</td>
<td>4</td>
</tr>
<tr>
<td><strong>SEMESTER TOTAL</strong></td>
<td><strong>15</strong></td>
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**Second Semester**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
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<tbody>
<tr>
<td>HITT 1345 Health Care Delivery Systems</td>
<td>3</td>
</tr>
<tr>
<td>HITT 1353 Legal &amp; Ethical Aspects of Health Information</td>
<td>3</td>
</tr>
<tr>
<td>HITT 1342 Ambulatory Coding</td>
<td>3</td>
</tr>
<tr>
<td>HITT 2435 Coding &amp; Reimbursement Methodologies</td>
<td>4</td>
</tr>
<tr>
<td>HITT 1211 Computers in Health Care</td>
<td>2</td>
</tr>
<tr>
<td><strong>SEMESTER TOTAL</strong></td>
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</tr>
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</table>

**Third Semester**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
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<tbody>
<tr>
<td>HITT 1266 Practicum - Health Information Technology</td>
<td>2</td>
</tr>
<tr>
<td><strong>TOTAL Credit Hours for Coding Certificate</strong></td>
<td><strong>43</strong></td>
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</table>

1 Capstone course

**MEDICAL TRANSCRIPTION CERTIFICATE**
(certificate offered at LSC-Kingwood and North Harris)

**Prerequisite Semester**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
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</thead>
<tbody>
<tr>
<td>BIOL 2404 Intro to Anatomy &amp; Physiology</td>
<td>4</td>
</tr>
<tr>
<td>POFM 1309 Medical Office Procedures</td>
<td>3</td>
</tr>
<tr>
<td>HPRS 2301 Pathophysiology</td>
<td>3</td>
</tr>
<tr>
<td>HITT 1213 Insurance Coding</td>
<td>2</td>
</tr>
<tr>
<td><strong>SEMESTER TOTAL</strong></td>
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**Second Semester**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
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</thead>
<tbody>
<tr>
<td>HITT 2340 Advanced Medical Billing &amp; Reimbursement</td>
<td>3</td>
</tr>
<tr>
<td>HPRS 2300 Pharmacology for Health Professionals</td>
<td>3</td>
</tr>
<tr>
<td>POFM 2310 Intermediate Medical Coding</td>
<td>3</td>
</tr>
<tr>
<td>HPRS 2321 Medical Law &amp; Ethics for Health Professionals</td>
<td>3</td>
</tr>
<tr>
<td><strong>SEMESTER TOTAL</strong></td>
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**Third Semester**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>HITT 1280 Cooperative Education</td>
<td>2</td>
</tr>
<tr>
<td><strong>TOTAL Credit Hours for Physician Coding Certificate</strong></td>
<td><strong>33</strong></td>
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</tbody>
</table>

1 Capstone course

PHYSICIAN OFFICE-BASED CODING CERTIFICATE
(certificate offered at LSC-North Harris)

**Prerequisite Semester**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>HITT 1305 Medical Terminology I</td>
<td>3</td>
</tr>
<tr>
<td>COSC 1401 Microcomputer Applications OR</td>
<td>4</td>
</tr>
<tr>
<td>ITSC 1401 Introduction to Computers</td>
<td>4</td>
</tr>
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<td><strong>SEMESTER TOTAL</strong></td>
<td><strong>7</strong></td>
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**First Year**

**First Semester**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 2404 Introduction to Anatomy and Physiology</td>
<td>4</td>
</tr>
<tr>
<td>POFM 1307 Medical Transcription I</td>
<td>3</td>
</tr>
<tr>
<td>COSC 1401 Microcomputer Applications OR</td>
<td>4</td>
</tr>
<tr>
<td>ITSC 1401 Introduction to Computers</td>
<td>4</td>
</tr>
<tr>
<td><strong>SEMESTER TOTAL</strong></td>
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**Second Semester**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
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<tbody>
<tr>
<td>POFT 1301 Business English</td>
<td>3</td>
</tr>
<tr>
<td>MRMT 2433 Medical Transcription II</td>
<td>4</td>
</tr>
<tr>
<td>HPRS 2301 Pathophysiology</td>
<td>3</td>
</tr>
<tr>
<td>HPRS 2300 Pharmacology for Health Professionals</td>
<td>3</td>
</tr>
<tr>
<td><strong>SEMESTER TOTAL</strong></td>
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**Third Semester**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
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<tbody>
<tr>
<td>HPRS 2321 Medical Law and Ethics for Health Professionals</td>
<td>3</td>
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<tr>
<td>MRMT 1192 Special Topics - Review Course</td>
<td>1</td>
</tr>
<tr>
<td>MRMT 1266 Practicum</td>
<td>2</td>
</tr>
<tr>
<td><strong>SEMESTER TOTAL</strong></td>
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</table>

**TOTAL Credit Hours for Medical Transcription Certificate** | **33**

1 Capstone courses
HEALTH INFORMATION TECHNOLOGY
Associate of applied science degree, Tech Prep
(degree offered at LSC-North Harris)

FIRST YEAR

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 2401 Human Anatomy and Physiology I</td>
<td>4</td>
</tr>
<tr>
<td>HITT 1305 Medical Terminology I (TP)</td>
<td>3</td>
</tr>
<tr>
<td>HITT 1401 Health Data Content &amp; Structure</td>
<td>4</td>
</tr>
<tr>
<td>COSC 1401 Microcomputer Applications</td>
<td>4</td>
</tr>
<tr>
<td>KINE Any physical activity course</td>
<td>1</td>
</tr>
<tr>
<td><strong>SEMMESTER TOTAL</strong></td>
<td><strong>16</strong></td>
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<table>
<thead>
<tr>
<th>Second Semester</th>
<th>Credit</th>
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<tbody>
<tr>
<td>BIOL 2402 Human Anatomy and Physiology II</td>
<td>4</td>
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<tr>
<td>ENGL 1301 Composition &amp; Rhetoric I</td>
<td>3</td>
</tr>
<tr>
<td>HITT 1345 Health Care Delivery Systems</td>
<td>3</td>
</tr>
<tr>
<td>HITT 1353 Legal &amp; Ethical Aspects of Health Information</td>
<td>3</td>
</tr>
<tr>
<td>HITT 1355 Health Care Statistics</td>
<td>3</td>
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<td><strong>SEMMESTER TOTAL</strong></td>
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<table>
<thead>
<tr>
<th>Third Semester</th>
<th>Credit</th>
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<tbody>
<tr>
<td>Elective¹ Humanities/Fine Arts</td>
<td>3</td>
</tr>
<tr>
<td>Elective¹ Social/Behavioral Sciences</td>
<td>3</td>
</tr>
<tr>
<td><strong>SEMMESTER TOTAL</strong></td>
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SECOND YEAR

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Credit</th>
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<tbody>
<tr>
<td>HITT 1166 Practicum</td>
<td>1</td>
</tr>
<tr>
<td>HPRS 2301 Pathophysiology</td>
<td>3</td>
</tr>
<tr>
<td>HITT 1441 Coding &amp; Classification Systems</td>
<td>4</td>
</tr>
<tr>
<td>HITT 1211 Computers in Health Care</td>
<td>2</td>
</tr>
<tr>
<td>SPCH Elective</td>
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<tr>
<td><strong>SEMMESTER TOTAL</strong></td>
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<table>
<thead>
<tr>
<th>Second Semester</th>
<th>Credit</th>
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<tbody>
<tr>
<td>HITT 2339 Health Info Org. &amp; Supervision</td>
<td>3</td>
</tr>
<tr>
<td>HITT 2343 Quality Asses. &amp; Perf. Improvement</td>
<td>3</td>
</tr>
<tr>
<td>HITT 1342 Ambulatory Coding</td>
<td>3</td>
</tr>
<tr>
<td>HITT 2435 Coding &amp; Reimbursement Methods</td>
<td>4</td>
</tr>
<tr>
<td><strong>SEMMESTER TOTAL</strong></td>
<td><strong>13</strong></td>
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<table>
<thead>
<tr>
<th>Third Semester</th>
<th>Credit</th>
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<tbody>
<tr>
<td>HITT 2249 RHIT Competency Review</td>
<td>2</td>
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<tr>
<td>HITT² 2460 Clinical</td>
<td>4</td>
</tr>
<tr>
<td><strong>SEMMESTER TOTAL</strong></td>
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</table>

**TOTAL Credit Hours for AAS degree**: **70**

¹ Either social/behavioral science or humanities/fine arts elective must meet multicultural requirement. See general education requirements for AAS degree listed in the catalog.

² Capstone experience course: students meet 38 hrs/week for 5 1/2 weeks (equivalent to 12 hrs/week for 16 weeks)

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HEATING, VENTILATION, AIR CONDITIONING AND REFRIGERATION

The heating, ventilation, air conditioning and refrigeration associate of applied science degree prepares the individual for a technical service career in residential or light commercial/industrial environmental systems. The student will study the mechanical and electrical/electronic systems involved in contemporary environmental controls. The academic requirements of the program provide a foundation for continued studies should the student decide to pursue his or her education or training.

The HVAC&R certificate program prepares the individual for basic, entry-level employment in the residential or light commercial heating and air-conditioning service industry. The essentials of the mechanical and electrical systems of contemporary air-conditioning and heating systems are addressed throughout the program.

The general education core will transfer to a variety of colleges and universities. Contact a counselor or faculty member at any of the colleges for specific information and to obtain the recommended sequencing of courses.

HEATING, VENTILATION, AIR CONDITIONING AND REFRIGERATION RESIDENTIAL SERVICING CERTIFICATE
(certificate offered at LSC-North Harris)

FIRST YEAR

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>HART 1401 Basic Electricity for HVAC</td>
<td>4</td>
</tr>
<tr>
<td>HART 1407 Refrigeration Principles</td>
<td>4</td>
</tr>
<tr>
<td>HART 1403 Air Conditioning Control Principles</td>
<td>4</td>
</tr>
<tr>
<td>HART 1445 Gas and Electric Heating</td>
<td>4</td>
</tr>
<tr>
<td><strong>SEMMESTER TOTAL</strong></td>
<td><strong>16</strong></td>
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</table>

<table>
<thead>
<tr>
<th>Second Semester</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>HART 1441 Residential Air Conditioning</td>
<td>4</td>
</tr>
<tr>
<td>HART 2442 Commercial Refrigeration</td>
<td>4</td>
</tr>
<tr>
<td>HART 2449 Heat Pumps</td>
<td>4</td>
</tr>
<tr>
<td>HART 2445 Residential Air Conditioning Systems Design</td>
<td>4</td>
</tr>
<tr>
<td><strong>SEMMESTER TOTAL</strong></td>
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</table>
### HEATING, VENTILATION, AIR CONDITIONING AND REFRIGERATION COMMERCIAL SERVICING CERTIFICATE

This certificate is offered at LSC-North Harris.

#### FIRST YEAR

<table>
<thead>
<tr>
<th>Semester</th>
<th>Courses</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Semester</td>
<td>HART 1401 Basic Electricity for HVAC</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>HART 1407 Refrigeration Principles</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>HART 1403 Air Conditioning Control Principles</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>HART 1445 Gas and Electric Heating</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td><strong>SEMESTER TOTAL</strong></td>
<td><strong>16</strong></td>
</tr>
<tr>
<td>Second Semester</td>
<td>HART 1441 Residential Air Conditioning</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>HART 1491 Special Topics in Heating, Air Conditioning &amp; Refrigeration</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>HART 2434 Advanced A/C Controls</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>HART 2443 Industrial Air Conditioning</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td><strong>SEMESTER TOTAL</strong></td>
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</tr>
<tr>
<td>Third Semester</td>
<td>HART 2441 Commercial Air Conditioning</td>
<td>4</td>
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<tr>
<td></td>
<td>HART 2457 Specialized Commercial Refrigeration</td>
<td>4</td>
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<td><strong>SEMESTER TOTAL</strong></td>
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#### TOTAL Credit Hours for HVAC & R Commercial Servicing Certificate

40

### SECOND YEAR

<table>
<thead>
<tr>
<th>Semester</th>
<th>Courses</th>
<th>Credit</th>
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</thead>
<tbody>
<tr>
<td>First Semester</td>
<td>MATH 1314 College Algebra</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>ITSC 1401 Introduction to Computers</td>
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<td>HART 2442 Commercial Refrigeration</td>
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<tr>
<td></td>
<td>HART 2449 Heat Pumps</td>
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<td>HART 2431 Advanced Electricity</td>
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<tr>
<td></td>
<td>HART 2434 Advanced A/C Controls OR</td>
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<td>HART 2457 Specialized Commercial Refrigeriation</td>
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<td>HART 1491 Special Topics in Heating, Air Conditioning &amp; Refrigeration</td>
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<td></td>
<td>HART 2443 Industrial Air Conditioning OR</td>
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<td></td>
<td>HART 2441 Commercial Air Conditioning OR</td>
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<tr>
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<td><strong>SEMESTER TOTAL</strong></td>
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</tbody>
</table>

#### TOTAL Credit Hours for AAS Degree

71

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1. Meets multicultural requirement
2. Choose from SPCH 1311, 1315, or 1321
3. The capstone experience is completed by taking a departmental exit exam. It is strongly suggested to take one of the following professional exams: ARI/GAMA: Competency Exam in Residential Air Conditioning Service; ICE: Certification in Residential and Light Commercial Air Conditioning Service; or Technician Certification Exam.

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### HOSPITALITY MANAGEMENT

The hospitality management program provides students with an exciting opportunity to learn skills in customer service, decision-making, analysis and planning that are essential for managers and supervisors in one of the fastest growing areas of
HOSPITALITY OPERATIONS
CERTIFICATE
(certificate offered at LSC-North Harris)

FIRST YEAR

First Semester

<table>
<thead>
<tr>
<th>Course</th>
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<tr>
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<td>HAMG 1340</td>
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<td>HAMG 2305</td>
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<tr>
<td>HRMO 1303</td>
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SEMMESTER TOTAL 12

Second Semester

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<td>HAMG 1380</td>
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<td>Elective</td>
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</tbody>
</table>

SEMMESTER TOTAL 12

TOTAL Credit Hours for Hospitality Operations Certification 24

1 Capstone course
2 Choose from HAMG 2337, HAMG 2301, or HRMO 1301

SEMMESTER TOTAL 16-18

TOTAL Credit Hours for AAS Degree 65-69

1 See core requirements for AAS degree for options.
2 Choose from BIOL 1322, CHEM 1405, PHYS 1410 or PHIL 2303.
3 Choose one elective from humanities/fine arts and one from social/behavioral science from the approved associate of applied science core listed in the catalog. One of these courses must meet the multicultural requirement.
4 Choose elective from SPCH 1311, 1315, 1318, or 1321.
5 Capstone course
6 Choose technical elective from HRMO 1301, HAMG 2337, BUSG 2309, HRPO 2307, ACCT 2402, SPAN 1411, SPAN 1412.

Note: Students must meet math competency (MATH 0308 or higher)
DEGREES AND CERTIFICATES

HUMAN SERVICES

The human services program provides the skills and competencies required for a variety of positions in the helping professions field. Human service workers work in a variety of settings and perform many different functions. Graduates of a program in human services are employed in group homes, halfway houses, child and youth service agencies, state welfare offices, substance abuse treatment centers, and a number of other social service agencies. Through an interdisciplinary approach, human service workers focus on the prevention and remediation of problems facing individuals and families. Human service workers should have a strong desire to help others, good communication skills, and be very responsible.

All course work required for licensing as a chemical dependency counselor, as well as the supervised practicum training, is provided. Students pursuing the associates degree in human services may select from one of two concentrated areas of study: substance abuse counseling and general human services.

At some facilities, students may be required to successfully pass a background check and drug screen.

For transfer into two specific four-year college programs that lead to the baccalaureate, masters, and doctorate degrees, see program faculty or counselor for more information. Associate degree level positions are available in the field and include such jobs as eligibility worker, child abuse case aide, substance abuse counselor, patient advocate, and a variety of other mental health, mental retardation, and social services positions.

By consulting with program faculty and staff, an individualized program including academics, supervision, networking, and professional activities can be developed to meet the desires and career aspirations of each individual student.

Through the prior learning assessment program, students holding a current licensed chemical dependency counselor’s license who are in good standing with the licensing board would be eligible to receive credit for the following courses: DAAC 1304, 1309, 1317, 1319, 2341, and 2360.

The general education core will transfer to a variety of colleges and universities. Contact a counselor or faculty member at any of the colleges for specific information and to obtain the recommended sequencing of courses.

HUMAN SERVICES CERTIFICATE

(certificate offered at LSC-Montgomery)

FIRST YEAR

<table>
<thead>
<tr>
<th>Semester</th>
<th>Credit</th>
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<tbody>
<tr>
<td>First</td>
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<tr>
<td>SCWK 1321 Orientation to Social Services</td>
<td>3</td>
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<tr>
<td>DAAC 1304 Pharmacology of Addiction</td>
<td>3</td>
</tr>
<tr>
<td>DAAC 1311 Counseling Theories</td>
<td>3</td>
</tr>
<tr>
<td>DAAC 1317 Basic Counseling Skills</td>
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<tr>
<td>PSYC 2301 General Psychology</td>
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<tr>
<td>CMSW 1341 Behavior Modification &amp; Cognitive Disorder</td>
<td>3</td>
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<tr>
<td>DAAC 2354 Dynamics of Group Counseling</td>
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</tr>
<tr>
<td>DAAC 2260 Clinical OR</td>
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<tr>
<td>SCWK 2386 Internship</td>
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<td>Elective Technical</td>
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<tr>
<td>PSYC 2308 Child Growth &amp; Development OR</td>
<td>3</td>
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<tr>
<td>PSYC 2314 Life-Span Growth &amp; Development</td>
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<tr>
<td><strong>SEMMESTER TOTAL</strong></td>
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**TOTAL Credit Hours for Human Services Certificate**

30

1 Capstone course
2 Students may also take DAAC 2160 and DAAC 2260 to fulfill the field placement requirement, as long as three (3) credit hours are obtained in total.
3 Students may also take SCWK 2186 and SCWK 2286 to fulfill the field placement requirement, as long as three (3) credit hours are obtained in total.
4 Elective to be chosen from CMSW, DAAC or GERS

BASIC CHEMICAL DEPENDENCY COUNSELOR CERTIFICATE

(certificate offered at LSC-Montgomery)

FIRST YEAR

<table>
<thead>
<tr>
<th>Semester</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>First</td>
<td></td>
</tr>
<tr>
<td>SCWK 1321 Orientation to Social Services</td>
<td>3</td>
</tr>
<tr>
<td>DAAC 1311 Counseling Theories</td>
<td>3</td>
</tr>
<tr>
<td>DAAC 1317 Basic Counseling Skills</td>
<td>3</td>
</tr>
<tr>
<td>DAAC 1304 Pharmacology</td>
<td>3</td>
</tr>
<tr>
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1 Capstone course
2 Students may also take DAAC 2160 and DAAC 2260 to fulfill the field placement requirement, as long as three (3) credit hours are obtained in total.
3 Students may also take SCWK 2186 and SCWK 2286 to fulfill the field placement requirement, as long as three (3) credit hours are obtained in total.
4 Elective to be chosen from CMSW, DAAC or GERS
**Second Semester**  
DAAC 2354 Dynamics of Group Counseling 3  
DAAC 2341 Counseling Alcohol and Other Drug Addictions 3  
DAAC 2360 Clinical/Field Placement 3  
**SEMESTER TOTAL** 9  

**TOTAL Credit Hours for Chemical Dependency Counselor Certificate** 21

Note: Capstone experience is completed by a departmental exam.

1 Students may also take DAAC 2160 and DAAC 2260 to fulfill the field placement requirement, as long as 3 credit hours are obtained in total.

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**HUMAN SERVICES**

**Associate of applied science degree**  
(degree offered at LSC-Montgomery)

**FIRST YEAR**  

**First Semester**  
SCWK 1321 Orientation to Social Services 3  
DAAC 1317 Basic Counseling Skills 3  
ENGL 1301 Composition and Rhetoric I 3  
ITSC 1401 Introduction to Computers 4  
PSYC 2301 General Psychology 3  
**SEMESTER TOTAL** 16  

**Second Semester**  
SCWK 2331 Abnormal Behavior 3  
Elective1 Technical Track Elective 3  
DAAC 1311 Counseling Theories 3  
Elective2 Humanities/Fine Arts 3  
SOCI 1301 Principles of Sociology 3  
KINE Any physical activity course 1  
**SEMESTER TOTAL** 16  

**SECOND YEAR**  

**First Semester**  
GOVT 2301 American Government 3  
Elective1 Technical Track Elective 3  
Elective1 Technical Track Elective 3  
DAAC 2354 Dynamics of Group Counseling 3  
Elective2 Academic 3  
**SEMESTER TOTAL** 15  

**Second Semester**  
DAAC 2360 Clinical OR 3  
SCWK 2386 Internship 3  
Elective1 Technical Track Elective 3  
Elective1 Technical Track Elective 3  
Elective2 Math/Natural Science 3-4  
SPCH Elective 3  
**SEMESTER TOTAL** 15-16  

**TOTAL Credit Hours for AAS Degree** 62-63

1 Technical electives should all be taken from the same track. See Human Services information preceding these degree outlines for more details about the two tracks listed below. See faculty for assistance in determining which track will work best for you.

**Track A - Substance Abuse Counseling Concentration:**  
Students pursuing Track A must select DAAC 1304, DAAC 1319, DAAC 2341, DAAC 1309. In addition, students must also select one of the following courses for their final elective: CMSW 1353, CMSW 1341, CMSW 1309, or DAAC 2343.

**Track B - General Human Services Concentration:**  
Students pursuing Track B must select CMSW 1353. In addition, students must also select four electives chosen from DAAC, CMSW, or GERS.

2 Refer to the catalog for associate of applied science degree requirements and a list of approved courses.

3 Meets multicultural requirement

4 Capstone course

5 Students pursuing Track A must complete the DAAC clinical requirement. Students may also take DAAC 2160 and DAAC 2260 to fulfill this field placement requirement, as long as 3 credit hours are obtained in total.

6 Students pursuing Track B must complete the SCWK internship requirement. Students may also take SCWK 2186 and SCWK 2286 to fulfill this field placement requirement, as long as 3 credit hours are obtained in total.

7 Students should consult their prospective senior institution’s catalog for science, math, and speech requirements.

8 Choose from SPCH 1311, 1315, 1318 or 1321. Note: Students must meet math competency (MATH 0308 or higher)

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**INDUSTRIAL MAINTENANCE**

The program of industrial maintenance technology (IMT) prepares students to enter several technology-driven fields. From manufacturing to food and beverage processing, the skills of preventive maintenance, troubleshooting, and repair will continue to be in high demand. The IMT program provides training in the areas of fluid power (hydraulics & pneumatics), basic electronics and instrumentation, machining, programmable logic control (PLC), motor control, and automation. Students pursuing an associate of applied science (AAS) degree in
DEGREES AND CERTIFICATES

IMT choose an area of specialization: electrical, welding, or hydraulics. The AAS in IMT allows students to become employable as an industrial maintenance technician, field service technician, or similar position. The one-year certificate in IMT covers several of the technical courses that are the foundation of the AAS degree. Students pursuing the certificate in IMT become employable as industrial/manufacturing operators, equipment operators, or similar position.

The general education core courses will transfer to a variety of colleges and universities. Several technical courses may transfer to technology-based bachelor degree programs. Contact an academic advisor for more details on the transferability of specific courses.

INDUSTRIAL MAINTENANCE TECHNOLOGY CERTIFICATE
(certificate offered at LSC-CyFair)

FIRST YEAR

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Credit</th>
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<tbody>
<tr>
<td>MCHN 1358 Intermediate Lathe Operations</td>
<td>3</td>
</tr>
<tr>
<td>MATH 1314 College Algebra</td>
<td>3</td>
</tr>
<tr>
<td>HYDR 1305 Basic Hydraulics</td>
<td>3</td>
</tr>
<tr>
<td>WLDG 1413 Introduction to Blueprint Reading for Welders</td>
<td>4</td>
</tr>
<tr>
<td>MCHN 2305 Millwright III</td>
<td>3</td>
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<td><strong>SEASONAL TOTAL</strong></td>
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Second Semester

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<tr>
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<tbody>
<tr>
<td>CETT 1409 DC-AC Circuits</td>
</tr>
<tr>
<td>HYDR 1315 Basic Fluid Power (Pneumatics)</td>
</tr>
<tr>
<td>WLDG 1421 Intro to Welding Fundamentals</td>
</tr>
<tr>
<td>COSC 1401 Microcomputer Application</td>
</tr>
<tr>
<td><strong>INMT 2345 Industrial Troubleshooting</strong></td>
</tr>
<tr>
<td><strong>SEASONAL TOTAL</strong></td>
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</tbody>
</table>

TOTAL Credit Hours for Industrial Maintenance Technology Certificate 34

1 Capstone experience.
Safety is integrated throughout all courses; students need to lift up to 150 pounds and be able to read basic tools such as a tape measure and ruler.

INDUSTRIAL MAINTENANCE TECHNOLOGY
Associate of applied science degree
(degree offered at LSC-CyFair)

FIRST YEAR

<table>
<thead>
<tr>
<th>First Semester</th>
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<tbody>
<tr>
<td>MCHN 1358 Intermediate Lathe Operations</td>
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<td>MATH 1314 College Algebra</td>
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<td>HYDR 1305 Basic Hydraulics</td>
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<td>WLDG 1413 Introduction to Blueprint Reading for Welders</td>
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<tr>
<td>MCHN 2305 Millwright III</td>
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Second Semester

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<tr>
<th>Credit</th>
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<tbody>
<tr>
<td>ENGL 1301 Composition and Rhetoric</td>
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<tr>
<td>CETT 1409 DC-AC Circuits</td>
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<td>HYDR 1315 Basic Fluid Power (Pneumatics)</td>
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<tr>
<td>WLDG 1421 Intro to Welding Fundamentals</td>
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<td>COSC 1401 Microcomputer Application</td>
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SECOND YEAR

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<tbody>
<tr>
<td>INMT 2301 Machinery Installation</td>
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<tr>
<td>PSYC 2301 General Psychology</td>
<td>3</td>
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<td>INMT 2345 Industrial Troubleshooting</td>
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<td>SPCH 1318 Interpersonal Communication</td>
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<td>Technical Elective</td>
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Second Semester

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<td>Elective</td>
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<tr>
<td>INTC 1341 Principles of Automatic Control</td>
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<tr>
<td>INMT 2380 Cooperative Education</td>
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TOTAL Credit Hours for Industrial Maintenance Technology AAS 65-68

1 Technical elective (select two courses from one of the following tracks, the third technical elective may come from the same track or one of the other tracks)
   Welding: WLDG 1430, 1434, 1428, 2447, 2451, 1457; Electrical: INTC 1307, ELPT 1445, INTC 1422; Mechanical: HYDR 1309, 1345, 1315.
2 Humanities elective: Select one course from the core requirements that meet the multicultural requirement.
3 Capstone experience
Safety is integrated throughout all courses; students need to lift up to 150 pounds and be able to read basic tools such as a tape measure and ruler.
INTERIOR DESIGN TECHNOLOGY

A comprehensive curriculum leads to a two-year associate of applied science degree. Students interested in a less comprehensive program should consider the one-year design essentials certificate program.

The interior design associate of applied science degree program covers both classroom instruction and hands-on experience dealing with typical residential and commercial design problems. The well-stocked labs are equipped with computers, drafting tables, a blue-line machine, and a comprehensive resource library containing catalogues and samples for student projects. All courses in the interior design curriculum have been fully accredited by the National Kitchen and Bath Association (NKBA).

The internship program allows students to work with prominent designers throughout the greater Houston area. The program has a very active student chapter of ASID (American Society of Interior Designers) and NKBA, which works closely with local professional membership.

The two-year associate’s degree in facilities management prepares students for an entry-level position in this field. A combination of design and business courses introduces students to the responsibilities involved in the effective management and maintenance of commercial properties and venues. Management courses highlight skills and knowledge necessary for business, while design courses focus on the built environment and its impact on workers and visitors. A supervised internship in the final semester of the program allows students to experience first-hand the daily complexities and variety of duties encountered in this fast-growing profession.

The general education core and many design classes will transfer to a variety of colleges and universities. Contact a counselor or faculty member at any of the colleges for specific information and to obtain the recommended sequencing of courses.

DEGREES AND CERTIFICATES

INTERIOR DESIGN TECHNOLOGY

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DESIGN ESSENTIALS CERTIFICATE

First Semester

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<tr>
<th>Course</th>
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<tbody>
<tr>
<td>ARTS</td>
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<tr>
<td>INDS 1311</td>
<td>Fundamentals of Interior Design</td>
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<td>INDS 1319</td>
<td>Tech. Drawing/Interior Designers</td>
<td>3</td>
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<td>INDS 1351</td>
<td>History of Interiors I</td>
<td>3</td>
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<tr>
<td>INDS 2307</td>
<td>Textiles for Interior Design</td>
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Semester Total: 15

Second Semester

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<td>Human Relations OR</td>
<td>3</td>
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<tr>
<td>PSYC 2301</td>
<td>General Psychology</td>
<td>3</td>
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<tr>
<td>INDS 1315</td>
<td>Materials, Methods, and Estimating</td>
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<td>INDS 1349</td>
<td>Fundamentals of Space Planning</td>
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<tr>
<td>INDS 1352</td>
<td>History of Interiors II</td>
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Semester Total: 15

Total Credit Hours for Design Essentials Certificate: 30

1 Capstone course

INTERIOR DESIGN TECHNOLOGY

Associate of applied science degree

First Semester

<table>
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<th>Course</th>
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<td>ENGL 1301</td>
<td>Composition &amp; Rhetoric I</td>
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<td>INDS 1311</td>
<td>Fundamentals of Interior Design</td>
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<tr>
<td>INDS 1319</td>
<td>Technical Drawing for Interior Designers</td>
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<tr>
<td>INDS 2307</td>
<td>Textiles for Interior Design</td>
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Semester Total: 15

Second Semester

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<td>Fundamentals of Space Planning</td>
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<td>INDS 2305</td>
<td>Interior Design Graphics</td>
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<td>INDS 2321</td>
<td>Presentation Drawing</td>
<td>3</td>
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<td>Public Speaking OR</td>
<td>3</td>
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<td>SPCH 1321</td>
<td>Business Speech OR</td>
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<tr>
<td>SPCH 1311</td>
<td>Intro to Speech Communications</td>
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Semester Total: 16-17

SECOND YEAR

First Semester

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<td>INDS 2330</td>
<td>Interior Design Building Systems</td>
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<tr>
<td>INDS 2313</td>
<td>Residential Design I OR</td>
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</tr>
<tr>
<td>INDS2</td>
<td>Interior Design Elective</td>
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</table>

1 Capstone course

2 Alternate courses
DEGREES AND CERTIFICATES

INDS 2315 Lighting for Interior Designers 3
INDS 2325 Professional Practices for Interior Designers 3
PSYC 2301 General Psychology 3
SEASON TOTAL 18

Second Semester Credit
INDS 1315 Materials, Methods and Estimating 3
INDS 1345 Commercial Design I OR 3
INDS 1352 History of Interiors II 3
INDS 2237 Portfolio Presentation 2
INDS 2486 Internship - Interior Design 4
SEASON TOTAL 15

TOTAL Credit Hours for Interior Design AAS 64-65

1 MATH 1314, 1316, 1324, 1325, 1332, 1342, 2320, 2412, 2413, 2414, or 2415.
2 For INDS elective in third and fourth semesters, choose from INDS 1345, 1372, 2310, or 2313; cannot choose same course twice.
3 Meets multicultural requirement
4 Capstone course

FACILITIES MANAGEMENT

Associate of applied science degree, Tech Prep
(degree offered at LSC-Kingwood)

FIRST YEAR

First Semester Credit
MATH 1314 College Algebra 3
ENGL 1301 Composition & Rhetoric I 3
INDS 1311 Fundamentals of Interior Design 3
INDS 1319 Tech. Drawing for Interior Designers 3
KINE Any physical activity course 1
ITSC 1401 Introduction to Computers OR 4
COSC 1401 Microcomputer Applications
SEASON TOTAL 17

Second Semester Credit
INDS 1349 Fundamentals of Space Planning 3
INDS 2305 Interior Design Graphics 3
BMGT 1327 Principles of Management 3
PSYC 2301 General Psychology 3
SPCH 1321 Business Speech 3
SEASON TOTAL 15

SECOND YEAR

First Semester Credit
INDS 2330 Interior Design Building Systems 3
BUSI 1301 Business Principles 3
BMGT 2303 Problem Solving & Decision Making 3
INDS 1315 Materials, Methods and Estimating 3
BMGT 1306 Facilities Management 3
Elective1 Humanities/Fine Arts 3
SEASON TOTAL 18

Second Semester Credit
ENGL 2311 Technical Communications 3
BUSI 2301 Business Law 3
Elective2 Elective 3-4
BMGT 1309 Information & Project Management 3
INDS 1345 Commercial Design I 3
INDS 2487 Internship - Interior Design 4
SEASON TOTAL 19-20

TOTAL Credit Hours for Facilities Mgmt AAS 69-70

1 Must meet multicultural requirement
2 Choose elective from ARTS 2356, INDS 1372, INDS 2311, CRJ 1301, CETT 1402, MRRG 1301, HART 1401, BUSI 2302, ITCC 1409
3 Capstone course

INTERPRETER TRAINING TECHNOLOGY

The interpreter training technology associate of applied science degree, tech prep program prepares graduates for entry-level careers as American Sign Language/English Interpreters. The interpreter training technology program will provide graduates with a strong academic and technical foundation designed to prepare them for state certification.

The interpreter training technology associate of applied science degree, tech prep program requires the completion of 67-68 semester credit hours of coursework including 29-30 semester credit hours of general academic courses and 37 semester credit hours of technical coursework. The program includes a supervised internship as a capstone external learning experience, which integrates all instructional components of the program.

Students may also earn an ASL communications skills certificate. This 21 credit hour program concentrates on developing skills that are required for simple communication with ASL speakers. It is not intended to prepare students to perform as interpreters. Students who desire those skills should complete the associate of applied science degree.

The general education core will transfer to a variety of colleges and universities. Contact a counselor or faculty member at any of the colleges for specific information and to obtain the recommended sequencing of courses.

142
## ASL Communications Skills Certificate

(certificate offered at LSC-CyFair and North Harris)

### FIRST YEAR

<table>
<thead>
<tr>
<th>Semester</th>
<th>Credit</th>
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<tr>
<td><strong>First Semester</strong></td>
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<tr>
<td>ENGL 1301 Composition &amp; Rhetoric I</td>
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<td>SGNL 1401 Beginning Amer. Sign Lang. I</td>
<td>4</td>
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<tr>
<td>SNG 1215 Visual/Gestural Communication</td>
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<td>SNG 1317 Intro to the Deaf Community</td>
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<td><strong>Second Semester</strong></td>
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<tr>
<td>SGNL 1402 Beginning Amer. Sign Lang. II</td>
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<td>SNG 1211 Fingerspelling</td>
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<tr>
<td>SNG 1347 Deaf Culture</td>
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1. Capstone course

## Interpreter Training Technology

**Associate of applied science degree, Tech Prep**

(degree offered at LSC-CyFair and North Harris)

### FIRST YEAR

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<thead>
<tr>
<th>Semester</th>
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<tr>
<td>Elective 1</td>
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<tr>
<td>SNG 1215 Visual/Gestural Communication</td>
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<td>SNG 1211 Fingerspelling</td>
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<td>SNG 1321 Intro to the Interpreting Prof.</td>
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<td><strong>First Semester</strong></td>
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<tr>
<td>Elective 2</td>
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<td>ITSC 1401 Introduction to Computers</td>
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<tr>
<td>SGNL 2301 Intermed. Amer. Sign. Lang I</td>
<td>3</td>
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<td>SNG 2315 Interpreting in Educ. Settings</td>
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<tr>
<td><strong>SEMESTER TOTAL</strong></td>
<td><strong>17-18</strong></td>
<td></td>
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</table>

1. Either social/behavioral science or humanities/fine arts elective must meet multicultural requirement. See general education requirements for AAS degree listed in the catalog.

2. See core requirements for AAS degree for options. If science option is chosen, math competency must be met (MATH 0308 or higher).

3. Capstone course

## Land Surveying & Mapping Technology

The land surveying & mapping technology program prepares students to enter a high-tech profession that uses state-of-the-art equipment to determine the location and measurement of improvements and other physical features on the earth’s surface. Surveying is an integral component for land development by civil engineers, municipal planners, and the construction industry. As a land surveying and mapping technician, one may conduct projects that include boundary, control, hydrographic, photogrammetric and engineering design surveys, with a typical client base of engineers, architects, municipalities, real estate and land developers, along with federal, state and local transportation agencies, and the petrochemical industry.

The associate of applied science degree is awarded for successful completion of at least 61 credit hours as outlined in the college catalog. Students desiring a less comprehensive program should consider either the 11 credit hour marketable skills award or the 33-36 credit hour certificate.

Each level of training prepares a student for different levels of certifications that are becoming highly valued by employers in the surveying industry. The marketable skills award prepares a student to take the National Society of Professional Surveyors (NSPS) Level I Certification for the Survey Technician Certification. The 33-36 credit hour certificate...
prepares a student to take the NSPS Level II and Level III Certification for the Survey Technician. The associate of applied science prepares students to take either the NSPS Level IV Certification for the Survey Technician or with two years of experience, to take the Texas Board of Professional Land Surveying (TBPLS) Surveyor-in-Training (S.I.T.) exam. If a student continues and completes a bachelor’s degree (in any field) and has the required 2 years experience as an S.I.T., the student may sit for the Registered Professional Land Surveyor exam.

The general education core courses as well as several individual surveying and drafting courses will transfer to a variety of universities. Contact the divisional counselor for specific information and to obtain the recommended sequencing of courses at (936) 273-7320.

The following Web site has more information about this program:
http://montgomery.LoneStar.edu/surveyor/

MARKETABLE SKILLS AWARD
LAND SURVEYOR
(award offered at LSC-Montgomery)

FIRST YEAR
First Semester Credit
SRVY 1301 Intro to Surveying 3
SRVY 1413 Plane Surveying 4
SRVY 1441 Land Surveying 4
SEASONAL TOTAL 11
TOTAL Credit Hours for Marketable Skills Certificate 11

LAND SURVEYOR CERTIFICATE
(certificate offered at LSC-Montgomery)

FIRST YEAR
First Semester Credit
SRVY 1301 Intro to Surveying 3
SRVY 1413 Plane Surveying 4
SRVY 1441 Land Surveying 4
SEASONAL TOTAL 11
TOTAL Credit Hours for Marketable Skills Certificate 11

SECOND YEAR
First Semester Credit
SRVY 1349 Surveying Calculation II 3
SRVY 1342 GPS Techniques for Surveying and Mapping
SRVY 2487 Internship OR
SPCH 1171 Capstone Exam Review
SEASONAL TOTAL 7-10
TOTAL Credit Hours for Land Surveyor Certificate 33-36
1. Capstone course

LAND SURVEYING AND MAPPING TECHNOLOGY
Associate of applied science degree
(degree offered at LSC-Montgomery)

FIRST YEAR
First Semester Credit
SRVY 1301 Intro to Surveying 3
DFTG 1309 Basic Computer-Aided Drafting 3
SRVY 1413 Plane Surveying 4
SRVY 1441 Land Surveying 4
KINE Any physical activity course 1
SEASONAL TOTAL 15

SECOND YEAR
First Semester Credit
SRVY 2343 Surveying Legal Principles I 3
SRVY 2313 Control Surveying 3
SRVY 1315 Surveying Calculation I 3
SRVY 2340 Adv. Plane Surveying 3
ENGL 1301 Composition and Rhetoric I 3
SEASONAL TOTAL 15

SECOND SEMESTER
First Semester Credit
SRVY 1349 Surveying Calculation II 3
SRVY 1342 GPS Techniques for Surveying and Mapping
MATH 1314 College Algebra 3
SPCH 1311 Intro to Speech OR
SPCH 1318 Interpersonal Communication OR
SPCH 1321 Business Speech
Elective Social/Behavioral Science Elective 3
SEASONAL TOTAL 15

Second Semester Credit
SRVY 2344 Legal Principles II 3
DFTG 2321 Topographical Drafting 3
Elective Humanities/Fine Arts Elective 3
MATH 1316 Trigonometry 3
Elective Multicultural Elective 3
SEASONAL TOTAL 15
LOGISTICS MANAGEMENT

Logistics management is a unique business management program that prepares graduates for employment in the areas of supply chain management, inventory control, materials management, and distribution. The field of logistics management includes occupations such as supervisors and/or managers of transportation, storage, and/or distribution; helpers, laborers, and/or hand material movers; transportation/machine and vehicle material movers; and freight forwarding.

Persons employed in the storage and distribution arena plan, direct, and coordinate the storage and distribution operations within an organization. With the aid of industry-specific software, many managers are able to more efficiently prepare and review invoices, work orders, and consumption reports. Similarly, shipping and transportation managers utilize resource planning software systems to improve the speed and efficiency of shipping and receiving. These managers supervise and coordinate the activities of transportation and material moving machines and vehicle operators.

Transportation, storage, and distribution managers and logisticians are classified as in-demand occupations found in national high growth industries and are projected to add substantial numbers of new jobs in Texas.

The AAS degree in logistics management is a four semester program consisting of courses from the core academic area, business management, and logistics management. The degree program is located at LSC-CyFair. LSC-CyFair also offers the basic logistics certificate as a one-semester program of three courses, and the first line logistics leader certificate as a one-semester program of five courses.

BASIC LOGISTICS CERTIFICATE

(award offered at LSC-CyFair)

FIRST YEAR
First Semester Credit
LMGT 1425 Warehouse & Distrib Ctr Mgmt. 4
LMGT 1319 Intro to Business Logistics 3
LMGT 1321 Intro to Materials Handling 3
SEASON TOTAL 10
TOTAL Credit Hours for Marketable Skills Certificate 10

FIRST LINE LOGISTICS LEADER CERTIFICATE

(certificate offered at LSC-CyFair)

FIRST YEAR
First Semester Credit
LMGT 1425 Warehouse & Distrib Ctr Mgmt. 4
LMGT 1319 Intro to Business Logistics 3
LMGT 1321 Intro to Materials Handling 3
BMGT 1301 Supervision 3
BMGT1 2303 Problem Solving & Decision Making 3
SEASON TOTAL 16
TOTAL Credit Hours for First Line Logistics Leader Certificate 16
1 Capstone course

LOGISTICS MANAGEMENT

Associate of applied science degree, Tech Prep
(degree offered at LSC-CyFair)

FIRST YEAR
First Semester Credit
ENGL 1301 Composition & Rhetoric I 3
TECM 1303 Tecnical Calculations 3
LMGT 1319 Intro to Business Logistics 3
LMGT 1425 Warehouse & Distrib Ctr Mgmt 4
ITSC 1401 Introduction to Computers OR
COSC 1401 Microcomputer Applications OR
BCIS 1405 Business Computer Applications
SEASON TOTAL 17

Second Semester Credit
LMGT 1345 Economics of Trans. & Distrib. 3
ACCT 2401 Principles of Accounting I 4
Elective1 Math/Science Elective 3-4
GEOG2 1303 World Geography 3
KINE Any physical activity course 1
LMGT 1321 Introduction to Materials Handling 3
SEASON TOTAL 17-18

1 Choose from AAS core requirements
2 Capstone course
SECOND YEAR

First Semester          Credit
BMGT  1301 Supervision  3
LMGT  2434 Principles of Traffic Management  4
LMGT  1323 Domestic and International Trans  3
SPCH  Elective          3
BMGT  2303 Problem Solving & Decision Making  3
SEMESTER TOTAL          16

Second Semester         Credit
BMGT  1309 Information & Project Mgmt.  3
LMGT  1393 Special Topics in Log/Mat. Mgmt.  3
BMGT4 2382 Co-op: Business Admin. & Mgmt. I  3
Elective                  Humanities/Fine Arts  3
Elective                  Spanish Elective          3
SEMESTER TOTAL           15

TOTAL Credit Hours for AAS Degree 65-66

1 See core requirements for AAS degree for options. If science option is chosen, math competency must be met (MATH 0308 or higher).
2 Meets multicultural requirement
3 SPCH 1311, 1315, 1318, or 1321
4 Capstone course

MACHINING TECHNOLOGY

The computer numeric control operator/programmer certificate program is designed to prepare graduates for careers in the operation and programming of computer numeric control (CNC) mills and lathes used extensively in the manufacturing industries. Topics within the certificate program include blueprint reading, manufacturing materials and processes, computer-aided manufacturing (CAM), and extensive hands-on set up, operation and programming of CNC mills and lathes.

CNC operator/programmer is classified as an evolving occupational and is likely to provide future employment growth and economic competitiveness within Texas.

COMPUTER NUMERIC CONTROL OPERATOR I CERTIFICATE
(certificate offered at LSC-CyFair and North Harris)

FIRST YEAR

First Semester          Credit
DFTG  1325 Blueprint Reading and Sketching  3
MCHN  1338 Basic Machine Shop I           3
SEMESTER TOTAL          6

Second Semester         Credit
MCHN  2303 Fund. of CNC Machine Controls  3
MCHN  2335 Advanced CNC Machining          3
MCHN4 2381 Cooperative Education         3
SEMESTER TOTAL          9

TOTAL Credit Hours for Computer Numeric Control Operator I Certificate 19

1 Capstone course

MACHINIST I CERTIFICATE
(certificate offered at LSC-CyFair and North Harris)

FIRST YEAR

First Semester          Credit
DFTG  1325 Blueprint Reading and Sketching  3
MCHN  1338 Basic Machine Shop I           3
MCHN  1343 Machine Shop Math              3
SEMESTER TOTAL          9

Second Semester         Credit
MCHN  1352 Intermediate Machining I       3
MCHN  2341 Advanced Machining I           3
MCHN4 1390 Special Topics Machine Shop Asst. OR 3
MCHN4 1380 Cooperative Education         3
SEMESTER TOTAL          9

TOTAL Credit Hours for Machinist I Certificate 18

1 Capstone course
MANAGEMENT

The management associate of applied science degree includes knowledge, skills and attitudes necessary to succeed in the business world. This program provides students with a broad foundation in general management skills.

The management associate of applied science degree is awarded for successful completion of 66-68 credit hours. Those desiring a less comprehensive program should consider the certificate programs listed below.

The management program offers specializations in general business, human resources, international business, marketing and small business management/entrepreneurship.

A wide variety of job opportunities are available to graduates of the program, including middle-management positions, first line supervisors, company owners and other positions requiring leadership, decision-making and critical thinking skills.

The general education core will transfer to a variety of colleges and universities. Contact a counselor, or faculty member at any of the colleges for specific information and to obtain the recommended sequencing of courses.

GENERAL BUSINESS CERTIFICATE

(certificate offered at LSC-CyFair, Kingwood, Montgomery, North Harris and Tomball)

FIRST YEAR

First Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
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<td>BMGT 1341</td>
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Second Semester

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<td>Elective</td>
<td>3</td>
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<tr>
<td>BMGT 2382</td>
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<td>BMGT 2388</td>
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**TOTAL Credit Hours for General Business Certificate** 22

1 The specialization electives are chosen from any BUSI, BMGT or BUSG course. BMGT 1301, BMGT 2303 and BUSG 2309 recommended.

2 Capstone course

HUMAN RESOURCE CERTIFICATE

(certificate offered at LSC-CyFair, Kingwood, Montgomery, North Harris and Tomball)

FIRST YEAR

First Semester

<table>
<thead>
<tr>
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<td>HRPO 2301</td>
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<td>ITSC 1401</td>
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Second Semester

<table>
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<tr>
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<tbody>
<tr>
<td>BMGT 1301</td>
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<td>BMGT 1327</td>
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<td>HRPO 2307</td>
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<td>IBUS 2341</td>
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**TOTAL Credit Hours for Human Resource Certificate** 22

1 Meets multicultural requirements

2 Capstone course

INTERNATIONAL BUSINESS CERTIFICATE

(certificate offered at LSC-CyFair, Kingwood, North Harris and Tomball)

FIRST YEAR

First Semester

<table>
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<th>Course</th>
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Second Semester

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<td>3</td>
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<td>IBUS 2345</td>
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<td>BMGT 2382</td>
<td>3</td>
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**TOTAL Credit Hours for International Business Certificate** 22

1 The specialization elective is chosen from any BUSI, BMGT or BUSG course. BMGT 1301, BMGT 2303 or BUSG 2309 recommended.

2 Capstone course
### MARKETING CERTIFICATE

(certificate offered at LSC-CyFair, Kingwood, North Harris and Tomball)

#### FIRST YEAR

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<th>Course Code</th>
<th>Course Name</th>
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<td>BMGT 1327</td>
<td>Principles of Management OR</td>
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<td></td>
<td>BMGT 1309</td>
<td>Information and Project Mgmt.</td>
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<tr>
<td></td>
<td>MRKG 1301</td>
<td>Customer Relations</td>
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<td></td>
<td>ITSC 1401</td>
<td>Introduction to Computers OR</td>
<td>3-4</td>
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<tr>
<td></td>
<td>ARTC 1313</td>
<td>Digital Publishing I</td>
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<tr>
<td></td>
<td>MRKG 1311</td>
<td>Principles of Marketing</td>
<td>3</td>
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<tr>
<td>Second</td>
<td>BUSI 1311</td>
<td>Salesmanship OR</td>
<td>3</td>
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<td>MRKG 2333</td>
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<td>BMGT/MRKG 1</td>
<td>Capstone course</td>
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**TOTAL Credit Hours for Marketing Certificate** 21-22

1. Choose capstone course from MRKG 2348, 2380, 2388, BMGT 2382 or 2388

### SMALL BUSINESS MANAGEMENT CERTIFICATE

(certificate offered at LSC-CyFair, Kingwood, Montgomery, North Harris and Tomball)

#### FIRST YEAR

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course Code</th>
<th>Course Name</th>
<th>Credit</th>
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<tbody>
<tr>
<td>First</td>
<td>ACCT 2401</td>
<td>Principles of Accounting I</td>
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<td>Business Law</td>
<td>3</td>
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<td></td>
<td>ITSC 1401</td>
<td>Introduction to Computers</td>
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<tr>
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<td>MRKG 2348</td>
<td>Marketing Research &amp; Strat. OR</td>
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<td></td>
<td>MRKG 2333</td>
<td>Principles of Selling</td>
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<td>BUSI 1311</td>
<td>Salesmanship</td>
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<td>BUSG 1341</td>
<td>Small Business Financing</td>
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<td>BUSG 2309</td>
<td>Small Business Management</td>
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**TOTAL Credit Hours for Small Business Certificate** 23

### MANAGEMENT

Associate of applied science degree, Tech Prep

(degree offered at LSC-CyFair, Kingwood, Montgomery, North Harris and Tomball)

#### FIRST YEAR

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<td>Elective</td>
<td>Humanities/Fine Arts</td>
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<td>ENGL 1301</td>
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<td>MRKG 1311</td>
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<td>ECON 2301</td>
<td>Macroeconomics OR</td>
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<td>ECON 2302</td>
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<td>IBUS 1234</td>
<td>Intercultural Management</td>
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<td>SPCH 1321</td>
<td>Business Speech OR</td>
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<td>SPCH 1315</td>
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**SECOND YEAR

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<td>HRPO 1311</td>
<td>Human Relations OR</td>
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<td>HRPO 2301</td>
<td>Human Resource Management</td>
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<td>BMGT 1309</td>
<td>Information &amp; Project Mgmt.</td>
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<td>BUSI 2304</td>
<td>Business Communications</td>
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<td>BUSI 1307</td>
<td>Personal Finance</td>
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<td>BUSI 2301</td>
<td>Business Law</td>
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<td>BMGT 1341</td>
<td>Business Ethics</td>
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<td>Elective2</td>
<td>Cooperative Education OR</td>
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<td>Elective3</td>
<td>Math/Natural Science</td>
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<td>Elective4</td>
<td>Specialization</td>
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<td>KINE 1111</td>
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**TOTAL Credit Hours for Management AAS** 66-68

1. Meets multicultural requirements
2. Any BMGT or MRKG Co-op or Internship; Capstone course
3. Suggested elective: MATH 1314 College Algebra; If science option is chosen, math competency must be met (MATH 0308 or higher).
4. The specialization electives are chosen from any BUSI, BMGT or BUSG course. BMGT 1301, BMGT 2303 and BUSG 2309 recommended.
MECHATRONICS TECHNOLOGY

Mechatronics is a new and exciting interdisciplinary field which combines knowledge of control systems, robotics, mechanical systems, electronics, computers, advanced manufacturing, industrial maintenance and more.

An electro-mechanical technician with mechatronics training would find entry-level employment in the LSCS service area in a modern advanced manufacturing company. More and more employers are seeking technicians with broad knowledge to troubleshoot and correct computer / machine errors before they impact the manufacturing line. Mechatronics is predominantly hands-on and involves work with state of the art computers, machines, and systems.

The level one certificate provides the student with fundamental knowledge of computers, robotics, electrical systems and controls. The level two certificate provides students with fundamental knowledge in mechanical systems and more advanced knowledge in robotics.

MARKETABLE SKILLS AWARD-MECHATRONICS TECHNOLOGY
(award offered at LSC-CyFair and North Harris)

FIRST YEAR
First Semester Credit
COSC 1401 Microcomputer Applications OR 4
ITSC 1401 Introduction to Computers
CETT 1409 DC-AC Circuits 4
HYDR 1345 Hydraulics and Pneumatics 3
MCHN 1338 Basic Machine Shop I 3
SEMMESTER TOTAL 14

TOTAL Credit Hours for Mechatronics Marketable Skills Award 14

MECHATRONICS TECHNOLOGY-LEVEL I CERTIFICATE
(certificate offered at LSC-CyFair and North Harris)

FIRST YEAR
First Semester Credit
COSC 1401 Microcomputer Applications OR 4
ITSC 1401 Introduction to Computers
DFTG 1325 Blueprint Reading and Sketching 3
MCHN 1319 Manufacturing Materials/Processes 3
TECM 1303 Technical Calculations OR 3
MCHN 1343 Machine Shop Math
SEMMESTER TOTAL 13

Second Semester Credit
CETT 1409 DC-AC Circuits 4
MCHN 1338 Basic Machine Shop I 3
DFTG 1309 Basic Computer-Aided Drafting 3
ETWR 1302 Introduction to Technical Writing 3
HYDR 1345 Hydraulics and Pneumatics 3
SEMMESTER TOTAL 16

Third Semester Credit
INMT 2388 Internship Manufacturing Tech 3
SEMMESTER TOTAL 3

TOTAL Credit Hours for Mechatronics Technology-Level I Certificate 32

1 Capstone course

MECHATRONICS TECHNOLOGY-LEVEL II CERTIFICATE
(certificate offered at LSC-CyFair and North Harris)

SECOND YEAR
First Semester Credit
INTC 1341 Principles of Automatic Control 3
INMT 2303 Pumps, Compressors & Mechanical Drives 3
RBTC 1305 Robotic Fundamentals 3
INMT 1417 Industrial Automation 4
IEIR 1310 Motor Controls 3
SEMMESTER TOTAL 16

1 Capstone course
MEDICAL ASSISTING

Medical assisting is a versatile health care profession that prepares an individual to perform various clinical and administrative functions in a health care facility. These functions, performed under the direction of a licensed physician and/or licensed physicians assistant, are completed while examining and treating patients. Medical assistants are responsible for performing a variety of the tasks that enable a health care facility to properly treat its patients. These tasks include, but are not limited to: preparing treatment rooms for patients’ examinations; scheduling appointments and maintaining medical records; interviewing patients, measuring vital signs, weight and height, and then recording the information; administering injections, performing venipuncture, electrocardiograph (EKG), and other equipment to administer routine diagnostic tests; and completing insurance forms. The exact duties that a medical assistant performs are unique to the setting in which she or he is employed. Industries that employ medical assistants include doctors’ offices/clinics, urgent care centers, ambulatory care facilities, and osteopathic offices/clinics.

The medical assisting certificate is a three-semester program. The final semester includes both a review course to prepare for the American Association of Medical Assistants’ Certified Medical Assistant Exam and a clinical/externship. The clinical experience allows students to apply the knowledge, skills, and abilities that she or he has learned in the classroom and gain practical experience in a health care setting.

Admission Criteria:

Students applying to the medical assisting program must:

1. Complete an assessment test (THEA, Compass, ASSET, or equivalent) with college level scores on the reading and writing sections; or complete the developmental sequence in reading (ENGL 0305 or ENGL 0316) AND writing (ENGL 0307 or ENGL 0326 or ENGL 0356) to be eligible to enter ENGL 1301.
2. Complete Math 0306 with a grade of “C” or achieve placement into a higher level math through an assessment test (THEA, Compass, ASSET, or equivalent).
3. Register for and take the PSB Health Occupations Aptitude Test.
4. Attend a mandatory medical assisting information session as posted on the LSC-CyFair or North Harris Web site.
5. Submit a completed application packet to the preferred college’s medical assisting program. Application deadlines are posted on the college Web site.
6. Submit official high school/GED transcript and/or official transcripts from all non-LSCS colleges and/or universities attended.
7. Final acceptance into the program is contingent upon a satisfactory background check that is completed by a college approved agency at the student’s expense. Clinical facilities may also require completion of a satisfactory drug screening.

MEDICAL ASSISTING CERTIFICATE

(certificate offered at LSC-CyFair and North Harris)

FIRST YEAR

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course Code</th>
<th>Course Name</th>
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<tbody>
<tr>
<td>First Semester</td>
<td>MDCA 1213</td>
<td>Medical Terminology</td>
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<td>MDCA 1417</td>
<td>Procedures in a Clinical Setting</td>
<td>4</td>
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<td></td>
<td>MDCA 1421</td>
<td>Administrative Procedures</td>
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<td>POFT 1325</td>
<td>Business Math &amp; Machine Apps</td>
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<td></td>
<td>POFT 1301</td>
<td>Business English</td>
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Second Semester

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<tbody>
<tr>
<td>MDCA 1409</td>
<td>A &amp; P for Medical Assistants</td>
<td>4</td>
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<tr>
<td>MDCA 1352</td>
<td>Medical Asst. Lab Procedures</td>
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<td>MDCA 1443</td>
<td>Medical Insurance</td>
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<tr>
<td>MDCA 1291</td>
<td>Special Topics in Medical Assistant</td>
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<td>MDCA 1348</td>
<td>Pharmacology &amp; Administration of</td>
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<td></td>
<td>Medications</td>
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Third Semester

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<th>Course Name</th>
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<tbody>
<tr>
<td>ECRD 1211</td>
<td>Electrocardiography</td>
<td>2</td>
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</table>

Note: Students must meet math competency (MATH 0308 or higher)
MEDICAL RADIOLOGIC TECHNOLOGY

The course of study for a radiologic technologist is a two-year program, leading to an associate of applied science degree. The program is offered at LSC-Montgomery and CyFair. Each college accepts one class each year into the radiologic technology program. The six-semester program includes two summer semesters, for a total of 72 credit hours.

The curriculum is a balance of general education and technical courses in the classroom and laboratory, as well as supervised clinical experiences at local hospitals and outpatient clinics. This combination provides the student an opportunity for educational development and assurance of competency in radiographic skills.

The program is designed to provide the student with the knowledge and skills to perform radiographic examinations, provide patient care and assist the radiologist during diagnostic procedures. Radiologic technologists are employed in medical centers, community hospitals, extended care facilities, physicians’ offices, specialist clinics, and other health care institutions.

Prior to entering the radiologic technology AAS degree program, students may take any of the general education core courses required in the program. Radiologic technology students must earn a grade of “C” or better in each radiography (RADR) course and maintain an overall grade point average of at least 2.0 to graduate from the radiologic technology program. To help assure success on the ARRT examination, the Lone Star College System (LSCS) radiography programs utilize an elevated grading scale. The general education core will transfer to a variety of colleges and universities. For more specific information and the sequence of courses at each college, contact the program director or a college counselor.

In addition to the tuition and textbooks for the radiologic technology courses, there are additional fees and expenses. Students are required to purchase uniforms and accessories. Each student accepted into the program is required to purchase student liability insurance (subject to rates applicable at the time of registration) and obtain current immunizations as required by the Texas Department of State Health Services for healthcare providers. Regulations require that students complete the Hepatitis B immunization series that may take between 3-6 months prior to patient contact. Each student is also responsible for his/her own transportation to the clinical areas.

Graduates of the radiologic technology AAS degree program are eligible to apply for the certification examination in radiologic technology given by the American Registry of Radiologic Technologists (ARRT); www.arrt.org. Graduates may also apply for Texas state certification through the Texas Department of State Health Services; www.dshs.state.tx.us/mrt/default.shtm.

More information about a career in radiologic technology can be found at the American Society of Radiologic Technologists Web site: www.asrt.org.

Admission Criteria:
Clinical space is limited, so students are admitted on a competitive basis. In addition to the general admission requirements of the LSCS, the following requirements must be met in order to apply for admission to the radiologic technology AAS program.

1. College entry-level ability in mathematics, English and writing, as defined by LSCS. For further information, contact any of the student development offices.

2. Satisfactory completion of Introduction to Anatomy and Physiology (BIOL 2404) or Anatomy and Physiology I and II (BIOL 2401 & 2402) with a “C” or better within the previous five years and prior to submission of an application for the radiologic technology program.

1 Capstone Course
3. A cumulative grade point average (GPA) of at least 2.0 in high school and/or college.
4. Students must register for and take the PSB Health Occupations Aptitude Test.
5. Final acceptance into the program is contingent upon a satisfactory background check (as required by hospitals) that is completed by a college approved agency at the student’s expense. Clinical facilities may also require completion of satisfactory drug screening.

Applying for Readmission or Transfer:
A former student of any radiology program seeking admission to the MRT program will be considered upon submission of the following documents to the readmission committee at least two months in advance of the semester for which admission is being sought:
1. A completed petition for readmission/transfer.
2. A signed personal statement from the student describing their reasons for originally leaving the program. This statement should include a description of the ways in that they have, or plan to, resolve the situations which caused them to leave the program previously.
3. Current official college transcripts from any other colleges, universities, or proprietary schools the student has attended both before entering the program and since leaving the program.
4. A minimum of three recommendations mailed to the program under separate cover. One letter should be a “report of status” from the former program director.

Additionally, readmission is based upon:
- Space available in the program.
- Satisfaction of current college and program admission requirements.
- A readmitted student is required to fulfill the graduation requirements that are in effect at the time of readmission.

Any student who was required to exit the program for academic reasons may only be granted one (1) readmission at the discretion of the readmission committee. Students gaining readmission to the program must repeat any academically deficient course(s) and may be required to audit other program course(s) offered in the same semester.

Students who have been out of the program for one (1) or more years will be required to audit or retake all previously completed RADR courses and pass the final examinations for those courses with a grade of “C” or better.

Students who are asked to leave the program for violation(s) of the LSCS’s or the program’s code of conduct, ethical standards, academic honesty, civil rights, or harassment policies are not eligible for readmission.

MEDICAL RADIOLOGIC TECHNOLOGY
Associate of applied science degree
(degree offered at LSC-CyFair and Montgomery)
The sequence of courses at LSC-Montgomery may vary due to the January start date, however, all courses listed must be completed to fulfill degree requirements.

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<thead>
<tr>
<th>Prerequisite Semester</th>
<th>Credit</th>
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<td>BIOL 2404 Intro to Anatomy and Physiology</td>
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FIRST YEAR
First Semester
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<tr>
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<tbody>
<tr>
<td>RADR 1409 Intro to Radiography &amp; Patient Care</td>
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<tr>
<td>RADR 1411 Basic Radiographic Procedures</td>
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<td>RADR 1313 Principles of Radiographic Imaging I</td>
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Second Semester
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<td>MATH 1314 College Algebra</td>
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<td>RADR 2401 Interm. Radiographic Procedures</td>
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<td>RADR 1260 Clinical</td>
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<td>RADR 2305 Principles of Radiographic Imag II</td>
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Third Semester
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<td>ENGL 1301 Composition &amp; Rhetoric I</td>
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<td>RADR 1360 Clinical</td>
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SECOND YEAR
First Semester
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<td>RADR 2271 Computers in the Imaging Sciences</td>
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Second Semester

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<td>PSYC 2301 General Psychology</td>
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<td>Elective$^2$ Humanities/Fine Arts</td>
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<td>RADR 2217 Radiographic Pathology</td>
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<td>SPCH$^3$ Elective</td>
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Third Semester

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<tbody>
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<td>RADR 2460 Clinical</td>
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**TOTAL Credit Hours for Medical Radiologic Technology AAS Degree** 72

1 Combination of courses meet multicultural requirement
2 Choose from the general education core
3 Choose from SPCH 1311, 1315, 1318, or 1321
4 Capstone course

**NURSING**

The Lone Star College System offers a variety of nursing programs and curricula at its college campuses. LSC-Kingwood, Montgomery, North Harris, and Tomball offer an integrated program of study in associate degree nursing (ADN). With an integrated nursing curriculum, both classroom and clinical content are organized around a series of concepts that progress from simple to complex. LSC-CyFair offers a blocked nursing curriculum. In a blocked nursing curriculum, learning experiences are divided by content area such as care of children and families and adult health. Both of these programs and curricula are designed for those individuals interested in becoming a registered nurse.

The vocational nursing certificate program is offered at LSC-CyFair, Kingwood, Montgomery and Tomball. Graduates are prepared to provide nursing care for clients with predictable outcomes in a variety of health care settings. These programs are designed for those individuals interested in becoming a licensed vocational nurse.

**General Guidelines:**

Upon acceptance into any program, students must submit a record of current immunizations (including a complete Hepatitis B Series as required by the Texas Department of State Health Services) a report of physical examination on a college-approved form, and a clear criminal background check. If a student is convicted of a felony or misdemeanor while enrolled in an LSCS nursing program, the student must inform the director in writing and submit a current background check. Criminal background checks are required by all clinical facilities. Students entering the system nursing programs must meet Texas Board of Nursing (BON) background check requirements. Names of entering students and student identification will be submitted to the Texas BON. Drug screens may be required at some clinical sites during the student’s matriculation through the program. Students will be required to comply and cover the cost of the screen.

An admission appeal will be considered if there is evidence that one or more of the following conditions exist: (1) error in calculation of points for admission; (2) deviation from admission procedures as defined by the program Web site; or (3) disparate treatment of a student that is not addressed by EEO processes. See Web site for further details.

Completion of the nursing program does not guarantee eligibility to take the state licensure exam. Eligibility to take the licensure exam is determined solely by the Texas Board of Nursing (BON). In cases where the applicant has a questionable background check, mental illness and/or chemical dependency, the Texas BON will consider eligibility on an individual basis by requiring the applicant to complete a declaratory order. The declaratory order process may take six (6) months to two (2) years to complete. Prospective applicants who question their eligibility are encouraged to discuss their situation with the Texas Board of Nursing, at www.bon.state.tx.us or 512.305.7400, prior to enrollment.

Costs incurred while in the nursing program include tuition and fees for the nursing courses as well as additional expenses for textbooks, uniforms, immunizations, testing fees, clinical/lab equipment and licensure fees. Nursing students also have the responsibility for covering the costs of their physical examinations, CPR certifications, background checks, drug screens and transportation to and from clinical agencies for day and evening learning experiences.

The admission requirements, selection criteria and application process for the nursing program are presented in regularly scheduled information sessions open to the public.
DEGREES AND CERTIFICATES

For additional information visit www.LoneStar.edu and select the preferred college link and then the nursing program.

Students applying to the LSCS nursing programs must adhere to the Code of Conduct and other policies found in the system and nursing student handbooks, which can be found on the colleges’ web sites.

Progression Requirements
To remain in good standing and progress within the nursing curriculum, students must:
1. Maintain a cumulative grade point of 2.0, and
2. Attain a grade of “C” or better in each nursing and general education course designated in the VN certificate or ADN degree plan.
3. Successfully complete all concurrent nursing courses to advance to the next level.

Testing Requirements
Students are required to take nationally-normed tests throughout the curriculum and to make satisfactory scores on each test. Additionally, in the last semester of the curriculum, students must achieve a satisfactory exit exam score in order to graduate from the program. All costs for the exams and remediation are the student’s responsibility.

Students with Disabilities
It is the policy of LSCS to comply with the requirements of the Americans with Disabilities Act (ADA). Students with documented disabilities will be given accommodations in accordance with the LSCS policy and those allowed by the National Council of State Boards of Nursing.

Biology Course Requirements
Biology courses submitted for program credit must be completed no more than five (5) years prior to application to the nursing program. Refresher anatomy & physiology and microbiology courses are available through continuing education for students whose biology is older than five years and who do not desire to repeat the courses for credit. The grades earned from the older credit biology courses will be used for grade point calculation where applicable.

Tech Prep/Dual Credit Courses
Students who have completed high school health science technology courses may be eligible for articulated credit in the nursing programs. Dual credit opportunities exist for other courses in the nursing degree plans. Please refer to the college catalog, Web site, or counseling office for further information.

Readmission Guidelines
Applicants who have failed or withdrawn from any LSCS nursing program will be considered on an individual basis. Readmission is not automatic. It is based on remediation of an identified problem area and space availability. Students who wish to be readmitted must interview with the program’s Readmission Committee. At this interview, the student will be asked to describe what steps have been taken in the intervening months to improve the chance of success and an action plan for improvement of academic and/or clinical performance. In addition, students seeking readmission must submit a letter of their standing from the prior nursing program director. Readmission into the associate degree nursing program must occur within two years of non-completion. Readmission into the vocational nursing program must occur within one year. A student may be readmitted into the nursing program only one time.

Transfer Guidelines
An individual’s request to transfer into any LSCS nursing program will be reviewed on an individual basis by the program director and admissions committee. Class placement is based on previous achievement and space availability. Admission is considered only if prior program enrollment has been within one (1) year.
1. Transfer requests for those who have completed nursing coursework (within two semesters of inquiry) at other colleges are evaluated individually and acceptances are based on program space availability.
2. Students who have had two (2) unsuccessful attempts in a previous associate degree (ADN) or vocational nursing (VN) program are not eligible for transfer into the associate degree (ADN) nursing program at LSCS.
3. Transfer applicants will be required to submit a letter of their standing from the prior nursing program director.
4. See college Web sites for additional information regarding the nursing program transfer guidelines.
NURSING

Associate of applied science degree, Tech Prep

There are three (3) programs of study offered in associate degree nursing: the basic track, the vocational nursing track and the transition track for articulating students. Upon completion of the AAS degree, nursing graduates may apply to take the licensure exam to become a registered nurse (RN). Eligibility to take the National Council Licensure Exam for Registered Nurses (NCLEX-RN) is determined solely by the Texas Board of Nursing (BON).

The associate degree nursing programs of the Lone Star College System are all accredited by the National League for Nursing Accrediting Commission (NLNAC). Accreditation information regarding this program is available through NLNAC, 61 Broadway, 33rd Floor, New York, NY 10006, phone 212.363.5555 ext. 153, and the Texas Board of Nursing, 333 Guadalupe #3-460, Austin, TX 78701, telephone 512.305.7400.

ADMISSION CRITERIA – BASIC TRACK

In addition to the admission requirements of the system and the general requirements listed above, the following are requirements for admission into the associate degree nursing program. The applicant must:

1. Complete college-level reading, writing, and math prerequisites or LSCS Student Success Initiative (SSI) requirements. All associate degrees require completion of MATH 0308 or higher. To determine your SSI status, see a college advisor.

2. Complete the following courses with a minimum grade point average of 2.5 or higher: BIOL 2401, ENGL 1301, and PSYC 2301. (BIOL 2401 is required to meet the admission criteria, however, the highest grade in BIOL 2401 or 2402 will be used for calculation of GPA).

3. Obtain a grade of “C” or higher in all courses required in the associate degree nursing (ADN) degree plan. GPA in all courses in the ADN degree plan must be 2.5 or greater at time of application.

4. Complete a national standardized nursing pre-entrance test and meet the minimum score requirement. The cost of this test is the responsibility of the applicant. All applicants must take the nursing pre-entrance test. The entrance test may only be taken one (1) time each admission period.

5. Submit official transcripts from colleges attended other than LSCS.

6. Submit a completed application to the preferred college’s nursing program. Application deadlines are posted on the colleges’ Web sites. Separate applications to the college nursing programs are only required if the deadline submission dates differ.

7. Complete the Hepatitis B immunization series. Applicants must provide written documentation of all immunizations received on a college-approved form found on the Web site.

8. Complete the American Heart Association Basic Life Support Provider of Care Certification.

ADMISSION CRITERIA – ARTICULATING STUDENTS

In addition to the admission requirements for the system and the general requirements listed above, the following are admission requirements for the transition track for articulating students:

1. Complete college-level reading, writing, and math pre-requisites or LSCS Student Success Initiative (SSI) requirements. All associate degrees require completion of MATH 0308 or higher. To determine your SSI status, see a college advisor.

2. Complete the following courses with a minimum cumulative grade point average of 2.5 or higher: BIOL 2401, BIOL 2402, ENGL 1301, PSYC 2301, PSYC 2314, and RNSG 1301. In addition, there are other courses that must be completed prior to enrolling in nursing courses.

3. Obtain a grade of “C” or higher in all courses required in the associate degree nursing degree plan. GPA in all courses in the ADN degree plan must be 2.5 or greater at time of application.

4. Possess current Texas license as a Licensed Vocational Nurse, current National Registry EMT Paramedic Certification, current Texas Department of Health EMT Paramedic Certification, OR current Texas Department of Health Paramedic License.
5. Be currently employed as an LVN or paramedic OR have graduated from an LVN or paramedic educational program within the past year.
6. Submit official transcripts from colleges attended other than LSCS.
7. Submit a completed application to the preferred college’s nursing program. Application deadlines are posted on the colleges’ Web sites. Separate applications to the college nursing programs are only required if the deadline submission dates differ.
8. Complete the Hepatitis B immunization series. Applicants must provide written documentation of all immunizations received and a physical exam on a college-approved form found on the Web site.
9. Complete the American Heart Association Basic Life Support Provider of Care Certification.

VOCATIONAL NURSING CERTIFICATE

The vocational nursing program is a three-semester, one year, full-time 47-credit hour certificate program. The program is approved by the Texas Board of Nursing. Upon completion of the vocational nursing certificate, nursing graduates may apply to take the licensure exam to become a Licensed Vocational Nurse (LVN). Eligibility to take the National Council Licensure Examination for Practical Nurses (NCLEX-PN) is determined solely by the Texas Board of Nursing for the State of Texas.

VOCATIONAL NURSING ADMISSION CRITERIA

In addition to the system admission requirements, the following are required for the vocational nursing program:

1. Complete college-level reading, writing, and math pre-requisites or LSCS Student Success Initiative (SSI) requirements. All VN programs require completion of MATH 0308 or higher. To determine your SSI status, see a college advisor.
2. Complete BIOL 2404 with a grade of “C” or higher. (Completion of BIOL 2401 & 2402 is accepted in place of BIOL 2404, and is recommended for those students planning to transition into the ADN program.) Biology courses submitted for program credit must be completed no more than five (5) years prior to application to the nursing program.
3. Maintain a cumulative grade point of 2.0 in college level courses.
4. Complete a standardized nursing pre-entrance test. The cost of this test is the responsibility of the applicant. All applicants must take the nursing pre-entrance test. The entrance test may only be taken one (1) time each admission period.
5. Submit official transcripts from colleges attended other than LSCS.
6. Submit a completed application to the preferred college’s nursing program. Application deadlines are posted on the colleges’ Web sites. Separate applications to the college nursing programs are only required if the deadline submission dates differ.
7. Complete Hepatitis B immunization series. Applicants must provide written documentation of all immunizations received and physical exam on a college-approved form found on the Web site.
8. Complete the American Heart Association Basic Life Support Provider of Care Certification.

LVN TRANSITION TO ASSOCIATE DEGREE NURSING (RN)

Graduates of the vocational nursing program who become licensed as LVN’s and complete the required prerequisite courses may be eligible to apply for the Transition Track for Articulating Students.

VOCATIONAL NURSING CERTIFICATE

(certificate offered at LSC-CyFair, Kingwood, Montgomery, and Tomball)

<table>
<thead>
<tr>
<th>Prerequisite Semester</th>
<th>Credit</th>
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<tbody>
<tr>
<td>BIOL 2404 Introduction to A&amp;P</td>
<td>4</td>
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<tr>
<td>4</td>
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FIRST YEAR

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Credit</th>
</tr>
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<tbody>
<tr>
<td>VNSG 1160 Clinical Basics</td>
<td>1</td>
</tr>
<tr>
<td>VNSG 1260 Clinical I</td>
<td>2</td>
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<tr>
<td>VNSG 1116 Nutrition</td>
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</tr>
<tr>
<td>DEGREES AND CERTIFICATES</td>
<td></td>
</tr>
<tr>
<td>--------------------------</td>
<td></td>
</tr>
<tr>
<td><strong>VNSG 1323 Basic Nursing Skills</strong></td>
<td>3</td>
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<tr>
<td><strong>VNSG 1304 Foundations</strong></td>
<td>3</td>
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<tr>
<td><strong>VNSG 1400 Nursing in Health &amp; Illness I</strong></td>
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**Second Semester**

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<tr>
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<tr>
<td><strong>VNSG 1238 Mental Illness</strong></td>
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<tr>
<td><strong>VNSG 1163 Pediatric Clinical</strong></td>
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<tr>
<td><strong>VNSG 1231 Pharmacology</strong></td>
</tr>
<tr>
<td><strong>VNSG 1262 Clinical II</strong></td>
</tr>
<tr>
<td><strong>VNSG 1307 Pediatric Nursing</strong></td>
</tr>
<tr>
<td><strong>VNSG 1409 Nursing in Health &amp; Illness II</strong></td>
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**Third Semester**

<table>
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<tr>
<th>Credit</th>
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<tbody>
<tr>
<td><strong>VNSG 1219 Professional Development</strong></td>
</tr>
<tr>
<td><strong>VNSG 1226 Gerontology</strong></td>
</tr>
<tr>
<td><strong>VNSG 1306 Maternity/Newborn Nursing</strong></td>
</tr>
<tr>
<td><strong>VNSG 1410 Nursing In Health &amp; Illness III</strong></td>
</tr>
<tr>
<td><strong>VNSG 2161 Maternity/Newborn Clinical</strong></td>
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<tr>
<td><strong>VNSG 2361 Clinical III</strong></td>
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<td><strong>SEMESTER TOTAL</strong></td>
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</table>

**TOTAL Credit Hours for Vocational Nursing Certificate** | 47 |

1. BIOL 2401 & 2402 Anatomy & Physiology I & II can be substituted for BIOL 2404 if student has taken them.
2. BIOL 1322 Nutrition can be substituted for VNSG 1116 Nutrition if student has taken it already.
3. Course may be taken during any semester as scheduled by college.
4. Capstone course

**NURSING SPECIALIZATION**

*(Integrated Curriculum)*

**Associate of applied science degree, Tech Prep**

(specialization offered at LSC-Kingwood, Montgomery, North Harris and Tomball)

<table>
<thead>
<tr>
<th>Prerequisite Semester</th>
<th>Credit</th>
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<tbody>
<tr>
<td><strong>BIOL 2401 Human Anatomy &amp; Physiology I</strong></td>
<td>4</td>
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<tr>
<td><strong>ENGL 1301 Composition &amp; Rhetoric I</strong></td>
<td>3</td>
</tr>
<tr>
<td><strong>PSYC 2301 General Psychology</strong></td>
<td>3</td>
</tr>
<tr>
<td><strong>SEMESTER TOTAL</strong></td>
<td>10</td>
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**FIRST YEAR**

**First Semester**

<table>
<thead>
<tr>
<th>Credit</th>
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<tbody>
<tr>
<td><strong>RNSG 1172 Preparation for Basic Care</strong></td>
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<tr>
<td><strong>SOCI 1301 Principles of Sociology</strong></td>
</tr>
<tr>
<td><strong>BIOL 2402 Human Anatomy &amp; Physiology II</strong></td>
</tr>
<tr>
<td><strong>RNSG 1301 Pharmacology</strong></td>
</tr>
<tr>
<td><strong>KINE</strong> Any physical activity course</td>
</tr>
<tr>
<td><strong>SEMESTER TOTAL</strong></td>
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**Second Semester**

<table>
<thead>
<tr>
<th>Credit</th>
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</thead>
<tbody>
<tr>
<td><strong>BIOL 2420 Medical Microbiology</strong></td>
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<tr>
<td><strong>RNSG 1119 Integrated Nursing Skills I</strong></td>
</tr>
<tr>
<td><strong>RNSG 1361 Clinical - Nursing I</strong></td>
</tr>
<tr>
<td><strong>RNSG 1523 Intro to Professional Nursing</strong></td>
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<td><strong>SEMESTER TOTAL</strong></td>
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</table>

**Third Semester**

<table>
<thead>
<tr>
<th>Credit</th>
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</thead>
<tbody>
<tr>
<td><strong>RNSG 1129 Integrated Nursing Skills II</strong></td>
</tr>
<tr>
<td><strong>RNSG 1362 Clinical - Nursing II</strong></td>
</tr>
<tr>
<td><strong>RNSG 2504 Care of the Client with Common Health Problems</strong></td>
</tr>
<tr>
<td><strong>PSYC 2314 Lifespan Growth &amp; Development</strong></td>
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<td><strong>SEMESTER TOTAL</strong></td>
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**SECOND YEAR**

**First Semester**

<table>
<thead>
<tr>
<th>Credit</th>
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<tbody>
<tr>
<td><strong>RNSG 2173 Advanced Nursing Skills</strong></td>
</tr>
<tr>
<td><strong>RNSG 2361 Clinical - Nursing III</strong></td>
</tr>
<tr>
<td><strong>RNSG 2514 Integrated Care of Client with Complex Health Care Needs</strong></td>
</tr>
<tr>
<td><strong>SPCH 1318 Interpersonal Communication</strong> OR <strong>SPCH 1311 Introduction to Speech Comm.</strong></td>
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<tr>
<td><strong>SEMESTER TOTAL</strong></td>
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</table>

**Second Semester**

<table>
<thead>
<tr>
<th>Credit</th>
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<tbody>
<tr>
<td><strong>Elective Humanities/Fine Arts</strong></td>
</tr>
<tr>
<td><strong>RNSG 1207 Nursing Jurisprudence</strong></td>
</tr>
<tr>
<td><strong>RNSG 2362 Clinical - Nursing IV</strong></td>
</tr>
<tr>
<td><strong>RNSG 2535 Integrated Client Care Management</strong></td>
</tr>
<tr>
<td><strong>SEMESTER TOTAL</strong></td>
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</tbody>
</table>

**TOTAL Credit Hours for Nursing Specialization** | 72 |

1. Meets multicultural requirement
2. Capstone course

**TRANSITION TO PROFESSIONAL NURSING FOR ARTICULATING STUDENTS**

*(Integrated Curriculum)*

**Associate of applied science degree**

(specialization offered at LSC-Kingwood, North Harris, Montgomery and Tomball)

<table>
<thead>
<tr>
<th>Prerequisite Semester</th>
<th>Credit</th>
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<tbody>
<tr>
<td><strong>BIOL 2401 Human Anatomy &amp; Physiology I</strong></td>
<td>4</td>
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<tr>
<td><strong>ENGL 1301 Composition &amp; Rhetoric I</strong></td>
<td>3</td>
</tr>
<tr>
<td><strong>PSYC 2301 General Psychology</strong></td>
<td>3</td>
</tr>
<tr>
<td><strong>SEMESTER TOTAL</strong></td>
<td>10</td>
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**FIRST YEAR**

**First Semester**

<table>
<thead>
<tr>
<th>Credit</th>
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<tbody>
<tr>
<td><strong>KINE</strong> Any physical activity course</td>
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**Second Semester**

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<tr>
<th>Credit</th>
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<tbody>
<tr>
<td><strong>BIOL 2401 Human Anatomy &amp; Physiology I</strong></td>
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<td><strong>ENGL 1301 Composition &amp; Rhetoric I</strong></td>
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<td><strong>PSYC 2301 General Psychology</strong></td>
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<td><strong>SEMESTER TOTAL</strong></td>
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</table>
DEGREES AND CERTIFICATES

RNSG 1301 Pharmacology 3
SOCI 1301 Principles of Sociology 3
BIOL 2402 Human Anatomy & Physiology II 4

**SEMESTER TOTAL** 11

**Second Semester**

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>BIOL 2420 Medical Microbiology</td>
<td>4</td>
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<tr>
<td>SPCH 1318 Interpersonal Communication OR</td>
<td>3</td>
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<tr>
<td>SPCH 1311 Introduction to Speech Communication</td>
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<tr>
<td>PSYC 2314 Lifespan Growth &amp; Development</td>
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**SEMESTER TOTAL** 10

**Third Semester**

<table>
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<th>Course</th>
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<tbody>
<tr>
<td>RNSG 1260 Clinical</td>
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<tr>
<td>RNSG 1417 Concepts of Nursing Practice I for Articulating Students</td>
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**SEMESTER TOTAL** 6

**SECOND YEAR**

**First Semester**

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>RNSG 2173 Advanced Nursing Skills</td>
<td>1</td>
</tr>
<tr>
<td>RNSG 2361 Clinical - Nursing III</td>
<td>3</td>
</tr>
<tr>
<td>RNSG 2514 Integrated Care of the Client with Complex Health Care Needs</td>
<td>5</td>
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**SEMESTER TOTAL** 9

<table>
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<tr>
<th>Course</th>
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<tbody>
<tr>
<td>Elective Humanities/Fine Arts</td>
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<tr>
<td>RNSG 1207 Nursing Jurisprudence</td>
<td>2</td>
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<td>RNSG 2362 Clinical - Nursing IV</td>
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<tr>
<td>RNSG 2535 Integrated Client Care Management</td>
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<tr>
<td>RNSG 2171 Role Transition for Articulating Students</td>
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**SEMESTER TOTAL** 14

**TOTAL Credit Hours Transition to Professional Nursing AAS** 60

1 Meets multicultural requirement
2 Capstone course
Note: Students must meet math competency (MATH 0308 or higher)

**VOCATIONAL NURSING ADN TO VN CERTIFICATE**

(certificate offered at LSC-North Harris)
Must be enrolled in ADN Program

**Prerequisite Semester**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
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<tbody>
<tr>
<td>BIOL 2401 Human Anatomy &amp; Physiology I</td>
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<tr>
<td>ENGL 1301 Composition &amp; Rhetoric I</td>
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<tr>
<td>PSYC 2301 General Psychology</td>
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**SEMESTER TOTAL** 10

<table>
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<tr>
<th>Course</th>
<th>Credit</th>
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<tbody>
<tr>
<td>BIOL 2402 Human Anatomy &amp; Physiology II</td>
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<tr>
<td>RNSG 1301 Pharmacology 3</td>
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<tr>
<td>RNSG 1172 Preparation for Basic Care 1</td>
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**SEMESTER TOTAL** 12

**Second Semester**

<table>
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<tr>
<th>Course</th>
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<tbody>
<tr>
<td>RNSG 1119 Integrated Nursing Skills I</td>
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<tr>
<td>BIOL 2420 Medical Microbiology</td>
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<tr>
<td>RNSG 1361 Clinical - Nursing I</td>
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<tr>
<td>RNSG 1523 Intro to Professional Nursing</td>
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**SEMESTER TOTAL** 13

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<tr>
<th>Course</th>
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<tbody>
<tr>
<td>PSYC 2314 Lifespan Growth &amp; Development</td>
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<td>RNSG 1129 Integrated Nursing Skills II</td>
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<tr>
<td>RNSG 1362 Clinical Nursing II</td>
<td>3</td>
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<tr>
<td>RNSG 2504 Integrated Care of the Client with Common Health Care Needs</td>
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**SEMESTER TOTAL** 12

**TOTAL Credit Hours for Vocational Nursing ADN to VN Certificate** 54

1 Meets multicultural requirement
2 Capstone course
Note: Students must meet math competency (MATH 0308 or higher)

**NURSING ASSISTANT CERTIFICATE**

(certificate offered at LSC-Kingwood, Montgomery, North Harris and Tomball)
Must be enrolled in ADN Program

**First Semester**

<table>
<thead>
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<th>Course</th>
<th>Credit</th>
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<tbody>
<tr>
<td>BIOL 2401 Human Anatomy &amp; Physiology I</td>
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<td>ENGL 1301 Composition and Rhetoric I</td>
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<tr>
<td>KINE  Physical Activity</td>
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<td>PSYC 2301 General Psychology</td>
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**SEMESTER TOTAL** 11

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<th>Course</th>
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<tbody>
<tr>
<td>BIOL 2402 Human Anatomy &amp; Physiology II</td>
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<td>PSYC 2314 Lifespan Growth &amp; Development</td>
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<td>RNSG 1119 Integrated Nursing Skills I</td>
<td>1</td>
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<tr>
<td>RNSG 1172 Preparation for Basic Care 1</td>
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<tr>
<td>RNSG 1361 Clinical - Nursing I</td>
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<td>RNSG 1523 Intro to Professional Nursing</td>
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**SEMESTER TOTAL** 17

**TOTAL Credit Hours for Nursing Assistant Certificate** 28

1 Capstone course
**NURSING SPECIALIZATION**  
*(Block Curriculum)*  
**Associate of applied science degree**  
*(degree offered at LSC-CyFair)*

### FIRST YEAR

<table>
<thead>
<tr>
<th>Semester</th>
<th>Credit</th>
<th>Course</th>
<th>Hours</th>
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<td><strong>BIOL 2401 Human Anatomy &amp; Physiology I</strong></td>
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<td><strong>RNSG 1209 Introduction to Nursing</strong></td>
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<td><strong>RNSG 1144 Nursing Skills II</strong></td>
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<td><strong>RNSG 1341 Common Concepts of Adult Health</strong></td>
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### SECOND YEAR

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<td><em><em>RNSG</em> 1201 Pharmacology</em>*</td>
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<td><em><em>PSYC</em> 2314 Lifespan Growth &amp; Development</em>*</td>
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<td><strong>RNSG 2162 Clinical: Nursing - RN Training</strong></td>
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<td><strong>RNSG 2260 Clinical: Care of Children &amp; Families</strong></td>
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<td><strong>RNSG 2231 Advanced Concepts of Adult Health</strong></td>
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**TOTAL Credit Hours for Nursing Specialization Block Curriculum**  
**72**

---

* Can be taken during 1st year, 3rd semester or 2nd year, 1st semester, depending on spring or fall enrollment.  
Note: Students must meet math competency (Math 0308 or higher)

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**TRANSITION TO PROFESSIONAL NURSING FOR ARTICULATING STUDENTS**  
*(Block Curriculum)*  
**Associate of applied science degree**  
*(specialization offered at LSC-CyFair)*

### FIRST YEAR

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<td><strong>RNSG 1115 Health Assessment</strong></td>
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<td><strong>KINE Any physical activity course</strong></td>
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<tr>
<td><strong>RNSG 2207 Transition to Nursing Practice</strong></td>
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<td><strong>RNSG 2231 Advanced Concepts of Adult Health</strong></td>
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OCCUPATIONAL THERAPY ASSISTANT

Occupational therapy assistants, under the direction of a licensed occupational therapist, assist individuals with disabling conditions to achieve independence through the use of purposeful activity. The curriculum for the occupational therapy assistant program covers a period of two years and is designed to lead toward an associate of applied science degree. Students will engage in coursework for a period of four semesters followed by a fifth semester of full-time fieldwork at health care facilities in the community. The educational experience will include classroom instruction, laboratory activities and clinical work. Many clinical facilities will require students to successfully pass a background check. Students will be trained to work with all age groups in a variety of health care settings.

The LSC-Kingwood and Tomball occupational therapy assistant programs are accredited by the Accreditation Council for Occupational Therapy Education (ACOTE) of the American Occupational Therapy Association (AOTA) located at 4720 Montgomery Lane, P.O. Box 31220, Bethesda, MD 20824-1220, 301.652.AOTA.

Graduates will be eligible for the national certification examination administered by the National Board for Certification in Occupational Therapy (NBCOT). After successful completion of this examination, the graduate will be a Certified Occupational Therapy Assistant (COTA). Most states, including Texas, require licensure to practice. Texas licensure is based on successful completion of the NBCOT examination. A felony conviction may affect a graduate’s ability to sit for the NBCOT examination or attain a state licensure.

The general education core will transfer to a variety of colleges and universities. Contact a counselor or faculty member at any of the colleges for specific information. To obtain the recommended sequencing of courses, contact either program director at LSC-Kingwood or Tomball.

Admission Criteria:
Applicants must meet the college’s general admission criteria as well as program admission criteria and submit all documentation to the Occupational Therapy Assistant office at LSC-Kingwood or Tomball.

Program Admission Criteria include:

- Apply for admission to the occupational therapy assistant department by submitting a formal application and all required official documents to the department. All eligible candidates MAY be scheduled for a personal interview. Applicants will be notified by mail of their admission status.
- Possible completion of personal reference forms.
- Observation hours may be required, contact the program director for specific information.
- Applicants may be asked to provide a writing sample.
- Final acceptance into the program is contingent upon a satisfactory background check (as required by hospitals), which will be completed by an approved agency at the student’s expense. If a student is convicted of a felony or misdemeanor while enrolled in an LSCS occupational therapy program, the student must inform the director in writing and submit a current background check. Clinical facilities may also require completion of satisfactory drug screening.

Minimum Academic Requirements Include:
(The following academic requirement options are for the LSC-Tomball program. Applicants for the LSC-Kingwood program should contact that program director.)

Applicants can meet the academic requirements through ONE of the three following options:

**Option 1** (Test scores that show college level skills, such as):
THEA scores of Reading 230, Writing 220, and Math 253. Other test scores may be substituted in
place of THEA scores such as SAT, ACT, ASSET and Compass scores. Please check with the program director regarding any substitutions.

**Option 2** (Course Completion):
Complete a minimum of seven semester college credit hours including the following courses (within the past seven years) with a grade point average (GPA) of 2.0 with no grade below a “C”.

a. BIOL 2401 Human Anatomy & Physiology I
   OR BIOL 2402 Human Anatomy & Physiology II and
b. ENGL 1301 Composition & Rhetoric I

Applicants may also substitute other completed courses such as psychology, history, etc. Contact the program director for verification of any substitutions.

**Option 3** (A combination of testing and coursework):
Applicants may combine test scores with course completion. For example, completion of ENGL 1301 with a Math score of 43 (elementary algebra) on the ASSET would be an acceptable combination. Contact the program director for specific questions regarding the combining of scores and coursework.

**Upon admission to the program, students must have:**

- Physical examination completed by a licensed physician;
- Verification of updated immunization record; regulations require that prior to patient contact, the student must have completed the Hepatitis B immunization series which is received over a 3 - 6 month period; and,
- Certificate of completion of CPR prior to Level II Fieldwork

Incomplete applications will not receive a department review. Each applicant is responsible for contacting the OTA department to confirm that their application is complete. Applicants to the program will be ranked according to their level of achievement of the program admission criteria and will be accepted into the program on a competitive basis. Applicants who are not accepted for admission in the year in which they apply may submit a letter to the director of the occupational therapy assistant program requesting that their application be reconsidered for the following year. Students must complete Level II fieldwork assignments within 18 months following completion of academic preparation. Additional information can be obtained from the occupational therapy assistant department at LSC-Kingwood and Tomball.

**OCCUPATIONAL THERAPY ASSISTANT**

Associate of applied science degree
(degree offered at LSC-Kingwood and Tomball)

Course sequence is for LSC-Tomball. Contact the LSC-Kingwood program director for details on its course sequence.

**FIRST YEAR**

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<td>ENGL 1301 Composition and Rhetoric I</td>
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<tr>
<td>OTHA 1301 Intro to Occupational Therapy</td>
<td>3</td>
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<td>OTHA 1315 Therapeutic Use of Occupations or Activities I</td>
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<td>OTHA 2301 Pathophysiology in OT</td>
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<td>OTHA 2331 Physical Function in OT</td>
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<td>PSYC 2314 Life Span and Development</td>
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<td>OTHA 2302 Therapeutic Use of Occupations or Activities II</td>
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<td>OTHA 2309 Mental Health in OT</td>
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**SECOND YEAR**

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<td>OTHA 1353 Occupational Performance/Elders</td>
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<td>OTHA 2166 Practicum</td>
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<td>OTHA 2335 Management in Occup. Therapy</td>
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DEGREES AND CERTIFICATES

TOTAL Credit Hours for AAS Degree 65

1 Combination of these courses meets multicultural requirement
2 Capstone course

Note: Students must meet math competency (Math 0308 or higher)

PARALEGAL STUDIES

Degrees and certificates in paralegal studies are available for students wishing to pursue a professional career as a paralegal/legal assistant. The goal of the program is to prepare students to perform effectively in a variety of legal settings and to adapt readily to changes in the legal environment. The program offers a two-year associate of applied science degree and a one-year certificate in paralegal studies. Only students already possessing either an associate’s degree or a bachelor’s degree may enter the certificate program.

Exciting and fulfilling careers can be found in both the public and private sectors of legal practice for graduates holding paralegal degrees and certificates. Paralegals are trained to assist attorneys in such legal services as drafting legal documents, conducting legal research and factual investigations, and interviewing clients and witnesses. Paralegals must work under the direct supervision of a lawyer. The program offers a faculty of experienced paralegal professionals and attorneys, and an extensive law library with Westlaw Computer Assisted Legal Research available on campus. Lexis/Nexis computer research is also available online with computer access to the library Web site.

For students enrolled full-time the AAS degree may be earned in two years, and the certificate in one year. For those attending on a part-time basis, time for completion will be longer. The general education core will transfer to a variety of colleges and universities. Transferred legal specialty courses will be approved as course substitutions as appropriate by the program director only. All students must take at least 12 semester credits of legal specialty courses in the traditional classroom setting. Contact a counselor or paralegal studies faculty member at LSC-North Harris for more information. Find us on the Web at: http://northharris.LoneStar.edu/paralegal/ for more information.

PARALEGAL STUDIES

ADVANCED TECHNICAL CERTIFICATE
(certificate offered at LSC-North Harris)

Admission to this program is limited to students who have already earned an associate or a baccalaureate degree from an accredited college or university. Students without a prior degree who wish to pursue paralegal studies must matriculate under the AAS.

FIRST YEAR

First Semester

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<td>Legal Ethics &amp; Prof. Responsibility</td>
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<td>LGLA 1303</td>
<td>Legal Research</td>
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<td>LGLA 1307</td>
<td>Intro to Law &amp; Legal Professions</td>
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<td>LGLA 2303</td>
<td>Torts &amp; Personal Injury Law</td>
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<td>LGLA 2370</td>
<td>Rules of Civil Procedure</td>
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SECOND SEMESTER

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<td>LGLA 1345</td>
<td>Civil Litigation</td>
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<td>LGLA 2305</td>
<td>Interviewing &amp; Investigating</td>
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<td>LGLA 2331</td>
<td>Adv. Legal Research &amp; Writing</td>
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<td>LGLA 2388</td>
<td>Internship Paralegal/Legal Assist.OR</td>
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TOTAL Credit Hours for Paralegal Studies Advanced Technical Certificate 35-36

1 Capstone course
2 LGLA 1323, 1341, 1343, 1349, 1353, 1355, 1359, 1371, 2301, 2309, 2311, 2313, 2315

PARALEGAL STUDIES

ASSOCIATE OF APPLIED SCIENCE DEGREE, TECH PREP
(degree offered at LSC-North Harris)

FIRST YEAR

First Semester

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<td>Composition &amp; Rhetoric I</td>
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<td>Introduction to Computers</td>
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<td>LGLA 1307</td>
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SECOND SEMESTER

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TOTAL Credit Hours for Paralegal Studies Associate of Applied Science Degree, Tech Prep 65

1 Combination of these courses meets multicultural requirement
2 Capstone course
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<th>General Education</th>
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<td>GOVT 2302</td>
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**SECOND YEAR**

**First Semester**

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<tr>
<td>KINE 1219</td>
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**Second Semester**

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<tbody>
<tr>
<td>LGLA 2305</td>
<td>Interviewing &amp; Investigations</td>
</tr>
<tr>
<td>LGLA 2331</td>
<td>Adv. Legal Research Writing</td>
</tr>
<tr>
<td>LGLA 2388</td>
<td>Elective</td>
</tr>
<tr>
<td>LGLA 1315</td>
<td>Public Speaking</td>
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<tr>
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</tbody>
</table>

**TOTAL Credit Hours for AAS Degree** **61**

1. Humanities course requirement must be selected from this list: ENGL 2332, 2333, HUMA 1301, 1302, PHIL 1304, FREN 2311, 2312, GERM 2311, 2312, SPAN 2311, 2312. These courses also meet the multicultural requirement.
2. Select from general education requirements
3. Capstone course
4. LGLA 1323, 1341, 1343, 1349, 1353, 1355, 1359, 1371, 2301, 2309, 2311, 2313, 2315

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**PHARMACY TECHNOLOGY**

Pharmacy technicians are paraprofessionals who work under the supervision of a licensed pharmacist to assist with activities that do not require the professional judgment of the pharmacist. Pharmacy technicians assist with maintaining records, filling and dispensing routine prescriptions and medication orders, stocking supplies of patient care areas, maintaining inventories of drug supplies, preparing sterile compound products, accepting prescriptions and refill requests, and providing assistance to the customers and patients specific to the pharmacy practice setting. Exciting careers are available in traditional pharmacy settings, e.g. retail and hospital pharmacies, and non-traditional pharmacy settings, e.g. compounding and nuclear pharmacies.

The pharmacy technology certificate program is a two-semester cohort program that provides an excellent introduction to the pharmacy profession. Recruitment for the fall class begins in the month of April. Students typically begin the two-semester daytime program in August (fall). Because of the demand for the program, students starting at LSC-North Harris in the spring will be in the evening program that runs for 12 months (January through December).

The certificate program at both LSC-North Harris and LSC-Tomball is accredited by the American Society of Health-System Pharmacists.

The pharmacy technology certificate program prepares graduates to sit for the National Pharmacy Technician Certification Examination, administered by the Pharmacy Technician Certification Board (PTCB), to become a certified pharmacy technician (CPhT). Pharmacy technicians in the State of Texas are required to be certified by examination within the year allotted. The Texas State Board of Pharmacy (TSBP) also requires certified pharmacy technicians to register with the Board. It further requires that a person performing pharmacy technician duties in a pharmacy must be registered by TSBP as either a pharmacy technician or a pharmacy technician trainee. This includes students while they are doing “clinical” rotations in pharmacies. To register, the pharmacy technology student can find links to the online registration applications at www.tsbp.state.tx.us/. Pharmacies must ensure that all pharmacy technician trainees complete the online registration process. Included with the registration process is the criminal background information, which requires submission of the applicant’s social security number and high school graduation information. The criminal background history must be clear of any felonies or controlled substance violations prior to enrollment in the pharmacy technology program.

Once an applicant has successfully completed all requirements of registration, and the TSBP has determined there are no grounds to refuse registration, the applicant will be issued a red certificate as a pharmacy technician trainee. This certificate expires two years from the date of issuance.

**Admission Criteria for the Certificate Program:**

Applicants must meet the program admission criteria and submit all documentation to the pharmacy technology office at either LSC-North Harris...
or Tomball. Contact the program director at the appropriate college to determine eligibility and qualifications for the program prior to completing the application form.

Applicants to the certificate program must:

1. Contact the LSC-North Harris program director at 281.618.5727 or the LSC-Tomball program director at 281.357.3634 to determine eligibility and prerequisite requirements.

2. Provide evidence of college ready status according to the following:
   a. Submit previous college and/or high school transcripts from all colleges/universities attended;
   b. Submit passing scores on the COMPASS, THEA, or ASSET tests as determined by LSCS;
   c. Complete an individualized learning plan which includes MATH 0308; ENGL 0305 or ENGL 0316; ENGL 0306 or ENGL 0326 or ENGL 0353 with a minimum grade of C;

3. Schedule a personal interview with the program director. Applicants will be notified by mail or phone of the admission status. It is strongly recommended that application be made at least a month in advance of the semester for which the student would like to enroll.

4. Receive a high school diploma or GED before applying to the program.

5. Provide a copy of the TSBP-issued certificate to the program director.

6. Complete a drug screen prior to clinical affiliation if required by that facility or pharmacy. Students will be provided further information according to agency and/or college policy.

7. Complete the Hepatitis B immunization series prior to patient contact if required by clinical affiliates.

Upon admission to the program, students must have:

1. Recent verification of physical examination completed by a licensed physician.

2. Verification of an updated immunization record. Agencies may also require recent TB skin test results, MMR immunity, and/or varicella vaccine.

3. Student liability insurance (paid when student registers for the first semester).

4. Long-sleeve, short-length white lab jacket, program patch, and school-approved name tag.

5. Certificate of completion of CPR prior to the first internship assignment. Incomplete applications will not receive a complete departmental review. Each applicant is responsible for contacting the pharmacy technology office to confirm whether the application is complete. Additional information can be obtained from the pharmacy technology office at LSC-North Harris or Tomball.

Admission Criteria for the AAS Degree Program:

The associate of applied science degree in pharmacy technology requires an additional year of course work. The purpose of the program is to prepare graduates for managerial positions and customer service in hospital and community/retail pharmacies. An associate degree in pharmacy technology emphasizes the technician’s interest in and dedication to the work. Further emphasis is placed on ethics and federal and state laws. The pharmacy courses for the AAS degree are offered at LSC-North Harris.

Applicants seeking admission to the AAS program must contact the program director at 281.618.5727 to determine eligibility and prerequisite requirements. Include official documentation of the Pharmacy Technician Certification Board (PTCB) certificate, Texas State Board of Pharmacy (TSBP) certificate, and completion of the pharmacy technology certificate from an accredited institution. Each candidate will be assessed on an individual basis by the program director to determine his or her eligibility before applying to the AAS program. Those who did not complete a pharmacy technology program but had informal on-the-job training must contact the program director for a PLA (Prior Learning Assessment). A nominal fee is required for an assessment of the student’s previous work experience. Prior to graduation from the AAS degree program, students must complete LSCS Student Success Initiative (SSI) requirements.
PHARMACY TECHNOLOGY

CERTIFICATE
(certificate offered at LSC-North Harris and Tomball)

FIRST YEAR

First Semester

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit</th>
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<tbody>
<tr>
<td>PHRA 1102</td>
<td>Pharmacy Law</td>
<td>1</td>
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<tr>
<td>PHRA 1305</td>
<td>Drug Classification</td>
<td>3</td>
</tr>
<tr>
<td>PHRA 1309</td>
<td>Pharmaceutical Mathematics I</td>
<td>3</td>
</tr>
<tr>
<td>PHRA 1361</td>
<td>Clinical - Community Pharmacy</td>
<td>3</td>
</tr>
<tr>
<td>PHRA 1413</td>
<td>Community Pharmacy Practice</td>
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<tr>
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Second Semester

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<tr>
<td>PHRA 1143</td>
<td>Pharm Tech Certification Review</td>
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<tr>
<td>PHRA 1304</td>
<td>Pharmacotherapy &amp; Disease Proc.</td>
<td>3</td>
</tr>
<tr>
<td>PHRA 1345</td>
<td>Intravenous Admixture &amp; Sterile Compounding</td>
<td>3</td>
</tr>
<tr>
<td>PHRA 1347</td>
<td>Pharmaceutical Mathematics II</td>
<td>3</td>
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<tr>
<td>PHRA 1449</td>
<td>Institutional Pharmacy Practice</td>
<td>4</td>
</tr>
<tr>
<td>PHRA 2361</td>
<td>Clinical - Institutional Pharmacy</td>
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<td><strong>SEMESTER TOTAL</strong></td>
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TOTAL Credit hours for Pharmacy Technology Certificate 31

1 Capstone course

PHARMACY TECHNOLOGY

Associate of applied science degree
(degree offered at LSC-North Harris)

FIRST YEAR

First Semester

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<tbody>
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<td>Community Pharmacy Practice</td>
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<tr>
<td>PHRA 1309</td>
<td>Pharmaceutical Mathematics I</td>
<td>3</td>
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<td>PHRA 1305</td>
<td>Drug Classification</td>
<td>3</td>
</tr>
<tr>
<td>PHRA 1102</td>
<td>Pharmacy Law</td>
<td>1</td>
</tr>
<tr>
<td>PHRA 1361</td>
<td>Clinical - Community Pharmacy</td>
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<td><strong>SEMESTER TOTAL</strong></td>
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Second Semester

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<tbody>
<tr>
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<td>Pharmaceutical Mathematics II</td>
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<td>PHRA 1304</td>
<td>Pharmacotherapy &amp; Disease Proc.</td>
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<td>PHRA 1345</td>
<td>Intravenous Admixture &amp; Sterile Compounding</td>
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<tr>
<td>PHRA 1143</td>
<td>Pharmacy Technician Certification Review</td>
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<tr>
<td>PHRA 2361</td>
<td>Clinical - Institutional Pharmacy</td>
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First Summer Session

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<tr>
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<tbody>
<tr>
<td>Elective¹</td>
<td>Humanities/Fine Arts Elective</td>
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<td>KINE¹</td>
<td>Kinesiology</td>
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<tr>
<td>COSC 1401</td>
<td>Microcomputer Applications OR</td>
<td>4</td>
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SECOND YEAR

First Semester

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<tbody>
<tr>
<td>PHRA 1240</td>
<td>Pharmacy Third Party Payment</td>
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<tr>
<td>ENGL 1301</td>
<td>Composition and Rhetoric I</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 2404</td>
<td>Introduction to A&amp;P</td>
<td>4</td>
</tr>
<tr>
<td>PHRA 1207</td>
<td>Law and Ethics Pharmacy Law</td>
<td>2</td>
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<tr>
<td>BMGT 1301</td>
<td>Supervision OR</td>
<td>3</td>
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<td>BMGT 1327</td>
<td>Principles of Management OR</td>
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<tr>
<td>BMGT 2303</td>
<td>Problem Solving &amp; Decision Making</td>
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Second Semester

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<tr>
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<th>Course Title</th>
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<tbody>
<tr>
<td>SOCI 1301</td>
<td>Principles of Sociology</td>
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<tr>
<td>SPCH 1318</td>
<td>Interpersonal Communication</td>
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<tr>
<td>PHRA²</td>
<td>Practicum (or field experience) - Pharmacy Technician/Assistant</td>
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<tr>
<td>MRKG 1301</td>
<td>Customer Relations</td>
<td>3</td>
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<tr>
<td>PHRA 1206</td>
<td>Computerized Drug Delivery Systems I</td>
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<td><strong>SEMESTER TOTAL</strong></td>
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TOTAL Credit hours for Pharmacy Technology AAS 65

¹ The humanities/fine arts and kinesiology electives must be chosen from the list of approved core courses in those disciplines. See the core curriculum requirements in the catalog. Humanities or fine arts course must also meet multicultural requirements.

² Capstone course

Note: Students must meet math competency (Math 0308 or higher)

PHYSICAL THERAPIST ASSISTANT

The course of study for a physical therapist assistant (PTA) is a two-year program, leading to an associate of applied science degree. One class is accepted each year into the PTA program, which starts in the fall semester. The five-semester program includes one summer semester for a total of 67 credit hours. The program is designed to prepare skilled health care workers to perform treatment under the direction of a licensed physical therapist and includes didactic learning, skill development in the lab and clinical training. The treatments include thermal and electrical modalities, rehabilitation techniques, therapeutic exercise and patient education. Clinical facilities will require students to successfully pass a certified background check and may require a screening for drug usage. Graduates are prepared for employment as PTA’s in acute care hospitals,
rehabilitation centers, outpatient clinics, school systems, home health agencies and other places physical therapy is practiced. On completion of the program, graduates must pass the licensing exam administered by the Texas State Board of Physical Therapy Examiners in order to practice.

The general education core will transfer to a variety of colleges and universities. For more specific information and to obtain the recommended sequencing of courses, contact the program director or a college counselor.

**Admission Criteria:**
In addition to the general admission requirements of the Lone Star College System (LSCS), the following are requirements that must be met in order to apply for admission to the PTA program:

1. Submit passing THEA exam scores in reading, writing and math or complete LSCS Student Success Initiative (SSI) requirements. To determine your SSI status, see a college advisor.
2. A grade point average (GPA) of at least 2.0 in high school and/or college.
3. Must have completed at least 40 hours of exposure to the field under the direction of a licensed physical therapist or physical therapist assistant. This requirement may be met by work, volunteer or observation experience.
4. Regulations require that prior to patient contact, the student must have completed the Hepatitis B immunization series, which is received over a 3 - 6 month period, and have completed a certification in cardio-pulmonary resuscitation.
5. Final acceptance into the program is contingent upon a satisfactory background check (as required by clinical facilities), which will be completed by an approved agency at the student’s expense.

Applications for admission will be received during the spring semester before the program starts. Because admission to the program is competitive, the students who will be accepted are most likely to be those who score highest on the criteria established by the admissions committee including, but not limited to, the following:

1. completion of the general education core courses in the degree plan and
2. receipt of the highest grades in these courses.

In order to practice as a physical therapist assistant (PTA), a person must be licensed by the Texas Board of Physical Therapy Examiners. To take the PTA licensing exam, a person must be a graduate of a PTA educational program which is accredited by the Commission on Accreditation in Physical Therapy Education. The PTA program at LSC-Montgomery is accredited by the Commission on Accreditation in Physical Therapy Education.


### PHYSICAL THERAPIST ASSISTANT

**Associate of applied science degree**  
(degree offered at LSC-Montgomery)

<table>
<thead>
<tr>
<th>Prerequisite Semester</th>
<th>Credit</th>
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<tbody>
<tr>
<td><strong>First Semester</strong></td>
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<tr>
<td>BIOL 2401 Human Anatomy &amp; Physiology I</td>
<td>4</td>
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<tr>
<td>PTHA 1201 The Profession of Physical Therapy</td>
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<tr>
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<tr>
<td><strong>FIRST YEAR</strong></td>
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<td><strong>First Semester</strong></td>
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<tr>
<td>ENGL 1301 Composition &amp; Rhetoric I</td>
<td>3</td>
</tr>
<tr>
<td>PTHA 1225 Communication in Health Care</td>
<td>2</td>
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<td>PTHA 1305 Basic Patient Care Skills</td>
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<td>PTHA 1413 Functional Anatomy</td>
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<table>
<thead>
<tr>
<th>Second Semester</th>
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<tr>
<td>BIOL 2402 Human Anatomy &amp; Physiology II</td>
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<tr>
<td>PTHA 1431 Physical Agents</td>
<td>4</td>
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<tr>
<td>PTHA 2201 Essentials of Data Collection</td>
<td>2</td>
</tr>
<tr>
<td>PTHA 2435 Rehabilitation Techniques</td>
<td>4</td>
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<tr>
<td>PTHA 1260 Clinical (1 week)</td>
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DEGREES AND CERTIFICATES

Third Semester

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<tr>
<td>PSYC 2301 General Psychology</td>
<td>3</td>
</tr>
<tr>
<td>PTHA 1321 Pathophysiology</td>
<td>3</td>
</tr>
<tr>
<td>PTHA(^2) 2409 Therapeutic Exercise</td>
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**SEMESTER TOTAL:** 10

SECOND YEAR

First Semester

<table>
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<tr>
<th>Course</th>
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<tbody>
<tr>
<td>PHIL 2306 Introduction to Ethics</td>
<td>3</td>
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<tr>
<td>PTHA(^2) 1291 Special Topics in Physical Therapy</td>
<td>2</td>
</tr>
<tr>
<td>PTHA(^1) 2461 Clinical (5 weeks)</td>
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<tr>
<td>PTHA(^1) 2462 Clinical (5 weeks)</td>
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**SEMESTER TOTAL:** 13

Second Semester

<table>
<thead>
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<th>Course</th>
<th>Credit</th>
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<tbody>
<tr>
<td>PSYC 2314 Lifespan Growth &amp; Development</td>
<td>3</td>
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<tr>
<td>PTHA(^1),3256 Clinical (6 weeks)</td>
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<tr>
<td>PTHA(^2) 2217 Issues in Health Care</td>
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**SEMESTER TOTAL:** 10

**TOTAL Credit Hours for AAS Degree:** 67

1 Combination of courses meet multicultural requirement
2 Combination of courses meet communication competency
3 Capstone course

Note: Students must meet math competency (Math 0308 or higher)

PROFESSIONAL OFFICE TECHNOLOGY

The professional office technology associate of applied science degree tech prep program provides training in the skills and knowledge needed in the current and future office environment. The degree also includes development of the attitudes necessary to succeed in the business, medical, or legal office. Skills include time management, human relations, telephone techniques, information management, and oral and written business communications. Computer skill training includes word processing, spreadsheets, database, presentation, project management, and Internet research. Bookkeeping skills are also included for those choosing the bookkeeping track of the administrative support certificate.

A wide variety of job opportunities are available to program graduates in many types of offices. Entry-level jobs include office receptionist, bilingual office receptionist, administrative assistant, bookkeeper, medical office receptionist, medical secretary, medical administrative assistant, legal office receptionist, legal office assistant, and legal office administrative assistant. After a few years in the field, graduates can become an executive assistant, office manager, or office coordinator. Skilled administrative professionals are expected to be in demand in several industries, including manufacturing, financial services, health care, legal, and commercial real estate.

The professional office technology associate of applied science degrees are awarded for successful completion of 62-68 credit hours that include a common core of academic courses and a maximum selection of technical courses based upon specialization.

The program offers three degree specializations: business administrative support, legal office, or medical office administrator. All options offer certificates that build towards the degree. The legal office specialization offers certificates in legal office receptionist, legal office assistant, and legal administrative assistant. The medical office specialization offers certificates in medical office receptionist, medical front office, and medical administrative assistant. The business administrative support specialization offers certificates in bilingual office, office assistant, administrative support including a choice of either an administrative or a bookkeeping track, and administrative assistant. The certificates provide students with technical skills in just two or three semesters.

Medical office program only: students will be required to pay liability insurance during the semesters involving off-campus practicums or internships. At some facilities, students may be required to show proof of immunizations such as Hepatitis B, tuberculosis, tetanus, and MMR (mumps, measles, rubella). These costs are borne by the student.

**Graduation requirement:**
All students graduating with an AAS or level II certificate must complete LSCS Student Success Initiative (SSI) requirements. To determine your SSI status, see a college advisor.

The general education core will transfer to a variety of colleges and universities, and the degree will transfer in whole to some universities. Students may have earned some college credit while in high school through articulation if they enroll within one year of graduation. Contact a counselor, division
advisor, or faculty member at any college for specific information and to obtain the recommended sequencing of courses.

**BILINGUAL OFFICE CERTIFICATE**
(certificate offered at LSC-CyFair, North Harris and Tomball)

**FIRST YEAR**

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Credit</th>
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</thead>
<tbody>
<tr>
<td>ITSC 1401 Introduction to Computers</td>
<td>4</td>
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<tr>
<td>POFT 1309 Administrative Office Procedures I</td>
<td>3</td>
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<tr>
<td>POFT 1325 Business Math &amp; Machine Apps</td>
<td>3</td>
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<tr>
<td>POFT 1329 Beginning Keyboarding OR</td>
<td>3</td>
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<tr>
<td>ITCW 1301 Intro to Word Processing</td>
<td>3</td>
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<tr>
<td>POFT 1371 Bilingual Business Writing</td>
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**TOTAL Credit Hours for Bilingual Office Certificate** 16

1 Capstone course

**OFFICE ASSISTANT CERTIFICATE**
(certificate offered at LSC-CyFair, Kingwood, North Harris and Tomball)

**FIRST YEAR**

<table>
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<tr>
<th>Prerequisite Semester</th>
<th>Credit</th>
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<tbody>
<tr>
<td>POFT 1329 Beginning Keyboarding</td>
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<tr>
<td>ITSC 1401 Introduction to Computers OR</td>
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<td>COSC 1401 Microcomputer Applications</td>
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<tr>
<td>POFT 1309 Administrative Office Procedures I</td>
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<td>BMGT 1309 Information and Project Mgmt.</td>
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<td>POFT 2301 Intermediate Keyboarding OR</td>
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<td>ITCW 1301 Intro to Word Processing</td>
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<td>POFT 1301 Business English</td>
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**TOTAL Credit Hours for Office Assistant Certificate** 19

1 Capstone course

**ADMINISTRATIVE SUPPORT CERTIFICATE**
(certificate offered at LSC-CyFair, Kingwood, North Harris and Tomball)

**FIRST YEAR**

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<thead>
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<th>Prerequisite Semester</th>
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<tr>
<td>POFT 1329 Beginning Keyboarding</td>
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<td>ITSC 1401 Introduction to Computers OR</td>
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<td>COSC 1401 Microcomputer Applications</td>
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<tbody>
<tr>
<td>POFT 1309 Administrative Office Procedures I</td>
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<tr>
<td>BMGT 1309 Information and Project Mgmt.</td>
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<tr>
<td>POFT 2301 Intermediate Keyboarding OR</td>
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<td>ITCW 1301 Intro to Word Processing</td>
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<td>POFT 1301 Business English</td>
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<tr>
<td>POFT 1325 Business Math &amp; Machine Apps</td>
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**SEMESTER TOTAL** 15

**SECOND SEMESTER**

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**SEMESTER TOTAL** 13-14

**TOTAL Credit Hours for Administrative Support Certificate** 35-36

Note: All elective courses must be chosen from the same specialty track.

Track A - Administrative Track: BMGT 1309; ACNT 1303; SPCH 1315 or 1318 or 1321; POFT 2331
Track B - Bookkeeping Track: ACNT 1303, ACNT 1311, ACCT 2401, ACNT 1382

1 Capstone course

**ADMINISTRATIVE ASSISTANT CERTIFICATE**
(certificate offered at LSC-CyFair, Kingwood, North Harris and Tomball)

**FIRST YEAR**

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<tr>
<th>Prerequisite Semester</th>
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<tr>
<td>ITSC 1401 Introduction to Computers OR</td>
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<tr>
<td>COSC 1401 Microcomputer Applications</td>
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<tr>
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<tr>
<td>BMGT 1309 Information and Project Mgmt.</td>
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<td>ITCW 1301 Intro to Word Processing</td>
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<td>SPCH 1 Speech Elective</td>
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<td>POFT 2331 Administrative Systems</td>
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**SEMESTER TOTAL** 16

**SECOND YEAR**

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<tr>
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<tr>
<td>ENGL 1301 Composition &amp; Rhetoric</td>
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<tr>
<td>MRKG 1301 Customer Relations</td>
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</table>
POFT² 2380 Cooperative Education OR 3
POFT² 2386 Internship
Elective² Humanities/Fine Arts 3
SEMESTER TOTAL 15

TOTAL Credit Hours for Administrative Assistant Certificate 50

1 Choose from SPCH 1315, 1318, 1321
2 Capstone course
3 This course must meet the multicultural requirement
4 Note: Students must meet math competency (MATH 0308 or higher)

BUSINESS ADMINISTRATIVE SUPPORT SPECIALIZATION

Associate of applied science degree, Tech Prep
(degree offered at LSC-CyFair, Kingwood, North Harris and Tomball)

FIRST YEAR

Prerequisite Semester Credit
POFT 1329 Beginning Keyboarding 3
ITSC 1401 Introduction to Computers OR 4
COSC 1401 Microcomputer Applications
SEMESTER TOTAL 7

First Semester Credit
POFT 1309 Administrative Office Procedures I 3
BMGT 1309 Information and Project Mgmt. 3
POFT 2301 Intermediate Keyboarding OR 3
ITSW 1301 Intro to Word Processing
POFT 1301 Business English 3
SEMESTER TOTAL 12

Second Semester Credit
POFT 1325 Business Math & Machine Apps 3
ITSW 1404 Introduction to Spreadsheets 4
ACNT 1303 Introduction to Accounting I 3
SPCH¹ Speech Elective 3
POFT 2331 Administrative Systems 3
SEMESTER TOTAL 16

SECOND YEAR

First Semester Credit
ACNT 1311 Introduction to Computerized Acct. 3
ENGL 1301 Composition & Rhetoric I 3
MRKG 1301 Customer Relations 3
POFT² 2380 Cooperative Education OR 3
POFT² 2386 Internship
Elective³ Humanities/Fine Arts 3
SEMESTER TOTAL 15

Second Semester Credit
ITSC 1407 Introduction to Database 4
Elective Social/Behavioral Science 3
Elective⁴ Math/Natural Science 3-4
KINE Any physical activity course 1

POFT² 2380 Cooperative Education OR 3
POFT² 2381 Cooperative Education
IMED 1316 Web Design I OR 3
ITSC 2331 Integrated Software Applications III
SEMESTER TOTAL 17-18

TOTAL Credit Hours for Business Administrative Support AAS 67-68

1 Choose from SPCH 1315, 1318, 1321
2 Capstone course (course selected for second year, first semester must be different than course used to meet second year, second semester requirement)
3 Must meet multicultural requirement
4 See core requirements for AAS degree for options. If science option is chosen, math competency must be met (MATH 0308 or higher).

MEDICAL OFFICE RECEPTIONIST CERTIFICATE

(certificate offered at LSC-Kingwood, Montgomery, North Harris and Tomball)

FIRST YEAR

First Semester Credit
ITSC 1401 Introduction to Computers OR 4
COSC 1401 Microcomputer Applications
POFM 1302 Medical Software Applications 3
POFM¹ 1309 Medical Office Procedures 3
HITT 1305 Medical Terminology I 3
POFT 1301 Business English 3
SEMESTER TOTAL 16

TOTAL Credit Hours for Medical Office Receptionist Certificate 16

¹ Capstone course

MEDICAL FRONT OFFICE CERTIFICATE

(certificate offered at LSC-Kingwood, Montgomery, North Harris and Tomball)

FIRST YEAR

First Semester Credit
ITSC 1401 Introduction to Computers OR 4
COSC 1401 Microcomputer Applications
POFM 1302 Medical Software Applications 3
POFM 1309 Medical Office Procedures 3
HITT 1305 Medical Terminology I 3
POFT 1301 Business English 3
SEMESTER TOTAL 16

Second Semester Credit
BIOL 2404 Intro to Anatomy & Physiology 4
POFM 1300 Medical Coding Basics 3
POFM 1327 Medical Insurance 3
POFM¹ 2380 Cooperative Education OR 3
POFM 2386 Internship
ITSC 1401 Introduction to Spreadsheets 4
SEMESTER TOTAL 16
### DEGREES AND CERTIFICATES

#### TOTAL Credit Hours for

**Medical Front Office Certificate** 32

1 Capstone course

### MEDICAL ADMINISTRATIVE ASSISTANT CERTIFICATE

(certificate offered at LSC-Kingwood, Montgomery, North Harris and Tomball)

#### FIRST YEAR

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#### Second Semester

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<td><strong>HPRS</strong> 2332 Health Care Communications 3</td>
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#### SECOND YEAR

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<td><strong>POFM</strong> 2310 Intermediate Medical Coding 3</td>
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<td><strong>SPCH</strong> 1311 Intro to Speech Communications OR 3</td>
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<td><strong>SPCH</strong> 1318 Interpersonal Communications OR</td>
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#### TOTAL Credit Hours for Medical Administrative Assistant Certificate

47

1 Capstone course

Note: Students must meet math competency (MATH 0308 or higher)

### MEDICAL OFFICE ADMINISTRATOR SPECIALIZATION

Associate of applied science degree, Tech Prep

(specialization offered at LSC-Kingwood, Montgomery, North Harris and Tomball)

#### FIRST YEAR

<table>
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### LEGAL OFFICE RECEPTIONIST CERTIFICATE

(certificate offered at LSC-Kingwood)

#### FIRST YEAR

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<td><strong>POFT</strong> 1301 Business English 3</td>
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<td><strong>POFT</strong> 1329 Beginning Keyboarding OR</td>
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<td><strong>ITSW</strong> 1301 Intro to Word Processing 3</td>
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<td><strong>ITSC</strong> 1401 Introduction to Computers OR</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>COSC</strong> 1401 Microcomputer Applications 4</td>
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</table>

1 Choose one elective to meet the multicultural component.

2 Capstone course

Note: Students must meet math competency (Math 0308 or higher)
**DEGREES AND CERTIFICATES**

**LEGAL OFFICE ASSISTANT CERTIFICATE**  
(certificate offered at LSC-Kingwood)

**FIRST YEAR**

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<td>POFT 1301</td>
<td>Business English</td>
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<td>POFT 1329</td>
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**TOTAL Credit Hours for Legal Office Assistant Certificate**  
31  
1 Capstone course

**LEGAL ADMINISTRATIVE ASSISTANT CERTIFICATE**  
(certificate offered at LSC-Kingwood)

**FIRST YEAR**

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<tr>
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**TOTAL Credit Hours for Legal Assistant Administrative Certificate**  
45-47  
1 Technical electives include POFT, POFM, POFL, ACNT, BUSG, IBUS, or departmental approval.  
2 Capstone course

**LEGAL OFFICE SPECIALIZATION**  
Associate of applied science degree, Tech Prep  
(specialization offered at LSC-Kingwood)

**FIRST YEAR**

<table>
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DEGREES AND CERTIFICATES

ITSW 1404 Introduction to Spreadsheets 4
POFL 2380 Cooperative Education OR 3
POFT 2331 Administrative Systems OR
POFT 2381 Cooperative Education
POFT 2301 Intermediate Keyboarding OR 3
Elective\textsuperscript{1} Technical

**SEMESTER TOTAL** 14-16

Second Semester

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**SEMESTER TOTAL** 17-18

**TOTAL Credit Hours for Legal Specialization** 62-65

\textsuperscript{1} POFT, POFM, POFL, ACNT, BUSG, IBUS or departmental approval

\textsuperscript{2} Choose course from one elective to meet the multicultural component

\textsuperscript{3} See core requirements for AAS degree for options. If science option is chosen, math competency must be met (MATH 0308 or higher).

\textsuperscript{4} Capstone course

Note: Students must meet math competency (Math 0308 or higher)

RESPIRATORY CARE

The course of study for a respiratory therapist is a 65 credit-hour (six semesters) associate of applied science degree program. The respiratory care program prepares graduates for the credentialing examinations from the NBRC (National Board for Respiratory Care). The program is fully accredited by the CAAHEP (Committee on Accreditation of Allied Health Education Programs; 1361 Park Street; Clearwater, Florida 33756; Phone 727-210-2350) through the COARC (Committee on Accreditation for Respiratory Care; 1248 Harwood road; Bedford, Texas 76021-4244; Phone 817-283-2835). The respiratory care program prepares graduates to be competent in delivery of therapeutic procedures in acute care settings, in performing diagnostic procedures, and in performing rehabilitation therapeutic procedures. The respiratory care program also prepares graduates to assist physicians in the diagnosis of cardiopulmonary disorders, to provide emergency cardiopulmonary care in the emergency room, and to implement therapist driven protocols in the practice of respiratory care. Many clinical facilities will require students to successfully pass a background check and drug screen. Areas for employment of respiratory care professionals include acute care hospitals, sub-acute care hospitals, rehabilitation hospitals, hyperbaric medicine, home care facilities, and physician offices.

The general education core will transfer to a variety of colleges and universities. Contact a counselor or faculty member at any of the colleges for specific information and to obtain the recommended sequencing of courses.

General Guidelines:

Upon acceptance into the program, students must submit a record of current immunizations required by the Texas Department of Health. Criminal background checks may be required by clinical facilities. The background check will be processed through the Federal Bureau of Investigations (FBI).

Completion of the respiratory care program does not guarantee eligibility to take the CRT exam administered by the NBRC or certification by the Texas Department of Health. The Texas Department of Health Respiratory Care Certification will consider individuals with histories of convictions, mental illness and/or chemical dependency on an individual basis after review.

Admissions Criteria:

The respiratory care program begins in the spring semester for the day program and in the fall semester for the evening program. Completion is in the fall semester of the second year for the day program and summer of the second year for the evening program. In addition to the system admission requirements, the following are requirements for the respiratory therapist program:

Pre-Application:

1. Graduation from high school verified with high school transcript; OR GED certificate verified by a copy of the certificate;
2. Official transcripts from all colleges or universities previously attended;
3. Completion of 9 semester hours of college level course work including: ENGL 1301 and BIOL 2401;
4. HOBET testing for aptitude in Medical Fields;
5. An essay written on why the individual wishes to enter the field of respiratory care;
6. TSI complete with eligibility to enter MATH 0310.

Pre-Admission:
1. Minimum age of 18 for completion of the respiratory care therapist program.
2. MANDATORY attendance at a scheduled orientation session.

Student Selection:
1. Students are ranked and selected on the following criteria by the admissions committee.
   a. Completion of all general academic courses for the respiratory care program
   b. Completion of BIOL 2401 and ENGL 1301
   c. GPA
   d. Date of application
2. A physical examination report, with laboratory tests and immunization records signed by a licensed physician within three weeks of the first class day. (Form provided.)
3. Hepatitis B vaccination is required for all admissions to the respiratory care program. The enrolling student must complete the series of three vaccines prior to entering the clinical practicum in the hospital setting.

RESPIRATORY CARE THERAPIST
Associate of applied science degree
(degree offered at LSC-Kingwood)

FIRST YEAR
First Semester
<table>
<thead>
<tr>
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<th>Course Name</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>RSPT 1167</td>
<td>Practicum</td>
<td>1</td>
</tr>
<tr>
<td>RSPT 2210</td>
<td>Cardiopulmonary Disease</td>
<td>2</td>
</tr>
<tr>
<td>RSPT 2414</td>
<td>Mechanical Ventilation</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 2402</td>
<td>Human Anatomy &amp; Physiology II</td>
<td>4</td>
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Second Semester
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<td>Cardiopulmonary A&amp;P</td>
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<td>RSPT 1101</td>
<td>Intro to Respiratory Care</td>
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<td>RSPT 1325</td>
<td>Respiratory Care Sciences</td>
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<td>RSPT 1429</td>
<td>Respiratory Care Fundamentals I</td>
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SECOND YEAR
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<td>RSPT 2325</td>
<td>Cardiopulmonary Diagnostics</td>
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<td>RSPT 2353</td>
<td>Neonatal/Pediatric Cardiopulmonary Care</td>
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<td>Any physical activity course</td>
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<td>RSPT 2160</td>
<td>Clinical</td>
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<tr>
<td>RSPT 2139</td>
<td>Advanced Cardiac Life Support</td>
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<tr>
<td>RSPT 2243</td>
<td>Research Application</td>
<td>2</td>
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<tr>
<td>PSYC 2301</td>
<td>General Psychology</td>
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<td>Elective*</td>
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Third Semester
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<tbody>
<tr>
<td>ENGL 1301</td>
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<td>RSPT 2230</td>
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TOTAL Credit Hours for AAS Degree 65

1 Course meets communication competency
2 Select course to meet multicultural requirement
3 Capstone course

Note: Students must meet math competency (Math 0308 or higher)

SURGICAL TECHNOLOGY
A surgical technologist is an allied health professional who works as part of the surgical team to ensure that the operative procedure is conducted under optimal conditions. The surgical technologist normally functions in a sterile capacity during the surgical procedure, but also performs many non-sterile duties throughout the course of the workday. The program in surgical technology includes both theory and practical clinical experience designed to prepare the student to pass the national certification examination for surgical technologists.
DEGREES AND CERTIFICATES

Surgical technologists will be responsible for pre-operative, intraoperative, and postoperative duties that may include preparing the operating room, create and maintain the sterile field, count the necessary instruments, expose the operative site with sterile drapes, specimen care, pass instrumentation and supplies to the surgeon, dressing application, removal of used instruments from the O.R., and preparation of the O.R. for the next patient.

Most surgical technologists are employed in hospital surgery departments, obstetric departments, and ambulatory care centers. Because of the broad educational background, however, combined with a specialized focus, other options may be open to the experienced surgical technologist. These include specialization in an area of interest such as cardiac, orthopedic, pediatric, plastic, or general surgery, advancement to the role of the surgical assistant, employment by a medical corporation to represent their products, military service, technical writing, illustration, and photography.

The surgical technology program at LSC-Tomball is a three semester, 42 credit hour (1344 contact hour) program that normally runs over a spring, summer, and fall semester. There are 11 workforce courses and one academic credit course (BIOL 2404).

**Admission Criteria:**
In addition to the system admission requirements, the following are required for the surgical technology program:

1. Graduation from high school verified by an official transcript or GED certificate. If the high school transcript is from a country other than the USA, it must be evaluated by an approved transcript evaluation company.
2. Submission of passing THEA exam scores in reading, writing and math, or complete LSCS Student Success Initiative (SSI) requirements. To determine your SSI status, see a college advisor.
3. Maintain a cumulative grade point average of 2.0 in college level courses.
4. Submit official transcripts from colleges attended other than LSCS.
5. Submit a completed application to the Surgical Technology Program Director at LSC-Tomball. Application deadlines are posted on the college’s Web site.
6. Final acceptance into the program is contingent upon a completed Hepatitis B immunization series and a satisfactory background check (as required by hospitals), which will be completed by an approved agency at the student’s expense.

**SURGICAL TECHNOLOGIST CERTIFICATE**
(certificate offered at LSC-Tomball)

**FIRST YEAR**

<table>
<thead>
<tr>
<th>Course</th>
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<td>SRGT 1301</td>
<td>Medical Terminology</td>
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<tr>
<td>BIOL 2404</td>
<td>Intro to Anatomy &amp; Physiology</td>
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<tr>
<td>SRGT 1405</td>
<td>Intro to Surgical Technology</td>
<td>4</td>
</tr>
<tr>
<td>SRGT 1260</td>
<td>Clinical I – Surgical/Operating</td>
<td>2</td>
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<tr>
<td>SRGT 1409</td>
<td>Fundamentals of Perioperative Concepts</td>
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**SECOND SEMESTER**

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<tr>
<td>SRGT 1541</td>
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<tr>
<td>SRGT 1460</td>
<td>Clinical II</td>
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<td>HPRS 2300</td>
<td>Pharmacology for Health Professions</td>
<td>3</td>
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**THIRD SEMESTER**

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<tr>
<td>SRGT 1542</td>
<td>Surgical Procedures II</td>
<td>5</td>
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<tr>
<td>SRGT 2462</td>
<td>Clinical III</td>
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<tr>
<td>HPRS 2301</td>
<td>Pathophysiology</td>
<td>3</td>
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<tr>
<td>SRGT 2130</td>
<td>Professional Readiness</td>
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**TOTAL Credit Hours for Surgical Technologist Certificate**

42

1 Capstone

**VETERINARY TECHNOLOGY**

The two-year veterinary technology associate of applied science degree provides the graduate with information, skills and experience he/she will need to follow a fulfilling career in a veterinary hospital, a zoological garden, industry, a medical research laboratory, a governmental regulatory program or the Veterinary Medical Corp.

Gaining its accredited status in 1990, today the veterinary technology program boasts a 99.98% passage rate on the State and National Board Examination. This success rate is unparalleled in
the State of Texas and is rated as one of the highest passage percentages of the 148 plus programs accredited by the American Veterinary Medical Association.

Because the veterinary technology program is fully accredited by the American Veterinary Medical Association, students are eligible to take all State and National Board examinations as well as work in all areas of animal health care. An individual spends time in laboratories working with cows, dogs, cats, horses, pigs, sheep, goats, exotics and even the more traditional laboratory animals like mice and rabbits. Upon graduation, the student is free to pursue any type of animal care situation they so desire.

Job opportunities for Registered Veterinary Technician graduates have never been better. Today there are from 8 to 10 fulfilling and exciting jobs available to each graduate just in the immediate Harris–Montgomery County area. As well as the impressive job market, it should be mentioned that scholarships are also available while the student is enrolled.

The general education core will transfer to a variety of colleges and universities. The entire 72 hours of credit in the veterinary technology program will transfer to some traditional four year colleges so students may pursue a four year baccalaureate degree in either animal science or agricultural business. Contact an advisor or faculty member at any of the colleges for specific information and to obtain the recommended sequencing of courses.

**General Guidelines**

Any student anticipating entrance into the veterinary technology program should ensure that remediation is not required after admission examinations are completed and have been reviewed. If admission examinations indicate the student is in need of remediation in math, writing or reading, the student must successfully complete those requirements before applying for entry into the veterinary technology program.

**Admission Procedure**

In addition to the admission requirements of the LSCS, the following are requirements for admission into the veterinary technology associate of applied science degree program:

- ACT scores of: Math 24+ Writing 19+ Reading 19+ College Math TSI met (if within 5 yrs)
- SAT scores of: Math 520+ Writing 500+ Reading 500
- THEA scores of: Math 270+ Writing 220+ Reading 230+
- ASSET scores of: Math IA 45+ or CA 23+ Writing 45+ and 6 essay or 7+ essay Reading 41+
- COMPASS scores of: Math Alg 60+ or ColAlg 0-40 Writing 85+ and 6 essay or 7+ essay Reading 81+
- ACCU-PLACER scores of:
  - Math 86+ Writing 80+ Reading 78+

Students should submit a Lone Star College application along with current (official) college transcripts to the admissions department at LSC-Tomball. After visiting with an advisor, the student should submit a separate application to the veterinary technology program with duplicate of college transcript. Note: the application to the veterinary technology program should be co-signed by LSC-Tomball advisor during the student’s visit in the admissions department. The veterinary technology admissions application form is also available on the college Web site at http://tomball.LoneStar.edu/

Program applications are reviewed and evaluated for fall admission on June 1 of each year. All applicants will be notified of their status following applicant review date. Students may be notified by letter or phone or both. It is the responsibility of the applicant to ensure all personal information on the application is current.

When admitted to the veterinary technology program, the student should ensure that non-veterinary technology courses (math, English, etc.) are never scheduled between 7:30 AM and 8:50 AM Monday through Friday. This time is reserved for all animal husbandry laboratories at LSC-Tomball.

The veterinary technology program will have an information session at the beginning of July each year. Students that have received admission notifications are encouraged to attend as important information on rules and program requirements will be covered in detail by the program faculty and staff. Questions will be welcomed.
Students receiving admission to the program should be aware that class notes, books, DVDs, and other supplies are required for every class along with special clothing for all husbandry laboratories. Students should expect to purchase all clothing supplies at the beginning of their first fall semester and all classroom supplies should be purchased during the first week of each VTHT class.

**Progression Requirements**

There are no specific progression requirements for the veterinary technology program. However, each student is required to take VTHT 1345, VTHT 2323, VTHT 2431, VTHT 1441, and VTHT 1140 within one calendar year of registration for the Veterinary Technology Clinical VTHT 2360. Failure to complete this requirement will necessitate delay of the clinical until requirements can be met.

**Registration Examination**

Students in veterinary technology at LSCS are considered eligible to sit for the State and National Veterinary Technology Board Examinations when they have completed all required course work with the exception of VTHT 2360, Veterinary Technology Clinical.

Contact Kathleen Diamond, RVT, at 281.351.3358 or kathleen.j.diamond@lonestar.edu or George W. Younger, DVM, at 281.351.3357 or george.w.younger@lonestar.edu for more information.

Web site: http://tomball.lonestar.edu/vettech

---

**VETERINARY TECHNOLOGY CERTIFICATE**

(certificate offered at LSC-Tomball)

**FIRST YEAR**

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Credit</th>
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<tbody>
<tr>
<td>VTHT 1301 Intro to Veterinary Technology</td>
<td>3</td>
</tr>
<tr>
<td>VTHT 1205 Vet Medical Terminology</td>
<td>2</td>
</tr>
<tr>
<td>BIOL 1406 Biology I</td>
<td>4</td>
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<tr>
<td>ENGL 1301 Composition and Rhetoric I</td>
<td>3</td>
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<tr>
<td>VTHT 1413 Veterinary Anatomy &amp; Physiology</td>
<td>4</td>
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<tr>
<td>VTHT 1209 Veterinary Nutrition</td>
<td>2</td>
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<tr>
<td>ENGL 1302 Composition and Rhetoric II</td>
<td>3</td>
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<tr>
<td>MATH 1332 College Math for Liberal Arts</td>
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**SECOND YEAR**

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<tr>
<td>VTHT 1125 Pharmacology Calculations</td>
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<td>VTHT 1266 Practicum Veterinary/Animal Health Technology/Technician</td>
<td>2</td>
</tr>
<tr>
<td>VTHT 2321 Veterinary Parasitology</td>
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<td><strong>SEMESTER TOTAL</strong></td>
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**TOTAL Credit Hours for Certificate** 30

**Notes**

1. Capstone
   Students should not register for VTHT or any other classes from Monday-Friday 7:30 a.m. - 9:00 a.m. These times must remain open for husbandry laboratories. VTHT 1205 and 1413 are offered more than once a year. All other VTHT courses are offered only in the semester indicated in the certificate outline.

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**VETERINARY TECHNOLOGY**

Associate of applied science degree, Tech Prep
(degree offered at LSC-Tomball)

**FIRST YEAR**

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<tr>
<td>VTHT 1301 Intro to Veterinary Technology</td>
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<tr>
<td>VTHT 1205 Vet Medical Terminology</td>
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<td>BIOL 1406 Biology I</td>
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<td>ENGL 1301 Composition and Rhetoric I</td>
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<td>MATH 1332 College Math for Liberal Arts</td>
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<tr>
<td>CHEM 1405 Introductory Chemistry</td>
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<td>ENGL 1302 Composition and Rhetoric II</td>
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<td>KINE Physical Activity</td>
<td>1</td>
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<td>VTHT 1209 Veterinary Nutrition</td>
<td>2</td>
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<td>VTHT 1413 Veterinary Anatomy &amp; Physiology</td>
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<tr>
<td>VTHT 1125 Pharmacological Calculations</td>
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<td>VTHT 1266 Practicum Veterinary/Animal Health Technology/Technician</td>
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<td>VTHT 2321 Veterinary Parasitology</td>
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<td>Elective1 Humanities/Fine Arts</td>
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<td>PSYC 2301 General Psychology</td>
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**SECOND YEAR**

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<tr>
<td>VTHT 2205 Equine Clinical Management</td>
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<td>VTHT 2201 Canine &amp; Feline Clinical Mgmt</td>
<td>2</td>
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<tr>
<td>VTHT 2323 Veterinary Clinical Pathology I</td>
<td>3</td>
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<tr>
<td>VTHT 2213 Lab Animal Clinical Management</td>
<td>2</td>
</tr>
<tr>
<td>VTHT 2217 Exotic Animal Clinical Management</td>
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<tr>
<td>VTHT 1349 Veterinary Pharmacology</td>
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DEGREES AND CERTIFICATES

Second Semester

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<td>Food Animal Clinical Mgmt.</td>
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<td>VTHT 1441</td>
<td>Anesthesia &amp; Surgical Assistance</td>
<td>4</td>
</tr>
<tr>
<td>VTHT 2431</td>
<td>Veterinary Clinical Pathology II</td>
<td>4</td>
</tr>
<tr>
<td>VTHT 1345</td>
<td>Veterinary Radiology</td>
<td>3</td>
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<tr>
<td>VTHT 1140</td>
<td>Veterinary Jurisprudence and Ethics</td>
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SEMEREST TOTAL 14

Third Semester

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<tr>
<td>VTHT 2360</td>
<td>Clinical</td>
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SEMEREST TOTAL 3

TOTAL Credit Hours for AAS Degree 72

1 Course must meet the multicultural requirement. See AAS requirements in catalog.

2 Combination of courses meets communication competency

3 Capstone course

Note: Students should not register for VTHT or any other classes from Monday-Friday 7:30 a.m.-9:00 a.m. These times must be left open for husbandry lab.

VTHT 1125 (Distance Learning available)

VTHT 1345, 2323, 2431, 1140 and 1441 must be completed within one calendar year prior to preceptorship (VTHT 2360).

VTHT 1205, 1413 and 2360 are offered more than once a year. All other VTHT courses are offered only in the semester indicated in the AAS outline.

VISUAL COMMUNICATION

The visual communication program trains today’s digital designers in the communication media of the future. This program provides students with skills needed for careers in commercial art and design, desktop publishing, web design, 3D animation, multimedia development, video and post-production. The demand for these skills comes from a variety of industries including advertising, consumer products, education, entertainment, government, legal, manufacturing, medical, petroleum, publishing, transportation, and video production. The visual communication associate degree is awarded for successful completion of 65-67 credit hours that include a common core of academic and a selection of technical courses based on specialization.

This degree has five areas of specialization: graphic design, multimedia, video and post-production, 3D animation, and web design. These certificates provide an opportunity to acquire technical skills in two to three semesters.

The general education core courses will transfer to a variety of universities, and the degree articulates to many area universities. Please see the department chair, faculty, or advisor for specific information.

3D ANIMATION CERTIFICATE

(certificate offered at LSC-North Harris)

FIRST YEAR

<table>
<thead>
<tr>
<th>Semester</th>
<th>First Semester</th>
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<tr>
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<td>ARTS 1316</td>
<td>Drawing I</td>
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<td>ARTC 1302</td>
<td>Digital Imaging I</td>
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<tr>
<td>IMED 1301</td>
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<tr>
<td>ARTV 1303</td>
<td>Basic Animation</td>
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SEMEREST TOTAL 15

Second Semester

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<tr>
<td>VTHT 1341</td>
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<td>ARTV 2345</td>
<td>3-D Modeling and Rendering II</td>
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<td>ARTS 1317</td>
<td>Drawing II</td>
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<td>ARTV 1351</td>
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<td>ITSC 1401</td>
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SEMEREST TOTAL 16

Third Semester

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<td>Video Graphics and Visual Effects I</td>
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<td>ARTS 1312</td>
<td>Design II, 3-D</td>
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SEMEREST TOTAL 12

TOTAL Credit Hours for 3D Animation Certificate 43

1 Capstone course

Note: Students must meet math competency (MATH 0308 or higher)

GRAPHIC DESIGN CERTIFICATE

(certificates offered at LSC-CyFair, Kingwood and North Harris)

FIRST YEAR

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<td>Digital Publishing I</td>
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### DEGREES AND CERTIFICATES

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<td>Interactive Multimedia I</td>
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1 Capstone course

Note: Students must meet math competency (MATH 0308 or higher)

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### MOTION GRAPHICS CERTIFICATE

*(certificate offered at LSC-CyFair, Kingwood and North Harris)*

**FIRST YEAR**

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<td>Introduction to Multimedia</td>
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<td>IMED 1316</td>
<td>Web Design I</td>
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<td>COSC 1401</td>
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<td>ARTV 1351</td>
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<td>TV Field Production OR</td>
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<td>RTVB 1325</td>
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<td>FLMC 2331</td>
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1 Capstone course

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### MULTIMEDIA DESIGNER CERTIFICATE

*(certificate offered at LSC-CyFair, Kingwood and North Harris)*

**FIRST YEAR**

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<td>Digital Imaging I</td>
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<td>Introduction to Multimedia</td>
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<td>IMED 1341</td>
<td>Interface Design</td>
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<td>IMED 2313</td>
<td>Project Analysis &amp; Design</td>
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1 Capstone course

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### VIDEO AND POST PRODUCTION CERTIFICATE

*(certificate offered at LSC-CyFair, Kingwood and North Harris)*

**FIRST YEAR**

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<tr>
<td>ARTV 1351</td>
<td>Digital Video</td>
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<td>Digital Imaging I</td>
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<td>IMED 1301</td>
<td>Introduction to Multimedia</td>
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<td>ITSC 1401</td>
<td>Introduction to Computers OR</td>
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<td>COSC 1401</td>
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### DEGREES AND CERTIFICATES

#### VISUAL COMMUNICATION

**Associate of applied science degree, Tech Prep**
*(degree offered at LSC-CyFair, Kingwood and North Harris)*

**FIRST YEAR**

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<td>ARTS 1316 Drawing I</td>
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<td>ARTC 1302 Digital Imaging I</td>
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<td>ARTC 1317 Design Communication I</td>
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<td>IMED 1301 Introduction to Multimedia</td>
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<td>ITSC 1401 Introduction to Computers OR COSC 1401 Microcomputer Applications</td>
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**SECOND YEAR**

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**SECOND SEMESTER**

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<tr>
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**TOTAL Credit Hours for Visual Communication AAS**

- **65-67**

1. Social/behavioral science course must meet multicultural requirement
2. Speech course from SPCH 1311, 1315, 1318 or 1321
3. See core requirements for AAS degree for options. If science option is chosen, math competency must be met (MATH 0308 or higher).
4. Capstone course: choose from GRPH 2380, IMED 2380, RTVB 2381, ARTC 2335 or IMED 2311

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#### WEB DESIGN CERTIFICATE

*(certificate offered at LSC-North Harris)*

**FIRST YEAR**

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<th>First Semester</th>
<th>Credit</th>
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<tbody>
<tr>
<td>ARTC 1317 Design Communication I</td>
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<tr>
<td>ARTC 1302 Digital Imaging I</td>
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<td>IMED 1301 Introduction to Multimedia</td>
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**SECOND SEMESTER**

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<tr>
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<tr>
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#### VISUAL COMMUNICATION

**Degree offered at LSC-CyFair, Kingwood and North Harris**

**FIRST YEAR**

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<th>Credit</th>
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<tbody>
<tr>
<td>ARTC 1317 Design Communication I</td>
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<td>ARTC 1302 Digital Imaging I</td>
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**SECOND YEAR**

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**SECOND SEMESTER**

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<tr>
<td>Elective¹ Math/Natural Science</td>
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<td>Capstone² Cooperative Education OR Portfolio Development</td>
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<tr>
<td><strong>SEMESTER TOTAL</strong></td>
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**TOTAL Credit Hours for Visual Communication AAS**

- **65-67**

1. Social/behavioral science course must meet multicultural requirement
2. Speech course from SPCH 1311, 1315, 1318 or 1321
3. See core requirements for AAS degree for options. If science option is chosen, math competency must be met (MATH 0308 or higher).
4. Capstone course: choose from GRPH 2380, IMED 2380, RTVB 2381, ARTC 2335 or IMED 2311

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#### VISUAL COMMUNICATION

**Degree offered at LSC-CyFair, Kingwood and North Harris**

**FIRST YEAR**

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<tr>
<td>ARTC 1317 Design Communication I</td>
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<td>ITSC 1401 Introduction to Computers OR COSC 1401 Microcomputer Applications</td>
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<td>ITSE 1402 Computer Programming</td>
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**SECOND SEMESTER**

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<tbody>
<tr>
<td>ENGL 1301 Composition and Rhetoric I</td>
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<td>Tech.Track Track (A, B, C, D, or E)</td>
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**TOTAL Credit Hours for Visual Communication AAS**

- **65-67**

1. Social/behavioral science course must meet multicultural requirement
2. Speech course from SPCH 1311, 1315, 1318 or 1321
3. See core requirements for AAS degree for options. If science option is chosen, math competency must be met (MATH 0308 or higher).
4. Capstone course: choose from GRPH 2380, IMED 2380, RTVB 2381, ARTC 2335 or IMED 2311
DEGREES AND CERTIFICATES

Choose Technical Track courses A, B, C, D or E from following corresponding tracks:

**Track A-Graphic Design**
- ARTC 1313, ARTC 2313, ARTC 2305, ARTC 1353
- ARTC 2348, ARTC 2347, ARTS 2311,
- IMED 1316, IMED 1345, ITS W 1310

**Track B-Multimedia**
- ARTC 1353, ARTV 1345, IMED 1316, IMED 1341,
- IMED 2313, FLMC 1331, IMED 1345, ARTV 1351,
- IMED 2345, FLMC 2331
- These courses must be taken in designated sequence:
- FLMC 1331 and FLMC 2331
- Track C-Video and Post-Production
- ARTC 2305, ARTV 1351, ARTV 2341, IMED 1391,
- FLMC 1304, FLMC 1331 and FLMC 2331; take either
- RTVB 1321 or RTVB 1325; choose 2 additional courses
- from ARTC, ARTV, IMED, FLMC or RTVB

**Track D-Web Design**
- ARTC 1353, IMED 1316, IMED 1341, IMED 2313,
- IMED 1345, IMED 2315, IMED 2309,
- IMED 2349, IMED 2345, ITSE 1402

**Track E-3D Animation**
- ARTV 2345, ARTV 1303, ARTV 1345, ARTV 2351,
- ARTS 1317, ARTS 1312, ARTV 1341, FLMC 1331,
- ARTV 1351, GAME 1303

**WELDING TECHNOLOGY**

The associate of applied science degree in welding technology is designed to prepare the individual for a career as a welding technician in the fabrication, construction and manufacturing industries. The program includes hands-on application of SMAW, GTAW, GMAW, and FCAW processes, in all positions, using pipe, plate and structural shapes. The student is also exposed to basic metallurgy and inspection procedures. The academic requirements of the program provide the foundation for continued studies should the student desire to continue his or her education.

The welding technology certificate program prepares the student for entry-level employment as a structural welder. The program provides the essential skills and safety practices in SMAW welding procedures in both structural plate and pipe. Courses completed in this certificate program may be applied toward the welding technology associate of applied science degree.

Creation of a product or system requires inspection and testing to ensure conformance to specification and reliability of operation. The certificate programs in nondestructive inspection and nondestructive testing are designed to train students in entry level skills relevant to such industries as shipbuilding, aeronautic, piping and vessel fabrication, bridge, building and residential construction. The introduction of ISO (International Organization for Standardization) has expanded and enhanced the demand for qualified inspectors and NDT technicians.

New developments in the fields of space exploration, oceanography and nanotechnology, as well as the demand for lighter and stronger engineering materials, improved coating for materials and advanced welding techniques mean that inspectors and technicians must receive a higher level of training.

The nondestructive testing certificate is intended to provide training to meet the challenges of the twenty-first century. Testing methods covered include codes (AWS, ASME), metallurgy, liquid penetrant, magnetic particle and ultrasonics. Courses meet the requirements of American Society of Nondestructive Testing (ASNT) recommended practice SNT-TC-1A.

The nondestructive inspection certificate includes film (radiography) interpretation and other means of inspecting a material, weldment or product while maintaining structural integrity. This certificate program provides an in-depth coverage of the American Welding Society (AWS) and American Society of Mechanical Engineering (ASME) codes for structural welding and pressure vessel fabrication. This program adequately prepares students for the AWS Certified Welding Inspector (CWI) examination.

The general education core will transfer to a variety of colleges and universities. Contact a counselor, or faculty member at any of the colleges for specific information and to obtain the recommended sequencing of courses.
WELDING TECHNOLOGY
BASIC CERTIFICATE
(certificate offered at LSC-CyFair and North Harris)

FIRST YEAR
First Semester  Credit
WLDG 1421 Intro to Welding Fundamentals 4
WLDG 1428 Intro to Shielded Met. Arc Welding 4
SEMESTER TOTAL 8

Second Semester  Credit
WLDG 1430 Intro to Gas Metal Arc Welding 4
WLDG 1457 Interm. Shielded Met. Arc Welding 4
SEMESTER TOTAL 8

TOTAL Credit Hours for Welding Technology Basic Certificate 16

1 Capstone course

WELDING TECHNOLOGY
INTERMEDIATE CERTIFICATE
(certificate offered at LSC-CyFair and North Harris)

FIRST YEAR
First Semester  Credit
WLDG 1421 Intro to Welding Fundamentals 4
WLDG 1428 Intro to Shielded Met. Arc Welding 4
WLDG 1430 Intro to Gas Metal Arc Welding 4
SEMESTER TOTAL 12

Second Semester  Credit
WLDG 1434 Intro to Gas Tungsten Arc Welding 4
WLDG 1435 Intro to Pipe Welding 4
WLDG 1413 Intro to Blueprint Reading 4
SEMESTER TOTAL 16

TOTAL Credit Hours for Welding Technology Intermediate Certificate 28

1 Capstone course

WELDING TECHNOLOGY
ADVANCED CERTIFICATE
(certificate offered at LSC-CyFair and North Harris)

FIRST YEAR
First Semester  Credit
WLDG 1421 Intro to Welding Fundamentals 4
WLDG 1428 Intro to Shielded Met. Arc Welding 4
WLDG 1430 Intro to Gas Metal Arc Welding 4
SEMESTER TOTAL 12

SECOND YEAR
First Semester  Credit
WLDG 1434 Intro to Gas Tungsten Arc Welding 4
WLDG 1435 Intro to Pipe Welding 4
WLDG 1457 Interm. Shielded Met. Arc Welding 4
SEMESTER TOTAL 12

TOTAL Credit Hours for Welding Technology Advanced Certificate 40

1 Capstone course

WELDING TECHNOLOGY
SPECIALIZATION
Associate of applied science degree, Tech Prep
(degree offered at LSC-CyFair and North Harris)

FIRST YEAR
First Semester  Credit
CHEM 1405 Introductory Chemistry 4
ENGL 1301 Composition & Rhetoric I 3
TECM 1303 Technical Calculations 3
WLDG 1421 Intro to Welding Fundamentals 4
WLDG 1428 Intro to Shielded Metal Arc Weldg 4
SEMESTER TOTAL 18

Second Semester  Credit
ITSC 1401 Introduction to Computers 4
WLDG 1413 Intro to Blueprint Rdg for Welders 4
WLDG 1430 Intro to Gas Met. Arc Wldg OR 4
WLDG 1434 Intro to Gas Tungsten Arc Wldg 4
WLDG 1457 Interm. Shielded Met.Arc Wldg 4
SEMESTER TOTAL 18

Third Semester  Credit
Elective2 Social/Behavioral Science 3
KINE Any physical activity course 1
SEMESTER TOTAL 4

SECOND YEAR
First Semester  Credit
WLDG Elective 3-4
SPCH 1311 Intro to Speech Communication 3
WLDG 1435 Intro to Pipe Welding I 4
WLDG 2447 Adv. Gas Met. Arc Wldg OR 4
WLDG 2451 Adv. Gas Tungsten Arc Wldg 4
SEMESTER TOTAL 14-15

1 Capstone course
DEGREES AND CERTIFICATES

Second Semester Credit
HUMA4 1301 Intro to the Humanities I 3
METL 1405 Welding Metallurgy I 4
QCTC 1446 Testing & Inspection Systems 4
WLDG 1405 Welding Metallurgy I 4
WLDG5 2380 Cooperative Education 3
SEMESTER TOTAL 18

TOTAL Credit Hours for Welding Technology Specialization 70-71
1 Course only offered in spring semester.
2 Choose from the social/behavioral science AAS core
class requirements.
3 Electives to be selected from the following: WLDG 1417, NDTE 2311, or QCTC 2331.
4 Meets multicultural requirement
5 A required capstone experience is completed by taking
either WLDG 2380 or the AWS Entry-level Welder
Certificate Exam.
Note: Students must meet math competency (Math 0308 or higher)

INSPECTION CERTIFICATE
(certificate offered at LSC-North Harris)

FIRST YEAR
First Semester Credit
METL 1405 Welding Metallurgy I 4
NDTE 1410 Liq. Penetrant/Mag. Particle Testing 4
NDTE 1454 Intermediate Ultrasonic Testing 4
QCTC 1446 Testing & Inspection Systems 4
SEMESTER TOTAL 16

Second Semester Credit
NDTE 1301 Film Interpretation of Weldments 3
NDTE 2401 Advanced Ultrasonic Testing 4
QCTC 2331 Standards 3
NDTE 2311 Prep. for WLDG Inspection 3
WLDG1 2380 Cooperative Education 3
SEMESTER TOTAL 16

TOTAL Credit Hours for Inspection Certificate 32
1 Capstone course

INSPECTION TECHNOLOGY
SPECIALIZATION
Associate of applied science degree
(degree offered at LSC-North Harris)

FIRST YEAR
First Semester Credit
ITSC 1401 Introduction to Computers 4
NDTE 1410 Liq. Penetrant/Mag. Particle Testing 4
QCTC 1446 Testing and Inspection Systems 4
TECM 1303 Technical Calculations 3
SEMESTER TOTAL 15

Second Semester Credit
CHEM 1405 Introductory Chemistry 4
ENGL 1301 Composition & Rhetoric I 3
NDTE 1454 Intermediate Ultrasonic Testing 4
QCTC 2331 Standards 3
NDTE 2311 Prep. for WLDG Inspection 3
SEMESTER TOTAL 17

Third Semester Credit
Elective1 Social/Behavioral Science 3
Elective2 Technical/Academic 3-4
KINE Any physical activity course 1
SEMESTER TOTAL 7-8

SECOND YEAR
First Semester Credit
ENGL 2311 Technical Communications 3
HUMA3 1301 Introduction to the Humanities I 3
METL 1405 Welding Metallurgy I 4
NDTE 2401 Advanced Ultrasonics 4
SPCH 1311 Intro to Speech Communication 3
SEMESTER TOTAL 17

Second Semester Credit
Elective4 Technical/Academic 3-4
NDTE 1301 Film Interpretation of Weldments 3
NDTE 1440 Eddy Current Testing 4
WLDG2 2380 Cooperative Education 3
SEMESTER TOTAL 13-14

TOTAL Credit Hours for Inspection Technology Specialization 69-71
1 See college catalog for AAS degree requirements.
2 Elective from any 3-4 credit hour course.
3 Meets multicultural requirement
4 Approved electives to be selected from any WLDG course,
any advanced computer course, or PHIL 2306.
5 A required capstone experience is completed by taking
either WLDG 2380 or one of the following certification
exams awarded by industry:
• Senior Welding Inspector (American Welding Society)
• Certified Welding Inspector (AWS)
• API 510 (American Petroleum Institute)
• API 570 (API)
• API 653 (API)
• Level II or III (ASNT-RP SNT-TC-1A)
• Radiographic Interpreter (AWS)
• Penetrant Testing, Magnetic Particle Testing, Ultrasonic
Testing (AWS)
Note: Student must meet math competency (MATH
0308 or higher)

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### METAL ARTS CERTIFICATE
(certificate offered at LSC-CyFair)

**FIRST YEAR**

<table>
<thead>
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<th>Semester</th>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit</th>
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<td>ARTS 1316</td>
<td>Drawing I</td>
<td>3</td>
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<tr>
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<td>WLDG 1405</td>
<td>Art Metals</td>
<td>4</td>
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<td>WLDG 1421</td>
<td>Intro to Welding Fundamentals</td>
<td>4</td>
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<td><strong>Second Semester</strong></td>
<td>WLDG 1434</td>
<td>Intro to Gas Tungsten Arc Wldg</td>
<td>4</td>
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<tr>
<td></td>
<td>WLDG 1408</td>
<td>Metal Sculpture</td>
<td>4</td>
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<td><strong>SEMIESTER TOTAL</strong></td>
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1 Capstone course

### METAL SCULPTURE CERTIFICATE
(Certificate offered at LSC-CyFair)

**FIRST YEAR**

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<td>ARTS 1316</td>
<td>Drawing I</td>
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<td>ARTS 1311</td>
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**SECOND YEAR**

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<td>ARTS 1303</td>
<td>Art History Survey I OR</td>
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<td>ARTS 1304</td>
<td>Art History Survey II</td>
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<td>WLDG 2413</td>
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<td>WLDG 1437</td>
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<td>WLDG 2440</td>
<td>Advanced Art Metal</td>
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<td>WLDG 2380</td>
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<td><strong>TOTAL Credit hours for Metal Sculpture Certificate</strong></td>
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1 Capstone course

Note: Students must meet math competency (MATH 0308 or higher)
Description of Courses

The following pages contain the descriptions of all courses offered by LSCS. The courses are listed in alphabetical order by course rubric (four letter abbreviation).

The first digit of the course number indicates whether the course is usually taken during the first or second year. The second digit refers to the value of each course in credit hours. The third and fourth digits refer to a sequence within the subject field.

In order to offer a wide spectrum of courses to meet individual interests and needs, certain courses in specialized fields may be offered in alternate years or only at specific colleges. The student should take this into consideration when developing a long-range plan. The prerequisites for any course may only be waived by the instructional vice president. The printed schedule of classes will list the specific offering of courses for each college each semester.

Abbreviations:
hrs. = hours
tlec. = lecture
tlab. = laboratory
text. = external learning experience (cooperative, practicum, internship or clinical)

**CREDIT COURSES**

**ACCT 2401 - PRINCIPLES OF ACCOUNTING I**

4 Credits (3 hrs. lec., 2 hrs. lab.) An introduction to financial accounting including a study of financial statements of business entities and the measurement and reporting of assets, liabilities, equity, revenues, expenses and cash flows with emphasis on how business and economic information is generated in the accounting process. (5203015104) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; MATH 0306

**ACCT 2402 - PRINCIPLES OF ACCOUNTING II**

4 Credits (3 hrs. lec., 2 hrs. lab.) An introduction to managerial accounting including a study of costs and cost behavior within business entities, the use of cost information for planning and control decisions, and product costing for purposes of inventory valuation and income determination. (5203015104) Prerequisites: ACCT 2401; ENGL0305 AND ENGL0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; MATH 0306

**ACNT 1193 - SPECIAL TOPICS IN TAXATION-SERVICE LEARNING**

1 Credit (1 hr. lec., 1 hr. 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. This lab course is designed to provide students with 12 hours of training outside the classroom. This knowledge will enable the student to prepare tax returns at the VITA site for 20 hours. Emphasis is placed on the determination of income, statutory deductions and federal income tax liability in order to prepare individual income tax returns. The student will complete IRS testing and receive IRS recognition. Service Learning designation will appear on each student’s transcript. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

**ACNT 1303 - INTRODUCTION TO ACCOUNTING I**

3 Credits (2 hrs. lec., 3 hrs. lab.) A study of analyzing, classifying, and recording business transactions in a manual and computerized environment. Emphasis is on understanding the complete accounting cycle and preparing financial statements, bank reconciliations, and payroll. Includes accounting for notes, deferrals and accruals, receivables and payables, inventory and plant assets. This course is for non-majors only. Accounting majors and transfer students should enroll in ACCT 2401. Prerequisites: ENGL 0304 or ENGL 0339 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; MATH 0306

**ACNT 1311 - INTRODUCTION TO COMPUTERIZED ACCOUNTING**

3 Credits (2 hrs. lec., 2 hrs. lab.) Introduction to utilizing the computer in maintaining accounting records, making management decisions, and processing common business applications with primary emphasis on a general ledger package. Prerequisites: ACNT
1303; ENGL 0304 or ENGL 0339 AND ENGL 0306 or 0355, OR higher level course (ENGL 1301), OR placement by testing; MATH 0306

**ACNT 1331 - FEDERAL INCOME TAX: INDIVIDUAL**

3 Credits (3 hrs. lec.) A study of tax laws currently implemented by the Internal Revenue Service, providing a working knowledge of preparing taxes for the individual. Emphasis is placed on the determination of income, statutory deductions and federal income tax liability for individuals and sole proprietorships. This course meets the qualifying educational credit required for the CPA examination and is part of the Accounting Advanced Technical Certificate (ATC) offered at LSC-CyFair, Montgomery and Tomball. Prerequisites: ENGL 0304 or ENGL 0339 AND ENGL 0306 or 0355, OR higher level course (ENGL 1301), OR placement by testing; MATH 0306

**ACNT 1340 - ACCOUNTING AND BUSINESS ETHICS**

3 Credits (3 hrs. lec.) This course will serve as a general introduction to professional ethics in the accounting and business environments. We will discuss the fundamental ethical issues of business and society, the roles and responsibilities of accounting and auditing professionals, ethical behavior by management, and legal and professional guidelines that address the ethical concerns of society. This course meets the qualifying educational credit required for the CPA examination and is part of the Accounting Advanced Technical Certificate (ATC) offered at LSC-CyFair, Montgomery and Tomball. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; MATH 0306

**ACNT 1347 - FEDERAL INCOME TAX: PARTNERSHIPS/CORPORATIONS**

3 Credits (3 hrs. lec.) Introduction to the tax laws as currently implemented by the Internal Revenue Service providing a working knowledge of preparing taxes for a partnership, subchapter S, and corporation. Emphasis is placed on the determination of taxable income for partnerships and S corporations and C corporations, as well as on tax research and planning. This course meets the qualifying educational credit required for the CPA examination and is part of the Accounting Advanced Technical Certificate (ATC) offered at LSC-CyFair, Montgomery and Tomball. Prerequisites: ACNT 1331, ENGL 0304 or ENGL 0339 AND ENGL 0306 or 0355, OR higher level course (ENGL 1301), OR placement by testing; MATH 0306

**ACNT 1382 - COOPERATIVE EDUCATION - ACCOUNTING TECHNICIAN**

3 Credits (1 hr. lec., 20 hrs. ext.) 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. Prerequisites: Enrollment in Professional Bookkeeper Certificate Program; completion of 15 credits in degree plan; approval of coordinator, ENGL 0304 or ENGL 0339 AND ENGL 0306 or 0355, OR higher level course (ENGL 1301), OR placement by testing; MATH 0306

**ACNT 1391 - SPECIAL TOPICS IN ACCOUNTING**

3 Credits (3 hrs. lec.) A study of the process of evaluating financial statements, cash flows, and ratio analysis of businesses. Includes ratio analysis; interpretation of financial statements; account classifications; income measurements; and capital budgeting decisions. Emphasis on the relationship of comparative analysis and industry standards. 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. Prerequisites: ACNT 2303; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

**ACNT 1393 - SPECIAL TOPICS IN TAXATION**

3 Credits (3 hrs. lec.) 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. Includes understanding of topics in taxation that influence decision making in the areas of compliance, investing, tax planning, selection of entity formation, liability issues, and considerations for maximizing the amount of income families and individuals may retain. This course meets the qualifying educational credit and Skills Specifications Outline (SSOs) required for the CPA examination and is part of the Accounting ATC offered at LSC-CyFair, Montgomery and Tomball. Prerequisites: ACNT 1331; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing.
DESCRIPTION OF COURSES

ACNT 2303 - INTERMEDIATE ACCOUNTING I

3 Credits (2 hrs. lec., 3 hrs. lab.) Critical analysis of generally accepted accounting principles, concepts, and theory underlying the preparation of financial statements. Emphasis on current theory and practice. Primary concern is with asset measurement and income determination. This course meets the qualifying educational credit required for the CPA examination and is part of the Accounting Advanced Technical Certificate (ATC) offered at LSC-CyFair, Montgomery and Tomball. Prerequisites: ACCT 2401; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; MATH 0306

ACNT 2304 - INTERMEDIATE ACCOUNTING II

3 Credits (2 hrs. lec., 3 hrs. lab.) Continued in-depth analysis of generally accepted accounting principles underlying the preparation of financial statements including comparative analysis and statement of cash flow. Other topics include measuring and reporting liabilities, investments and stockholders' equity, pensions, leases, earnings per share, revenue recognition alternatives and accounting changes. This course meets the qualifying educational credit required for the CPA examination and is part of the Accounting Advanced Technical Certificate (ATC) offered at LSC-CyFair, Montgomery and Tomball. Prerequisites: ACNT 2303; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; MATH 0306

ACNT 2309 - COST ACCOUNTING

3 Credits (3 hrs. lec.) 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. Variance analysis, standard costs, joint and by-product costing will also be discussed. This course meets the qualifying educational credit required for the CPA examination and is part of the Accounting Advanced Technical Certificate (ATC) offered at LSC-CyFair, Montgomery and Tomball. Prerequisites: ACCT 2402; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; MATH 0306

ACNT 2330 - GOVERNMENTAL AND NOT-FOR-PROFIT ACCOUNTING

3 Credits (3 hrs. lec.) This course is designed to meet the objectives of generally accepted accounting principles and practices for fund accounting and reporting. Students will garner information concerning accounting, budgeting, auditing and financial reporting principles and practices for governmental and non-profit entities. The student will prepare budgets and financial statements for governmental and non-profit organizations. This course meets the qualifying educational credit required for the CPA examination and is part of the Accounting Advanced Technical Certificate (ATC) offered at LSC-CyFair, Montgomery and Tomball. Prerequisite: ACNT 2303

ACNT 2331 - INTERNAL CONTROL AND AUDITING

3 Credits (3 hrs. lec.) A study of internal control and auditing standards and processing used by internal auditors, managers, and independent public accountants. Emphasizes generally accepted auditing standards for cash, accounts receivable, inventory, prepaid, investments, and other assets and liabilities. Other topics include statistical sampling, vouching and auditors' reports and opinions. This course meets the qualifying educational credit and Skills Specifications Outline (SSOs) required for the CPA examination and is part of the Accounting ATC offered at LSC-CyFair, Montgomery and Tomball. Prerequisites: ACNT 2303; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; MATH 0306

ACNT 2332 - ACCOUNTING INFORMATION SYSTEMS

3 Credits (3 hrs. lec.) A study of the role of accounting information systems and related subsystems, including data collection, retrieval, manipulation, filtering and sorting of data. This course meets the qualifying educational credit required for the CPA examination and requires basic computer competency. Prerequisite: ACCT 2401

ACNT 2333 - ADVANCED ACCOUNTING

3 Credits (3 hrs. lec.) Methods of measuring and communicating economic information, including consolidated statements, partnerships, real estate, foreign operations, and fund units. This course meets the qualifying educational credit and Skills Specifications Outline (SSOs) required for the CPA examination and is part of the Accounting ATC offered at LSC-CyFair, Montgomery and Tomball. Prerequisites: ACNT 2304; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; MATH 0306
ACNT 2380 - COOPERATIVE EDUCATION
3 Credits (1 hr. lec., 20 hrs. ext.) 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. Prerequisites: ACNT 2303; enrollment in Accounting AAS Degree program; completion of 15 credit hours in degree plan; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; MATH 0306

ACNT 2381 - COOPERATIVE EDUCATION
3 Credits (1 hr. lec., 20 hrs. ext.) 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. Prerequisites: ACNT 2380; enrollment in Accounting AAS degree program; completion of 22 credits in degree plan; ENGL 0304 or ENGL 0339 AND ENGL 0306 or 0355, OR higher level course (ENGL 1301), OR placement by testing; MATH 0306

AFSC 1271 - FOUNDATIONS OF UNITED STATES AIR FORCE I
2 Credits (2 hrs. lec., 2 hrs. lab.) Introduces the concept of war and the role the Air Force plays. Students will know the career opportunities available, the benefits afforded an Air Force member, and know and develop productive life skills. Basic oral and written communication skills will be demonstrated. The focus is on developing basic knowledge and comprehension of Air Force leadership dimensions while gaining a big picture understanding of ROTC program, its purpose in the Air Force and its advantages for the student. Prerequisite: None

AFSC 1272 - FOUNDATIONS OF UNITED STATES AIR FORCE II
2 Credits (1 hr. lec., 2 hrs. lab.) Explores the basic verbal and written communication skills and an operational understanding of the Air Force core values. Principles of crop and forage production, management, plant breeding, diseases, insect control, and weed control are also discussed. (0111025101) Prerequisites: ENGL0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; Math 0308

AGRI 1131 - THE AGRICULTURE INDUSTRY
1 Credit (1 hr. lec.) Overview of world agriculture, issues, nature of the industry, and resource conservation. Provides insight regarding departmental and college programs and career opportunities in agriculture, and provides instruction concerning academic skills. (0101035201) Prerequisites: ENGL0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; Math 0308

AGRI 1307 - AGRONOMY
3 Credits (2 hrs. lec., 2 hrs. lab.) This course covers the fundamentals in sciences of crops, soils, and water. Principles of crop and forage production, management, plant breeding, diseases, insect control, and weed control are also discussed. (0111025101) Prerequisites: ENGL0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; Math 0308
DESCRIPTION OF COURSES

AGRI 1309 - COMPUTERS IN AGRICULTURE
3 Credits (2 hrs. lec., 2 hrs. lab.) This course discusses the use of computers in modern agriculture applications. Programming, languages, word processing, electronic spreadsheets, and agriculture software are also covered along with the evaluation of inputs to and outputs from farm and ranch productions. (0101015101) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; Math 0308

AGRI 1319 - GENERAL ANIMAL SCIENCE
3 Credits (2 hrs. lec., 2 hrs. lab.) Scientific animal agriculture review. Selection, reproduction, nutrition, genetics, animal breeding, growth and development in beef cattle, sheep, horses, swine, dairy cattle, and poultry. (0109015101) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; Math 0308

AGRI 1325 - MARKETING OF AGRICULTURE PRODUCTS
3 Credits (3 hrs. lec.) This course covers the operations involved in the movement of agricultural commodities from producer to consumer. Also covered are the essential marketing functions of buying, selling, transporting, storing, financing, standardizing, pricing, and risk bearing. (0101025101) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; Math 0308

AGRI 2317 - INTRODUCTION TO AGRICULTURE ECONOMICS
3 Credits (3 hrs. lec.) Characteristics of our economic system and basic economic concepts; survey of the farm and agriculture firm and its organization and management; structure and operation of marketing system; functional and institutional aspects of agriculture finance; GAT and NAFTA programs; government farm products and relations are discussed. (0101035101) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; Math 0308

AGRI 2321 - LIVESTOCK EVALUATION
3 Credits (2 hrs. lec., 2 hrs. lab.) The course covers the evaluation of slaughter and breeding livestock as related to growth and development, production efficiency, and carcass merit. Production records and visual evaluation are also discussed. (0109015201) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; Math 0308

AGRI 2330 - WILDLIFE CONSERVATION AND MANAGEMENT
3 Credits (3 hrs. lec.) Principles and practices used in the production and improvement of wildlife resources. Aesthetic, ecological, and recreational uses of public and private lands. (0306015101) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

AIRP 1307 - AVIATION METEOROLOGY
3 Credits (3 hrs. lec.) In-depth coverage of meteorological phenomena affecting aircraft flight. Topics include basic concepts of aviation meteorology in the study of temperature, pressure, moisture, stability, clouds, air masses, fronts, thunderstorms, icing, and fog. Also includes analysis and use of weather data for flight planning. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

AIRP 1313 - INTRODUCTION TO AVIATION
3 Credits (3 hrs. lec.) A study of the historical development of the aviation industry, including key events in civil, military, and space exploration and an overview of legislation relating to aviation. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

AIRP 1317 - PRIVATE PILOT GROUND SCHOOL
3 Credits (3 hrs. lec.) Basic ground school for the Federal Aviation Administration Private Pilot Certificate, providing the student with the necessary aeronautical knowledge that can be used for private pilot certification. Topics include principles of flight, radio procedures, weather, navigation, aerodynamics, and Federal Aviation Administration regulations. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

ANTH 2301 - PHYSICAL ANTHROPOLOGY
3 Credits (3 hrs. lec.) This course examines the biological and cultural study of humans as well as the similarities and differences between humans and other primates. The course spans various topics, including mechanisms of genetic change and an overview of human origins and biocultural adaptations. Introduces
methods and theory in the excavation and interpretation of material remains of past cultures and reveals how anthropology can be applied to solve health and medical problems in cultures around the world. (4503015125) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing.

**ANTH 2346 - INTRODUCTION TO ANTHROPOLOGY**

3 Credits (3 hrs. lec.) Anthropology is the study of humans in all places and throughout time. This course focuses on the basic principles and concepts of the subfields of anthropology: archaeology, physical, cultural, and linguistic anthropology. (4502015125) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing.

**ANTH 2351 - CULTURAL ANTHROPOLOGY**

3 Credits (3 hrs. lec.) This course explores cultural diversity through the study of contemporary and recent groups of humans including their social, religious, economic, and political organization. Included is the study of how practicing cultural relativism increases understanding of other cultures and how cultural anthropology can be applied to solve human problems. (4502015325) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing.

**ARAB 2311 - INTERMEDIATE ARABIC I**

3 Credits (3 hrs. lec.) This course stresses both oral and written exercises to increase vocabulary, expansion of grammatical principles and short themes written on a variety of topics. Selected readings are included to improve comprehension in Arabic. (1601015213) Prerequisites: ARAB 1412; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing.

**ARAB 2312 - INTERMEDIATE ARABIC II**

3 Credits (3 hrs. lec.) This course is a continuation of ARAB 2311. Continued reinforcement of grammatical principles and development of writing skills are stressed. (1601015213) Prerequisites: ARAB 2311; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing.

**ARTC 1302 - DIGITAL IMAGING I**

3 Credits (2 hrs. lec., 3 hrs. lab.) Digital imaging using raster image editing and/or image creation software: scanning, resolution, file formats, output devices, color systems, and image acquisitions. Prerequisite: competent knowledge of either Macintosh or Windows operating system.

**ARTC 1313 - DIGITAL PUBLISHING I**

3 Credits (2 hrs. lec., 3 hrs. lab.) The fundamentals of using digital layout as a primary publishing tool and the basic concepts and terminology associated with typography and page layout. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing.

**ARTC 1317 - DESIGN COMMUNICATION I**

3 Credits (2 hrs. lec., 4 hrs. 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
DESCRIPTION OF COURSES

elements, and developing computer skills in industry standard computer programs. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

ARTC 1353 - COMPUTER ILLUSTRATION
3 Credits (2 hrs. lec., 3 hrs. lab.) Use of the tools and transformation options of an industry-standard vector drawing program to create complex illustrations or drawings. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

ARTC 2305 - DIGITAL IMAGING II
3 Credits (2 hrs. lec., 3 hrs. lab.) Principles of digital image processing and electronic painting. Emphasis on bitmapped or raster-based image marking and the creative aspects of electronic illustration for commercial and fine art applications. Prerequisite: ARTC 1302

ARTC 2313 - DIGITAL PUBLISHING II
3 Credits (2 hrs. lec., 3 hrs. 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. Prerequisite: ARTC 1313

ARTC 2335 - PORTFOLIO DEVELOPMENT FOR GRAPHIC DESIGN
3 Credits (2 hrs. lec., 4 hrs. 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. Prerequisite: Departmental approval

ARTC 2347 - DESIGN COMMUNICATIONS II
3 Credits (2 hrs. lec., 4 hrs. 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. Prerequisites: ARTC 1317; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

ARTC 2348 - DIGITAL PUBLISHING III
3 Credits (2 hrs. lec., 3 hrs. lab.) A project-based page layout course from concept to completion addressing design problems, preflight of files, color separations, and trapping techniques. Prerequisites: ARTC 2313; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

ARTS 1301 - ART APPRECIATION
3 Credits (3 hrs. lec.) An introductory course that studies the visual arts (painting, architecture, sculpture and crafts) through an exploration of their purpose and processes. Occasional field trips are required. This course is for non-majors and art majors or minors who have little or no background in art. (5007035126) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

ARTS 1303 - ART HISTORY SURVEY I
3 Credits (3 hrs. lec.) A survey of painting, sculpture, architecture and the arts from prehistoric times to the fourteenth century. (5007035226) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

ARTS 1304 - ART HISTORY SURVEY II
3 Credits (3 hrs. lec.) A survey of painting, sculpture, architecture and the arts from the fourteenth century to the present. (5007035226) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

ARTS 1311 - DESIGN I - 2-D
3 Credits (2 hrs. lec., 4 hrs. lab.) Emphasis upon two-dimensional design; includes the fundamentals of line, form, texture, shape and space within a composition. (5004015326) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

ARTS 1312 - DESIGN II - 3-D
3 Credits (2 hrs. lec., 4 hrs. lab.) The construction of three-dimensional forms using a variety of compositional approaches and materials. (5004015326) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

ARTS 1316 - DRAWING I
3 Credits (2 hrs. lec., 4 hrs. lab.) An introductory course in freehand drawing. Involves the study of space and form through the use of perspective, line and value.
ARTS 1317 - DRAWING II
3 Credits (2 hrs. lec., 4 hrs. lab.) Expansion of Drawing I stressing the conceptual, expressive and compositional aspects of drawing in various media. (5007055226) Prerequisites: ARTS 1316; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

ARTS 2311 - DESIGN III - COLOR
3 Credits (2 hrs. lec., 4 hrs. lab.) This course examines various theories in the use of color. Students apply their knowledge in creative compositions using such media as acrylics, colored pencil and collage. (5004015326) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

ARTS 2313 - DESIGN COMMUNICATIONS I
3 Credits (2 hrs. lec., 4 hrs. lab.) This course is an introduction to creative and problem-solving aspects of graphic design using the computer and graphic software. Students will learn basic principles, techniques, compositions, visual perceptions, and strategies for graphic design. The computer and graphic software will be used as an effective tool in graphic communications. (5004015126) Prerequisites: ARTS 1311; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

ARTS 2314 - DESIGN COMMUNICATIONS II
3 Credits (2 hrs. lec., 4 hrs. lab.) This course is an in-depth study and exploration of graphic design as a creative and problem-solving tool of visual communication. A translation of ideas and concepts into comprehensible visual language is emphasized. Typography, semantics, and computer and technical processes used in design will be stressed. This course is an introduction to the techniques and processes of the print media. The students will also be introduced to historical and aesthetic issues. (5004015126) Prerequisites: ARTS 2313; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

ARTS 2316 - PAINTING I
3 Credits (2 hrs. lec., 4 hrs. lab.) An introduction to various painting theories and techniques using oil and/or acrylics. (5007085226) Prerequisites: ARTS 1311 and 1316, or departmental approval; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

ARTS 2317 - PAINTING II
3 Credits (2 hrs. lec., 4 hrs. lab.) A continuation of Painting I, with an emphasis on individual expression. (5007085226) Prerequisites: ARTS 2316; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

ARTS 2323 - DRAWING III: FIGURE DRAWING
3 Credits (2 hrs. lec., 4 hrs. lab.) An advanced level course in which students draw the human figure from direct observation of a live model, using a variety of materials and techniques. (5007055326) Prerequisites: ARTS 1317 and instructor approval; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

ARTS 2326 - SCULPTURE I
3 Credits (2 hrs. lec., 4 hrs. lab.) An exploration of various sculptural approaches in a variety of media including additive and subtractive methods. (5007095126) Prerequisites: ARTS 1312 or departmental approval; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

ARTS 2327 - SCULPTURE II
3 Credits (2 hrs. lec., 4 hrs. lab.) An expansion of Sculpture I, with an emphasis on individual expression. Students will investigate the sculpture of different cultural groups creating works which reflect this research. (5007095126) Prerequisites: ARTS 2326; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

ARTS 2333 - PRINTMAKING I
3 Credits (2 hrs. lec., 4 hrs. lab.) An introduction to the techniques and procedures of printmaking. Exploration of creative design and color through traditional and contemporary printmaking techniques, including woodcut and silk-screen. (5007105126) Prerequisites: ARTS 1316 or departmental approval; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing
DESCRIPTION OF COURSES

ARTS 2334 - PRINTMAKING II
3 Credits (2 hrs. lec., 4 hrs. lab.) Special procedures and problems involving further investigation of various printmaking media, including etching. (5007105126) Prerequisites: ARTS 2333 or departmental approval; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing.

ARTS 2341 - ART METALS I
3 Credits (2 hrs. lec., 4 hrs. lab.) An introduction to metal fabrication through the study of basic materials and techniques. Includes soldering, riveting, raising, sawing and filing. Students will also learn the proper maintenance and operating procedures of machines and hand tools. (5007135126) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing.

ARTS 2342 - ART METALS II
3 Credits (2 hrs. lec., 4 hrs. lab.) Further investigation of metal smithing through advanced techniques such as casting and stone setting. (5007135126) Prerequisites: ARTS 2341 or departmental approval; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing.

ARTS 2346 - CERAMICS I
3 Credits (2 hrs. lec., 4 hrs. lab.) An introduction to ceramics processes through the study of basic materials and techniques. Includes hand building, the use of the potter’s wheel, glazing and firing techniques. (5007115126) Prerequisites: ARTS 1311 and 1316; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing.

ARTS 2347 - CERAMICS II
3 Credits (2 hrs. lec., 4 hrs. lab.) Investigates advanced techniques, as well as the creative possibilities of clay, glazes and firing procedures. (5007115126) Prerequisites: ARTS 2346 or departmental approval; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing.

ARTS 2348 - DIGITAL ART I
3 Credits (2 hrs. lec., 4 hrs. lab.) This course is an introduction to digital imaging on the computer as it relates to art and design, employing a fundamental exploration of the potential of computer hardware and software medium for their visual, conceptual and practical uses in the visual arts. Basic theories of design and composition are stressed using digital image editing software to manipulate scanned images. (5004025226) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing.

ARTS 2349 - DIGITAL ART II
3 Credits (2 hrs. lec., 4 hrs. lab.) This course explores the use of computer hardware and software as a medium for visual and conceptual expression in the visual arts. Students will apply skills acquired in Digital Art I to focus on the development and production of creative art pieces. (5004025226) Prerequisites: ARTS 2348; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing.

ARTS 2356 - PHOTOGRAPHY I
3 Credits (2 hrs. lec., 4 hrs. lab.) A beginning course which introduces students to theoretical and applied aspects of photography, including cameras, lenses, photographic materials and techniques, black-and-white darkroom procedures and photographic composition. This is the same course as COMM 1318. (5006055126) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing.

ARTS 2357 - PHOTOGRAPHY II
3 Credits (2 hrs. lec., 4 hrs. lab.) A continuation of Photography I, this course provides further study of photographic theories, techniques and processes. The analysis and utilization of the design and compositional elements in photography are also stressed. (5006055226) Prerequisites: ARTS 2356 or COMM 1318; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing.

ARTS 2366 - WATERCOLOR
3 Credits (2 hrs. lec., 4 hrs. lab.) An introduction to aquamedia using a variety of subject matter, concepts, techniques and materials. (5007085326) Prerequisites: ARTS 1311 and 1316; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing.
ARTS 2389 - ACADEMIC CO-OP IN ART
3 Credits (1 hr. lec., 6 hrs. lab.) An instructional program designed to integrate on-campus study with practical hands-on work experience in art. In conjunction with class seminars, the individual student will set specific goals and objectives in art. Prerequisites: ENGL0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

ARTV 1303 - BASIC ANIMATION
3 Credits (2 hrs. lec., 4 hrs. lab.) Examination of concepts, characters, and storyboard for basic animation production. Emphasizes movement and expression utilizing traditionally or digitally generated image sequences. Prerequisite: None

ARTV 1341 - 3-D ANIMATION I
3 Credits (2 hrs. lec., 4 hrs. lab.) Three-dimensional (3-D) modeling and rendering techniques including lighting, staging, camera, and special effects. Emphasizes 3-D modeling building blocks using primitives to create simple and complex objects. Prerequisites: ARTV 1345, ARTV 1303 and ARTC 1302

ARTV 1343 - DIGITAL SOUND
3 Credits (2 hrs. lec., 4 hrs. lab.) Instruction in digitizing sound and incorporating it into multimedia or web titles for various delivery systems. Emphasis on compression issues, sampling, synchronizing, and resource management Prerequisite: None

ARTV 1345 - 3-D MODELING AND RENDERING
3 Credits (2 hrs. lec., 4 hrs. 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. Prerequisite: None

ARTV 1351 - DIGITAL VIDEO
3 Credits (2 hrs. lec., 4 hrs. 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. Prerequisite: None

ARTV 2341 - ADVANCED DIGITAL VIDEO
3 Credits (2 hrs. lec., 4 hrs. lab.) Advanced digital video techniques for post-production. Emphasizes integration of special effects, 2-D animation and 3-D animation for film, video, CD-ROM, and the Internet. Exploration of new and emerging compression and video streaming technologies. Prerequisites: ARTV 1351; ENGL 0304 or ENGL 0339 AND ENGL 0306 or 0355, OR higher level course (ENGL 1301), OR placement by testing

ARTV 2345 - 3-D MODELING AND RENDERING II
3 Credits (2 hrs. lec., 4 hrs. lab.) A studio course focused on advanced 3-D modeling and rendering techniques using industry standard software: spline modeling, patch modeling, and other organic modeling techniques; learn advanced use of camera settings, lighting, and surfaced to create detailed environments; cover advanced topics such as particle and volumetric effects, and setting up a model with weight maps, hierarchies, bones, and constraints. Prerequisite: ARTV 1345

ARTV 2351 - 3-D ANIMATION II
3 Credits (2 hrs. lec., 4 hrs. lab.) Advanced level 3-D course utilizing animation tools and techniques used to create movement. Emphasis on advanced animation techniques. Prerequisite: ARTV 1341

AUMT 1405 - INTRODUCTION TO AUTOMOTIVE TECHNOLOGY
4 Credits (3 hrs. lec., 4 hrs. 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. Prerequisite: None

AUMT 1407 - AUTOMOTIVE ELECTRICAL SYSTEMS
4 Credits (3 hrs. lec., 4 hrs. 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. Prepares a student to take ASE A6 Electrical Systems Certification Exam. Prerequisite: None
DESCRIPTION OF COURSES

AUMT 1410 - AUTOMOTIVE BRAKE SYSTEMS
4 Credits (3 hrs. lec., 4 hrs. 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 manufacturer specific. Prepares a student to take ASE A5 Brakes Certification Exam. Prerequisite: None

AUMT 1416 - SUSPENSION AND STEERING
4 Credits (3 hrs. lec., 4 hrs. lab.) Theory and operation of automotive suspension and steering systems including tire and wheel problem diagnosis, component repair, and alignment procedures. May be taught manufacturer specific. Prepares a student to take ASE A4 Suspension and Steering Certification Exam. Prerequisite: None

AUMT 1419 - AUTOMOTIVE ENGINE REPAIR
4 Credits (3 hrs. lec., 4 hrs. lab.) Fundamentals of engine operations, 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. Prepares a student to take ASE A1 Engine Repair Certification Exam. Prerequisite: AUMT 1405

AUMT 1445 - AUTOMOTIVE HEATING AND AIR CONDITIONING
4 Credits (3 hrs. lec., 4 hrs. 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. Prepares a student to take ASE A7 Heating and Air Conditioning Certification Exam. Prerequisite: AUMT 1407

AUMT 2328 - AUTOMOTIVE SERVICE
3 Credits (2 hrs. lec., 4 hrs. 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. Prerequisite: Completion of 15 credit hours in automotive courses OR departmental approval.

AUMT 2380 - COOPERATIVE EDUCATION: AUTO/AUTOMOTIVE
3 Credits (1 hr. lec., 20 hrs. ext.) 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. Prerequisites: Completion of 15 hours in automotive courses AND departmental approval.

AUMT 2381 - COOPERATIVE EDUCATION: AUTO/AUTOMOTIVE
3 Credits (1 hr. lec., 20 hrs. ext.) 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. Prerequisites: Enrollment in automotive technology AAS degree tech program; completion of 25 hours in automotive courses and departmental approval.

AUMT 2413 - MANUAL DRIVE TRAIN AND AXLES
4 Credits (3 hrs. lec., 4 hrs. lab.) A study of automotive clutches, clutch operations devices, standard transmissions, transaxles, and differentials with emphasis on the diagnosis and repair of transmissions and drive lines. May be taught manufacturer specific. Prepares a student to take ASE A3 Manual Drive Train and Axle Certification Exam. Prerequisite: AUMT 1405

AUMT 2417 - ENGINE PERFORMANCE ANALYSIS I
4 Credits (3 hrs. lec., 4 hrs. 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 manufacturer specific. Prepares a student to take ASE A8 Engine Performance Certification Exam. Prerequisite: AUMT 1407

AUMT 2425 - AUTOMATIC TRANSMISSION AND TRANSAXLE
4 Credits (3 hrs. lec., 4 hrs. 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.
Prepares a student to take ASE A2 Auto Transmission Certification Exam. Prerequisite: None

**AUMT 2434 - ENGINE PERFORMANCE ANALYSIS II**

4 Credits (3 hrs. lec., 4 hrs. lab.) 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. Prepares a student to take ASE L1 Advanced Engine Performance Certification Exam. Prerequisite: AUMT 2417

**AUMT 2437 - AUTOMOTIVE ELECTRONICS**

4 Credits (3 hrs. lec., 4 hrs. 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. Prepares a student to take ASE A6 Electrical Systems Certification Exam. Prerequisite: AUMT 1407

**AVIM 1380 - COOPERATIVE EDUCATION: AVIATION MANAGEMENT AND OPERATIONS**

3 Credits (1 hr. lec., 20 hrs. ext.) 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. Prerequisite: Completion of 15 hours in the AAS program OR departmental approval

**AVIM 2331 - AIRLINE MANAGEMENT**

3 Credits (3 hrs. lec.) An examination of the organization, operation, and management of airlines. Topics include financing, aircraft selection, route feasibility studies, load factors, and marketing. Prerequisites: ACCT 2401; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

**AVIM 2335 - AIRPORT MANAGEMENT**

3 Credits (3 hrs. lec.) A study of the major functions of airport management including facilities and services, organization, human resources, maintenance, planning and zoning, operations, revenues and expenses, public relations, ecology, and safety. Prerequisites: AIRP 1313; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

**AVIM 2337 - AVIATION LAW**

3 Credits (3 hrs. lec.) A study of the historical development of aviation law including in-depth coverage of constitutional, criminal, civil, common and international law as it relates to aviation activities. Prerequisites: AIRP 1313; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

**AVIM 2339 - AVIATION MARKETING**

3 Credits (3 hrs. lec.) A study of the significance and functions of airline marketing including market research, sales, advertising and promotion, traffic demand analysis, and price determination theory. Prerequisites: AIRP 1313; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

**AVTS 1371 - INTRODUCTION TO AUDIO VISUAL LIGHTING AND SOUND**

3 Credits (3 hrs. lec., 1 hr. lab.) Overview of the audiovisual industry. Includes industry trends, opportunities, and resources that are available to AV technicians. Topics include basic functions of cabling, interconnections, and system components used in the audio, video and system integration sectors of the industry and proficiency in using the technology. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

**AVTS 1372 - INTERMEDIATE AUDIO VISUAL COOPERATIVE EDUCATION**

3 Credits (1 hr. lec., 20 hrs. ext.) Intermediate 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. Prerequisites: Instructor approval required; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

**AVTS 2371 - AUDIO VISUAL LIGHTING AND SOUND TROUBLESHOOTING**

3 Credits (1 hr. lec., 4 hrs. lab.) Active integration of knowledge of audio/video/lighting systems into a working environment which focuses on specific challenges encountered in the audio/video/lighting industry. Prerequisites: ENGL 0305 AND ENGL 0307
or 0356, OR higher level course (ENGL 1301), OR placement by testing

**AVTS 2372 - AUDIO VISUAL LIGHTING AND SOUND PROJECT & PRESENTATION**

3 Credits (1 hr. lec., 4 hrs. lab.) Demonstration of the technologies and the skills required for installing and uninstalling equipment on a project basis in audio/video/lighting systems. Topics include installation, troubleshooting, documentation, written and oral communication skills, interpersonal skills, customer service skills, teamwork, time management, labor management, and safety codes. The course culminates with examples of project management in various environments. Prerequisites: AVTS 1371 and AVTS 2371

**AVTS 2373 - ADVANCED AUDIO VISUAL COOPERATIVE EDUCATION**

3 Credits (1 hr. lec., 20 hrs. ext.) Advanced 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. Prerequisite: AVTS 1372

**BCIS 1405 - BUSINESS COMPUTER APPLICATIONS**

4 Credits (3 hrs. lec., 2 hrs. 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. (1102025404) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

**BIOL 1406 - BIOLOGY I**

4 Credits (3 hrs. lec., 3 hrs. lab.) A contemporary course including applications of the scientific method, cellular and molecular biology, biochemistry, classical and human genetics, virology and mechanisms of evolution. (2601015103) Prerequisites: ENGL0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; MATH 0308

**BIOL 1407 - BIOLOGY II**

4 Credits (3 hrs. lec., 3 hrs. lab.) This course is a continuation of Biology I. It includes a detailed phylogenetic survey of the major kingdoms. This includes a comparison of the systems of different organisms. Ecological roles and relationships, as well as behavior of organisms, will be integrated throughout. (2601015103) Prerequisites: BIOL1406, ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; MATH 0308

**BIOL 1408 - INTRODUCTION TO BIOLOGY I FOR NON-MAJORS**

4 Credits (3 hrs. lec., 3 hrs. lab.) A conceptual approach for students not majoring in science. An introduction to the nature of science, the characteristics of life, the molecular and cellular basis of life, viruses, energetics, genetics, reproduction and development. An emphasis will be placed on how these topics are related to issues facing modern society. (2601015103) Prerequisites: ENGL0305 AND ENGL0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; MATH 0306

**BIOL 1409 - INTRODUCTION TO BIOLOGY II FOR NON-MAJORS**

4 Credits (3 hrs. lec., 3 hrs. lab.) A continuation of Introduction to Biology I designed for non-science majors. This conceptual approach to biology includes the diversity of life: prokaryotes, protists, fungi, plants, and animals. Topics will include structures and their functions, evolution, environmental and human interactions. (2601015103) Prerequisites: BIOL 1408; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

**BIOL 1322 - NUTRITION**

3 Credits (3 hrs. lec.) Fundamental principles of normal nutrition and the importance of nutrition in promoting growth and health. Emphasis will be given to the basic food constituents and their physiological relationships within the body. Consideration will also be given to family and community needs. This course will not fulfill a laboratory science requirement. (1905025109) Prerequisites: ENGL0305 AND ENGL0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; MATH 0306

**BIOL 2305 - PATHOPHYSIOLOGY**

3 Credits (3 hrs. lec.) Pathophysiology is a three-credit lecture course appropriate for students preparing for a nursing career; specifically those transitioning from RN to BSN. The student must contact the transferring
institution to determine how the course will transfer and be applied to their degree. This is a specialized study of the structure and function of human anatomy, including neuroendocrine, integumentary, musculoskeletal, digestive, urinary, reproductive, respiratory, and circulatory systems as they relate to the study of human disease. Objectives include a study of general physiological factors involved in the disease process as well as pathology affecting different human systems. Prerequisites: BIOL 2401 AND BIOL 2402; MATH 0308, ENGL 1301, AND departmental approval.

BIOL 2389 - ACADEMIC COOPERATIVE IN THE BIOLOGICAL SCIENCE/LIFE SCIENCE

3 Credits (1 hr. lec., 6 hrs. lab.) An instructional program designed to integrate on-campus study with practical hands-on work experience in the biological sciences/life sciences. In conjunction with class seminars, the individual student will set specific goals and objectives in the study of living organisms and their systems. Students will work in conjunction with the faculty coordinator and the sponsor in the development of their goals and objectives. The external learning experiences must have faculty approval. (2601015203) Liability insurance through LSCS’s insurer (fee approximately $18) and one semester’s advance notice to faculty are required. Prerequisites: Eight hours in biological sciences (selected from BIOL 1406, 1407, 2401, 2402, 2406, 2416, 2420, and 2421), faculty approval, and a grade point average of at least a “B”; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing.

BIOL 2401 - HUMAN ANATOMY & PHYSIOLOGY I

4 Credits (3 hrs. lec., 3 hrs. lab.) A study of the structure and function of the human body. Emphasis will be given to the study of cells and tissues and anatomical and physiological interrelationships of the skeletal, muscular, nervous and endocrine systems. Designed primarily for students entering health careers. (2607075103) Prerequisites: BIOL 1406 strongly recommended; Math 0308; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing.

BIOL 2402 - HUMAN ANATOMY & PHYSIOLOGY II

4 Credits (3 hrs. lec., 3 hrs. lab.) A continuation of BIOL 2401. Emphasis will be given to the study of the anatomical and physiological interrelationships of the circulatory, respiratory, digestive, reproductive and excretory systems. Designed primarily for students entering health careers. (2607075103) Prerequisites: BIOL 2401; Math 0308; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing.

BIOL 2404 - INTRODUCTION TO ANATOMY AND PHYSIOLOGY

4 Credits (3 hrs. lec., 3 hrs. lab.) A general survey of the structure and function of human anatomy and physiology, including the neuroendocrine, integumentary, musculoskeletal, digestive, urinary, reproductive, respiratory, lymphatic, and circulatory systems. (2607075103) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; Math 0306.

BIOL 2406 - ENVIRONMENTAL BIOLOGY

4 Credits (3 hrs. lec., 3 hrs. lab.) A one-semester survey of the interrelationships between the biotic and abiotic parts of the environment and how man affects them. Topics include: basic ecological principles; energy; human influences on ecosystems; and pollution and policy making. Laboratory experiences will reinforce these topics. Field trips required. (0301035101) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; MATH 0306.

BIOL 2416 - GENETICS

4 Credits (3 hrs. lec., 3 hrs. lab.) A study of the principles of genetics with an emphasis on molecular aspects. Course content will also include genetic engineering principles, population genetics, and the function and transmission of hereditary material. (2608045103) Prerequisites: BIOL 1406 AND BIOL 2420 OR BIOL 2421; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; MATH 0308.

BIOL 2420 - MEDICAL MICROBIOLOGY

4 Credits (3 hrs. lec., 3 hrs. lab.) This course is designed for health science majors. This course is a study of microorganisms including a description of basic cell structure, biochemistry, metabolism, nutrition, reproduction and genetics. Mechanisms of transmission, microbial entry, pathogenesis, prophylaxis, epidemiology and microbial control of selected human pathogens will be explored. Basic body defense mechanisms and immunological responses to pathological conditions will be examined. Laboratory
exercises will include aseptic techniques, microscopy, culture techniques, determination of bacterial morphology, staining, and biochemical differentiation. (2605015103) Prerequisites: BIOL 1406 or 2401; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; MATH 0308

BIOL 2421 - GENERAL MICROBIOLOGY

4 Credits (3 hrs. lec., 3 hrs. lab.) This course is designed for science majors. A study of the morphology, biochemistry, physiology, genetic and taxonomy of microorganisms with an emphasis on bacteria. The biological principles and relationships of microorganisms to man in agriculture, sanitation, industry, medicine, and the environment will also be emphasized. Laboratory exercises will include aseptic techniques, microscopy, culture techniques, determination of bacterial morphology, staining, and biochemical differentiation. (2605035103) Prerequisites: BIOL 1406; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; MATH 0308

BITC 1191 - SPECIAL TOPICS IN BIOLOGICAL TECHNOLOGY

1 Credit (1 hr. lec.) 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. Prerequisites: BITC 1211 and BITC 1402

BITC 1211 - INTRODUCTION TO BIOTECHNOLOGY

2 Credits (2 hrs. lec., 1 hr. lab.) An introduction to biotechnology including career exploration, history and applications of DNA/RNA technology, molecular biology, bioethics, and laboratory safety practices. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; MATH 0310 or placement by testing

BITC 1402 - BIOTECHNOLOGY LABORATORY METHODS AND TECHNIQUES

4 Credits (3 hrs. lec., 3 hrs. lab.) A study of laboratory operations, management, equipment, instrumentation, quality control techniques, and safety procedures. Laboratory practice in using pH meters, mixing buffers, performing measurements, preparing solutions, and performing separatory techniques. Prerequisites: BITC 1211; CHEM 1405, 1411, 1412, 1419, 2423, or 2425; MATH 1314 or higher level MATH course that has MATH 1314 as a prerequisite; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

BITC 2411 - BIOTECHNOLOGY LABORATORY INSTRUMENTATION

4 Credits (3 hrs. lec., 3 hrs. lab.) Presentation of theory, applications, and operations of various analytical instruments. Practice of separation and identification techniques including electrophoresis, spectrophotometry, chromatography, and centrifugation. Prerequisites: BITC 1402; BIOL 1406; BIOL 2420 or BIOL 2421; CHEM 1405 or 1411; OR instructor’s approval; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

BITC 2431 - CELL CULTURE TECHNIQUES

4 Credits (3 hrs. lec., 3 hrs. lab.) A study of cell culture techniques. Laboratory emphasis on the principles and practices of initiation, cultivation, maintenance and preservation of cell lines with applications. Prerequisites: BITC 2411 OR instructor’s approval; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

BITC 2441 - MOLECULAR BIOLOGY TECHNIQUES

4 Credits (3 hrs. lec., 3 hrs. 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. Prerequisites: BITC 2411; BIOL 2416; BIOL 2420 or 2421; OR instructor’s approval; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

BITC 2486 - INTERNSHIP - BIOLOGICAL TECHNOLOGY/TECHNICIAN

4 Credits (21 hrs. ext.) 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. Requires LSCS liability insurance. Prerequisites: Completion of all BITC courses with a grade of “C” or better; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing
BMGT 1301 - SUPERVISION
3 Credits (3 hrs. lec.) A study of the role of the supervisor. Managerial functions as applied to leadership, counseling, motivation, and human skills are examined. Prepares the student with leadership and communications skills needed to motivate. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

BMGT 1306 - FACILITIES MANAGEMENT
3 Credits (3 hrs. lec.) General management and supervision of public buildings, business and industrial facilities, and other complexes requiring supervision and control. Includes fire alarm maintenance, plant maintenance, occupational safety, OSHA rules and regulations, management of maintenance supervisors, and hazardous materials awareness. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

BMGT 1309 - INFORMATION AND PROJECT MANAGEMENT
3 Credits (3 hrs. lec.) Critical path methods for planning and controlling projects. Includes time/cost tradeoffs, resource utilization, stochastic considerations, task determination, time management, scheduling management, status reports, budget management, customer service, professional attitude, and project supervision. Prerequisite: None

BMGT 1327 - PRINCIPLES OF MANAGEMENT
3 Credits (3 hrs. lec.) Concepts, terminology, principles, theory, and issues that are the substance of the practice of management. Prerequisite: None

BMGT 1331 - PRODUCTION & OPERATIONS MANAGEMENT
3 Credits (3 hrs. lec.) Fundamentals of the various techniques used in the practice of production management to include location, design, and resource allocation. Prerequisite: None

BMGT 1341 - BUSINESS ETHICS
3 Credits (3 hrs. lec.) Discussion of the ethical issues, the development of a moral frame of reference and the need for an awareness of social justice in management practices and business activities. Review of ethical responsibilities and relationships between organizational departments, divisions, executive management, and the public. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

BMGT 2303 - PROBLEM SOLVING AND DECISION MAKING
3 Credits (3 hrs. lec.) Decision-making and problem-solving processes in organizations, utilizing logical and creative problem solving techniques. Application of theory is provided by experiential activities such as small group discussions, case studies, and the use of other managerial decision aids. Prerequisite: None

BMGT 2382 - CO-OP: BUSINESS ADMINISTRATION AND MANAGEMENT I
3 Credits (1 hr. lec., 20 hrs. ext.) 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. Prerequisites: Enrollment in management AAS degree program; completion of 15 credits in degree plan AND departmental approval

BMGT 2388 - INTERNSHIP - BUSINESS AND MANAGEMENT
3 Credits (9 hrs. ext.) 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. Prerequisite: Departmental approval

BUSG 1341 - SMALL BUSINESS FINANCING
3 Credits (3 hrs. lec.) A study of the financial structure of a small business. Topics address business finance, including where the funds come from and what they are used for; budgeting including planning and preparing, record keeping, taxation, insurance, and banking. Prerequisite: None

BUSG 2309 - SMALL BUSINESS MANAGEMENT
3 Credits (3 hrs. lec.) Starting and operating a small business. Includes facts about a small business, essential management skills, how to prepare a business plan, financial needs, marketing strategies, and legal issues. Prerequisite: None
DESCRIPTION OF COURSES

BUSI 1301 - BUSINESS PRINCIPLES
3 Credits (3 hrs. lec.) Introduction to the role of business in modern society. Includes basic history of business, basic economic systems, types of ownership, management, marketing, finance, manufacturing, law and other topics of business operations. Subject matter includes an analysis of the specialized fields within the business organization, career planning as related to the fields, starting your own business, current trends in profit and nonprofit business activities and development of a business vocabulary. (5201015104) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing.

BUSI 1307 - PERSONAL FINANCE
3 Credits (3 hrs. lec.) A study of the financial problems which people ordinarily encounter in personal money management. Includes financial planning, budgeting, insurance, buying, taxes, use of credit, consumer protection, investing, savings, home ownership, estate planning and basic statistics as applied to consumer problems. (1904015109) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing.

BUSI 1311 - SALESMANSHIP
3 Credits (3 hrs. lec.) Principles of personal salesmanship, including methods and tasks applicable to a wide variety of industries and commercial settings. (5218045104) Prerequisite: ENGL 1301

BUSI 2301 - BUSINESS LAW
3 Credits (3 hrs. lec.) Principles of law which form the legal framework for business activity. Includes applicable statutes, torts, contracts, personal and real property, wills and trusts and consumer law. (2201015124) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing.

BUSI 2302 - LEGAL ENVIRONMENT IN BUSINESS
3 Credits (3 hrs. lec.) Principles of law which form the legal framework for business activity. Includes contracts, sales and leases, negotiable instruments, creditors’ rights and bankruptcy, and government regulations. (2201015224) Prerequisite: ENGL 1301

BUSI 2304 - BUSINESS COMMUNICATIONS
3 Credits (3 hrs. lec.) Theory and applications for technical reports and correspondence in business. Principles of effective oral and written business communication. Activities include writing business messages for a variety of business situations, writing both formal and informal business reports, and presenting business data orally. This course meets the qualifying educational credit and Skills Specifications Outline (SSOs) required for the CPA examination, and is part of the Accounting ATC offered at LSC-CyFair, Montgomery and Tomball. (2311015212) Prerequisite: ENGL 1301

BUSI 2372 - BUSINESS ANALYSIS
3 Credits (3 hrs. lec.) This course is designed to introduce students to the use of quantitative business techniques. Topics include organizing and presenting data, descriptive statistics, probability, discrete and continuous distributions, systems of equations, modeling, optimization procedures, and statistical inference. (5203047204) Prerequisites: MATH 1314; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing.

CETT 1402 - ELECTRICITY PRINCIPLES
4 Credits (3 hrs. lec., 3 hrs. lab.) Principles of electricity including proper use of test equipment, A/C and D/C circuits, and component theory and operation. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing.

CETT 1403 - DC CIRCUITS
4 Credits (3 hrs. lec., 3 hrs. lab.) A study of the fundamentals of direct current including Ohm’s law, Kirchoff’s laws and circuit analysis techniques. Emphasis on circuit analysis of resistive networks and DC measurements. Corequisite: MATH 1314

CETT 1405 - AC CIRCUITS
4 Credits (3 hrs. lec., 3 hrs. lab.) A study of the fundamentals of alternating current including series and parallel AC circuits, phasors, capacitive and inductive networks, transformers, and resonance. Prerequisites: CETT 1403, ENGL 0304 or ENGL 0339 AND ENGL 0306 or 0355, OR higher level course (ENGL 1301), OR placement by testing; MATH 0306
CETT 1409 - DC-AC CIRCUITS
4 Credits (3 hrs. lec., 3 hrs. lab.) Fundamentals of DC circuits and AC circuits operation including Ohm’s law, Kirchoff’s laws, networks, transformers, resonance, phasors, capacitive and inductive and circuit analysis techniques. Not intended for Engineering Technology A.A.S. majors. Prerequisite: None

CETT 1425 - DIGITAL FUNDAMENTALS
4 Credits (3 hrs. lec., 3 hrs. lab.) 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. Prerequisites: CETT 1403; ENGL 0304 or ENGL 0339 AND ENGL 0306 or 0355, OR higher level course (ENGL 1301), OR placement by testing; MATH 0306; Corequisite: CETT 1405

CETT 1429 - SOLID STATE DEVICES
4 Credits (3 hrs. lec., 3 hrs. lab.) A study of diodes and other semiconductor devices, including analysis of static and dynamic characteristics, biasing techniques, and thermal considerations. Prerequisites: CETT 1405; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; MATH 0306

CETT 1445 - MICROPROCESSOR
4 Credits (3 hrs. lec., 3 hrs. 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. Prerequisites: CETT 1425; ENGL 0304 or ENGL 0339 AND ENGL 0306 or 0355, OR higher level course (ENGL 1301), OR placement by testing; MATH 0306

CETT 1457 - LINEAR INTEGRATED CIRCUITS
4 Credits (3 hrs. lec., 3 hrs. lab.) Characteristics, operations, stabilization, testing, and feedback techniques of linear integrated circuits. Applications of computation, measurements, instrumentation, and active filtering. Prerequisites: CETT 1429; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; MATH 0306

CETT 1491 - SPECIAL TOPICS IN COMPUTER ENGINEERING TECHNOLOGY/TECHNICIAN
4 Credits (3 hrs. lec., 2 hrs. lab.) Topics/projects 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. Working with the instructor, the advanced network/telecommunications student selects, develops an advanced design project or performs an advanced activity in a specific area of employment in the field of networking or telecommunications. This is a capstone experience. Prerequisites: Departmental approval; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

CETT 2449 - RESEARCH AND PROJECT DESIGN
4 Credits (3 hrs. lec., 3 hrs. lab.) Principles of electrical/electronic design encompassing schematics wiring diagrams, materials lists, operating characteristics, completion schedules, and cost estimates. Working with the instructor, the advanced student selects, develops an advanced design project or performs an advanced activity in a specific area of employment. This is a capstone experience. Prerequisites: Near program completion or departmental approval; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

CHEM 1105 - INTRODUCTION TO CHEMISTRY LAB
1 Credit (3 hrs. lab.) This course is a preparatory course for students who have never had chemistry and covers the metric system, atoms and elements, bonding, solids, liquids, gases, stoichiometry, solutions, reactivity, and acids and bases. The lab includes experiments in inorganic chemistry. This course is appropriate for some nursing students, as well as students who will pursue higher level chemistry. Lab portion of CHEM 1305 (4005015103) Prerequisites: CHEM 1305 (CHEM 1305 can be a prerequisite OR corequisite to CHEM 1105); MATH 0308 or qualifying score on MATH placement test; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

CHEM 1305 - INTRODUCTION TO CHEMISTRY
3 Credits (3 hrs. lec.) This course is a preparatory course for students who have never had chemistry; it covers the metric system, atoms and elements, bonding, solids, liquids, gases, stoichiometry, solutions,
DESCRIPTION OF COURSES

reactivity, and acids and bases. This course is appropriate for some nursing students, as well as students who will pursue higher level chemistry. This course in combination with CHEM 1105 is equivalent to CHEM 1405. (4005015103) Prerequisites: MATH 0308 or qualifying score on MATH placement test; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing.

**CHEM 1405 - INTRODUCTORY CHEMISTRY**

4 Credits (3 hrs. lec., 3 hrs. lab.) This course is a preparatory course for students who have never had chemistry and covers the metric system, atoms and elements, bonding, solids, liquids, gases, stoichiometry, solutions, reactivity, and acids and bases. The lab includes experiments in inorganic chemistry. This course is appropriate for some nursing students, as well as students who will pursue higher level chemistry. (4005015103) Prerequisites: MATH 0308 or qualifying score on MATH placement test; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing.

**CHEM 1411 - GENERAL CHEMISTRY I**

4 Credits (3 hrs. lec., 3 hrs. lab.) Topics include a mathematical introduction (metric system, significant figures and scientific notation), discussion of atoms, molecules and ions, stoichiometry, electronic structure, periodic relationships, bonding, molecular geometries and properties of gases, liquids, solids and solutions. Appropriate lab experiments are included. (4005015203) Prerequisites: CHEM 1405 or 1 year of high school chemistry taken within the last 3 years and Math 0310 or qualifying score on MATH placement test; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing. Corequisites: MATH 1314

**CHEM 1412 - GENERAL CHEMISTRY II**

4 Credits (3 hrs. lec., 3 hrs. lab.) A continuation of CHEM 1411, reviewing solutions and including studies in kinetics, equilibrium, acids and bases, thermodynamics, electrochemistry and an introduction to various other areas of chemistry. Appropriate laboratory experiments are included. (4005015203) Prerequisites: CHEM 1411 AND MATH 1314 OR qualifying score on MATH placement test; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing.

**CHEM 1419 - INTRODUCTORY ORGANIC AND BIOCHEMISTRY**

4 Credits (3 hrs. lec., 3 hrs. lab.) This course covers a survey of atomic and molecular structure, organic nomenclature and functional group reactions, carbohydrates, lipids, proteins, nucleic acids, metabolism, and enzymes. The laboratory exercises include experiments in organic and biochemical analysis. This course is appropriate for some nursing students. (4005045103) Prerequisites: CHEM 1405 or 1411 or equivalent; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing.

**CHEM 2389 - ACADEMIC COOPERATIVE**

3 Credits (1 hr. lec., 6 hrs. ext.) Integrates campus classroom/laboratory instruction with an off-campus experience wherein the student works under the guidance of a sponsor whose academic/professional degree and career track match the student's aspirations. The sponsor and faculty will determine specific qualifications for student placement in this course. Student, faculty, and sponsor will set specific goals before initiating the cooperative experience and will consult at regular intervals over the semester to plan and mark progress as these goals are achieved. Prerequisites: minimum GPA 3.0; faculty approval; 20 hours in MATH/Science courses as required of physical/biological science majors, including CHEM 1411 and 1412. Liability insurance through LSCS’s insurer (fee approximately $18) and one semester’s advance notice to faculty are required in order to make arrangements for a suitable co-op experience.

**CHEM 2423 - ORGANIC CHEMISTRY I**

4 Credits (3 hrs. lec., 4 hrs. lab.) This course covers the topics of alkanes, alkenes, alkynes, stereochemistry, alkyl halides, nucleophilic substitution, elimination, spectroscopy, conjugation, aromaticity, aromatic substitution and organic synthesis. The laboratory program includes appropriate experiments with product purification and methods of analysis including chromatography and infrared spectroscopy. (4005045203) Prerequisites: CHEM 1412 or equivalent; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing.

**CHEM 2425 - ORGANIC CHEMISTRY II**

4 Credits (3 hrs. lec., 4 hrs. lab.) This continuation of CHEM 2423 includes topics on alcohols, aldehydes,
ketones, carboxylic acids and derivatives, condensation reactions, amines, biochemistry and polymer chemistry. The laboratory program continues investigations into synthetic techniques with product purification and analysis including chromatography and infrared spectroscopy. (4005045203) Prerequisites: CHEM 2423 or equivalent; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing.

CHIN 1411 - BEGINNING CHINESE I
4 Credits (3 hrs. lec., 2 hrs. lab.) An introduction to modern spoken and written Mandarin Chinese. Beginners’ speaking, listening comprehension and basic principles in grammar along with simple exercises in compositions and reading which include cultural material. Students will write Chinese characters. (1603015113) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing.

CHIN 1412 - BEGINNING CHINESE II
4 Credits (3 hrs. lec., 2 hrs. lab.) A continuation of CHIN 1411 as an introduction to modern spoken and written Mandarin Chinese. Increased emphasis on speaking, listening comprehension, and basic principles in grammar along with simple exercises in compositions and reading which include cultural material. Students will write Chinese characters. (1603015113) Prerequisites: CHIN 1411; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing.

CHIN 2311 - INTERMEDIATE CHINESE I
3 Credits (3 hrs. lec.) A review and application of skills in listening comprehension, speaking, reading and writing Mandarin Chinese. This course will emphasize conversation, vocabulary acquisition, reading composition, and culture. Students will write Chinese characters. (1603015213) Prerequisites: CHIN 1412; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing.

CHIN 2312 - INTERMEDIATE CHINESE II
3 Credits (3 hrs. lec.) A continuation of CHIN 2311 (1603015213) Prerequisites: CHIN 2311; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing.

CMSW 1309 - PROBLEMS OF CHILDREN AND ADOLESCENTS
3 Credits (3 hrs. lec.) Examine common problems of at-risk children and youth, and evaluate effective intervention models. Topics include: social, family, educational systems impact, juvenile delinquency, teen sexuality, and addictive behaviors. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing.

CMSW 1323 - THE EXCEPTIONAL PERSON
3 Credits (3 hrs. lec.) Study of physical, intellectual, and learning disabilities, sensory deficits, as well as the exceptionally gifted individual. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing.

CMSW 1341 - BEHAVIOR MODIFICATION AND COGNITIVE DISORDER
3 Credits (3 hrs. lec.) In depth study of the theories and principles of behavioral science and skill development in the methods of modifying and controlling behavior in clinical and personal settings. Prerequisites: ENGL 0304 or ENGL 0339 AND ENGL 0306 or 0355, OR higher level course (ENGL 1301), OR placement by testing.

CMSW 1353 - FAMILY INTERVENTION STRATEGIES
3 Credits (3 hrs. lec.) Study of current family intervention strategies. Prerequisites: ENGL 0304 or ENGL 0339 AND ENGL 0306 or 0355, OR higher level course (ENGL 1301), OR placement by testing.

CMSW 1391 - SPECIAL TOPICS IN CLINICAL AND MEDICAL SOCIAL WORK
3 Credits (3 hrs. lec.) 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. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing.

CNBT 1311 - CONSTRUCTION MATERIALS AND METHODS I
3 Credits (2 hrs. lec., 4 hrs. lab.) An introduction to construction materials and methods and their applications. Prerequisite: None.
DESCRIPTION OF COURSES

CNBT 1342 - BUILDING CODES AND INSPECTIONS
3 Credits (3 hrs. lec.) An examination of the building codes and standards applicable to building construction and inspection processes. Prerequisites: CNBT 1311, DFTG 1305, and ENGL 1301

COMM 1129 - PUBLICATIONS PRODUCTION
1 Credit (4 hrs. lab.) Special course in content, layout and design. Work on campus publication using a computer for writing, editing and mechanical production, at prescribed periods under supervision. May be repeated for a maximum of four credit hours. (0904015406) Corequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

COMM 1307 - INTRODUCTION TO MASS COMMUNICATIONS
3 Credits (3 hrs. lec.) A survey of the various media employed in communicating to the masses; examination of the practices, possibilities and limitations of each. A study of the relationship between media communications and social actions or attitudes. (0904025106) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

COMM 1316 - PHOTO JOURNALISM
3 Credits (2 hrs. lec., 3 hrs. lab.) A course which deals primarily with the principles and methods of producing news, feature and public relations photographs for newspapers and magazines. (0904015506) Prerequisites: COMM 1318 or departmental approval; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

COMM 1318 - PHOTOGRAPHY I
3 Credits (1 hr. lec., 5 hrs. lab.) A beginning course which introduces the student to theoretical and applied aspects of photography, including cameras, lenses, photographic materials and techniques, black-and-white darkroom procedures and photographic composition. This is the same course as ARTS 2356. (5006055126) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

COMM 2302 - PRINCIPLES OF JOURNALISM
3 credits (3 hrs. lec.) Exploration of ethical and legal boundaries as well as issues and problems facing today’s journalist. (0904015206) Prerequisite: ENGL 1301

COMM 2305 - MODERN EDITING
3 Credits (3 hrs. lec.) Methods of planning and editing modern magazines and newspapers. Emphasis on modular layout, including headlines and pictures. Course requires participation in producing school magazine and newspaper. Some Macintosh computer instruction offered. (0904015106) Prerequisites: Six hours journalism, or 2nd-year standing and departmental approval; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

COMM 2311 - REPORTING I
3 Credits (2 hrs. lec., 4 hrs. lab.) Basic news-reporting techniques with emphasis on news gathering and writing in a newsroom laboratory setting. Word processing skills needed. (0904015706) Prerequisite: ENGL 1301

COMM 2315 - REPORTING II
3 Credits (2 hrs. lec., 4 hrs. lab.) A continuation of COMM 2311 with added emphasis on the practical applications of news writing, gathering and interviewing techniques. Students should be prepared to produce computer copy for off-campus publications as well as for the campus newspaper. (0904015806) Prerequisite: COMM 2311

COMM 2327 - PRINCIPLES OF ADVERTISING
3 Credits (3 hrs. lec.) History of advertising and its effect on mass media. Review of current advertising and its impact on business and industry throughout the ages. (0909035106) Prerequisite: ENGL 1301 or departmental approval

COMM 2389 - ACADEMIC COOPERATIVE IN COMMUNICATIONS
3 Credits (1 hr. lec., 6 hrs. 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. The external learning experiences are unpaid and must have faculty approval. (2401035212)
Prerequisites: Instructor approval; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

COSC 1309 - LOGIC DESIGN
3 Credits (3 hrs. lec., 2 hrs. lab.) A discipline approach to problem solving with structured techniques and representation of algorithms using pseudocodes and graphical tools. Discussion of methods for testing, evaluation, and documentation. COSC 1401 is recommended prior to enrolling. (1102015107) [This course is recommended for four-year transfer students.] Prerequisites: ITSC 1401/COSC 1401; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; Math 0308

COSC 1401 - MICROCOMPUTER APPLICATIONS
4 Credits (3 hrs. lec., 2 hrs. lab.) Overview of computer information systems. Introduces computer hardware, software, procedures, and human resources. Explores integration and application in business and other segments in society. Fundamentals of computer problem-solving and programming may be discussed and applied. Examines applications and software relating to a specific curricular area. (1101015207) [This course is recommended for computer science transfer students.] Course may be taken as a corequisite with ENGL 0305 AND ENGL 0307 or 0356

COSC 1420 - “C” LANGUAGE
4 Credits (3 hrs. lec., 2 hrs. lab.) Introduction to computer programming. Emphasis on the fundamentals of structured design, development, testing, implementation, and documentation. Includes coverage of language syntax, data and file structures, input/output devices, and disks/files. (1102015207) [This course is recommended for four-year transfer students.] Prerequisites: COSC 1309; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

COSC 1430 - JAVA LANGUAGE
4 Credits (3 hrs. lec., 2 hrs. lab.) Introduction to JAVA programming. Emphasis on the fundamentals of structured design, development, testing, implementation, and documentation. Includes coverage of language syntax, data and file structures, input/output devices, disks/files. (1102015207) [This course is recommended for four-year transfer students.] Prerequisites: COSC 1309; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

COSC 1436 - PROGRAMMING FUNDAMENTALS I
4 Credits (3 hrs. lec., 2 hrs. 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 is part of the Computer Science Field of Study. (1102015507) Prerequisites: MATH 0310; Corequisite: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

COSC 1437 - PROGRAMMING FUNDAMENTALS II
4 Credits (3 hrs. lec., 2 hrs. 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. This course is part of the Computer Science Field of Study. (1102015607) Prerequisites: COSC 1436; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

COSC 2420 - ADVANCED “C” LANGUAGE
4 Credits (3 hrs. lec., 2 hrs. lab.) Further applications of C++ programming techniques. Topics include file access methods, data structures, modular programming, program testing, class inheritance, documentation, and other advanced techniques. (1102015307) [This course is recommended for four-year transfer students.] Prerequisites: COSC 1420; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

COSC 2425 - COMPUTER ORGANIZATION AND MACHINE LANGUAGE
4 Credits (3 hrs. lec., 2 hrs. lab.) Basic computer organization; machine cycle, digital representation of data and instructions; assembly language programming, assembler, loader, macros, subroutines, and program linkages. This course is part of the Computer Science Field of Study. (1102015407) Prerequisites: COSC 1436; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing
DESCRIPTION OF COURSES

COSC 2436 - PROGRAMMING FUNDAMENTALS III
4 Credits (3 hrs. lec., 2 hrs. 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. This course is part of the Computer Science Field of Study. (1102015707) Prerequisites: COSC 1437; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing.

CPMT 1403 - INTRODUCTION TO COMPUTER TECHNOLOGY
4 Credits (3 hrs. lec., 2 hrs. 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. Specific, hands-on training using word processing, spreadsheets, database, Internet, and personal computer operating system commands (DOS & Windows) are provided. Prerequisites: ASSET reading score of 39, CELT score of 60; ENGL 0304 or ENGL 0339 AND ENGL 0306 or 0355, OR higher level course (ENGL 1301), OR placement by testing; MATH 0306.

CPMT 1445 - COMPUTER SYSTEMS MAINTENANCE
4 Credits (3 hrs. lec., 2 hrs. lab.) Examination of the functions of the components within a computer system. Development of skills in the use of test equipment and maintenance aids. Prerequisites: CPMT 1403 or ITSC 1401; ENGL 0304 or ENGL 0339 AND ENGL 0306 or 0355, OR higher level course (ENGL 1301), OR placement by testing; MATH 0306.

CPMT 2302 - HOME TECHNOLOGY INTEGRATION
3 Credits (1 hr. lec., 4 hrs. lab.) Integration and maintenance of various home technology subsystems. Includes home automation, security and surveillance, home networks, video and audio networks, and structured wiring. Prerequisite: ITSC 1401.

CPMT 2433 - COMPUTER INTEGRATION
4 Credits (3 hrs. lec., 2 hrs. lab.) An advanced course in integration of hardware, software, and applications. Customization of computer systems for specific applications in engineering, multimedia, or data acquisition. Prerequisites: CPMT 1449; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; Corequisite: MATH 1314.

CPMT 2445 - COMPUTER SYSTEMS TROUBLESHOOTING
4 Credits (3 hrs. lec., 2 hrs. lab.) Principles and practices involved in computer system troubleshooting techniques and repair procedures including advanced diagnostic test programs and the use of specialized test equipment. Prerequisites: CPMT 1445; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing.

CPMT 2449 - ADVANCED COMPUTER NETWORKING TECHNOLOGY
4 Credits (3 hrs. lec., 2 hrs. lab.) An in-depth study of network technology with emphasis on network operating systems, network connectivity, hardware, and software. Mastery of implementation, troubleshooting, and maintenance of LAN and/or WAN network environments. Prerequisites: CPMT 1449; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing.

CRIJ 1301 - INTRODUCTION TO CRIMINAL JUSTICE
3 Credits (3 hrs. lec.) An overview of the criminal justice system. Topics include the history and philosophy of criminal justice, the definition of crime, and its nature and impact. (4301045124) Prerequisites: ENGL0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing.

CRIJ 1306 - COURT SYSTEMS AND PRACTICES
3 Credits (3 hrs. lec.) Examination of the role of the judiciary in the criminal justice system. Topics include the structure of the American court system, prosecution, right to counsel, pretrial release, grand jury process, adjudication process, types and rules of...
evidence, and sentencing concepts. (2201015424) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

CRIJ 1307 - CRIME IN AMERICA
3 Credits (3 hrs. lec.) The study of crime problems in historical perspective, social and public policy factors affecting crime, impact and crime trends, social characteristics of specific crimes, and crime prevention. (4504015225) Prerequisites: ENGL0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

CRIJ 1310 - FUNDAMENTALS OF CRIMINAL LAW
3 Credits (3 hrs. lec.) Study of the nature of criminal law. Topics include philosophical and historical development, major definitions and concepts, classification of crime, elements of crimes and penalties, and individual criminal responsibilities. (2201015324) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

CRIJ 1313 - JUVENILE JUSTICE SYSTEM
3 Credits (3 hrs. lec.) A study of the juvenile justice process. Topics include specialized juvenile law, role of the juvenile courts, role of police agencies, role of correctional agencies, and theories concerning delinquency. (4301045224) Prerequisites: ENGL0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

CRIJ 2301 - COMMUNITY RESOURCES IN CORRECTIONS
3 Credits (3 hrs. lec.) An overview of diversionary practices and treatment programs available to offenders in a local context. Topics include selected recognized models and future trends in community treatment. (4301045324) Prerequisites: ENGL0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

CRIJ 2313 - CORRECTIONAL SYSTEMS AND PRACTICES
3 Credits (3 hrs. lec.) A study of the role of corrections in the criminal justice system. Topics include organization and theory of correctional systems, institutional operations, management, alternatives to institutionalization, treatments and rehabilitation, and current and future issues. (4301045424) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

CRIJ 2314 - CRIMINAL INVESTIGATION
3 Credits (3 hrs. lec.) Study of investigative theory, the collection and preservation of evidence, concepts of interviewing and interrogation, the use of forensic sciences, and trial preparation. (4301045524) Prerequisites: ENGL0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

CRIJ 2323 - LEGAL ASPECTS OF CRIMINAL JUSTICE
3 Credits (3 hrs. lec.) Exploration of police authority. Topics include responsibilities and constitutional restraints, laws of arrest, search and seizure, and police liability. (4301045624) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

CRIJ 2328 - POLICE SYSTEMS AND PRACTICES
3 Credits (3 hrs. lec.) Exploration of the profession of police officer. Topics include organization of law enforcement systems, the police role, police discretion, ethics, police-community interaction, and current and future issues. (4301045724) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

CSME 1248 - PRINCIPLES OF SKIN CARE
2 Credits (6 hrs. lab.) An introduction to the theory and practice of skin care. Requires LSCS liability insurance. Prerequisites: CSME 1420 and 1421

CSME 1254 - ARTISTRY OF HAIR DESIGN I
2 Credits (1 hr. lec., 4 hrs. lab.) Introduction to hair design. Topics include the theory and applications of wet styling, thermal hair styling, and finishing techniques. Prerequisites: ENGL0304 or ENGL0339 AND ENGL 0306 or 0355, OR higher level course (ENGL 1301), OR placement by testing; Corequisites: CSME 1310 and 1501, and 1505

CSME 1310 - INTRODUCTION TO HAIRCUTTING AND RELATED THEORY
3 Credits (1 hr. lec., 8 hrs. lab.) Introduction to the theory and practice of hair cutting. Topics include terminology, implements, section haircutting and finishing techniques. Prerequisites: ENGL 0304 or
DESCRIPTION OF COURSES

ENGL 0339 AND ENGL 0306 or 0355, OR higher level course (ENGL 1301), OR placement by testing; Corequisites: CSME 1254, 1501, and 1505

CSME 1420 - ORIENTATION TO FACIAL SPECIALIST
4 Credits (2 hrs. lec., 7 hrs. lab.) An overview of the skills and knowledge necessary for the field of facials and skin care. Requires LSCS liability insurance. Prerequisites: ENGL 0304 or ENGL 0339 AND ENGL 0306 or 0355, OR higher level course (ENGL 1301), OR placement by testing; Corequisite: CSME 1421

CSME 1421 - PRINCIPLES OF FACIAL/ESTHETIC TECHNOLOGY I
4 Credits (2 hrs. lec., 6 hrs. lab.) An introduction to the principles of facial and esthetic technology. Topics include anatomy, physiology, theory, and related skills of facial and esthetic technology. Prerequisites: ENGL 0304 or ENGL 0339 AND ENGL 0306 or 0355, OR higher level course (ENGL 1301), OR placement by testing; Corequisite: CSME 1420

CSME 1434 - COSMETOLOGY INSTRUCTOR
4 Credits (2 hrs. lec., 6 hrs. lab.) The fundamentals of instruction of cosmetology students. Prerequisite: ENGL 1301; Corequisite: CSME 1435

CSME 1435 - ORIENTATION TO THE INSTRUCTION OF COSMETOLOGY
4 Credits (2 hrs. lec., 6 hrs. ext.) An overview of the skills and knowledge necessary for the instruction of cosmetology students. Requires LSCS liability insurance. Prerequisites: 3 years of field experience, Texas operator’s license and 12 credit hours of academic work including ENGL 1301

CSME 1445 - PRINCIPLES OF FACIALS/ESTHETIC TECHNOLOGY II
4 Credits (2 hrs. lec., 7 hrs. lab.) Advanced concepts and principles of skin care and other related technologies. Topics include advanced instruction in anatomy, physiology, theory, and related skills of facial and esthetic technology. Prerequisite: CSME 1421 with a “C” or better; Corequisite: CSME 2431

CSME 1447 - PRINCIPLES OF SKIN CARE/FACIAL AND RELATED THEORY
4 Credits (2 hrs. lec., 6 hrs. lab.) In-depth coverage of the theory and practice of skin care, facials, and cosmetics. Prerequisite: CSME 1421

CSME 1501 - ORIENTATION TO COSMETOLOGY
5 Credits (3 hrs. lec., 8 hrs. lab.) An overview of the skills and knowledge necessary for the field of cosmetology. Requires LSCS liability insurance. Prerequisites: ENGL 0304 or ENGL 0339 AND ENGL 0306 or 0355, OR higher level course (ENGL 1301), OR placement by testing; Corequisite: CSME 1254, 1310, and 1505

CSME 1505 - FUNDAMENTALS OF COSMETOLOGY
5 Credits (3 hrs. lec., 8 hrs. lab.) A course in the basic fundamentals of cosmetology. Topics include service preparation, manicure, facial, chemical services, shampoo, haircut, wet styling, comb out, and salon management. Requires LSCS liability insurance. Prerequisites: ENGL 0304 or ENGL 0339 AND ENGL 0306 or 0355, OR higher level course (ENGL 1301), OR placement by testing; Corequisites: CSME 1254, 1310, and 1501

CSME 1553 - CHEMICAL REFORMATION & RELATED THEORY
5 Credits (3 hrs. lec., 8 hrs. lab.) Presentation of the theory and practice of chemical reformation. Topics include terminology, application, and workplace competencies related to chemical reformation. Prerequisites: CSME 1254, 1310, 1501, and 1505 with a “C” or better; ENGL 0304 or ENGL 0339 AND ENGL 0306 or 0355, OR higher level course (ENGL 1301), OR placement by testing; Corequisite: CSME 2501

CSME 2310 - INTERMEDIATE HAIRCUTTING & RELATED THEORY
3 Credits (1 hr. lec., 4 hrs. lab.) Advanced concepts and practice of haircutting. Topics include haircuts utilizing scissors, razors, and/or clippers. Requires LSCS liability insurance. Prerequisites: CSME 1553 and 2501 with a “C” or better; ENGL 0304 or ENGL 0339 AND ENGL 0306 or 0355, OR higher level course (ENGL 1301), OR placement by testing; Corequisite: CSME 2337

CSME 2337 - ADVANCED COSMETOLOGY TECHNIQUES
3 Credits (1 hr. lec., 8 hrs. lab.) Mastery of advanced cosmetology techniques including hair designs, professional cosmetology services, and workplace competencies. Prerequisites: ENGL 0304 or ENGL 0339
AND ENGL 0306 or 0355, OR higher level course (ENGL 1301), OR placement by testing; Corequisite: CSME 2310

**CSME 2414 - COSMETOLOGY INSTRUCTOR II**

4 Credits (2 hrs. lec., 6 hrs. lab.) A continuation of the fundamentals of instruction of cosmetology students. Prerequisites: CSME 1434 and 1435 with a “C” or better

**CSME 2415 - COSMETOLOGY INSTRUCTOR III**

4 Credits (2 hrs. lec., 6 hrs. lab.) Presentation of assignments and evaluation techniques for a cosmetology program. Prerequisite: ENGL 1301; Corequisite: CSME 2444

**CSME 2431 - PRINCIPLES OF FACIAL/ESTHETIC TECHNOLOGY III**

4 Credits (2 hrs. lec., 6 hrs. lab.) Demonstrate concepts and principles of skin care and other related technologies. Corequisite: CSME 1445

**CSME 2444 - COSMETOLOGY INSTRUCTOR IV**

4 Credits (2 hrs. lec., 6 hrs. lab.) Advanced concepts of instruction in a cosmetology program. Topics include demonstration and implementation of advanced evaluation and assessment techniques. Prerequisite: ENGL 1301; Corequisite: CSME 2415

**CSME 2445 - INSTRUCTIONAL THEORY & CLINICAL OPERATION**

4 Credits (2 hrs. lec., 6 hrs. lab.) An overview of the objectives required by the Texas Department of Licensing and Regulation, Instructor Examination. Prerequisite: ENGL 1301; Corequisites: CSME 2415 and CSME 2444

**CSME 2501 - PRINCIPLES OF HAIR COLORING AND RELATED THEORY**

5 Credits (3 hrs. lec., 8 hrs. lab.) Presentation of the theory and practice of hair color and chemistry. Topics include terminology, application, and workplace competencies related to hair color and chemistry. Prerequisites: ENGL 0304 or ENGL 0339 AND ENGL 0306 or 0355, OR higher level course (ENGL 1301), OR placement by testing; Corequisite: CSME 1553

**CSME 2539 - ADVANCED HAIR DESIGN**

5 Credits (3 hrs. lec., 8 hrs. lab.) Advanced concepts in the theory and practice of hair design. Requires LSCS liability insurance. Prerequisites: ENGL 0304 or ENGL 0339 AND ENGL 0306 or 0355, OR higher level course (ENGL 1301), OR placement by testing; Corequisite: CSME 2541

**CSME 2541 - PREPARATION FOR THE STATE LICENSING EXAMINATION**

5 Credits (3 hrs. lec., 8 hrs. lab.) Preparation for the Texas Department of Licensing and Regulation Examination. Prerequisites: CSME 2310 and 2337 with a “C” or better or departmental approval; ENGL 0304 or ENGL 0339 AND ENGL 0306 or 0355, OR higher level course (ENGL 1301), OR placement by testing; Corequisite: CSME 2539

**DAAC 1304 - PHARMACOLOGY OF ADDICTION**

3 Credits (3 hrs. lec.) 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. Prerequisites: ENGL 0304 or ENGL 0339 AND ENGL 0306 or 0355, OR higher level course (ENGL 1301), OR placement by testing

**DAAC 1309 - ASSESSMENT SKILL OF ALCOHOL AND OTHER DRUG ADDICTIONS**

3 Credits (3 hrs. lec.) Examines procedures and tools used to identify and assess a client's strengths, weaknesses, problems, and needs. Prerequisites: ENGL 0304 or ENGL 0339 AND ENGL 0306 or 0355, OR higher level course (ENGL 1301), OR placement by testing

**DAAC 1311 - COUNSELING THEORIES**

3 Credits (3 hrs. lec.) An examination of the major theories and current treatment modalities used in the field of counseling. Prerequisites: ENGL 0304 or ENGL 0339 AND ENGL 0306 or 0355, OR higher level course (ENGL 1301), OR placement by testing

**DAAC 1317 - BASIC COUNSELING SKILLS**

3 Credits (3 hrs. lec.) Presents the basic counseling skills necessary to develop an effective helping relationship with clients. Prerequisites: ENGL 0304 or ENGL 0339 AND ENGL 0306 or 0355, OR higher level course (ENGL 1301), OR placement by testing
DESCRIPTION OF COURSES

DAAC 1319 - INTRODUCTION TO ALCOHOL AND OTHER DRUG ADDICTIONS

3 Credits (3 hrs. lec.) 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. Prerequisites: ENGL 0304 or ENGL 0339 AND ENGL 0306 or 0355, OR higher level course (ENGL 1301), OR placement by testing

DAAC 2160 - CLINICAL

1 Credit (6 hrs. ext.) 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. Requires LSCS liability insurance. Prerequisites: DAAC 1317; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

DAAC 2260 - CLINICAL

2 Credits (12 hrs. ext.) 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. Requires LSCS liability insurance. Prerequisites: DAAC 1317; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

DAAC 2341 - COUNSELING ALCOHOL & OTHER DRUG ADDICTIONS

3 Credits (3 hrs. lec.) Special skills and techniques in the application of counseling skills for the Alcohol and Other Drug (AOD) client. Development and utilization of advanced treatment planning and management. Includes review of confidentiality and ethical issues. Prerequisites: ENGL0304 or ENGL0339 AND ENGL 0306 or 0355, OR higher level course (ENGL 1301), OR placement by testing

DAAC 2343 - CURRENT ISSUES

3 Credits (3 hrs. lec.) Current issues in addiction counseling. Includes special populations, dual diagnosis, ethics, gambling, and infectious diseases associated with addiction counseling. Prerequisites: ENGL0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

DAAC 2354 - DYNAMICS OF GROUP COUNSELING

3 Credits (3 hrs. lec.) Exploration of group counseling skills, techniques, and stages of group development. Prerequisites: ENGL0304 or ENGL0339 AND ENGL 0306 or 0355, OR higher level course (ENGL 1301), OR placement by testing

DAAC 2360 - CLINICAL

3 Credit (18 hrs. ext.) 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. Requires LSCS liability insurance. Prerequisites: DAAC 1317; ENGL 0304 or ENGL 0339 AND ENGL 0306 or 0355, OR higher level course (ENGL 1301), OR placement by testing

DANC 1151 - DANCE PERFORMANCE I

1 Credit (3 hrs. lab.) This course provides the students with the opportunity to participate in the rehearsal and performance of dance works. (5003015226) Prerequisite: None; Corequisite: Enrollment in a dance technique course

DANC 1152 - DANCE PERFORMANCE II

1 Credit (3 hrs. lab.) This course is a continuation of DANC 1151. Opportunities are provided to participate in the rehearsal and performance of dance works. (5003015226) Prerequisite: DANC 1151; Corequisite: Enrollment in a dance technique course

DANC 1210 - TAP I

2 Credits (1 hr. lec., 2 hrs. lab.) Instruction and participation in tap dance. (5003015226) Prerequisite: None

DANC 1211 - TAP II

2 Credits (1 hr. lec., 2 hrs. lab.) This is a continuation of DANC 1210 with instruction and participation in tap dance. (5003015226) Prerequisite: DANC 1210 or instructor approval

DANC 1241 - BALLET I

2 Credits (1 hr. lec., 2 hrs. lab.) This introductory course provides instruction and practice in beginning ballet technique. Emphasis is upon placement, alignment, technique and terminology. Classical ballet barre, center work and floor combinations are utilized. (5003015226) Prerequisite: None
DANC 1242 - BALLET II
2 Credits (1 hr. lec., 2 hrs. lab.) This course is a continuation of DANC 1241 and provides additional instruction and practice in beginning ballet technique. Emphasis is upon placement, alignment, technique and terminology. Classical ballet barre, center work and floor combinations are utilized. (5003015226) Prerequisite: DANC 1241 or instructor approval

DANC 1245 - MODERN DANCE I
2 Credits (1 hr. lec., 2 hrs. lab.) This introductory course provides instruction and practice in beginning modern dance technique. Emphasis is upon placement, alignment, technique and terminology. Basic floor, center and locomotor techniques are utilized. (5003015226) Prerequisite: None

DANC 1246 - MODERN DANCE II
2 Credits (1 hr. lec., 2 hrs. lab.) This course is a continuation of DANC 1245. It provides intermediate instruction and practice in modern dance technique. Emphasis continues to be upon placement, alignment, technique and terminology. Intermediate patterns of floor, center and locomotor technique are used. (5003015226) Prerequisite: DANC 1245 or instructor approval

DANC 1247 - JAZZ I
2 Credits (1 hr. lec., 2 hrs. lab.) This introductory course provides instruction and practice in beginning jazz dance. Emphasis is upon placement, alignment, technique and terminology. Body awareness and development, rhythm awareness, jazz styles and rhythmic combinations of movement are studied. (5003015226) Prerequisite: None

DANC 1248 - JAZZ II
2 Credits (1 hr. lec., 2 hrs. lab.) This course is a continuation of DANC 1247. It provides intermediate instruction and practice in jazz dance technique. Emphasis continues to be upon placement, alignment, technique and terminology. Intermediate patterns involving body awareness and development, rhythm awareness, jazz styles and rhythmic combinations of movement are studied. (5003015226) Prerequisite: DANC 1247 or instructor approval

DANC 1301 - DANCE COMPOSITION
3 Credits (3 hrs. lec.) This course provides instruction and practice in the analysis of the basic elements of dance. Emphasis is upon the use of space, rhythm, time and energy. Opportunities to analyze, explore, and study elements of movement design are provided. (5003015526) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

DANC 2151 - DANCE PERFORMANCE III
1 Credit (3 hrs. lab.) This course is a continuation of DANC 1152. This course provides students with the opportunity to participate in the rehearsal and performance of intermediate and advanced performance technique. (5003015226) Prerequisites: DANC 1152 or instructor approval; Corequisite: Enrollment in a dance technique course

DANC 2152 - DANCE PERFORMANCE IV
1 Credit (3 hrs. lab.) This course is a continuation of DANC 2151. This course provides students with the opportunity to participate in the rehearsal and performance of intermediate and advanced performance technique. (5003015226) Prerequisites: DANC 2151 or instructor approval; Corequisite: Enrollment in dance technique course

DANC 2208 - TAP III
2 Credits (1 hr. lec., 2 hrs. lab.) This is a continuation of DANC 1211 with intermediate instruction and preparation in tap dance. (5003015226) Prerequisite: DANC 1211 or instructor approval

DANC 2209 - TAP IV
2 Credits (1 hr. lec., 2 hrs. lab.) This is a continuation of DANC 2208 with more advanced instruction and preparation in tap dance. (5003015226) Prerequisite: DANC 2208 or instructor approval

DANC 2241 - BALLET III
2 Credits (1 hr. lec., 2 hrs. lab.) This course is a continuation of DANC 2242. The development of ballet technique is continued. More complex exercises at the barre and center are included. Emphasis is on longer series of movement, adagio, and allegro with precision of movement. (5003015226) Prerequisite: DANC 2242 or instructor approval

DANC 2242 - BALLET IV
2 Credits (1 hr. lec., 2 hrs. lab.) This course is a continuation of DANC 2241. It is designed for the advanced level student. Skills include advanced barre
DESCRIPTION OF COURSES

and center work, refining basic movement technique and extensive work on dance routines. Pointe work may be introduced. (5003015226) Prerequisite: DANC 2241 or instructor approval

DANC 2245 - MODERN DANCE III

2 Credits (1 hr. lec., 2 hrs. lab.) This course is a continuation of DANC 1246. The development of modern dance technique is continued. More complex floor, center and locomotor exercises are included. Emphasis is on elements of modern dance movement including time, force and space. Longer and more complex series of movements are utilized. (5003015226) Prerequisite: DANC 1246 or instructor approval

DANC 2246 - MODERN DANCE IV

2 Credits (1 hr. lec., 2 hrs. lab.) This course is a continuation of DANC 2245. The development of modern dance technique is continued. More complex floor, center and locomotor exercises are included. Emphasis is on elements of modern dance movement including time, force and space. Longer and more complex series of movements are utilized. (5003015226) Prerequisite: DANC 2245 or instructor approval

DANC 2247 - JAZZ III

2 Credits (1 hr. lec., 2 hrs. lab.) This course is a continuation of DANC 1247. It is designed for the advanced level student. Skills include the performance and development of complex jazz rhythms, turns and jumps. (5003015226) Prerequisite: DANC 1248 or instructor approval

DANC 2248 - JAZZ IV

2 Credits (1 hr. lec., 2 hrs. lab.) This course is a continuation of DANC 2247. It is designed for the advanced level student. Skills include the performance and development of complex jazz rhythms, turns and jumps. (5003015226) Prerequisite: DANC 2247 or instructor approval

DANC 2303 - DANCE APPRECIATION

3 Credits (3 hrs. lec.) The cultural, historical and aesthetic qualities of dance are presented through lectures, films, videos, and dance productions. Primitive, classical and contemporary dance forms are included. (5003015426) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

DANC 2389 - ACADEMIC CO-OP IN DANCE

3 Credits (1 hr. lec., 16 hrs. ext.) An instructional program designed to integrate on campus study with practical hands on work experience in dance. In conjunction with class seminars, the individual student will set specific goals and objectives in dance. (2401035212) Prerequisites: Departmental Approval; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

DFTG 1305 - TECHNICAL DRAFTING

3 Credits (2 hrs. lec., 4 hrs. lab.) Introduction to the principles of drafting to include terminology and fundamentals, including size and shape descriptions, projection methods, geometric construction, sections, and auxiliary views. Prerequisite: None

DFTG 1309 - BASIC COMPUTER-AIDED DRAFTING

3 Credits (2 hrs. lec., 4 hrs. 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. Prerequisite: None

DFTG 1317 - ARCHITECTURAL DRAFTING RESIDENTIAL

3 Credits (2 hrs. lec., 4 hrs. lab.) Architectural drafting procedures, practices, terms, and symbols. Preparation of detailed working drawings for residential structures. Emphasis on light frame construction methods. Prerequisites: DFTG 1305, DFTG 1309, DFTG 2331 and CNBT 1311

DFTG 1325- BLUEPRINT READING AND SKETCHING

3 Credits (2 hrs. lec., 2 hrs. lab.) An introduction to reading and interpreting working drawings for manufactured products and associated tooling; use sketching techniques to create pictorial and multiple-view drawings. The student will solve related math equations, geometric dimensioning and tolerancing; and interpreted shop operations. Prerequisites: Placement into MATH 1314 or credit for MATH 0310 with a grade of “C” or better; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; or instructor approval
DFTG 1371 - METAL BUILDING SYSTEMS I
3 Credits (3 hrs. lec.) Course introduces the student to pre-engineered metal building framing, component and design systems. Prerequisite: CNBT 1311

DFTG 1372 - STRUCTURAL STEEL DETAILING
3 Credits (2 hrs. lec., 4 hrs. lab.) This course covers the preparation of structural steel drawings and bills of material for the purpose of fabrication and erection. Emphasis will be placed upon using structural design framing plans to develop detailed steel members, connections, and assemblies. Prerequisites: ARCE 1352 and MATH 1316; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

DFTG 2302 - MACHINE DRAFTING
3 Credits (2 hrs. lec., 4 hrs. lab.) Production of detail and assembly drawings of machines, threads, gears, utilizing tolerances, limit dimensioning, and surface finishes. Prerequisites: DFTG 1305 and DFTG 1309

DFTG 2319 - INTERMEDIATE COMPUTER-AIDED DRAFTING
3 Credits (2 hrs. lec., 4 hrs. lab.) A continuation of practices and techniques used in basic computer-aided drafting including the development and use of prototype drawings, construction of pictorial drawings, extracting data, and basics of 3D. Prerequisite: DFTG 1309 or departmental approval

DFTG 2321 - TOPOGRAPHICAL DRAFTING
3 Credits (2 hrs. lec., 2 hrs. lab.) Plotting of surveyor's field notes. Includes drawing elevations, contour lines, plan and profiles based on digital terrain models, and laying out traverses. Prerequisites: DFTG 1309, ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

DFTG 2323 - PIPE DRAFTING
3 Credits (2 hrs. lec., 4 hrs. 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. Prerequisites: DFTG 1305 and DFTG 1309

DFTG 2328 - ARCHITECTURAL DRAFTING COMMERCIAL
3 Credits (2 hrs. lec., 4 hrs. lab.) Architectural drafting procedures, practices, governing codes, terms and symbols including the preparation of detailed working drawings for a commercial building, with emphasis on commercial construction methods. Prerequisites: DFTG 1305, 1309, or 2319; DFTG 2331; CNBT 1311

DFTG 2331 - ADVANCED TECHNOLOGIES IN ARCHITECTURAL DESIGN AND DRAFTING
3 Credits (2 hrs. lec., 4 hrs. 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. Prerequisites: DFTG 1305 and DFTG 1309

DFTG 2335 - ADVANCED TECHNOLOGIES IN MECHANICAL DESIGN AND DRAFTING
3 Credits (2 hrs. lec., 4 hrs. lab.) Use parametric based mechanical design software for mechanical assembly design and drafting. Prerequisite: DFTG 1305 AND MCHN 1319 or DFTG 1309

DFTG 2336 - COMPUTER AIDED DRAFTING PROGRAMMING
3 Credits (2 hrs. lec., 4 hrs. lab.) Use of programming language to enhance CAD Software. Prerequisites: DFTG 1305 and 1309 or 2319; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

DFTG 2338 - FINAL PROJECT: ADVANCED DRAFTING
3 Credits (2 hrs. lec., 4 hrs. lab.) A drafting course in which students participate in a comprehensive project from conception to conclusion. Prerequisite: Departmental approval

DFTG 2340 - SOLID MODELING/DESIGN
3 Credits (2 hrs. lec., 4 hrs. 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. Prerequisites: DFTG 1305 and DFTG 1309
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DFTG 2371 - METAL BUILDING SYSTEMS II
3 Credits (2 hrs. lec., 4 hrs. lab.) Course introduces student to detailing, fabrication, and field erection of pre-engineered metal building framing and component systems. Prerequisites: DFTG 1371; MATH 1316

DHYG 1123 - DENTAL HYGIENE PRACTICE
1 Credit (1 hr. lec.) Emphasis on the laws governing the practice of dentistry and dental hygiene, moral standards, and the ethical standards established by the dental hygiene profession. Practice settings for the dental hygienist, office operations, and preparation for employment. Prerequisites: DHYG 1235, 1339, 2231 and 2362; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; Corequisites: DHYG 1215 and 2363

DHYG 1160 - CLINICAL DENTAL HYGIENE/HYGIENIST II
1 Credit (6 hrs. ext.) This is 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. A method of instruction providing detailed education, training and work-based experience and direct patient/client care in the dental hygiene clinic on the Lone Star College-Kingwood campus. Specific detailed learning objectives are developed for each course by the faculty. On-site clinical instruction, supervision, evaluation and placement are the responsibility of the college faculty. Clinical experiences are unpaid learning experiences. Requires LSCS liability insurance. Prerequisites: DHYG 1211, 1207, 1260 and 2201; BIOL 2305; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; Corequisite: DHYG 1219

DHYG 1203 - PREVENTIVE DENTAL HYGIENE I
2 Credits (2 hrs. lec., 1 hr. lab.) The role of the dental hygienist as a therapeutic oral health care provider with emphasis on concepts of disease management, health promotion, communication and behavior modification. Requires LSCS liability insurance. Prerequisites: Acceptance into the Dental Hygiene Program; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; Corequisites: DHYG 1301, 1304 and 1331

DHYG 1207 - GENERAL AND DENTAL NUTRITION
2 Credits (2 hrs. lec.) A study of general nutrition and nutritional biochemistry with emphasis on the effects of nutrition and dental health. Analysis of diet and application of counseling strategies to assist the patient in attaining and maintaining optimum oral health are stressed. Prerequisites: DHYG 1160, 1203, 1301, 1304 and 1331; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; Corequisites: BIOL 2305; DHYG 1211, 1260 and 2201

DHYG 1211 - PERIODONTOLOGY
2 Credits (2 hrs. lec., 1 hr. lab.) A study of normal and diseased periodontium to include the structural, functional and environmental factors. Emphasis on etiology, pathology, treatment modalities and therapeutic and preventive periodontics in a contemporary private practice setting. Prerequisites: DHYG 1203, 1301, 1331 and 1304; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; Corequisites: BIOL 2305; DHYG 1207, 1260 and 2201

DHYG 1215 - COMMUNITY DENTISTRY
2 Credits (1 hr. lec., 3 hrs. 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. Requires LSCS liability insurance. Prerequisites: DHYG 1235, 1339, 2231 and 2362; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; Corequisites: DHYG 1123 and 2363

DHYG 1219 - DENTAL MATERIALS
2 Credits (1 hr. lec., 4 hrs. lab.) Physical and chemical properties of dental materials including the application and manipulation of the various materials used in dentistry. Requires LSCS liability insurance. Prerequisites: DHYG 1207, 1211, 1260 and 2201; BIOL 2305; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; Corequisite: DHYG 1160

DHYG 1235 - PHARMACOLOGY FOR THE DENTAL HYGIENIST
2 Credits (2 hrs. lec.) A study of classes of drugs and their uses, actions, interactions, side effects and sys-
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DHYG 1260 - CLINICAL DENTAL HYGIENE/ HYGIENIST I

2 Credits (12 hrs. ext.) This is 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. A method of instruction providing detailed education, training and work-based experience and direct patient/client care in the dental hygiene clinic on the Lone Star College-Kingwood campus. Specific detailed learning objectives are developed for each course by the faculty. On-site clinical instruction, supervision, evaluation and placement are the responsibility of the college faculty. Clinical experiences are unpaid learning experiences. Requires LSCS liability insurance. Prerequisites: DHYG 1203, 1301, 1304 and 1331; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; Corequisites: BIOL 2305; DHYG 1207, 1211 and 2201

DHYG 1301 - OROFACIAL ANATOMY, HISTOLOGY & EMBRYOLOGY

3 Credits (2 hrs. lec, 3 hrs. lab.) The study of histology and embryology of oral tissues, gross anatomy of the head and neck, tooth morphology and individual tooth identification. Prerequisites: Acceptance into the Dental Hygiene Program; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; Corequisites: BIOL 2402; DHYG 1203, 1304 and 1331

DHYG 1304 - DENTAL RADIOLOGY

3 Credits (2 hrs. lec, 4 hrs. 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 intraoral radiographs, quality assurance, radiographic interpretation, patient selection criteria and other ancillary radiographic techniques. Requires LSCS liability insurance. Prerequisites: Acceptance into the Dental Hygiene Program; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; Corequisites: BIOL 2402; DHYG 1203, 1301 and 1331

DHYG 1331 - PRECLINICAL DENTAL HYGIENE

3 Credits (1 hrs. lec, 7 hrs. lab.) A study of foundational knowledge for performing clinical skills on patients with emphasis on procedures and rationale for performing dental hygiene care. Requires LSCS liability insurance. Prerequisites: Acceptance into the Dental Hygiene Program; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; Corequisites: DHYG 1203, 1301 and 1304

DHYG 1339 - GENERAL AND ORAL PATHOLOGY

3 Credits (3 hrs. lec.) Disturbances in human body development, diseases of the body and disease prevention measures. Emphasis is on the oral cavity and associated structures. Prerequisites: DHYG 1160 and 1219; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; Corequisites: DHYG 1235, 1236, 2231 and 2362

DHYG 2201 - CONTEMPORARY DENTAL HYGIENE CARE I

2 Credits (2 hrs. lec, 1 hr. lab.) Dental Hygiene care for the medically or dentally compromised patient including supplemental instrumentation techniques. Requires LSCS liability insurance. Prerequisites: DHYG 1203, 1301, 1304 and 1331; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; Corequisites: BIOL 2305; DHYG 1207, 1211 and 1260

DHYG 2231 - CONTEMPORARY DENTAL HYGIENE CARE II

2 Credits (2 hrs. lec., 1 hr. lab.) A continuation of Contemporary Dental Hygiene Care I. Dental Hygiene care for the medically or dentally compromised patient including advanced instrumentation techniques. Prerequisites: DHYG 1160 and 1219; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; Corequisites: DHYG 1235, 1339 and 2362

DHYG 2362 - CLINICAL DENTAL HYGIENE/ HYGIENIST III

3 Credits (16 hrs. ext.) This is 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. A method of instruction providing detailed education, training and work-based experience and direct patient/client care in the dental
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hygiene clinic on the Kingwood College campus as well as external clinical sites. Specific detailed learning objectives are developed for each course by the faculty. On-site clinical instruction, supervision, evaluation and placement are the responsibility of the college faculty. Clinical experiences are unpaid learning experiences. Requires LSCS liability insurance. Prerequisites: DHYG 1160 and 1219; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; Corequisites: DHYG 1235 and DHYG 1339

DHYG 2363 - CLINICAL DENTAL HYGIENE/HYGIENIST IV

3 Credits (16 hrs. ext.) A method of instruction providing detailed education, training and work-based experience and direct patient/client care in the dental hygiene clinic on the Lone Star College-Kingwood College campus as well as external clinical sites. Specific detailed learning objectives are developed for each course by the faculty. On-site clinical instruction, supervision, evaluation and placement are the responsibility of the college faculty. Clinical experiences are unpaid learning experiences. Requires LSCS liability insurance. Prerequisites: DHYG 1235, 1339, 2231 and 2362; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; Corequisites: DHYG 1123 and 1215

DMSO 1210 - INTRODUCTION TO SONOGRAPHY

2 Credits (1 hr. lec., 2 hrs. 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. Prerequisites: Admission to program; ENGL0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; Corequisites: DMSO 1302, 1351, 1360 and 1405

DMSO 1302 - BASIC ULTRASOUND PHYSICS

3 Credits (2 hrs. lec., 2 hrs. lab.) Basic acoustical physics and acoustical waves in human tissue. Emphasis on ultrasound transmission in soft tissues, attenuation of sound energy, parameters affecting sound transmission, and resolution of sound beams. Prerequisites: Admission to the program; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; Corequisites: DMSO 1210, 1351, 1360 and 1405

DMSO 1342 - INTERMEDIATE ULTRASOUND PHYSICS

3 Credits (2 hrs. lec., 4 hrs. 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. Prerequisites: DMSO 1210, 1302, 1351, 1360 and 1405; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; Corequisites: DMSO 1366, 2253 and 2405

DMSO 1351 - SONOGRAPHIC SECTIONAL ANATOMY

3 Credits (2 hrs. lec., 3 hrs. lab.) Sectional anatomy of the male and female body. Includes anatomical relationships of organs, vascular structures, and body planes and quadrants. Prerequisites: Admission to the program; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; Corequisites: DMSO 1210, 1302, 1360 and 1405

DMSO 1360 - CLINICAL - DIAGNOSTIC MEDICAL SONOGRAPHY TECHNICIAN

3 Credits (15 hrs. ext.) 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. Requires LSCS liability insurance. Prerequisites: Admission to the program; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; Corequisites: DMSO 1210, 1302, 1351 and 1405

DMSO 1366 - PRACTICUM I

3 Credits (21 hrs. ext.) Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student. Requires LSCS liability insurance. Prerequisites: DMSO 1210, 1302, 1351, 1360 and 1405; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; Corequisites: DMSO 1342, 2253 and 2405

DMSO 1367 - PRACTICUM II

3 Credits (28 hrs. ext.) Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.
Requires LSCS liability insurance. Prerequisites: DMSO 1342, 1366, 2253 and 2405; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; Corequisites: DMSO 2342 and 2351

**DMSO 1405 - SONOGRAPHY OF ABDOMINOPELVIC CAVITY**

4 Credits (3 hrs. lec., 2 hrs. lab.) Normal and pathological abdominal and pelvic structures as related to scanning techniques, patient history and laboratory data, transducer selection, and scanning protocols. Prerequisite: Admission to Diagnostic Medical Sonography program; Corequisites: DMSO 1210, 1302, 1351 and 1360

**DMSO 2130 - ADVANCED ULTRASOUND REVIEW**

1 Credit (3 hrs. lab.) Knowledge, skills, and professional values within a legal and ethical framework addressing emerging technologies and professional development. Prerequisites: DMSO 1367, 2342 and 2351; Corequisites: DMSO 2245, 2366 and DSVT 2200

**DMSO 2245 - ADVANCED SONOGRAPHY PRACTICES**

2 Credits (2 hrs. lec.) Exploration of advanced sonographic procedures and emerging ultrasound applications. Prerequisites: DMSO 1367, 2351 2342; Corequisites: DMSO 2130, 2366 and DSVT 2200

**DMSO 2253 - SONOGRAPHY OF SUPERFICIAL STRUCTURES**

2 Credits (2 hrs. lec., 1 hr. lab.) Detailed study of normal and pathological superficial structures as related to scanning techniques, patient history and laboratory data, transducer selection, and scanning protocols. Prerequisites: DMSO 1210, 1302, 1351, 1360 and 1405; Corequisites: DMSO 1342, 1366 and 2405

**DMSO 2342 - SONOGRAPHY OF HIGH RISK OBSTETRICS**

3 Credits (3 hrs. lec.) Maternal disease and fetal abnormalities. Includes scanning techniques, patient history and laboratory data, transducer selection, and scanning protocols. Prerequisites: DMSO 1342, 1366, 2253 and 2405; Corequisites: DMSO 1367 and 2351

**DMSO 2351 - DOPPLER PHYSICS**

3 Credits (2 hrs. lec., 3 hrs. lab.) Doppler and hemodynamic principles relating to arterial and venous imaging and testing. Prerequisites: DMSO 1342, 1366, 2253 and 2405; Corequisites: DMSO 1367 and 2342

**DMSO 2366 - PRACTICUM III**

3 Credits (24 hrs. ext.) Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student. Requires LSCS liability insurance. Prerequisites: DMSO 1367, 2342 and 2351; Corequisites: DMSO 2130, 2245 and DSVT 2200

**DMSO 2405 - SONOGRAPHY OF OBSTETRICS/GYNECOLOGY**

4 Credits (3 hrs. lec., 2 hrs. lab.) Detailed study of the pelvis and obstetrics/gynecology as related to scanning techniques, patient history and laboratory data, transducer selection, and scanning protocols. Prerequisites: DMSO 1210, 1302, 1351 1360 and 1405; Corequisites: DMSO 1342, 1366, 2253 and 2405

**DRAM 1120, 1121, 2120, 2121 - THEATRE PRACTICUM**

1 Credit (3 hrs. lab.) This course is open to all students interested in theatrical production and is recommended for all students participating in productions. Credit is earned for technical work (costuming, lighting, set construction, publicity and make-up), performance work, or other participation as designated by departmental faculty. It may be taken for four credit hours maximum. (5005065326) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

**DRAM 1161, 1162 - MUSICAL THEATRE I & II**

1 Credit (5 hrs. lab.) This course provides practical experience in auditioning, rehearsing, and performing in a major musical. (5009036126) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

**DRAM 1220 - THEATRE PRACTICUM: LIGHTING AND SOUND**

2 Credits (1 hr. lec., 2 hrs. lab.) This course provides students a foundation in lighting and sound for the theatre. Classroom instruction supports the hands-on ex-
## DESCRIPTION OF COURSES

perience in designing and providing technical support for theatre productions and events. (5005065326) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

### DRAM 1310 - INTRODUCTION TO THEATRE

3 Credits (3 hrs. lec.) This course surveys dramatic arts including plays, basic theories, history, stages, make-up, costuming, acting and directing. It provides an introduction to the theatre plant and theatre activities augmented by textbook study of stage terminology and an introduction to the organization of production procedure. (5005015126) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

### DRAM 1322 - STAGE MOVEMENT

3 Credits (3 hrs. lec.) Basic postural alignment and movement, emphasis on body awareness and rhythm. (5005065426) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

### DRAM 1330 - STAGECRAFT I

3 Credits (2 hrs. lec., 4 hrs. lab.) This lecture-laboratory course introduces students to the aesthetics and practice of stagecraft design and provides the student with a basic understanding of the design requirements for the technical aspects of a play. This course will include hands-on design experience. (5005025126) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

### DRAM 1341 - INTRODUCTION TO MAKE-UP

3 Credits (1 hr. lec., 4 hrs. lab.) The design and execution of make-up for the purpose of developing believable characters. A discussion of basic makeup principles and practical experience of makeup application. (5005025226) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

### DRAM 1342 - INTRODUCTION TO COSTUME

3 Credits (2 hrs. lec., 2 hrs. lab.) This course introduces students to the principles and techniques of costume design and construction for theatrical productions. Students interested in concentrating on costume design should also enroll in DRAM 2331 Stagecraft for a more extensive laboratory experience. (5005025326) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

### DRAM 1351 - ACTING I

3 Credits (3 hrs. lec.) This course provides an introduction to the art of acting, emphasizing the techniques of speech and movement on the stage, pantomime, character analysis, through participation in lab scenes, improvisations and departmental productions. (5005065126) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

### DRAM 1352 - ACTING II

3 Credits (3 hrs. lec.) An introduction to the art of acting, with an emphasis on developing vocal and physical skills through work on monologues and scenes as exhibited in various historical periods. (5005065126) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

### DRAM 2331 - STAGECRAFT II

3 Credits (2 hrs. lec., 4 hrs. lab.) This lecture-laboratory course gives the student a knowledge of the technical phases of mounting a production on stage. The elements of study emphasize basic construction, painting and lighting of the stage setting. (5005025126) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

### DRAM 2336 - VOICE FOR THE THEATRE

3 Credits (3 hrs. lec.) This course covers the basic principles of voice production and development, including diction as it applies to the interpretation of selected literature. Intensive practical application through classroom exercises and special projects is required. (5005065226) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

### DRAM 2361 - HISTORY OF THEATRE I

3 Credits (3 hrs. lec.) A study of the history of theatre to 1700. Includes a study of the physical theatre, acting styles, costumes and sets, representative plays, and theories of drama. (5005055126) Prerequisites: ENGL 0305 AND ENGL 0307 or
0356, OR higher level course (ENGL 1301), OR placement by testing

**DRAM 2362 - HISTORY OF THEATRE II**
3 Credits (3 hrs. lec.) A study of the history of the theatre from 1700 to the present. Includes a study of the physical theatre, acting styles, costumes and sets, representative plays, and theories of drama. (5005055126) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

**DRAM 2363 - HISTORY OF MUSICAL THEATRE**
3 Credits (3 hrs. lec.) The history and development of music theatre excluding opera. (5005055126) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

**DRAM 2366 - DEVELOPMENT OF THE MOTION PICTURE**
3 Credits (3 hrs. lec.) Explores the history and development of film with emphasis on the analysis of the visual and aural dramatic aspects of narrative films. The historical growth and sociological effect of film as an art. (5006025126) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

**DRAM 2389 - ACADEMIC CO-OP IN DRAMA**
3 Credits (1 hr. lec., 6 hrs. lab.) This course provides an instructional program designed to integrate on-campus study with practical hands-on work experience in drama. In conjunction with class seminars, the individual student will set specific goals and objectives in drama. (2401035212) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

**DSAE 1364 - PRACTICUM I**
3 Credits (24 hrs. ext.) Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student. Requires LSCS liability insurance. Prerequisites: DMSO 1210, DMSO 1302, DSAE 1360 and DSAE 2403; Corequisites: DMSO 1342, DSAE 1415 and DSAE 2304

**DSAE 1415 - PRINCIPLES OF ADULT ECHOCARDIOGRAPHY**
4 Credits (3 hrs. lec., 2 hrs. lab.) An introduction to cardiovascular anatomy and physiology, including hemodynamics and spatial relationships of the normal adult heart. Topics include anatomical correlation of 2-D, M-Mode, and Doppler sonographic imaging. Scanning techniques are correlated and taught in the laboratory sessions. Prerequisites: DMSO 1210, DMSO 1302, DSAE 1360 and DSAE 2403; Corequisites: DMSO 1342, DSAE 1364 and DSAE 2304

**DSAE 2304 - ECHOCARDIOGRAPHIC EVALUATION OF PATHOLOGY I**
3 Credits (2 hrs. lec., 2 hrs. lab.) Adult acquired cardiac pathologies. Topics include cardiovascular pathophysiology, quantitative measurements, and the application of 2-D, M-Mode, and Doppler. Recognition of the sonographic appearances of cardiovascular disease is stressed. Prerequisites: DMSO 1210, DMSO 1302, DSAE 1360 and DSAE 2403; Corequisites: DMSO 1342, DSAE 1364 and DSAE 1415

**DSAE 2337 - ECHOCARDIOGRAPHIC EVALUATION OF PATHOLOGY II**
3 Credits (2 hrs. lec., 3 hrs. lab.) A continuation of Echocardiographic Evaluation of Pathology I with emphasis on cardiac disease. A discussion of quantitative measurements and application of 2-D, M-Mode, Doppler and recognition of the sonographic appearances of cardiac disease is stressed. Prerequisites: DSAE 1364, DSAE 1415, DSAE 2304, and DMSO 1342; Corequisites: DMSO 2351 and DSAE 2364
DESCRIPTION OF COURSES

DSAE 2364 - PRACTICUM II
3 Credits (21 hrs. ext.) Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student. Requires LSCS liability insurance. Prerequisites: DSAE 1364, DSAE 1415, DSAE 2304 and DMSO 1342; Corequisites: DMSO 2351 and DSAE 2337

DSAE 2365 - PRACTICUM III
3 Credits (24 hrs. ext.) Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student. Requires LSCS liability insurance. Prerequisites: DMSO 2351, DSAE 2337 and DSAE 2364; Corequisites: DSVT 2200, DMSO 2130 and DSAE 2335

DSAE 2403 - CARDIOVASCULAR CONCEPTS
3 Credits (3 hrs. lec., 2 hrs. lab.) Anatomy, physiology, and pathophysiology of the cardiovascular system. Focuses on cardiac and vascular structural anatomy and relationships, electrical innervation, embryology, and hemodynamics of the heart and vascular system. Includes pathophysiology, etiology, pathology, signs, symptoms, risk factors, and treatment of cardiovascular diseases. Prerequisites: Admission to the program; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; Corequisites: DMSO 1210, DMSO 1302 and DSAE 1360

DSVT 1265 - PRACTICUM II-DIAGNOSTIC MEDICAL SONOGRAPHY & ULTRASOUND TECHNICIAN
2 Credits (14 hrs. ext.) Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student. Requires LSCS liability insurance. Prerequisites: DSVT 1364, DSVT 2330 and DSVT 2418; Corequisite: DSVT 2335

DSVT 1364 - PRACTICUM I- DIAGNOSTIC MEDICAL SONOGRAPHY & ULTRASOUND TECHNICIAN
3 Credits (24 hrs. ext.) Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student. Requires LSCS liability insurance. Prerequisites: Associate of Applied Science-Diagnostic Medical Sonography and admission to the certificate program; Corequisites: DSVT 2330 and DSVT 2418

ECON 2301 - MACROECONOMICS
3 Credits (3 hrs. lec.) A study of macroeconomic principles. Analysis of the market economy; national income accounting; income determination; stabilization policies: monetary and fiscal policy; money and banking; demand and supply-side economics; monetarist vs. Keynesian view; inflation theories such
as distinction between demand-pull and cost-push theories, Phillips curve analysis; labor market and determination of unemployment rate. (4506015125) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; Math 0306

**ECON 2302 - MICROECONOMICS**

3 Credits (3 hrs. lec.) A study of micro-economic principles. Analysis of theories of consumer behavior, production, cost; equilibrium analysis in product markets under different market structures, such as perfect competition, monopoly, monopolistic competition, oligopoly; cartels and conglomerate mergers; antitrust policy, economics of regulation; analysis of different types of factor markets and factor price determination. (4506015125) Prerequisites: ENGL0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; Math 0306

**ECRD 1211 - ELECTROCARDIOGRAPHY**

2 Credits (1 hr. lec., 2 hrs. lab.) Fundamentals of cardiovascular anatomy and physiology. Includes basic electrocardiography procedures, interpretation of basic dysrhythmias, and appropriate treatment modalities. Additional topics may include spirometry and CPR/AED and First Aid training. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; Math 0306

**EDUC 1300 - LEARNING FRAMEWORK**

3 Credits (3 hrs. lec.) A study of the 1) research and theory in the psychology of learning, cognition, and motivation, 2) factors that influence learning, and 3) application of learning strategies. Theoretical models of strategic learning, cognition, and motivation serve as the conceptual basis for teaching and learning strategies used in the classroom. Students are ultimately expected to integrate and apply these theories and learning skills discussed. (4203015125) Prerequisite: None; Corequisites: ENGL 0305 AND ENGL 0307 or 0356

**EDUC 1301 - INTRODUCTION TO THE TEACHING PROFESSION**

3 Credits (2 hrs. lec., 2 hrs. lab.) An integrated pre-service course and content experience that is designed for undergraduates interested in a teaching career, especially in high need fields such as secondary math and science education, bilingual education, and special education. The course will include 16 contact hours of field experience in P – 12 classrooms. The course content is directly aligned with the State Board for Educator Certification Pedagogy and Professional Responsibilities standards. Students will study the culture of schooling and classrooms from the perspectives of language, gender, socioeconomic, ethnic, and disability-based academic diversity and equity. Requires LSCS liability insurance. (1301015109) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

**EDUC 1325 - PRINCIPLES AND PRACTICES OF MULTICULTURAL EDUCATION**

3 Credits (3 hrs. lec.) An examination of cultural diversity found in society and reflected in the classroom. Topics include the study of major cultures and their influence on lifestyle, behavior, learning, intercultural communication and teaching, as well as psychological stressors encountered by diverse cultural groups. (1301015109) Prerequisites: EDUC 1301; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; Math 0310

**EDUC 2301 - INTRODUCTION TO SPECIAL POPULATIONS**

3 Credits (2 hrs. lec., 2 hrs. lab.) An enriched integrated pre-service course and content experience that provides an overview of teaching and classrooms from the perspectives of language, gender, socioeconomic status, ethnic and academic diversity and equity with an emphasis on factors that facilitate learning. The course will include 16 contact hours of field experience in P-12 classrooms with special populations. The course content is directly aligned with the State Board for Educator Certification Pedagogy and Professional Responsibilities standards. Requires LSCS liability insurance. (1310015109) Prerequisites: EDUC 1301 OR departmental approval; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

**EECT 1307 - CONVERGENCE TECHNOLOGIES**

3 Credits (1 hr. lec., 4 hrs. lab.) A study of telecommunications convergent technologies including telephone, LAN, WAN, wireless, voice, video, and internet protocol. Prerequisites: ITSC 1401; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing
DESCRIPTION OF COURSES

**EECT 1371 - VOICE OVER INTERNET PROTOCOL**
3 Credits (2 hrs. lec., 3 hrs. lab.) This course addresses the knowledge and skills necessary to install, maintain and repair Voice over Internet protocol communications. Prerequisites: ITSC 1401 and 1425; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

**EECT 1391 - SPECIAL TOPICS**
3 Credits (3 hrs. lec.) 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. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

**EECT 1403 - INTRODUCTION TO TELECOMMUNICATIONS**
4 Credits (3 hrs. lec., 2 hrs. lab.) An overview of the telecommunications industry. Topics include the history of the telecommunications industry, terminology, rules and regulations, and industry standards and protocols. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

**EECT 1440 - TELECOMMUNICATIONS TRANSMISSION MEDIA**
4 Credits (3 hrs. lec., 2 hrs. lab.) Fundamentals of telecommunications media, including installation, maintenance, and troubleshooting. Topics address media characteristics and connectorization. Prerequisites: Departmental approval; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

**EECT 2380 - COOPERATIVE EDUCATION - ELECTRONIC AND COMMUNICATIONS ENGINEERING TECHNOLOGY/TECHNICIAN**
3 Credits (1 hr. lec., 20 hrs. ext.) 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. Prerequisites: Completion of all courses leading up to the last semester of the program or departmental approval; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

**EECT 2430 - TELECOMMUNICATIONS SWITCHING**
4 Credits (3 hrs. lec., 2 hrs. lab.) The operation of telecommunications switching equipment and related software. Topics include installation, testing, maintenance, and troubleshooting. Prerequisites: ITCC 1402; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

**EECT 2439 - COMMUNICATIONS CIRCUITS**
4 Credits (3 hrs. lec., 3 hrs. 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. Prerequisites: CETT 1457; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

**EECT 2440 - TELECOMMUNICATIONS CENTRAL OFFICE EQUIPMENT**
4 Credits (3 hrs. lec., 2 hrs. lab.) An examination of the theory, operation and maintenance of central office telecommunications equipment. Prerequisites: CPMT 1445 or ITSC 1425; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

**ELMT 2433 - INDUSTRIAL ELECTRONICS**
4 Credits (3 hrs. lec., 2 hrs. lab.) A study of devices, circuits, and systems primarily used in automated manufacturing and/or process control including computer controls and interfacing between mechanical, electrical, electronic, and computer equipment. Presentation of programming schemes. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

**ELMT 2437 - ELECTRONIC TROUBLESHOOTING, SERVICE, AND REPAIR**
4 Credits (3 hrs. lec., 3 hrs. lab.) In-depth coverage of electronic systems, maintenance, troubleshooting, and repair. Topics include symptom identification, proper repair procedures, repair checkout, and preventative maintenance. Emphasis on safety and proper use of test equipment. This is a capstone course. Prerequisites: CETT 1403 and 1405
ELPT 1311 - BASIC ELECTRICAL THEORY
3 Credits (3 hrs. lec.) An overview of the theory and practice of electrical circuits including calculations as applied to alternating and direct current. Prerequisite: None

ELPT 1315 - ELECTRICAL CALCULATIONS I
3 Credits (3 hrs. lec.) Introduction to mathematical applications utilized to solve problems in the electrical field. Topics include fractions, decimals, percentages, simple equations, ratio and proportion, unit conversions, and applied geometry. Prerequisite: None

ELPT 1321 - INTRODUCTION TO ELECTRICAL SAFETY AND TOOLS
3 Credits (4 hrs. lec.) A comprehensive overview of safety rules and regulations and the selection, inspection, use and maintenance of common tools for electricians. Prerequisite: None

ELPT 1325 - NATIONAL ELECTRICAL CODE I
3 Credits (3 hrs. lec.) 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. Prerequisite: None

ELPT 1364 - FIELD EXPERIENCE - ELECTRICAL AND POWER TRANSMISSION INSTALLATION/INSTALLER, GENERAL
3 Credits (21 hrs. ext.) Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student. Prerequisite: Departmental approval

ELPT 1419 - FUNDAMENTALS OF ELECTRICITY I
4 Credits (3 hrs. lec., 2 hrs. lab.) An introduction to basic direct current (DC) theory including electron theory and direct current applications. Prerequisite: None

ELPT 1429 - RESIDENTIAL WIRING
4 Credits (3 hrs. lec., 2 hrs. lab.) Wiring methods for single family and multi-family dwellings. Includes load calculation, service entrance sizing, proper grounding techniques, and associated safety procedures. Prerequisite: ELPT 1325

ELPT 1445 - COMMERCIAL WIRING
4 Credits (3 hrs. lec., 2 hrs. lab.) Commercial wiring methods. Includes overcurrent protection, raceway panel board installation, proper grounding techniques, and associated safety procedures. Prerequisite: None

ELPT 2325 - NATIONAL ELECTRICAL CODE II
3 Credits (3 hrs. lec.) In-depth coverage of the National Electrical Code (NEC) for those employed in fields requiring knowledge of the Code. Emphasis on wiring protection and methods, special conditions, and advanced calculations. Prerequisite: ELPT 1325

EMSP 1160 - CLINICAL - BASIC EMT
1 Credit (5 hrs. ext.) 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. Requires LSCS liability insurance. Prerequisites: ENGL 0304 or ENGL 0339 AND ENGL 0306 or 0355, OR higher level course (ENGL 1301), OR placement by testing; Math 0306; Corequisite: EMSP 1501

EMSP 1161 - CLINICAL - EMERGENCY MEDICAL SERVICES PARAMEDIC I
1 Credit (5 hrs. ext.) 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. Requires LSCS liability insurance. Prerequisites: EMSP 1160 and 1501; ENGL 0304 or ENGL 0339 AND ENGL 0306 or 0355, OR higher level course (ENGL 1301), OR placement by testing; Math 0306; Corequisites: EMSP 1356, and 2348

EMSP 1162 - CLINICAL - EMERGENCY MEDICAL SERVICES - PARAMEDIC II
1 Credit (6 hrs. ext.) 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. Requires LSCS liability insurance. Prerequisites: EMSP 1161; ENGL 0304 or ENGL 0339 AND ENGL 0306 or 0355, OR higher level course (ENGL 1301), OR placement by testing, MATH 0306; Corequisites: EMSP 1355
DESCRIPTION OF COURSES

EMSP 1338 - INTRODUCTION TO ADVANCED PRACTICE
3 Credits (3 hrs. lec., 1 hr. lab.) An exploration of the foundations necessary for mastery of the advanced topics of clinical practice out of the hospital. Prerequisites: EMSP 1160 AND 1501, OR current EMT-B certification; ENGL 0304 or ENGL0339 AND ENGL 0306 or 0355, OR higher level course (ENGL 1301), OR placement by testing; MATH 0306

EMSP 1355 - TRAUMA MANAGEMENT
3 Credits (2 hrs. lec., 2 hrs. lab.) A detailed study of the knowledge and skills in the assessment and management of patients with traumatic injuries. Prerequisites: ENGL 0304 or ENGL 0339 AND ENGL 0306 or 0355, OR higher level course (ENGL 1301), OR placement by testing; MATH 0306; Corequisites: EMSP 1162

EMSP 1356 - PATIENT ASSESSMENT AND AIRWAY MANAGEMENT
3 Credits (2 hrs. lec., 3 hrs. lab.) A detailed study of the knowledge and skills required to perform patient assessment and airway management. Prerequisites: EMSP 1160 AND 1501, OR current EMT-B certification; ENGL 0304 or ENGL 0339 AND ENGL 0306 or 0355, OR higher level course (ENGL 1301), OR placement by testing; MATH 0306; Corequisites: EMSP 1161 and 2348

EMSP 1501 - EMERGENCY MEDICAL TECHNICIAN - BASIC
5 Credits (3 hrs. lec., 6 hrs. 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. Prerequisites: ENGL 0304 or ENGL 0339 AND ENGL 0306 or 0355, OR higher level course (ENGL 1301), OR placement by testing; MATH 0306; Corequisite: EMSP 1160

EMSP 2143 - ASSESSMENT BASED MANAGEMENT
1 Credit (3 hrs. lab.) A capstone course covering comprehensive, assessment based patient care management. Includes specific care when dealing with pediatric, adult, geriatric, and special-needs patients. Prerequisites: EMSP 2160; ENGL 0304 or ENGL 0339 AND ENGL 0306 or 0355, OR higher level course (ENGL 1301), OR placement by testing; MATH 0306; Corequisite: EMSP 2361

EMSP 2160 - CLINICAL - PARAMEDIC III
1 Credit (6 hrs. ext.) 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. Requires LSCS liability insurance. Prerequisites: EMSP 1162; ENGL0304 or ENGL0339 AND ENGL 0306 or 0355, OR higher level course (ENGL 1301), OR placement by testing; MATH 0306; Corequisites: EMSP 2330 and 2434

EMSP 2300 - METHODS OF TEACHING - EMERGENCY MEDICAL SERVICE
3 Credits (3 hrs. lec.) Instruction in adult learning methodology for instructors of emergency medical services. Prerequisites: EMSP 1160 and 1501; ENGL 0304 or ENGL 0339 AND ENGL 0306 or 0355, OR higher level course (ENGL 1301), OR placement by testing; MATH 0306

EMSP 2330 - SPECIAL POPULATIONS
3 Credits (2 hrs. lec., 2 hrs. lab.) A detailed study of the knowledge and skills necessary to assess and manage ill or injured patients in diverse populations. Prerequisites: EMSP 1160; ENGL0304 or ENGL0339 AND ENGL 0306 or 0355, OR higher level course (ENGL 1301), OR placement by testing; MATH 0306; Corequisites: EMSP 2160 and 2434

EMSP 2338 - EMS OPERATIONS
3 Credits (2 hrs. lec., 2 hrs. lab.) A detailed study of the knowledge and skills to safely manage the scene of an emergency. Prerequisites: ENGL 0304 or ENGL 0339 AND ENGL 0306 or 0355, OR higher level course (ENGL 1301), OR placement by testing; MATH 0306

EMSP 2348 - EMERGENCY PHARMACOLOGY
3 Credits (2 hrs. lec., 3 hrs. lab.) A comprehensive course covering all aspects of the utilization of medications in treating emergency situations. Course is designed to compliment cardiology, special populations, and medical emergency courses. Prerequisites: EMSP 1160, 1501, or current EMT-B certification; ENGL 0304 or ENGL 0339 AND ENGL 0306 or 0355, OR higher level course (ENGL 1301), OR placement by testing; MATH 0306; Corequisites: EMSP 1161 and 1356

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EMSP 2352 - EMS RESEARCH
3 Credits (3 hrs. lec.) Primary and/or secondary research in current and emerging issues in EMS. Basic research principles, scientific inquiry, and interpretation of professional literature are emphasized. Prerequisites: EMSP 1160 and 1501; ENGL 0304 or ENGL 0339 AND ENGL 0306 or 0355, OR higher level course (ENGL 1301), OR placement by testing; MATH 0306

EMSP 2359 - EMS SUPERVISION MANAGEMENT
3 Credits (3 hrs. lec.) Instruction, literary review, group discussion, and case study on topics pertinent to the emergency medical service (EMS) field supervisor or manager. Prerequisites: EMSP 1160 and 1501; ENGL 0304 or ENGL 0339 AND ENGL 0306 or 0355, OR higher level course (ENGL 1301), OR placement by testing; MATH 0306

EMSP 2361 - CLINICAL - EMS
3 Credits (15 hrs. ext.) 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. Requires LSCS liability insurance. Prerequisites: EMSP 2160; ENGL 0304 or ENGL 0339 AND ENGL 0306 or 0355, OR higher level course (ENGL 1301), OR placement by testing; MATH 0306

EMSP 2434 - MEDICAL EMERGENCIES
4 Credits (3 hrs. lec., 3 hrs. lab.) A detailed study of the knowledge and skills in the assessment and management of patients with medical emergencies. Prerequisites: EMSP 1162; ENGL 0304 or ENGL 0339 AND ENGL 0306 or 0355, OR higher level course (ENGL 1301), OR placement by testing; MATH 0306; Corequisites: EMSP 2160 and 2330

EMSP 2444 - CARDIOLOGY
4 Credits (3 hrs. lec., 3 hrs. lab.) Assessment and management of patients with cardiac emergencies. Includes single and multi-lead ECG interpretation. Prerequisites: EMSP 1162; ENGL 0304 or ENGL 0339 AND ENGL 0306 or 0355, OR higher level course (ENGL 1301), OR placement by testing; MATH 0306

ENGL 0110 - READING LAB
1 Credit (2 hrs. lab.) This is an individualized, lab-based course. The course is designed to review the six reading skills covered by the THEA Certification Form. The topics include basic reading and critical reading skills. This course carries institutional credit but will not transfer and will not be used to meet degree requirements. (3201085212) Prerequisite: Placement by testing

ENGL 0111 - DEVELOPMENTAL READING REVIEW
1 Credit (1 hr. lec.) This course is established to accommodate students desiring individualized remediation in developmental reading and is open to those students who have borderline college-level reading skills as measured by an academic assessment instrument recognized by LSCS (See an academic advisor for specific assessment score requirements). The course may be delivered in a traditional or hybrid format, with a significant independent study component. As a result, students must be able to thrive in a self-directed study environment. Students in ENGL 0111 must retest college-ready in reading on an academic assessment instrument recognized by LSCS before progressing into any course requiring college-level reading skills. Students who fail to retest at the college level in reading will be required to register for ENGL 0305. This course cannot be repeated. This course carries institutional credit but will not transfer nor be used to meet degree requirements. (3201015212) Prerequisite: ENGL 0307 or 0356 OR placement by testing

ENGL 0112 - DEVELOPMENTAL WRITING REVIEW
1 Credit (1 hr. lec.) This course is established to accommodate students desiring individualized remediation in developmental writing and is open to those students who have borderline college-level writing skills as measured by an academic assessment instrument recognized by LSCS (See an academic advisor for specific assessment score requirements). The course may be delivered in a traditional or hybrid format, with a significant independent study component. As a result, students must be able to thrive in a self-directed study environment. Students in ENGL 0112 must retest college-ready in writing (essay and objective writing) on an academic assessment instrument recognized by LSCS before progressing into any course requiring college-level writing skills. Students who fail to retest at the college level in writing will be required to register for ENGL 0307. This course cannot be repeated. This course carries institutional credit but will not transfer nor be used to meet degree requirements. (3201015212) Prerequisites: ENGL 0305 OR placement by testing
DESCRIPTION OF COURSES

**ENGL 0113 - WRITING LAB**
1 Credit (2 hrs. lab.) This is an individualized, lab-based course. This course is designed to review the THEA writing skills including five editing skills and the process for writing an impromptu essay. This course carries institutional credit but will not transfer and will not be used to meet degree requirements. (3201085312) Prerequisite: Placement by testing

**ENGL 0303 - BASIC COMMUNICATIONS**
3 Credits (3 hrs. lec., 1 hr. lab.) A basic skills course designed to improve reading and writing ability in a variety of relevant contexts. This course focuses on phonetic and word analysis skills, vocabulary, literal comprehension, transitions, and context clues. The course includes interpretation of factual material, identification of main ideas and supporting details, the relationship of meaning to grammatical form, and dictionary skills. Sentence writing is required to complete varied reading activities. Students successfully completing this course will be prepared for ENGL 0304 and ENGL 0306. This course will not transfer and will not be used to meet degree requirements. Prerequisite: Placement by testing

**ENGL 0304 - DEVELOPMENTAL READING I**
3 Credits (3 hrs. lec., 1 hr. lab.) A basic reading course designed to improve reading efficiency through word analysis skills, vocabulary, comprehension and rate. Sentence/paragraph writing is required to complement extensive and varied reading activities. This course carries institutional credit but will not transfer and will not be used to meet degree requirements. (3201085212) Prerequisite: Placement by testing

**ENGL 0305 - DEVELOPMENTAL READING II**
3 Credits (3 hrs. lec., 1 hr. lab.) A developmental reading course continuing the instruction and reinforcement of those skills taught in ENGL 0304 and ENGL 0339. Emphasis is on learning higher level reading skills required for college reading assignments. Short paragraph writing is required to complement some reading activities. This course carries institutional credit but will not transfer and will not be used to meet degree requirements. (3201085212) Prerequisite: ENGL 0304 OR ENGL 0339 OR placement by testing

**ENGL 0306 - DEVELOPMENTAL WRITING I**
3 Credits (3 hrs. lec., 1 hr. lab.) The first of two developmental writing courses designed to improve the student’s basic writing skills. Class activities and lab assignments will be used to produce clarity and precision in sentence and paragraph structure. Specific course topics include an introduction to the writing process and a review of grammar, usage and mechanics. This course carries institutional credit but will not transfer and will not be used to meet degree requirements. (3201085312) Prerequisite: Placement by testing

**ENGL 0307 - DEVELOPMENTAL WRITING II**
3 Credits (3 hrs. lec., 1 hr. lab.) The second course in the developmental writing course sequence designed for those students with a stronger background in grammar skills who need further help developing paragraphs and short themes. Lab work will be assigned to reinforce class activities. This course carries institutional credit but will not transfer and will not be used to meet degree requirements. (3201085312) Prerequisite: ENGL 0306 or placement by testing

**ENGL 0308 - LANGUAGE SKILLS WORKSHOP**
3 Credits (3 hrs. lec.) This course refines the use of communication skills necessary for personal, academic, and business communication. It incorporates negotiated student/instructor-generated content and accommodates individual goals in a workshop format. Open lab available. This course carries institutional credit but will not transfer and may not be used to meet degree requirements. Prerequisite: Placement by exam

**ENGL 0310 - PRE-COMPOSITION AND RHETORIC**
3 Credits (3 hrs. lec.) This is an individualized lecture/lab based course designed to prepare students for Composition and Rhetoric I. Topics include basic reading and critical writing skills. Students will be expected to write compositions similar to those assigned in Composition and Rhetoric I. This course carries institutional credit but will not transfer and may not be used to meet degree requirements. (3201085412) Prerequisite: Placement by exam or instructor recommendation

**ENGL 0337 - ESOL READING HIGH BEGINNING**
3 Credits (2 hrs. lec., 3 hrs. lab.) This course develops nonnative English students’ reading and vocabulary skills for personal, academic, and professional communication by using vocabulary-controlled materials based on diverse themes. The course includes extensive practice in reading and comprehending simple short stories and articles, and writing related sentences. Focus is on literal comprehension, identifying the main
idea, and developing a useful and personally relevant vocabulary base. Writing is required to complement some reading activities. Students who enroll in this course should have basic literacy skills in their native language and be familiar with Roman script. Open lab available. This course carries institutional credit but will not transfer and may not be used to meet degree requirements. (3201085612) Prerequisite: Placement by exam

ENGL 0338 - ESOL READING INTERMEDIATE

3 Credits (2 hrs. lec., 3 hrs. lab.) This course develops nonnative English students’ reading and vocabulary skills for personal, academic, and professional communication by using materials based on a number of topics. The course includes extensive practice in reading and comprehending multi-paragraph descriptive and narrative articles, stories, reports, and dictionary entries, and writing related paragraphs. Focus is on literal comprehension, identification of inferred main ideas, speed development, word analysis, vocabulary expansion, and dictionary skills. Writing is required to complement varied reading activities. Open lab available. This course carries institutional credit but will not transfer and may not be used to meet degree requirements. (3201085612) Prerequisite: ENGL 0337 OR placement by exam

ENGL 0339 - ESOL READING HIGH INTERMEDIATE

3 Credits (2 hrs. lec., 3 hrs. lab.) This course continues to develop nonnative English students’ reading and vocabulary skills for personal, academic and professional purposes using a wide variety of text types and topics. The course includes extensive practice in reading and comprehending multi-page articles, narratives, reports, editorials, opinion essays, and reference materials, and writing related responses. Focus is on interpretation of factual material and inferences; increasing speed while maintaining comprehension; recognition and comprehension of idioms, analogies, synonyms and antonyms, and context clues; word analysis; and paraphrasing and summarizing selected passages. Writing is required to complement reading activities. Open lab available. This course carries institutional credit but will not transfer and may not be used to meet degree requirements. (3201085612) Prerequisite: ENGL 0338 OR placement by exam

ENGL 0343 - ESOL ORAL COMMUNICATION HIGH BEGINNING

3 Credits (2 hrs. lec., 4 hrs. lab.) In this course students have the opportunity to develop fluency and accuracy in speaking and to apply strategies for comprehending and processing short spoken passages on familiar topics. Students who enroll in this course should have basic literacy skills in their native language and be familiar with Roman script. Open lab available. This course carries institutional credit but will not transfer and may not be used to meet degree requirements. (3201085512) Prerequisite: Placement by exam

ENGL 0344 - ESOL ORAL COMMUNICATION INTERMEDIATE

3 Credits (2 hrs. lec., 4 hrs. lab.) In this course students increase proficiency in the spoken language necessary for personal, academic, and professional communication. They develop skills at using functional language for giving advice, describing, narrating, and expressing ability and possibility, and making predictions. Students acquire and practice strategies for comprehending statements and short spoken passages. Open lab available. This course carries institutional credit but will not transfer and may not be used to meet degree requirements. (3201085512) Prerequisite: ENGL 0343 OR placement by exam

ENGL 0345 - ESOL ORAL COMMUNICATION HIGH INTERMEDIATE

3 Credits (2 hrs. lec., 4 hrs. lab.) In this course students use sophisticated grammar structures and precise vocabulary in speaking and are able to comprehend short lectures. Open lab available. This course carries institutional credit but will not transfer and may not be used to meet degree requirements. (3201085512) Prerequisite: ENGL 0344 OR placement by exam

ENGL 0346 - ESOL ORAL COMMUNICATION ADVANCED

3 Credits (2 hrs. lec., 4 hrs. lab.) In this course students comprehend and practice increasingly sophisticated structures in speech, and will be able to take notes from a spoken source. Open lab available. This course carries institutional credit but will not transfer and may not be used to meet degree requirements. (3201085512) Prerequisite: ENGL 0345 OR placement by exam

ENGL 0353 - ESOL WRITING HIGH BEGINNING

3 Credits (2 hrs. lec., 4 hrs. lab.) In this course students have the opportunity to develop, practice, and apply the basic structures of English and to perform simple writing tasks. Students who enroll in this course should have basic literacy skills in their native language and be familiar with Roman script. Open lab available. This course carries institutional credit but will not transfer and may not be used to meet degree requirements. (3201085512) Prerequisite: Placement by exam
DESCRIPTION OF COURSES

language and be familiar with Roman script. Open lab available. This course carries institutional credit but will not transfer and may not be used to meet degree requirements. (3201085712) Prerequisite: Placement by exam

ENGL 0354 - ESOL WRITING INTERMEDIATE

3 Credits (2 hrs. lec., 4 hrs. lab.) In this course students increase proficiency in the writing skills necessary for basic personal and academic communication. Students use process writing techniques to write simple paragraphs and gain mastery in the use of the basic structures of the language. Open lab available. This course carries institutional credit but will not transfer and may not be used to meet degree requirements. (3201085712) Prerequisite: ENGL 0353 OR placement by exam

ENGL 0355 - ESOL WRITING HIGH INTERMEDIATE

3 Credits (2 hrs. lec., 4 hrs. lab.) In this course students use sophisticated grammar structures in writing short essays using process writing techniques. Open lab available. This course carries institutional credit but will not transfer and may not be used to meet degree requirements. (3201085412) Prerequisite: ENGL 0354 OR placement by exam

ENGL 0356 - ESOL WRITING ADVANCED

3 Credits (2 hrs. lec., 4 hrs. lab.) In this course students use process writing techniques to write academic essays such as comparison and contrast, classification, cause and effect and argument. This course carries institutional credit but will not transfer and may not be used to meet degree requirements. Open lab available. (3201085412) Prerequisite: ENGL 0355 OR placement by exam

ENGL 1301 - COMPOSITION AND RHETORIC I

3 Credits (3 hrs. lec.) A multi-paragraph composition course, including language study and the mechanics of writing, with examples from selected readings. Students may be required to achieve a departmentally approved score on a proficiency test before credit for the course may be awarded. (2304015112) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR placement by testing

ENGL 1302 - COMPOSITION AND RHETORIC II

3 Credits (3 hrs. lec.) A continuation of ENGL 1301 with an emphasis on critical papers, culminating in a term paper or papers. Readings in prose, poetry, and drama. (2304015112) Prerequisite: ENGL 1301

ENGL 2307 - CREATIVE WRITING I

3 Credits (3 hrs. lec.) A brief study of creative genres such as poetry, essay, and short fiction. Practice in original composition. Designed as a humanities elective course for students interested in imaginative writing. Both ENGL 2307 and ENGL 2308 may apply toward graduation. (2305015112) Prerequisite: Six hours of English or departmental approval

ENGL 2308 - CREATIVE WRITING II

3 Credits (3 hrs. lec.) Practical experience in the techniques of imaginative writing and its publication. May include fiction, creative non-fiction, poetry, drama, and/or essay. Both ENGL 2307 and ENGL 2308 may apply toward graduation. (2305015112) Prerequisite: 6 hours of English credit

ENGL 2311 - TECHNICAL COMMUNICATIONS

3 Credits (3 hrs. lec.) The writing of technical papers, reports, proposals, progress reports and descriptions. The course also briefly covers oral reporting. (2311015112) Prerequisites: ENGL 1301

ENGL 2322 - SURVEY OF BRITISH LITERATURE - ANGLO SAXON TIMES TO MID-18TH CENTURY

3 Credits (3 hrs. lec.) A survey of the literature of Great Britain from Anglo-Saxon times to mid-eighteenth century. (2308015112) Prerequisites: ENGL 1301 and 1302

ENGL 2323 - SURVEY OF BRITISH LITERATURE - MID-18TH CENTURY TO THE PRESENT

3 Credits (3 hrs. lec.) A survey of literature of Great Britain from mid-eighteenth century to the present. (2308015112) Prerequisites: ENGL 1301 and 1302

ENGL 2327 - SURVEY OF AMERICAN LITERATURE - COLONIAL TO CIVIL WAR

3 Credits (3 hrs. lec.) A survey of major American authors from the colonial period to the Civil War. Figures covered include Edwards, Franklin, Irving, Cooper, Poe, Hawthorne, Melville, Emerson, Thoreau and Whitman. (2307015112) Prerequisites: ENGL 1301 and 1302
ENGL 2328 - SURVEY OF AMERICAN LITERATURE - CIVIL WAR TO THE PRESENT
3 Credits (3 hrs. lec.) A survey of major American authors from the Civil War to the present. Movements covered include realism, the jazz age, and the moderns. Representative figures are Twain, Howells, James, Hemingway, Fitzgerald, Faulkner and Eliot. (2307015112) Prerequisites: ENGL 1301 and 1302

ENGL 2332 - SURVEY OF WORLD LITERATURE - ANCIENT TIMES TO MID-17TH CENTURY
3 Credits (3 hrs. lec.) A survey of world literature from ancient times to the mid-seventeenth century. (1601045213) Prerequisites: ENGL 1301 and 1302

ENGL 2333 - SURVEY OF WORLD LITERATURE - MID 17TH CENTURY TO THE PRESENT
3 Credits (3 hrs. lec.) A survey of world literature from the mid-seventeenth century to the present. (1601045213) Prerequisites: ENGL 1301 and 1302

ENGL 2341 - FORMS OF LITERATURE
3 Credits (3 hrs. lec.) The study of one or more literary genres including, but not limited to, poetry, fiction, drama, and film. Other forms might include mythic and religious writing, autobiographies and memoirs, and polemics. Readings vary. Instructors are free to choose their own emphasis. Only 6 credit hours can be taken from ENGL 2341, 2342, and 2343. (1601045113) Prerequisites: ENGL 1301 and 1302

ENGL 2342 - FORMS OF LITERATURE I
3 Credits (3 hrs. lec.) One semester of a two-semester course on literary forms. This course examines a genre, or a combination of genres, in greater depth than does the one semester course, ENGL 2341. Instructors are free to choose their own emphasis. The literary genre or genres taught in this course emphasize the multicultural competencies. (1601045113) Prerequisites: ENGL 1301 and 1302

ENGL 2343 - FORMS OF LITERATURE II
3 Credits (3 hrs. lec.) One semester of a two-semester course on literary forms. This course may expand treatment of a genre or genres studied in ENGL 2342 and/or may include a genre or genres not studied in ENGL 2342. Instructors are free to choose their own emphasis. The literary genre or genres taught in this course emphasize the multicultural competencies. (1601045113) Prerequisites: ENGL 1301 and 1302

ENGL 2351 - MEXICAN-AMERICAN LITERATURE
3 Credits (3 hrs. lec.) A survey of Mexican American literature from its origins to the present covering the major literary genres - the essay, epic poetry, lyric poetry, the short story, novel, drama, and folk literature. (0502035525) Prerequisites: ENGL 1301 and 1302

ENGL 2389 - ACADEMIC COOPERATIVE IN COMPOSITION
3 Credits (1 hr. lec., 4 hrs. ext.) Training program and internship for peer writing tutors who work with student writers in the writing center in the college learning center. (2401035212) Prerequisite: ENGL 1301

ENGR 1201 - INTRODUCTION TO ENGINEERING
2 Credits (2 hrs. lec.) An introduction to the field of engineering. Students will learn about engineering careers, teamwork, engineering design, success in college, the teaching & learning process, and professional development. The class will also serve to prepare students for more advanced engineering coursework. (1401015110) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

ENGR 1304 - FOUNDATIONS OF ENGINEERING I
3 Credits (2 hrs. lec., 4 hrs. lab.) Introduction to the engineering profession, ethics and disciplines; development of skills in teamwork; problem solving, logic processing, design and drawing; emphasis on computer applications and CAD tools. (1513015111) Prerequisite: MATH 2412; Corequisite: ENGL 1301

ENGR 1305 - FOUNDATIONS OF ENGINEERING II
3 Credits (2 hrs. lec., 4 hrs. lab.) Development of skills in problem solving, design, analysis, estimation, and teamwork; utilization of computer tools for documentation and presentation; introduction to logic processing and computer programming; introduction to accounting and conservation principles in engineering sciences. (1513015111) Prerequisites: ENGR 1304 and MATH 2413
DESCRIPTION OF COURSES

ENGR 2301 - ENGINEERING MECHANICS I
3 Credits (3 hrs. lec.) Statics of particles and rigid bodies, free body diagrams, centroids, center of gravity and distributed loads, structural analysis of trusses and frames, internal forces and moments in beams and cables, friction, moments of inertia. (1411015210) Prerequisites: PHYS 2425 and MATH 2414

ENGR 2302 - ENGINEERING MECHANICS II
3 Credits (3 hrs. lec.) Kinematics and dynamics of particles, Newton's Second Law, energy and momentum methods, kinematics and dynamics of rigid bodies, energy methods, vibrations. (1411015310) Prerequisites: ENGR 2301 and MATH 2415; Corequisite: (for University of Houston transfer students) MATH 2320

ENGR 2304 - NUMERICAL METHODS AND PROGRAMMING
3 Credits (3 hrs. lec., 2 hrs. lab.) Applications in numerical calculus and linear algebra using C/C++ programming language. Algorithms, efficiency and style are emphasized. This course is designed for students in engineering, math, computer science and the natural sciences. (1102015207) Prerequisites: ENGR 2301 and MATH 2415; Corequisite: (for University of Houston transfer students) MATH 2320

ENTC 1343 - STATICS
3 Credits (2 hrs. lec., 4 hrs. lab.) 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. Prerequisite: MATH 1316

ENTC 1423 - STRENGTH OF MATERIALS
4 Credits (3 hrs. lec., 3 hrs. lab.) Study of the relationship between externally applied forces and internally induced stresses and the resulting deformations in structural members. Prerequisite: ENTC 1343

ENTC 2380 - COOPERATIVE EDUCATION - ENGINEERING TECHNOLOGY/TECHNICIAN, GEN.
3 Credits (1 hr. lec., 20 hrs. ext.) 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. Prerequisites: Completion of all Engineering Design Graphics Technology associate degree technical course requirements and department approval; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

ENVR 1401 - ENVIRONMENTAL SCIENCE I
4 Credits (3 hrs. lec., 3 hrs. lab.) Interdisciplinary study of both natural (biology, chemistry, geology) and social (economics, politics, ethics) sciences as they apply to the environment. Focus is on the role of science in addressing global environmental concerns. Concepts include ethics, policy, matter, energy, species biodiversity, ecology, human populations, food and agriculture. Practical laboratory experience emphasizes the application of fundamental principles of biology and chemistry as well as critical thinking and analysis. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; MATH 0308

ENVR 1402 - ENVIRONMENTAL SCIENCE II
4 Credits (3 hrs. lec., 3 hrs. lab.) Continued interdisciplinary study of both natural (biology, chemistry, geology) and social (economics, politics, ethics) sciences as they apply to the environment. Focus on energy issues, global warming, ozone loss, land use, conservation and management of resources, deforestation, biodiversity, waste, and sustainable practices. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; MATH 0308

ETWR 1302 - INTRODUCTION TO TECHNICAL WRITING
3 Credits (3 hrs. lec.) Introduction to the principles, techniques, and skills needed for scientific, technical, and business writing. Prerequisite: None

FIRS 1301 - FIREFIGHTER CERTIFICATION I
3 Credits (2 hrs. lec., 3 hrs. lab.) An introduction to firefighter safety and development. Topics include Texas Commission on Fire Protection Rules and Regulations, firefighter safety, fire science, personal protective equipment, self contained breathing apparatus, and fire reports and records. Prerequisites: Admission to the Fire Science Technology program; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing
FIRS 1313 - FIREFIGHTER CERTIFICATION III
3 Credits (2 hrs. lec., 3 hrs. lab.) Fire streams, pump operations, and public relations as they relate to fundamental development of basic firefighter skills. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

FIRS 1319 - FIREFIGHTER CERTIFICATION IV
3 Credits (2 hrs. lec., 3 hrs. lab.) A study of equipment, tactics, and procedures used in forcible entry, ventilation, salvage, and overhaul. Preparation for certification as a basic firefighter. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

FIRS 1329 - FIREFIGHTER CERTIFICATION VI
3 Credits (2 hrs. lec., 3 hrs. lab.) The study of fire inspection techniques and practices, public transportation, fire cause determination. Topics include fire protection systems, wildland fire, and pre-incident planning. Preparation for certification as a basic firefighter. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

FIRS 1407 - FIREFIGHTER CERTIFICATION II
4 Credits (3 hrs. lec., 3 hrs. lab.) The study of basic principles and skill development in handling fire service hose and ladders. Topics include the distribution system of water supply, basic building construction, and emergency service communication, procedures, and equipment. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

FIRS 1423 - FIREFIGHTER CERTIFICATION V
3 Credits (3 hrs. lec., 3 hrs. lab.) The study of ropes and knots, rescue procedures and techniques, and hazardous materials. Preparation for certification as a basic firefighter. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

FIRS 1433 - FIREFIGHTER CERTIFICATION VII
4 Credits (3 hrs. lec., 3 hrs. lab.) Simulated emergency operations and hands-on live fire training exercises, incident management procedures, and combined operations using proper extinguishing methods. Emphasis on safety. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

FIRT 1171 - FIREFIGHTER AGILITY AND FITNESS PREPARATION
1 Credit (3 hrs. lab.) This course includes the study of physical agility testing methods and rigorously trains individuals in skills and techniques needed in typical entry level testing. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; Corequisites: FIRS 1301, FIRS 1407, FIRS 1313 and FIRS 1319

FIRT 1303 - FIRE ARSON INVESTIGATION I
3 Credits (3 hrs. lec.) In-depth study of basic fire and arson investigation practices. Emphasis on fire behavior principles related to fire cause and origin determination. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

FIRT 1305 - PUBLIC EDUCATION PROGRAMS
3 Credits (3 hrs. lec.) Preparation of firefighters 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. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

FIRT 1307 - FIRE PREVENTION CODES
3 Credits (3 hrs. lec.) Study of local building and fire prevention codes. Emphasis on fire prevention inspections, practices, and procedures. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

FIRT 1315 - HAZARDOUS MATERIALS I
3 Credits (3 hrs. lec.) Study of the chemical characteristics and behavior of various materials. Topics include storage, transportation, handling hazardous emergency situations, and the most effective methods of hazard mitigation. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

FIRT 1319 - FIRE FIGHTER HEALTH & SAFETY
3 Credits (3 hrs. lec.) Study of firefighter occupational safety and health in emergency and non-emergency situations. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing
DESCRIPTION OF COURSES

FIRT 1327 - BUILDING CONSTRUCTION IN THE FIRE SERVICE
3 Credits (3 hrs. lec.) Components of building construction that relate to fire and life safety. Focuses on firefighter safety. Includes relationship of elements of construction and design of structures to inspecting buildings, preplanning fire operations, and operating at emergencies. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

FIRT 1338 - FIRE PROTECTION SYSTEMS
3 Credits (3 hrs. lec.) 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. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

FIRT 1345 - HAZARDOUS MATERIALS II
3 Credits (3 hrs. lec.) In-depth study of mitigation practices and techniques to effectively control hazardous material spills and leaks. Prerequisite: FIRT 1315

FIRT 2171 - FIREFIGHTER AGILITY AND FITNESS PREPARATION II
1 Credit (3 hrs. lab.) Firefighter Agility and Fitness Preparation II is a continuation of Firefighter Agility and Fitness Preparation I and includes circuit training, sports conditioning, body toning, interval training, and the study of physical agility testing methods. It rigorously trains individuals in skills and techniques needed in typical entry level testing. Prerequisites: FIRT 1171; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

FIRT 2305 - FIRE INSTRUCTOR I
3 Credits (3 hrs. lec.) 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. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

FIRT 2307 - FIRE INSTRUCTOR II
3 Credits (3 hrs. lec.) 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. Prerequisites: FIRT 2305

FIRT 2309 - FIREFIGHTING STRATEGIES AND TACTICS I
3 Credits (3 hrs. lec.) 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. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

FIRT 2333 - FIRE ARSON INVESTIGATION II
3 Credits (3 hrs. lec.) Continuation of Fire and Arson Investigation I. Topics include reports, court room demeanor, and expert witnesses. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

FIRT 2380 - COOPERATIVE EDUCATION
3 Credits (1 hr. lec., 20 hrs. ext.) 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. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

FLMC 1304 - LIGHTING FOR FILM OR VIDEO
3 Credits (2 hrs. lec., 4 hrs. lab.) Lighting techniques for film or video production. Prerequisites: ENGL0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

FLMC 1331 - VIDEO GRAPHICS & VISUAL EFFECTS I
3 Credits (2 hrs. lec., 4 hrs. lab.) Applications of computers in digital film production. Design of computer graphic workstations and development of a rationale for selecting software, hardware, and
peripherals. Prerequisites: ARTC 1302 or departmental approval; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

FLMC 2331 - VIDEO GRAPHICS & VISUAL EFFECTS II
3 Credits (2 hrs. lec., 4 hrs. lab.) Designing vector and raster graphics, executing rendering techniques, designing and producing three-dimensional (3-D) materials, and selecting hardware, software, and peripherals for video production. Prerequisites: FLMC 1331; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

FREN 1300 - FRENCH CONVERSATION I
3 Credits (3 hrs. lec.) This is a conversational French course for beginners. It includes extensive comprehension, oral practice, and use of multimedia materials. It is intended to develop basic communication skills for the student to apply these skills to everyday life and work situations. It is an alternate track for the student who needs immediate communicative experience in French. (1609015413) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

FREN 1311 - INTERMEDIATE FRENCH I
3 Credits (3 hrs. lec.) French readings, grammar, and composition based partly on the formal text and partly on selected readings. Stress will be placed on oral work. (1609015213) Prerequisites: FREN 1412; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

GAME 1303 - INTRO TO GAME DESIGN AND DEVELOPMENT
3 Credits (2 hrs. lec., 3 hrs. lab.) Introduction to electronic game development and game development careers. Includes examination of history and philosophy of games, the game production process, employee factors for success in the field, and current issues and practices in the game development industry. Prerequisite: None

GAME 1304 - LEVEL DESIGN
3 Credits (2 hrs. lec., 4 hrs. 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. Prerequisites: Department approval; Successful completion of 9 hours in specialization

FREN 1412 - BEGINNING FRENCH II
4 Credits (3 hrs. lec., 2 hrs. lab.) A continuation of FREN 1411 with increased emphasis on comprehension, speaking, reading and writing. Intensive drills to increase vocabulary and knowledge of structure. (1609015113) Prerequisites: FREN 1411 OR placement by exam; ENGL0305 AND ENGL0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

FREN 1411 - BEGINNING FRENCH I
4 Credits (3 hrs. lec., 2 hrs. lab.) Beginner’s pronunciation, oral practice and dictation, conversation, use of recordings for ear training, basic principles of grammar, simple exercises in composition, easy reading which includes cultural material. (1609015113) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing
DESCRIPTION OF COURSES

GAME 2303 - ARTIFICIAL INTELLIGENCE PROGRAMMING I

3 Credits (2 hrs. lec., 3 hrs. lab.) Basic techniques in artificial intelligence related to game and simulation programming. Includes knowledge representation and inference techniques, expert systems, pathfinding algorithms, and search techniques for problem solving. Prerequisite: ITSE 1407 or COSC 1420; Corequisite: ITSE 2431

GAME 2332 - PROJECT DEVELOPMENT I

3 Credits (2 hrs. lec., 4 hrs. 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. Prerequisites: Department approval; Successful completion of 12 hours in specialization

GAME 2334 - PROJECT DEVELOPMENT II

3 Credits (2 hrs. lec., 4 hrs. lab.) Continuation of an original modification based on a current game engine with an emphasis on new content and radical changes in gameplay 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. Prerequisites: Department approval; Successful completion of 18 hours in specialization

GAME 2338 - GAME TESTING

3 Credits (2 hrs. lec., 3 hrs. 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. Prerequisite: GAME 1304

GAME 2344 - DIRECTX PROGRAMMING

3 Credits (2 hrs. lec., 3 hrs. lab.) Exploration of the advanced suite of multimedia application programming interfaces (API) built into the Microsoft Windows operating system. Includes fundamentals of Direct X's API that give multimedia applications access to advanced features of high-performance hardware such as 3D graphics acceleration chips and sound cards. Addresses control of low-level functions including 2D graphics acceleration; support for input devices such as joysticks, keyboards, and mice; and control of sound mixing and sound output. Prerequisite: ITSE 1407 or COSC 1420

GAME 2371 - WRITING AND STORYBOARDING FOR INTERACTIVE GAMES

3 Credits (2 hrs. lec., 3 hrs. lab.) The course is a blend of storytelling, character development and storyboarding for a game or simulation. The student will learn to write plot, story, setting, descriptions for every game element and verbal communication based on a game concept. Included is the study of traditional narrative practices and interactive fiction that requires creative writing, character development, world/environment design, interactive media scripting, voice-overs, storyboard principles, basic cinematic terminology, and pre-production preparation. A comprehensive final project will incorporate the tools and concepts learned through the course. Prerequisites: ENGL 1301 and 9 hours of technical courses.

GAME 2386 - INTERNSHIP

3 Credits (15 hrs. ext.) 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. Prerequisite: Department approval

GEOG 1300 - PRINCIPLES OF GEOGRAPHY

3 Credits (3 hrs. lec.) A survey of the processes of both physical and human geography. This course discusses what geography is, what geographers do, how geography facilitates thinking about, and observing the Earth and the Human Landscape in spatial terms. The course introduces: cartographic interpretation; identification of landforms; climatic types; the interaction of humans with the physical world; the spatial distribution of cultural activity. (45070151 25) Prerequisites: College level reading; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

GEOG 1301 - PHYSICAL GEOGRAPHY

3 Credits (3 hrs. lec.) A survey of the primary elements and the processes at work in the physical environment - weather, climate, landforms and ecosystems and their interrelationships as they influence human activities on the Earth’s Surface. (45070151 25) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing
DESCRIPTION OF COURSES

GEOG 1303 - WORLD GEOGRAPHY
3 Credits (3 hrs. lec.) A survey of human activity within the context of its regional settings. The course considers ideas such as economic development and the cultural, physical, and political dynamics at work within each region. The course guides the student into thinking about human phenomenon from a spatial perspective. It emphasizes the understanding of place, region, and spatial connection. For students interested in world affairs, culture, international relations, and understanding the characteristics of places around the world. (4507015325) Prerequisites: College level reading; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing.

GEOG 2312 - ECONOMIC GEOGRAPHY
3 Credits (3 hrs. lec.) A survey of patterns of economic development, including the distribution of population and resources, and the influence these factors have on agriculture, manufacturing and service industries. Emphasis is placed on spatial variations in types of economic organization and patterns of land use and resource utilization. (4507015225) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing.

GEOL 1403 - PHYSICAL GEOLOGY
4 Credits (3 hrs. lec., 3 hrs. lab.) This course explores the theory of geologic processes including a study of physical forces that shape the earth and all its landforms. Special emphasis is given to the origins of minerals and rocks, volcanoes, earthquakes, structures, plate tectonics and other geologic processes. Lab exercises include mineral identification and differentiation of the major rock types, use of topographic maps and aerial photographs and interpretation of geologic data. Optional field trips help students explore and discover links between classroom discussions and life experiences. Participation in field trips is highly recommended. (4006015403) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; Corequisite: Math 0306.

GEOL 1404 - HISTORICAL GEOLOGY
4 Credits (3 hrs. lec., 3 hrs. lab.) A geological history of the Earth stressing fossils, stratigraphy and plate tectonics. Emphasis is placed on environments and the succession of geologic events since the origin of the Earth. Labs review rocks and maps, with exercises in fossil identification, stratigraphic correlation and cross cutting relationships. Participation in field trips is highly recommended. (4006015403) Prerequisites: GEOL 1403 OR GEOL 1405 OR department approval; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; Corequisite: MATH 0306.

GEOL 1405 - ENVIRONMENTAL GEOLOGY
4 Credits (3 hrs. lec., 3 hrs. lab.) An analysis survey of geologic processes, their influence on people and the influence of human activities on the environment. Topics include natural resources, geologic hazards, waste disposal, surface and groundwater pollution, air pollution, land-use planning, environmental law, and the determination of risk assessments based on remote sensing techniques, field observations and their economic impact. Lab exercises include groundwater flow, environmental pollution, geologic hazards, geologic resources and land use planning. Participation in field trips is highly recommended. (0301035301) Prerequisites: ENGL0305 AND ENGL0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; Corequisite: Math 0306.

GEOL 1445 - OCEANOGRAPHY
4 Credits (3 hrs. lec., 3 hrs. lab.) This course explores topics in physical oceanography with an emphasis on the global understanding of the interaction of oceans with the earth’s hydrosphere, atmosphere, and biosphere. Laboratory exercises utilize real-time oceanographic data, and explore the current understanding of ocean floor topography, sea water chemistry, and the role the ocean-atmosphere system plays in controlling weather and climate. Students will be introduced to remote sensing technologies, modern research methods, and they will interpret marine data in both two and three dimensions. Internet based research activities help students explore and discover links between classroom discussions and life experiences. (4006015103) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; Corequisite: MATH 0306.

GEOL 2307 - GEOLOGY OF TEXAS
3 Credits (3 hrs. lec.) The topography, physiography, structure, geologic history and mineral deposits of Texas. Plate tectonics regional correlations and local phenomena are emphasized. Participation in field trips is highly recommended. (4006015503) Prerequisites:
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GEOL 1404 or department approval; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

GERM 1411 - BEGINNING GERMAN I

4 Credits (3 hrs. lec., 2 hrs. lab.) Beginner’s pronunciation, oral practice and dictation. Conversation, use of recordings for ear training, basic principles of grammar, simple exercises in composition, easy reading which includes cultural material. (1605015113) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

GERM 1412 - BEGINNING GERMAN II

4 Credits (3 hrs. lec., 2 hrs. lab.) A continuation of GERM 1411 with increased emphasis on comprehension, speaking, reading, and writing. Intensive drills to increase vocabulary and knowledge of structure. (1605015113) Prerequisites: GERM 1411 OR placement by exam; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

GERM 2311 - INTERMEDIATE GERMAN I

3 Credits (3 hrs. lec.) Introduction to German readings of average difficulty, principally through short stories and selections from longer works. Review of grammar composition, practice in conversation. Some scientific selections included in class readings, collateral readings and reports. (1605015213) Prerequisites: GERM 1412; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

GERM 2312 - INTERMEDIATE GERMAN II

3 Credits (3 hrs. lec.) Continuation of GERM 2311. (1605015213) Prerequisites: GERM 2311; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

GERS 1301 - GERONTOLOGY

3 Credits (3 hrs. lec.) 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. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

GISC 1302 - UNDERSTANDING GEOGRAPHIC INFORMATION SYSTEMS

3 Credits (2 hrs. lec., 2 hrs. lab.) Theory and application of geographic information science (GIS). Includes an overview of the general principles of GIS and practical experience in its use. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; MATH 0308

GISC 1401 - CARTOGRAPHY AND GEOGRAPHY IN GEOGRAPHICAL INFORMATION SYSTEMS (GIS) AND GLOBAL POSITIONING SYSTEMS (GPS)

4 Credits (3 hrs. lec., 3 hrs. lab.) Introduction to the principles of cartography and geography. Emphasis on global reference systems, and the use of satellites for navigation and measurements. Students learn basic concepts of GIS including mapping the earth in spatial terms, and populating the GIS to access data. Exercises include: create and access data in the GIS using Arc View, a standard PC platform software package; capture positional and attribute information with correct and accurate geographic referencing including GPS systems; and develop and print maps and reports. Emphasis on geographic coordinate systems, acquiring GIS information from databases, existing maps, GPS and the Internet. All aspects of the course will be integrated into individual final projects. Prerequisites: GISC 1411 or departmental approval; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

GISC 1411 - INTRODUCTION TO GEOGRAPHIC INFORMATION SYSTEMS (GIS)

4 Credits (3 hrs. lec., 3 hrs. lab.) Introduction to basic concepts of vector GIS using several industry specific software programs including nomenclature of cartography and geography. Emphasis on the principles of cartography, standard global reference systems and the new technologies, using satellites for measurements and navigation, and map construction. Exercises include basic concepts of acquisition, accuracy, precision, and scale in GPS - global positioning systems, and the operating environment for GIS/GPS; creation of spatial data with real time GPS fieldwork; importing of GPS data into GIS; and evaluation of data for scale and accuracy. Students will measure and relate “real world” distance and area on maps. Final projects will include applications of these topics. This is the initial course for the GIS certificate and degree programs. Prerequisite: None
GISC 1421 - INTRODUCTION TO RASTER-BASED GEOGRAPHIC INFORMATION SYSTEMS (GIS)

4 Credits (3 hrs. lec., 3 hrs. 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. Introduction to grid or continuous GIS data sets including DEMs, TINs, aerial and satellite imagery, and others; as well as processing and merging with vector data. Students collect, process, and summarize images to produce a thematic map; explain geo-referencing of photos or images to maps; effectively operate image processing software including Spatial Analyst and ENVI Image Processing/Analysis package; interpret photos and images to produce map data; analyze geographic information and merge with photographic information in raster formats. Prerequisites: GISC 1411; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

GISC 1491 - SPECIAL TOPICS IN CARTOGRAPHY

4 Credits (3 hrs. lec., 3 hrs. 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. Learning outcomes/objectives are determined by local occupational need and business and industry trends. Students will complete a project based on a defined problem, independent research and integration of existing databases, analysis and a final report defining the conclusions derived from the project. Prerequisites: GISC 1411 and departmental approval; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

GISC 2380 - COOPERATIVE EDUCATION - CARTOGRAPHY

3 Credits (1 hr. lec., 20 hrs. ext.) 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, employer, and student, the student combines classroom learning with work experience. Includes a lecture component. Students will demonstrate their understanding of theory and concepts, utilizing facilities and procedures effectively, to complete individual and team projects with appropriate written and verbal communication reflecting competency with in their business/industry. Prerequisites: GISC 1411 and departmental approval; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

GISC 2401 - DATA ACQUISITION & ANALYSIS IN GIS

4 Credits (3 hrs. lec., 3 hrs. lab.) Study of the management of geographic information, system life cycles, and costs and benefits. Topics include demographic management and 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 demographic modeling and analysis. Emphasis is placed on the purpose and analysis of metadata sets for a project; outline of national and international census data infrastructure; selection and evaluation of data for source, quality, and collection. Student will formulate geographic-based databases queries; establish an audit trail; use geographic information in decision-making; design a data acquisition project and utilize datum, coordinate systems and mapping projections. Prerequisites: GISC 1401, ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; Corequisite: Recommended ENGL 2311

GISC 2411 - GEOGRAPHIC INFORMATION SYSTEMS (GIS) APPLICATIONS

4 Credits (3 hrs. lec., 3 hrs. 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. Students will relate the use of GIS for infrastructure management; recognizing accuracy and precision in different workplace applications. The student will create real world projects of geographic information; reduce digital field data to produce final plans and technical reports which will accompany the presentation on both hard copy and PowerPoint. Prerequisites: GISC 1401; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing. Recommended: ENGL 2311.

GISC 2464 - PRACTICUM OR FIELD EXPERIENCE - CARTOGRAPHY

4 Credits (40 hrs. ext.) Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student. As outlined in the learning plan, the student will apply the theory, concepts, and skills involving specialized materials, equipment, procedures, regulations, and interactions within and among environmental, social,
DESCRIPTION OF COURSES

and governmental occupations and will demonstrate responsible behavior, safety practices, interpersonal and teamwork skills, and effective communication skills to create success. Prerequisite: ENGL 2311; Corequisite: GISC 2411

GOVT 2301 - AMERICAN GOVERNMENT: NATIONAL, STATE AND LOCAL I

3 Credits (3 hrs. lec.) A survey of national, state, and local government, including such topics as the U.S. and Texas Constitutions; democratic theory; federalism; political culture, political socialization, and public opinion; political participation and electoral behavior; political parties and interest groups; press; and local government. These phenomena are examined at the national, state, and local levels with an emphasis placed on linkages with the formulation of public policy. This course satisfies state requirements for teacher certification in Texas. (4510025125) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

GOVT 2302 - AMERICAN GOVERNMENT: NATIONAL, STATE AND LOCAL II

3 Credits (3 hrs. lec.) An examination of the institutional elements of the American political system: legislature, executive, judiciary, and bureaucracy. These elements are examined at the national, state, and local levels with a special emphasis on their roles in the development of public policy. (4510025125) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

GOVT 2304 - INTRODUCTION TO POLITICAL SCIENCE

3 Credits (3 hrs. lec.) An introductory survey of the field of political science. Emphasis will be placed on the scope of the discipline; methods of inquiry and analysis appropriate for the study of political behavior; and recurring themes and problems in the study of political theory. This course may not be substituted for GOVT 2301 or 2302. (4510015225) Prerequisites: GOVT 2301 or 2302 or departmental approval; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

GOVT 2311 - MEXICAN-AMERICAN POLITICS

3 Credits (3 hrs. lec.) The study of Mexican-American/Chicano/a politics within the American political experience. (0502035425) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

GOVT 2389 - ACADEMIC INTERNSHIP

3 Credits (1 hr. lec., 6 hrs. lab.) A course designated to integrate on-campus classroom study with practical hands-on work experience in the student’s major field of study. The student, the student’s supervisor, and a faculty coordinator will establish specific goals for the student to accomplish. The course during the semester also requires an average of one hour per week of practical life/work skills. (4501015125) Prerequisites: Departmental approval; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

GRPH 1305 - INTRODUCTION TO GRAPHIC ARTS AND PRINTING

3 Credits (3 hrs. lec.) Graphic arts industry, including the history of printing, techniques involved in the production and distribution of printed materials, the kinds of printing industries and printing terminology and identify career opportunities in graphics and printing fields. Prerequisite: ARTC 2348

GRPH 1395 - SPECIAL TOPICS - COMPUTER TYPOGRAPHER & COMPOSITION PUBLISHING EQUIPMENT OPERATOR

3 Credits (2 hrs. lec., 3 hrs. 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. Students will contract with the instructor to increase specific skills in an orderly and defined manner. Independent learning skills and development of lifelong learning skills are emphasized. Prerequisite: ARTC 2348

GRPH 2380 - COOPERATIVE EDUCATION

3 Credits (1 hr. lec., 20 hrs. ext.) 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. Prerequisites: Departmental approval; meets requirements for final semester.
HAMG 1321 - INTRODUCTION TO HOSPITALITY INDUSTRY
3 Credits (3 hrs. lec.) Introduction to the elements of the hospitality industry. Topics include growth, development and organization of the lodging industry; growth, development, organization, and management of food service operations; human resources, marketing, security, information technology and career opportunities within the various fields of hospitality services. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

HAMG 1340 - HOSPITALITY LEGAL ISSUES
3 Credits (3 hrs. lec.) 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. Prerequisites: HAMG 1321; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

HAMG 1380 - COOPERATIVE EDUCATION
3 Credits (1 hr. lec., 20 hrs. ext.) 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. Prerequisites: Enrollment in hospitality management AAS degree program; completion of 15 credits in degree plan; departmental approval; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

HAMG 2301 - PRINCIPLES OF FOOD AND BEVERAGE OPERATIONS
3 Credits (3 lec. hrs.) An introduction to food, beverage, and labor cost controls with an overview of the hospitality industry from procurement to marketing. Examination of cost components including forecasting, menu planning and pricing, logistical support, production, purchasing, and quality assurance. Prerequisite: HAMG 1321

HAMG 2305 - HOSPITALITY MANAGEMENT AND LEADERSHIP
3 Credits (3 hrs. lec.) An overview of management and leadership in the hospitality industry with an emphasis on management philosophy, policy formulation, communications, motivation and team building. Prerequisites: HAMG 1321; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

HAMG 2337 - HOSPITALITY FACILITIES MANAGEMENT
3 Credits (3 hrs. lec.) Identification of building systems, facilities management, security and safety procedures. Prerequisites: HAMG 1321; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

HART 1401 - BASIC ELECTRICITY FOR HVAC
4 Credits (3 hrs. lec., 3 hrs. lab.) Principles of electricity as required by HVAC, including proper use of test equipment, electrical circuits, and component theory and operation. Prerequisite: None

HART 1403 - AIR CONDITIONING CONTROL PRINCIPLES
4 Credits (3 hrs. lec., 3 hrs. lab.) A basic study of HVAC and refrigeration controls; troubleshooting of control components; emphasis on use of writing diagrams to analyze high and low voltage circuits; a review of Ohm’s law as applied to air conditioning controls and circuits. Prerequisite: Departmental approval

HART 1407 - REFRIGERATION PRINCIPLES
4 Credits (3 hrs. lec., 3 hrs. lab.) An introduction to the refrigeration cycle, heat transfer theory, temperature/pressure relationship, refrigerator handling, and refrigeration components and safety. Prerequisite: None

HART 1441 - RESIDENTIAL AIR CONDITIONING
4 Credits (3 hrs. lec., 3 hrs. lab.) A study of components, applications, and installation of mechanical air conditioning systems including operating conditions, troubleshooting, repair, and charging of air conditioning systems with gas and electric heat systems of split and package units. Prerequisites: HART 1401 and HART 1407
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HART 1445 - GAS AND ELECTRIC HEATING
4 Credits (3 hrs. lec., 3 hrs. lab.) Study of the procedures and principles used in servicing heating systems including gas fired furnaces and electric heating systems. Prerequisite: Departmental approval

HART 1491 - SPECIAL TOPICS IN HEATING, AIR CONDITIONING, AND REFRIGERATION TECHNOLOGIES/TECHNICIAN
4 Credits (2 hr. lec., 4 hrs. 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. Course also provides a review for the state HVAC certification examination. Prerequisites: 30 hours of training in HVAC&R technology program and departmental approval; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

HART 2380 - COOPERATIVE EDUCATION - HEATING, AIR CONDITIONING & REFRIGERATION
3 Credits (1 hr. lab., 20 hrs. ext.) 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 lecture component. Prerequisites: Enrollment in HVAC&R certificate or degree program/completion of 20 hrs. in certificate or degree plan; ENGL 0304 or ENGL 0339 AND ENGL 0306 or 0355, OR higher level course (ENGL 1301), OR placement by testing; MATH 0306

HART 2431 - ADVANCED ELECTRICITY
4 Credits (3 hrs. lec., 3 hrs. lab.) Advanced electrical instruction and skill building in installation and servicing of air conditioning and refrigeration equipment including detailed instruction in motors and power distribution, motors, motor controls, and application of solid state devices. Prerequisites: HART 1401 and 1407

HART 2434 - ADVANCED A/C CONTROLS
4 Credits (3 hrs. lec., 3 hrs. lab.) Theory and application of electrical control devices, electromechanical controls, and/or pneumatic controls. Prerequisites: HART 1401 and HART 1407

HART 2441 - COMMERCIAL AIR CONDITIONING
4 Credits (3 hrs. lec., 3 hrs. lab.) A study of components, applications, and installation of air conditioning systems with capacities of 25 tons or less. Prerequisites: HART 1401 and 1407

HART 2442 - COMMERCIAL REFRIGERATION
4 Credits (3 hrs. lec., 3 hrs. lab.) Theory and practical application in the maintenance of commercial refrigeration; medium and low temperature applications and ice machines. Prerequisites: HART 1401 and 1407

HART 2443 - INDUSTRIAL AIR CONDITIONING
4 Credits (3 hrs. lec., 3 hrs. lab.) A study of components, accessories, applications, and installation of air conditioning systems above 25 tons capacity. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; HART 1401 and HART 1407

HART 2445 - RESIDENTIAL AIR CONDITIONING SYSTEMS DESIGN
4 Credits (3 hrs. lec., 3 hrs. 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. Prerequisites: HART 1401 and 1407

HART 2449 - HEAT PUMPS
4 Credits (3 hrs. lec., 3 hrs. lab.) A study of heat pumps, heat pump control circuits, defrost controls, auxiliary heat, air flow, and other topics related to heat pump systems. Prerequisites: HART 1401 and 1407

HART 2457 - SPECIALIZED COMMERCIAL REFRIGERATION
4 Credits (3 hrs. lec., 3 hrs. 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. Prerequisites: HART 1401 and 1407

HIST 1301 - UNITED STATES HISTORY TO 1877
3 Credits (3 hrs. lec.) A survey of U.S. history from the Age of Discovery through the Civil War and Reconstruction. Special emphasis is placed on the emergence of the United States as a nation. Other topics will include westward expansion, slavery, the Civil War,
and Reconstruction. The purpose of this course is to provide students with an interpretive analysis of the social, economic, political, and intellectual dynamics that have shaped United States history before 1877. (5401025125) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

**HIST 1302 - UNITED STATES HISTORY SINCE 1877**

3 Credits (3 hrs. lec.) A survey of U.S. history from the end of Reconstruction to the present. Special emphasis is placed on the emergence of the United States as a world power and our subsequent assumption of international responsibilities. Other topics will include westward expansion, industrialization, immigration, World War I, World War II, the subsequent Cold War, Vietnam, and the collapse of the Soviet Empire. (5401025125) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

**HIST 2301 - TEXAS HISTORY**

3 Credits (3 hrs. lec.) Survey of Texas history from the Spanish exploration to the present. (5401025225) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

**HIST 2311 - HISTORY OF WESTERN CIVILIZATION I**

3 Credits (3 hrs. lec.) A history of Western civilization from the beginning of recorded history through the Renaissance and Reformation. The purpose of this course is to provide students with an interpretive analysis of the social, economic, political and intellectual dynamics that have shaped Western history since antiquity. (5401015425) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

**HIST 2312 - HISTORY OF WESTERN CIVILIZATION II**

3 Credits (3 hrs. lec.) A history of Western civilization from the age of exploration and the creation of the European nation-states through the Cold War of the twentieth century. Its purpose is to provide students with an interpretive analysis of the social, economic, political and intellectual dynamics that have shaped Western and world history since the religious wars of the Protestant Reformation. (5401015425) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

**HIST 2321 - WORLD HISTORY I**

3 Credits (3 hrs. lec.) The history of human societies from the earliest evidences of ancient peoples until the voyages of Columbus from Europe to America. Consideration is given to all major cultural regions (Western Europe, Eastern Europe, the Middle East, South Asia/India, East Asia, Africa and Latin America). Emphasis is placed upon comparative aspects of history, and upon interactions among the major cultural regions. (5401015325) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

**HIST 2322 - WORLD HISTORY II**

3 Credits (3 hrs. lec.) The history of human societies since the voyages of Columbus from Europe to America. Consideration is given to all major cultural regions (Western Europe, Eastern Europe, the Middle East, South Asia/India, East Asia, Africa and Latin America). Emphasis is placed upon comparative aspects of history, and upon interactions among the major cultural regions. (5401015325) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

**HIST 2327 - MEXICAN AMERICAN HISTORY I**

3 Credits (3 hrs. lec.) This course will explore the history of the origins of Mexican and Mexican American people until 1910, including issues relating to identity and community. (0502035225) Prerequisite: ENGL 1301

**HIST 2328 - MEXICAN AMERICAN HISTORY II**

3 Credits (3 hrs. lec.) This course will explore the history and effects of Mexican and Mexican American people since 1910, including issues relating to identity and community. (0502035225) Prerequisite: ENGL 1301

**HIST 2351 - ADVANCED HISTORICAL ANALYSIS**

3 Credits (3 hrs. lec.) A treatment of specialized historical topics, such as the American Civil War, the Vietnam War, World War II, Women, African Americans, etc. Selected topics will vary from semester to semester as various instructors have an opportunity to bring their diverse specialties to the course. It may be
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repeated for credit as topics vary. This is an elective course and will not satisfy degree requirements in History. (5401015625) Prerequisites: 6 hrs. HIST or instructor approval; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

HITT 1166 - PRACTICUM - HEALTH INFORMATION TECHNOLOGY/TECHNICIAN

1 Credit (7 hrs. ext.) Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student. Requires LSCS liability insurance. Prerequisites: HITT 1401; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; MATH 0306

HITT 1211 - COMPUTERS IN HEALTH CARE

2 Credits (1 hr. lec., 2 hrs. lab.) Concepts of computer technology related to health care data. Prerequisites: COSC 1401; ENGL0305 AND ENGL0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; MATH 0306

HITT 1213 - INSURANCE CODING

2 Credits (1 hr. lec., 2 hrs. lab.) Provides skills and knowledge in the health information field for ICD-9 and CPT coding of insurance forms for reimbursement of medical services. Prerequisites: COSC 1401; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; MATH 0306

HITT 1266 - PRACTICUM - HEALTH INFORMATION TECHNOLOGY/TECHNICIAN

2 Credits (14 hrs. ext.) Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student. An intermediate or advanced type of health professions work-based instruction that helps students gain practical experience in the discipline, enhance skills, and integrate knowledge. The emphasis is on practical work experience for which the student has already acquired the necessary theoretical knowledge and basic skills. Direct supervision is provided by the clinical professional, generally a clinical preceptor. A health practicum may be a paid or unpaid learning experience. Requires LSCS liability insurance. Prerequisite: Completion of all courses in the certificate

HITT 1280 - COOPERATIVE EDUCATION

2 Credits (1 hr. lec., 10 hrs. ext.) 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. Requires LSCS liability insurance. Prerequisite: HITT 2340

HITT 1305 - MEDICAL TERMINOLOGY I

3 Credits (3 hrs. lec., 1 hr. 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. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; MATH 0306

HITT 1342 - AMBULATORY CODING

3 Credits (2 hrs. lec., 2 hrs. lab.) Basic ambulatory coding rules, conventions, and guidelines. Prerequisites: BIOL 2401; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; MATH 0306

HITT 1345 - HEALTH CARE DELIVERY SYSTEMS

3 Credits (3 hrs. lec.) Introduction to organization, financing, and delivery of health care services, accreditation, licensure and regulatory agencies. Prerequisites: HITT 1401; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; MATH 0306

HITT 1353 - LEGAL AND ETHICAL ASPECTS OF HEALTH INFORMATION

3 Credits (3 hrs. lec.) Concepts of privacy, security, confidentiality, ethics, health care legislation, and regulations relating to the maintenance and use of health information. Prerequisites: HITT 1401; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; MATH 0306

HITT 1355 - HEALTH CARE STATISTICS

3 Credits (3 hrs. lec.) Principles of health care statistics with emphasis in hospital statistics. Skill development in computation and calculation of health data. Prerequisites: HITT 1401; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; MATH 0306
HITT 1401 - HEALTH DATA CONTENT AND STRUCTURE
4 Credits (3 hrs. lec., 3 hrs. lab.) Introduction to systems and processes for collecting, maintaining, and disseminating primary and secondary health related information including content of health record documentation requirements, registries, indices, licensing, regulatory agencies, forms and screens. Prerequisites: Admission to the Health Information Technology program; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; MATH 0306

HITT 1441 - CODING AND CLASSIFICATION SYSTEMS
4 Credits (3 hrs. lec., 3 hrs. lab.) Basic coding rules, conventions, and guidelines using clinical classification systems. Prerequisites: BIOL 2401, HITT 1401; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; MATH 0306

HITT 2249 - RHIT COMPETENCY REVIEW
2 Credits (2 hrs. lec.) Review Health Information Technology (HIT) competencies, skills, and knowledge. Prerequisites: Completion of all major courses on degree plan; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; MATH 0306

HITT 2339 - HEALTH INFORMATION ORGANIZATION AND SUPERVISION
3 Credits (3 hrs. lec.) Principles of organization and supervision of human, financial, and physical resources. Prerequisites: HITT 1401; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; MATH 0306

HITT 2340 - ADVANCED MEDICAL BILLING & REIMBURSEMENT
3 Credits (2 hrs. lec., 2 hrs. lab.) Study of coding skills to prepare reimbursement forms in various health care settings for submission to payors. Prerequisites: COSC 1401; HITT 1213 OR POFM 1300; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; MATH 0306; Corequisite: can be taken concurrently with POFM 2310

HITT 2343 - QUALITY ASSESSMENT AND PERFORMANCE IMPROVEMENT
3 Credits (2 hrs. lec., 2 hrs. lab.) Study of quality standards and methodologies in the health information management environment. Topics include licensing, accreditation, compilation and presentation of data in statistical formats, quality management and performance improvement functions, utilization management, risk management, and medical staff data quality issues. Prerequisites: HITT 1401 and 1345; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; MATH 0306

HITT 2345 - CODING AND REIMBURSEMENT METHODOLOGIES
4 Credits (3 hrs. lec., 3 hrs. lab.) Advanced coding techniques with emphasis on case studies, health records, and federal regulations regarding prospective payment systems and methods of reimbursement. Prerequisites: HITT 1342 and 1441; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; MATH 0306

HITT 2346 - CLINICAL - MEDICAL RECORDS TECHNOLOGY TECHNICIAN
4 Credits (12 hrs. ext.) 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. Requires LSCS liability insurance. Prerequisites: Completion of all major program courses; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; MATH 0306

HPRS 2300 - PHARMACOLOGY FOR HEALTH PROFESSIONS
3 Credits (3 hrs. lec.) A study of drug classifications, actions, therapeutic uses, adverse effects, routes of administration, and calculation of dosages. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; MATH 0306

HPRS 2301 - PATHOPHYSIOLOGY
3 Credits (3 hrs. lec.) 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 reactions
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to diseases and injuries. Prerequisites: BIOL 2401 or BIOL 2404; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; MATH 0306

HPRS 2321 - MEDICAL LAW AND ETHICS FOR HEALTH PROFESSIONALS
3 Credits (3 hrs. lec.) Principles, procedures, and regulations governing the legal and ethical relationships among physicians, patients, and health care professionals. Includes current ethical issues related to the various healthcare professions and patient confidentiality. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

HPRS 2331 - GENERAL HEALTH PROFESSIONS MANAGEMENT
3 Credits (3 hrs. lec.) Exploration and application of management concepts necessary for effective health profession operations. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

HPRS 2332 - HEALTH CARE COMMUNICATIONS
3 Credits (3 hrs. lec.) Methods of communication with clients, clients support groups, health care professionals, and external agencies. Prerequisites: ITSC 1401 or COSC 1401; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

HRMO 1301 - HOSPITALITY ADVERTISING
3 Credits (3 hrs. lec.) An overview of effective advertising and promotion techniques for hospitality managers. Prerequisites: HAMG 1321; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

HRMO 1303 - HOSPITALITY INDUSTRY SALES
3 Credits (3 hrs. lec.) A study of the relationship of production and consumption in the hospitality industry with emphasis on the role of sales promotion. Prerequisites: HAMG 1321; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

HRPO 1311 - HUMAN RELATIONS
3 Credits (3 hrs. lec.) Practical application of the principles and concepts of the behavioral sciences to interpersonal relationships in the business and industrial environment. Prerequisite: None

HRPO 2301 - HUMAN RESOURCE MANAGEMENT
3 Credits (3 hrs. lec.) Behavioral and legal approaches to the management of human resources organizations. Prerequisite: None

HRPO 2307 - ORGANIZATIONAL BEHAVIOR
3 Credits (3 hrs. lec.) The analysis and application of organizational theory, group dynamics, motivation theory, leadership concepts, and the integration of interdisciplinary concepts from the behavioral sciences. Prerequisite: None

HUMA 1301 - INTRODUCTION TO THE HUMANITIES I: PREHISTORY TO GOTHIC
3 Credits (3 hrs. lec.) A study of the interpretation of human experience through an introduction to music, literature, the visual arts, history and philosophy. Focus is on gaining practical experience in inquiry, recognition and assessment. (2401035112) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

HUMA 1302 - INTRODUCTION TO THE HUMANITIES II: EARLY RENAISSANCE TO THE PRESENT
3 Credits (3 hrs. lec.) An interdisciplinary, multi-perspective assessment of cultural, political, philosophical, and aesthetic factors critical to the formulation of values and the historical development of the individual and society. HUMA 1302 will focus on the time period Early Renaissance to the Present. (2401035112) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

HUMA 1305 - INTRODUCTION TO MEXICAN-AMERICAN STUDIES
3 Credits (3 hrs. lec.) Introduction to the field of Mexican-American/Chicano/a Studies from its inception to the present. Interdisciplinary survey designed to introduce students to the salient cultural, economic, educational, historical, political, and social aspects of the Mexican-American/Chicano/a experience. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing
HUMA 1311 - MEXICAN-AMERICAN FINE ARTS APPRECIATION
3 Credits (3 hrs. lec.) An examination of Mexican-American/Chicano/a artistic expressions in the visual and performing arts. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

HUMA 2319 - AMERICAN MINORITY STUDIES
3 Credits (3 hrs. lec.) Historical, economic, social and cultural development of minority groups in America. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

HUMD 0100 - THEA SUCCESS STRATEGIES
1 Credit (3 hrs. lab.) HUMD 0100 is established to accommodate students desiring short-term or long-term remediation. This structure will best serve students who are able to thrive in a self-directed study environment. This course carries institutional credit but will not transfer nor be used to meet degree requirements. (3201015212) Prerequisite: None

HUMD 0101 - COLLEGE 101: FIRST YEAR INTRODUCTION (FYI)
1 Credit (1 hr. lec.) In this course, students will learn how to adjust to college. Course content will evolve from student interests and needs. Some probable areas of study include: becoming familiar with campus resources, learning student success skills, and utilizing campus email and web services. Upon successful course completion, students will have developed an individualized education plan. This course carries institutional credit but will not transfer nor be used to meet degree requirements. It cannot be used as a substitute for enrollment in developmental education courses. (3201015212) Prerequisite: None

HUMD 0111 - STUDENT SUCCESS STRATEGIES
1 Credit (1 hr. lec.) In this course, students will learn a series of strategies for mastering the skills needed for success in college courses. Strategies to be introduced address processing information from textbooks and lectures, studying for and taking tests and understanding the importance of self-concept in college success. As the strategies are introduced, students apply this to the content of courses in which they are currently enrolled. Upon successful course completion, students will have developed a system for learning which can be adapted for use in any learning situation. This course carries institutional credit but will not transfer nor be used to meet degree requirements. It cannot be used as a substitute for enrollment in developmental education courses. (3201015212) Prerequisite: None

HUMD 0112 - MATH & SCIENCE SUCCESS STRATEGIES
1 Credit (1 hr. lec.) This course teaches thinking and study skills specifically geared toward the learning of math and science, including problem solving skills, test taking skills, and cognitive skills. In addition, an understanding of the importance of learning styles and time management to success in math and science courses will be addressed. Students practice these skills on their textbooks and homework assignments, as well as in their discussions. This course also addresses feelings and attitudes which may block math and science learning and offers strategies and techniques designed to overcome these feelings. Concurrent enrollment in a math or science course is highly recommended. This course carries institutional credit but will not transfer nor be used to meet degree requirements. It cannot be used as a substitute for enrollment in developmental education courses. (3201015212) Prerequisite: None

HUMD 0113 - READING & WRITING SUCCESS STRATEGIES
1 Credit (1 hr. lec.) In this course, students will develop strategies to meet writing requirements, whether they be in the form of note taking or writing research papers, reviews or other reports, and reading requirements for textbooks and articles. In addition, an understanding of the importance of learning styles and time management to success in reading and writing intensive courses will be addressed. Students practice these skills utilizing the assignments, books, and articles assigned in their courses. Upon successful completion of this course, students will have developed a system that can be applied to any course with a reading or writing emphasis. Concurrent enrollment in a reading or writing intensive course is highly recommended. This course carries institutional credit but will not transfer nor be used to meet degree requirements. It cannot be used as a substitute for enrollment in developmental education courses. (3201015212) Prerequisite: None

HUMD 0114 - CAREER SEARCH STRATEGIES
1 Credit (1 hr. lec.) This course focuses on strategies that students need to develop realistic career goals. Topics emphasized include decision making and criti-
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Critical thinking, assessment for greater self-awareness, and research techniques for gathering occupational information. Upon successful course completion, students will be able to understand the career decision making process, identify/confirm career related abilities, interests, and values, apply various career investigation skills, and analyze viability of careers of interest. This course carries institutional credit but will not transfer nor be used to meet developmental requirements. (3201015212) Prerequisite: None

HUMD 0330 - COLLEGE SUCCESS COURSE

3 Credits (3 hrs. lec.) Many colleges and universities, and community colleges in particular, are becoming increasingly aware of the need for academic skill training designed to improve study systems. The purpose of this course is to increase the full realization of academic potential and to decrease academic failure. This course will aim to achieve this goal by helping the student to gain success in the academic environment and by providing the student with learning strategies and specific techniques to increase his/her effectiveness. Thus, the course will be designed to help the student develop new personal insights, new strategies for study and new approaches to self-management by using basic psychological principles. This course carries institutional credit but will not transfer nor be used to meet degree requirements. (3201015212) Prerequisite: None

HYDR 1305 - BASIC HYDRAULICS

3 Credits (2 hrs. lec., 2 hrs. lab.) Fundamentals of hydraulics including types of hydraulic pumps, cylinders, valves, motors, and related systems. Introduction to hydraulic schematic symbols as related to components. Prerequisite: None

HYDR 1309 - BASIC FLUID POWER I (HYDRAULICS)

3 Credits (2 hrs. lec., 3 hrs. lab.) Introduction to the basic principles of hydraulic pressure flow and system components including system controls, symbols, and circuits. Emphasis on good maintenance procedures, troubleshooting techniques, and safety practices. Prerequisite: None

HYDR 1315 - BASIC FLUID POWER II (PNEUMATICS)

3 Credits (2 hrs. lec., 3 hrs. lab.) Introduction to the basic principles of pneumatic pressure, flow, and system components including manual and electro-mechanical controls, symbols, and circuits. Emphasis on troubleshooting techniques, good maintenance procedures, and safety practices. Prerequisite: HYDR 1309

HYDR 1345 - HYDRAULICS AND PNEUMATICS

3 Credits (2 hrs. lec., 3 hrs. lab.) Fundamentals of hydraulics and types of hydraulic pumps, cylinders, valves, motors, and related systems including operations, maintenance, and system analysis. Prerequisite: None

IBUS 1305 - INTRODUCTION TO INTERNATIONAL BUSINESS AND TRADE

3 Credits (3 hrs. lec.) 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. Prerequisite: None

IBUS 1371 - PRINCIPLES OF IMPORT/EXPORT

3 Credits (3 hrs. lec.) A study of the import and the export management process and procedures. Topics include governmental, commercial invoices, and traffic procedures. Application to human and public relations, management of personnel, finance, and accounting procedures. Prerequisite: None

IBUS 2341 - INTERCULTURAL MANAGEMENT

3 Credits (3 hrs. lec.) 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. Fulfills the multicultural requirement for the AAS in Management. Prerequisite: None

IBUS 2345 - IMPORT CUSTOM REGULATIONS

3 Credits (3 hrs. lec.) Duties and responsibilities of the licensed customs broker. Includes processes for customs clearance including appraisement, bonded warehouse entry, examination of goods, harmonized tariffs, fees, bonding, penalties, quotas, immediate delivery, consumption, and liquidation, computerized systems, laws, and regulations. Prerequisite: IBUS 1371 or departmental approval
IEIR 1310 - MOTOR CONTROLS
3 Credits (2 hrs. lec., 4 hrs. lab.) General principles and fundamentals of electrical controls and control components including starters troubleshooting techniques, various protective devices, schematics, and diagrams. Student will develop “hands-on” skills using transformers, motors, magnetic control devices, relays, time delay circuits, reversing circuits and other control input devices. Prerequisites: CETT 1402, 1405 or 1409 or departmental approval; ENGL 0304 or ENGL 0339 AND ENGL 0306 or 0355, OR higher level course (ENGL 1301), OR placement by testing; MATH 0306

IMED 1301 - INTRODUCTION TO MULTIMEDIA
3 Credits (2 hrs. lec., 4 hrs. lab.) A survey of the theories, elements, and hardware/software components of multimedia. Topics include digital image editing, digital sound and video editing, animation, Web page development, and interactive presentations. Emphasis on conceptualizing and producing effective multimedia presentations. Prerequisite: None

IMED 1305 - MULTIMEDIA COURSEWARE DEVELOPMENT I
3 Credits (2 hrs. lec., 4 hrs. lab.) Instruction in courseware development. Topics include interactivity, branching, navigation, evaluation techniques and interface/information design using industry standard authoring software. Prerequisite: None

IMED 1316 - WEB DESIGN I
3 Credits (2 hrs. lec., 4 hrs. lab.) Instruction in web design and related graphic design issues including mark-up languages, Web sites, and browsers. Emphasis is on the use of hypertext markup languages (XHTML) to design functional and compelling web pages. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

IMED 1341 - INTERFACE DESIGN
3 Credits (2 hrs. lec., 4 hrs. lab.) Skill development in the interface design process including selecting interfaces that are meaningful to users and relative to a project’s content and delivery system. Emphasis is on aesthetic issues such as iconography, screen composition, colors, and typography. Prerequisites: ARTC 1302 and ARTC 1317

IMED 1345 - INTERACTIVE MULTIMEDIA I
3 Credits (2 hrs. lec., 4 hrs. lab.) Exploration of the use of graphics and sound to create interactive multimedia applications and/or animations using industry standard authoring software. Prerequisite: ARTC 1302

IMED 1391 - SPECIAL TOPICS - EDUCATIONAL/INSTRUCTIONAL MEDIA DESIGN
3 Credits (2 hrs. lec., 4 hrs. 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 will focus on video pre-production, production, and post-production for client-based projects. Prerequisite: Instructor approval

IMED 2305 - MULTIMEDIA COURSEWARE DEVELOPMENT II
3 Credits (2 hrs. lec., 4 hrs. lab.) In-depth coverage of programming scripting using an authoring system with emphasis on advanced development of courseware products. Prerequisites: IMED 1305; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

IMED 2309 - INTERNET COMMERCE
3 Credits (2 hrs. lec., 4 hrs. lab.) An overview of the Internet as a marketing and sales tool with emphasis on developing a prototype for electronic commerce. Topics include dynamic data integration, data collection, and on-line transactions. Prerequisites: IMED 1316; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

IMED 2311 - PORTFOLIO DEVELOPMENT
3 Credits (2 hrs. lec., 4 hrs. lab.) Preparation and enhancement of portfolio to meet professional standards, development of presentation skills, and improvement of job-seeking techniques. Prerequisite: Instructor approval

IMED 2313 - PROJECT ANALYSIS AND DESIGN
3 Credits (2 hrs. lec., 4 hrs. lab.) Application of the planning and production processes for multimedia or Web projects. Emphasis on copyright and other legal issues, content design and production management. Prerequisites: IMED 1301; ENGL 0305 AND ENGL
DESCRIPTION OF COURSES

IMED 2315 - WEB DESIGN II
3 Credits (2 hrs. lec., 4 hrs. lab.) A study of mark-up language and advanced layout techniques for creating Web pages. Emphasis on identifying the target audience and producing Web sites according to accessibility standards, cultural appearance, and legal issues. Prerequisites: IMED 1316 and ITSE 1402; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

IMED 2345 - INTERACTIVE MULTIMEDIA II
3 Credits (2 hrs. lec., 4 hrs. lab.) Instruction in the use of scripting language to create interactive multimedia applications. Topics include building a user interface, writing script, testing, and debugging. Prerequisites: IMED 1345; ENGL 0304 or ENGL 0339 AND ENGL 0306 or 0355, OR higher level course (ENGL 1301), OR placement by testing

IMED 2349 - INTERNET COMMUNICATIONS
3 Credits (2 hrs. lec., 4 hrs. lab.) Advanced seminar in web server design and maintenance. Topics include scripting, Web site planning, testing, security, production, and marketing. Prerequisites: IMED 1316 and ITSE 1402; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

IMED 2380 - COOPERATIVE EDUCATION - INTERACTIVE MEDIA
3 Credits (1 hr. lec., 20 hrs. ext.) 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. Prerequisites: Meets requirements for final semester; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

INDS 1311 - FUNDAMENTALS OF INTERIOR DESIGN
3 Credits (2 hrs. lec., 4 hrs. lab.) An introduction to the elements and principles of design, the interior design profession, and the interior design problem-solving process. Prerequisites: MATH 0306 or equivalent test score; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

INDS 1315 - MATERIALS, METHODS AND ESTIMATING
3 Credits (2 hrs. lec., 4 hrs. lab.) A study of materials, methods of construction and installation, and estimating for interior design applications. Prerequisites: MATH 0306 or equivalent test score; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

INDS 1319 - TECHNICAL DRAWING FOR INTERIOR DESIGNERS
3 Credits (2 hrs. lec., 4 hrs. lab.) An introduction to reading and preparing technical construction drawings for interior design, including plans, elevations, details, schedules, dimensions and lettering. Prerequisites: MATH 0306 or equivalent test score; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

INDS 1345 - COMMERCIAL DESIGN I
3 Credits (2 hrs. lec., 4 hrs. lab.) A study of design principles applied to furniture layout and space planning for commercial interiors. Prerequisites: INDS 1349 and 2321; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

INDS 1349 - FUNDAMENTALS OF SPACE PLANNING
3 Credits (2 hrs. lec., 4 hrs. lab.) The study of residential and light commercial spaces, including programming, codes, standards, space planning, drawings and presentations. Prerequisites: INDS 1311 and 1319; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; MATH 0306

INDS 1351 - HISTORY OF INTERIORS I
3 Credits (3 hrs. lec., 1 hr. lab.) An in-depth historical survey of design in architecture, interiors, furnishings, and decorative elements from the ancient cultures through the Italian Renaissance time periods. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing, MATH 0306
**INDS 1352 - HISTORY OF INTERIORS II**
3 Credits (3 hrs. lec., 1 hr. lab.) A multicultural historical survey of design in architecture, interiors, furnishings, and decorative elements from the post-Renaissance period to present time. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course [ENGL 1301], OR placement by testing.

**INDS 1372 - SUSTAINABLE DESIGN**
3 Credits (2 hrs. lec., 4 hrs. lab.) The enhanced study of sustainable design processes, including the identification and characteristics of green building products, the impact of interior building materials on humans and the global ecological system, the rating systems used to evaluate commercial and residential design and how sustainable design processes and materials are incorporated into the built environment. Prerequisites: INDS 1349, 1315 and 2321; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course [ENGL 1301], OR placement by testing.

**INDS 2237 - PORTFOLIO PRESENTATION**
2 Credits (2 hrs. lec.) A course in the preparation and presentation of a comprehensive interior design portfolio, including resume preparation, employment interview skills, and goal setting. Prerequisites: Should be taken during student's final semester; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course [ENGL 1301], OR placement by testing.

**INDS 2305 - INTERIOR DESIGN GRAPHICS**
3 Credits (2 hrs. lec., 4 hrs. lab.) Skill development in computer generated graphics and technical drawings for interior design applications. Prerequisites: INDS 1319; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course [ENGL 1301], OR placement by testing.

**INDS 2307 - TEXTILES FOR INTERIOR DESIGN**
3 Credits (2 hrs. lec., 4 hrs. lab.) The study of interior design textiles including characteristics, care, codes, and applications. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course [ENGL 1301], OR placement by testing; MATH 0306.

**INDS 2310 - KITCHEN AND BATH**
3 Credits (2 hrs. lec., 4 hrs. lab.) Principles of kitchen and bath design. Emphasizes programming, space planning, and universal design. Includes innovative products and finishes. Prerequisites: INDS 1349 and 2321; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course [ENGL 1301], OR placement by testing.

**INDS 2311 - INTERIOR ENVIRONMENTAL FACTORS**
3 Credits (3 hrs. lec.) A study of human and material factors affecting the interior environment, including proxemics, ergonomics, universal design, and use of sustainable materials. Prerequisites: INDS 1311 or departmental approval; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course [ENGL 1301], OR placement by testing; MATH 0308.

**INDS 2313 - RESIDENTIAL DESIGN I**
3 Credits (2 hrs. lec., 4 hrs. lab.) The study of residential spaces, including the identification of client needs, programming, standards, space planning, drawings, and presentations. Prerequisites: INDS 1349 and 2321; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course [ENGL 1301], OR placement by testing.

**INDS 2315 - LIGHTING FOR INTERIOR DESIGNERS**
3 Credits (2 hrs. lec., 4 hrs. lab.) Fundamentals of lighting design, including lamps, luminaires, lighting techniques, and applications for residential and commercial projects. Prerequisites: INDS 1319; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course [ENGL 1301], OR placement by testing.

**INDS 2321 - PRESENTATION DRAWING**
3 Credits (2 hrs. lec., 4 hrs. lab.) An introduction to two- and three-dimensional presentations, including drawings with one- and two-point perspectives, plans, and elevations. Prerequisites: INDS 1311 and 1319; ARTS 1316; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course [ENGL 1301], OR placement by testing, AND department approval.

**INDS 2325 - PROFESSIONAL PRACTICES FOR INTERIOR DESIGNERS**
3 Credits (3 hrs. lec.) A study of business practices and procedures for interior designers, including professional ethics, project management, marketing, and legal issues. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course [ENGL 1301], OR placement by testing.
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INDS 2330 - INTERIOR DESIGN BUILDING SYSTEMS
3 Credits (2 hrs. lec., 4 hrs. lab.) An overview of building materials, mechanical systems, and construction techniques as applied to interior design. Discussion of codes, project sequencing and the interpretation of detailed working drawings. Prerequisites: INDS 1319; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

INDS 2486 - INTERNSHIP - INTERIOR DESIGN
4 Credits (16 hrs. ext.) 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. Prerequisites: Student must have completed all first semester classes, or departmental approval; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

INDS 2487 - INTERNSHIP - INTERIOR DESIGN
4 Credits (16 hrs. ext.) 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. This course is intended for Facilities Management students. Prerequisites: Student must have completed all first semester classes, or departmental approval; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

INEW 2438 - ADVANCED JAVA PROGRAMMING
4 Credits (3 hrs. lec., 2 hrs. lab.) A continuation of Java programming techniques such as servlets, and advanced graphical functions. Prerequisites: ITSE 2417; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

INMT 1311 - COMPUTER INTEGRATED MANUFACTURING
3 Credits (2 hrs. lec., 2 hrs. lab.) A study of the principles and application of computer-integrated manufacturing. Employ all aspects of a system including but not limited to integration of material handling, manufacturing, and computer hardware and programming. Prerequisite: MCHN 1319

INMT 1417 - INDUSTRIAL AUTOMATION
4 Credits (3 hrs. lec., 2 hrs. 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. Prerequisites: MCHN 1319 and COSC 1401 or ITSC 1401

INMT 1443 - CAD - CAM
4 Credits (2 hrs. lec., 6 hrs. lab.) Computer-assisted applications in integrating engineering graphics and manufacturing. Emphasis on the conversion of a working drawing using CAD-CAM software and related input and output devices to translate into machine code. Upon completion of this course the student shall be able to describe the proper uses of tooling; describe the “G” codes; write programs for the CNC TorCAM mill and lathe machine; and organize and edit CNC programs; and produce detail parts on the mill and lathe. Prerequisite: Instructor approval

INMT 1491 - SPECIAL TOPICS - INDUSTRIAL MANUFACTURING TECHNOLOGY/TECHNICIAN
4 Credits (3 hrs. lec., 3 hrs. 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. Prerequisites: ENGL0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

INMT 2301 - MACHINERY INSTALLATION
3 Credits (1 hr. lec., 4 hrs. lab.) Students utilize skills acquired in previous studies. Machinery foundation, locations, installation, and alignment activities are practiced and tested. Emphasis is on the various methods of shaft alignment including laser shaft alignment. Prerequisite: None

INMT 2303 - PUMPS, COMPRESSORS & MECHANICAL DRIVES
3 Credits (2 hrs. lec., 2 hrs. lab.) A study of the theory and operations of various types of pumps and compressors. Topics include mechanical power transmission systems including gears, v-belts, and chain drives. Prerequisite: None
INMT 2345 - INDUSTRIAL TROUBLESHOOTING
3 Credits (2 hrs. lec., 3 hrs. lab.) An advanced study of the techniques used in troubleshooting various types of industrial equipment to include mechanical, electrical, hydraulic, and pneumatic systems and their control devices. Emphasis will be placed on the use of schematics and diagrams in conjunction with proper troubleshooting procedures. Prerequisite: None

INMT 2380 - COOPERATIVE EDUCATION - INDUSTRIAL MANUFACTURING TECHNOLOGY/TECHNICIAN
3 Credits (1 hr. lec., 20 hrs. ext.) 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. Prerequisite: Departmental approval

INMT 2381 - COOPERATIVE EDUCATION - INDUSTRIAL MANUFACTURING TECHNOLOGY/TECHNICIAN
3 Credits (1 hr. lec., 20 hrs. ext.) 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. Prerequisite: Departmental approval

INMT 2388 - INTERNSHIP MANUFACTURING TECHNOLOGY/TECHNICIAN
3 Credits (15 hrs. ext.) 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. Prerequisite: Departmental approval

INMT 2389 - INTERNSHIP MANUFACTURING TECHNOLOGY/TECHNICIAN
3 Credits (15 hrs. ext.) 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. Prerequisite: Departmental approval

INTC 1307 - ELECTRONIC TEST EQUIPMENT
3 Credits (2 hrs. lec., 4 hrs. lab.) A study of the general theory and application of analog and digital meters, oscilloscopes, frequency generation, frequency measurements, and special measuring instruments. Emphasis on accuracy and limitations of instruments and calibration techniques. Prerequisites: CETT 1425; ENGL 0304 or ENGL 0339 AND ENGL 0306 or 0355, OR higher level course (ENGL 1301), OR placement by testing; MATH 0306

INTC 1341 - PRINCIPLES OF AUTOMATIC CONTROL
3 Credits (2 hrs. lec., 3 hrs. lab.) Basic measurements, automatic control systems and design, closed loop systems, controllers, feedback, control modes and control configurations. Prerequisite: None

INTC 1422 - ANALOG ELECTRONIC INSTRUMENTATION I
4 Credits (3 hrs. lec., 3 hrs. lab.) A review of basic electronic concepts related to measurement theory. Instruction in instrumentation calibrators and calibration circuits used for servicing and calibration of potentiometers, temperature transmitters, and various transducers. Prerequisite: None

ITAL 1411 - BEGINNING ITALIAN I
4 Credits (3 hrs. lec., 3 hrs. lab.) This course includes beginner’s pronunciation, oral practice, conversation, use of recordings for ear training, basic principles of grammar, simple exercises in composition, easy reading which includes cultural material. (1609025113) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

ITAL 1412 - BEGINNING ITALIAN II
4 Credits (3 hrs. lec., 2 hrs. lab.) This course is a continuation of 1411 with increased emphasis on comprehension, speaking, reading, and writing. Intensive skills to increase vocabulary and knowledge of structure. (1609025113) Prerequisites: ITAL 1411 OR placement by exam; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing
DESCRIPTION OF COURSES

ITAL 2311 - INTERMEDIATE ITALIAN I
3 Credits (3 hrs. lec.) This course stresses both oral and written exercises to increase vocabulary expansion and grammatical principles and short themes written on a variety of topics. (1609025213) Prerequisites: ITAL 1412; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing.

ITAL 2312 - INTERMEDIATE ITALIAN II
3 Credits (3 hrs. lec.) This course is a continuation of ITAL 2311 with emphasis on literary works by Italian authors. Students will read one major novel in Italian. Continued reinforcement of grammatical principles and development of writing and oral skills are stressed. (1609025213). Prerequisites: ITAL 2311; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing.

ITAL 2376 - INTERMEDIATE ITALIAN CONVERSATION
3 Credits (3 hrs. lec.) Intensive oral practice in small and large group context for students who have learned Italian as a foreign language and have mastered speaking, reading and writing competencies in the language. (1609027113) Prerequisite: ITAL 1412.

ITCC 1401 - EXPLORATION - NETWORK FUNDAMENTALS
4 Credits (3 hrs. lec., 2 hrs. 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. Prerequisites: ITSC 1401 or COSC 1401; COSC 1309 or ITSE 1402; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing.

ITCC 1404 - CISCO EXPLORATION 2 - ROUTING PROTOCOLS AND CONCEPTS
4 Credits (3 hrs. lec., 2 hrs. 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. Prerequisites: ITCC 1401; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing.

ITCC 1409 - CISCO VOICE AND DATA CABLING
4 Credits (3 hrs. lec., 2 hrs. lab.) Introduces the physical aspects of CISCO voice and data network cabling and installation; skills development in networking design, documentation, part list setup, cabling, and testing. Prerequisites: ITSC/COSC 1401 or COSC 1401; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing.

ITCC 2408 - CISCO EXPLORATION 3 - LAN SWITCHING AND WIRELESS
4 Credits (3 hrs. lec., 2 hrs. 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. Prerequisites: ITCC 1401; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing.

ITCC 2410 - CISCO EXPLORATION 4 - ACCESSING THE WAN
4 Credits (3 hrs. lec., 3 hrs. 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). Prerequisites: ITCC 1401, ITCC 1404, and ITCC 2408.
ITCC 2450 - BUILDING SCALABLE INTERNETWORKS
4 Credits (3 hrs. lec., 3 hrs. lab.) Create an efficient and expandable enterprise network by installing, configuring, monitoring, and troubleshooting network infrastructure equipment (especially routers such as Cisco ISRs) according to the Campus Infrastructure module in the Enterprise Composite Network model. Topics include how to configure EIGRP, OSPF, IS-IS, and BGP routing protocols and how to manipulate and optimize routing updates between these routing protocols. Other topics include multicast routing, IPv6, and DHCP configuration. Prerequisites: ITCC 1401, ITCC 1404, ITCC 2408, and ITCC 2410 OR Cisco CCNA Industry Certification; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

ITCC 2451 - IMPLEMENTING SECURE CONVERGED WIDE-AREA NETWORKS
4 Credits (3 hrs. lec., 3 hrs. lab.) Providing secure enterprise-class network service for teleworkers and branch sites. Students will learn how to secure and expand the reach of an enterprise network with focus on VPN configuration and securing network access. Topics include teleworker configuration and access, Frame-Mode MPLS, site-to-site IPSec VPN, Cisco EZVPN, strategies used to mitigate network attacks, Cisco device hardening and IOS firewall features. Prerequisites: ITCC 1401, ITCC 1404, ITCC 2408, and ITCC 2410 OR Cisco CCNA Industry Certification; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

ITCC 2452 - BUILDING MULTILAYER SWITCHED NETWORKS
4 Credits (3 hrs. lec., 3 hrs. lab.) Multilayer Switching teaches about the deployment of state-of-the-art campus LANs. The course focuses on the selection and implementation of the appropriate Cisco IOS services to build reliable, scalable multi-layer-switched LANs. Prerequisites: ITCC 1401, ITCC 1404, ITCC 2408, and ITCC 2410 OR Cisco CCNA Industry Certification; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

ITCC 2453 - OPTIMIZING CONVERGED NETWORKS
4 Credits (3 hrs. lec., 3 hrs. lab.) Optimizing and providing effective QoS techniques in converged networks operating voice, wireless, and security applications. Prerequisites: ITCC 1401, ITCC 1404, ITCC 2408, and ITCC 2410 OR Cisco CCNA Industry Certification; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

ITMT 1400 - IMPLEMENTING & SUPPORTING MICROSOFT WINDOWS XP PROFESSIONAL
4 Credits (3 hrs. lec., 2 hrs. lab.) Addresses the implementation and desktop support needs of customers that are planning to deploy and support Microsoft Windows XP Professional in a variety of stand-alone and network operating system environments. In-depth, hands-on training for Information Technology (IT) professionals responsible for the planning, implementation, management, and support of Windows XP Professional. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

ITMT 1440 - MANAGING & MAINTAINING A MICROSOFT WINDOWS SERVER 2003 ENVIRONMENT
4 Credits (3 hrs. lec., 2 hrs. lab.) Managing accounts and resources, maintaining server resources, monitoring server performance, and safeguarding data in a Microsoft Windows Server 2003 environment. Prerequisites: ITMT 1400; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

ITMT 1450 - IMPLEMENTING, MANAGING & MAINTAINING A MICROSOFT WINDOWS SERVER 2003 NETWORK INFRASTRUCTURE: NETWORK SERVICES
4 Credits (3 hrs. lec., 2 hrs. 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. Prerequisites: ITMT 1400, 1440; ENGL 0305 AND
DESCRIPTION OF COURSES

ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

ITMT 1455 - MCSE IV, 70-293, PLANNING, IMPLEMENTING & MAINTAINING A MICROSOFT SERVER 2003 NETWORK INFRASTRUCTURE

4 Credits (3 hrs. lec., 2 hrs. lab.) Planning and maintaining a Windows Server 2003 network infrastructure. This is the fifth course in the Windows Server 2003 Engineer curriculum. Prerequisites: ITMT 1400, 1440; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

ITMT 2400 - PLANNING, IMPLEMENTING, AND MAINTAINING A MICROSOFT WINDOWS SERVER 2003 ACTIVE DIRECTORY INFRASTRUCTURE

4 Credits (3 hrs. lec., 2 hrs. lab.) Windows Server 2003 directory service environment. Includes forest and domain structure; Domain Name System (DNS); site topology and replication; organizational unit structure and delegation of administration; Group Policy; and user, group, and computer account strategies. Prerequisites: ITMT 1400, 1440; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

ITMT 2430 - DESIGNING A MICROSOFT WINDOWS SERVER 2003 ACTIVE DIRECTORY AND NETWORK INFRASTRUCTURE

4 Credits (3 hrs. lec., 2 hrs. lab.) Designing a Microsoft Active Directory service and network infrastructure for a Microsoft Windows Server 2003 environment. Intended for systems engineers who are responsible for designing directory service and/or network infrastructures. Prerequisites: ITMT 1400, 1440; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

ITMT 2432 - MCSE XII, 70-086, DEPLOYING AND SUPPORTING MICROSOFT SYSTEMS MANAGEMENT SERVER 2.0

4 Credits (3 hrs. lec., 2 hrs. lab.) Deploying and supporting Microsoft Systems Management Server (SMS) version 2.0, Service Pack 2. Includes designing a site, organizing a site hierarchy, and planning for resource needs. Focuses on installing various types of sites, establishing a site hierarchy, configuring site-to-site communications, and installing clients in multiple sites. Emphasizes troubleshooting problems in site installation, client installation, site-to-site communications, and key features of SMS 2.0. Also includes tracing a task from its initiation to its completion by following the various threads of a task and using Network Monitor to trace network traffic associated with SMS tasks. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

ITMT 2440 - DESIGNING SECURITY FOR MICROSOFT NETWORKS

4 Credits (3 hrs. lec., 2 hrs. 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. Prerequisites: ITMT 1400, 1440; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

ITMT 2446 - MCSE XI, 70-299, IMPLEMENTING & ADMINISTERING SECURITY IN A MICROSOFT WINDOWS SERVER 2003 NETWORK

4 Credits (3 hrs. lec., 2 hrs. lab.) Addresses the Microsoft Certified Systems Administrator (MCSA) and Microsoft Certified Systems Engineer (MCSE) skills path for information technology security practitioners. Focuses on Microsoft Windows Server 2003 infrastructure solutions. Includes client-focused content where appropriate. Provides functional skills in planning and implementing infrastructure security. Prerequisites: ITMT 1400, 1440 and 2400; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

ITMT 2450 - MCSE VIII, 70-284, IMPLEMENTING AND MANAGING MICROSOFT EXCHANGE SERVER 2003

4 Credits (3 hrs. lec., 2 hrs. lab.) Updating and supporting a reliable, secure messaging infrastructure used for creating, storing, and sharing information by using Microsoft Exchange Server 2003. Includes a significant amount of hands-on practices, discussions, and assessments to assist students in becoming proficient in the skills necessary to update and support Exchange Server 2003. Prerequisites: ITMT 1400, 1440; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing
ITMT 2452 - MCSE IX, 70-281, PLANNING, DEPLOYING AND MANAGING AN ENTERPRISE PROJECT MANAGEMENT SOLUTION

4 Credits (3 hrs. lec., 2 hrs. lab.) Planning, deploying, and managing a Microsoft Office Project Server 2003 solution. Intended for information technology professionals who operate in medium to very large computing environments using Microsoft Windows Server 2003 operating system. Prerequisites: ITMT 2400; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

ITMT 2455 - MCSE XIII 70-285, DESIGNING A MICROSOFT WINDOWS SERVER 2003 ORGANIZATION

4 Credits (3 hrs. lec., 2 hrs. lab.) Designing a Microsoft Exchange Server 2003 organization in an enterprise network. Includes a plan for upgrading from previous versions of Microsoft Exchange. Prerequisites: ITMT 1400, 1440 and 2400; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

ITMT 2457 - MCSE X, 70-282, DESIGNING, DEPLOYING, AND MANAGING A NETWORK SOLUTION FOR THE SMALL AND MEDIUM-SIZED BUSINESS

4 Credits (3 hrs. lec., 2 hrs. lab.) Selecting, deploying, and managing a Microsoft networking solution for small- and medium-sized businesses. Prerequisites: ITMT 1400, 1440, and 2400; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

ITNW 1425 - FUNDAMENTALS OF NETWORKING TECHNOLOGIES

4 Credits (3 hrs. lec., 2 hrs. lab.) Instruction in networking technologies and their implementation. Topics include the OSI reference model, network protocols, transmission media, and networking hardware and software. Prerequisites: ITSC or COSC 1401; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

ITNW 1449 - CISCO FUNDAMENTALS OF NETWORK SECURITY

4 Credits (2 hrs. lec., 4 hrs. lab.) Prepares Cisco-qualified students to take two Cisco certification exams: Managing Cisco Network Security and Cisco Secure PIX Firewall. Includes configuring secure Cisco routers and PIX firewalls. Focuses on overall network security processes. Prerequisites: ITCC 2410 OR CCNA Certification; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

ITNW 1451 - FUNDAMENTALS OF WIRELESS LAN’S

4 Credits (3 hrs. lec., 2 hrs. lab.) Design, plan, implement, operate, and troubleshoot Wireless Local Area Networks (WLANs). Includes WLAN design, installation, and configuration; and WLAN security issues and vendor interoperability strategies. Prerequisites: ITSC 1401; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

ITNW 2405 - NETWORK ADMINISTRATION

4 Credits (3 hrs. lec., 2 hrs. lab.) Topics include network components, user accounts and groups, network file systems, file system security, and network printing. Novell Certified. Prerequisites: ITSC 1405 and ITNW 1425; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

ITNW 2413 - NETWORKING HARDWARE

4 Credits (3 hrs. lec., 2 hrs. lab.) Maintain network hardware devices. Topics include network cables, servers, and workstations; network connectivity devices such as routers, hubs, bridges, gateways, repeaters, and uninterruptible power supplies; and other networking hardware devices. Novell Certified. Prerequisites: ITSC 1405; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; Corequisite: ITNW 2405

ITNW 2421 - NETWORKING WITH TCP/IP

4 Credits (3 hrs. lec., 2 hrs. lab.) Set up, configure, use, and support Transmission Control Protocol/Internet Protocol (TCP/IP) on networking operating systems. Prerequisites: ITNW 2413; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

ITNW 2452 - ADMINISTERING SQL SERVER

4 Credits (3 hrs. lec., 2 hrs. lab.) Administering SQL Server is a skills development course in the installation, configuration, administration, and troubleshooting of SQL Servers client/server database management system version. Prerequisite: None
DESCRIPTION OF COURSES

ITNW 2454 - INTERNET/INTRANET SERVER
4 Credits (3 hrs. lec., 2 hrs. lab.) Designing, installing, configuring, maintaining, and managing an Internet/Intranet server. Prerequisites: ITSE 2433; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; MATH 0310

ITSC 1401 - INTRODUCTION TO COMPUTERS
4 Credits (3 hrs. lec., 2 hrs. lab.) Overview of computer information systems. Introduces computer hardware, software, procedures, and human resources. Explores integration and application in business and other segments in society. Fundamentals of computer problem-solving and programming may be discussed and applied. Examines applications and software relating to a specific curricular area. This course is equivalent to COSC 1401. Prerequisites/Corequisite: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

ITSC 1405 - INTRODUCTION TO PC OPERATING SYSTEMS
4 Credits (3 hrs. lec., 2 hrs. lab.) A study of personal computer operating systems. Topics include installation and configuration, file management, memory and storage management, control of peripheral devices, and use of utilities. Prerequisites: ITSC or COSC 1401; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

ITSC 1407 - UNIX OPERATING SYSTEM I
3 Credits (3 hrs. lec., 2 hrs. lab.) Introduction to the UNIX operating system including multi-user concepts, terminal emulation, use of system editor, basic UNIX commands, and writing script files. Includes introductory system management concepts. Prerequisites: ITSC 1401 or COSC 1401 AND ITSC 1405; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

ITSC 1425 - PERSONAL COMPUTER HARDWARE
4 Credits (3 hrs. lec., 2 hrs. lab.) Current personal computer hardware including assembly, upgrading, setup, configuration, and troubleshooting. Prerequisite: ITSC 1401 or COSC 1401

ITSC 2331 - INTEGRATED SOFTWARE APPLICATIONS III
3 Credits (1 hr. lec., 4 hrs. lab.) Advanced use of business productivity software including complex assignments that require advanced formatting and functionality. ITSW 1301 and ITSW 1404 are recommended prior to enrolling in the course. Prerequisites: ITSC 1401; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

ITSC 2335 - APPLICATION SOFTWARE PROBLEM SOLVING
3 Credits (2 hrs. lec., 4 hrs. lab.) Utilization of appropriate application software to solve advanced problems and generate customized solutions. This is a capstone course for the e-business Web developer AAS degree. Prerequisites: IMED 1316; ITSW 1407; ITSE 1407 or 1432 or 1445 or 2417; ITSC 1407

ITSC 2380 - COOPERATIVE EDUCATION - COMPUTER AND INFORMATION SCIENCES, GENERAL
3 Credits (1 hr. lec., 20 hrs. ext.) 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. This course may be used as the capstone course in the computer information technology programs. Prerequisites: Enrollment in the computer information technology AAS degree program; completion of 15 credits in the degree plan; approval of computer information technology program chair

ITSC 2381 - COOPERATIVE EDUCATION
3 Credits (1 hr. lec., 20 hrs. ext.) 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. This course may be used as the capstone course in the Computer Information Technology programs. Prerequisites: Enrollment in the computer information technology AAS degree or certificate program; completion of 45 credits in degree plan; approval of computer information technology program chair
ITSC 2437 - UNIX OPERATING SYSTEMS II
4 Credits (3 hrs. lec., 2 hrs. lab.) Continued study of the UNIX operating system commands. Includes additional scripting topics such as CGI or PERL. Prerequisite: ITSC 1407

ITSC 2439 - PERSONAL COMPUTER HELP DESK SUPPORT
4 Credits (3 hrs. lec., 2 hrs. lab.) Diagnosis and solution of user hardware and software related problems with on-the-job and/or simulated projects. Prerequisite: Completion of 16 hours of computer courses or departmental approval

ITSE 1350 - SYSTEMS ANALYSIS & DESIGN
3 Credits (3 hrs. lec.) Comprehensive introduction to the planning, design, and construction of computer information systems using the systems development life cycle and other appropriate design tools. Prerequisites: ITSE 1402 and one programming language; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; Math 0308

ITSE 1356 - EXTENSIBLE MARKUP LANGUAGE (XML)
3 Credits (2 hrs. lec., 2 hrs. lab.) Introduction of skills and practice related to the Extensible Markup Language. Topics to be covered will include: elements, attributes, namespaces, entities, and what constitutes a well-formed document. Prerequisite: ITSE 1402

ITSE 1402 - COMPUTER PROGRAMMING
4 Credits (3 hrs. lec., 2 hrs. lab.) Introduction to computer programming including design, development, testing, implementation, and documentation. Prerequisites: ITSC/COSC 1401 or departmental approval; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; Math 0308

ITSE 1407 - INTRODUCTION TO C++ PROGRAMMING
4 Credits (3 hrs. lec., 2 hrs. lab.) Introduction to computer programming using C++. Emphasis on the fundamentals of object-oriented design with development, testing, implementation, and documentation. Includes language syntax, data and file structures, input/output devices, and files. Prerequisites: ITSE 1402; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; Math 0310

ITSE 1414 - INTRODUCTION TO RPG PROGRAMMING
4 Credits (3 hrs. lec., 2 hrs. lab.) Introduction to computer programming using RPG. Emphasis on the fundamentals of structured design, development, testing, implementation and documentation. Includes language syntax, data and file structures, input/output devices, and files. ITSC 1401 is recommended prior to enrolling. Prerequisites: ITSE 1402; ENGL0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; Math 0310

ITSE 1418 - INTRODUCTION TO COBOL PROGRAMMING
4 Credits (3 hrs. lec., 2 hrs. lab.) Introduction to computer programming using COBOL. Emphasis on the fundamentals of structured design, development, testing, implementation, and documentation. Includes language syntax, data and file structures, input/output devices, and files. ITSC 1401 is recommended prior to enrolling. Prerequisites: ITSE 1402; ENGL0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; Math 0310

ITSE 1430 - INTRODUCTION TO C# PROGRAMMING
4 Credits (3 hrs. lec., 2 hrs. lab.) A study of C# syntax including data types, control structures, functions, syntax, and semantics of the language, classes, class relationships, and exception handling. Prerequisites: ITSC 1401, ITSE 1402; ENGL0305 AND ENGL0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

ITSE 1432 - INTRODUCTION TO VISUAL BASIC.NET PROGRAMMING
4 Credits (3 hrs. lec., 2 hrs. lab.) A study of Visual Basic.NET (VB.NET) syntax including: data types, control structures, functions, syntax, and semantics of the language, classes, class relationships, and exception handling. Prerequisites: ITSE 1402 or COSC 1309; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; Math 0310
DESCRIPTION OF COURSES

ITSE 1445 - INTRODUCTION TO ORACLE SQL
4 Credits (3 hrs. lec., 2 hrs. 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). Prerequisites: ITSE 1402; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; MATH 0308

ITSE 1492 - SPECIAL TOPICS IN COMPUTER PROGRAMMING: ADVANCED C#
4 Credits (3 hrs. lec., 2 hrs. 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. Prerequisite: ITSE 1430

ITSE 2380 - COOPERATIVE EDUCATION - COMPUTER PROGRAMMING
3 Credits (1 hr. lec., 20 hrs. ext.) 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 lecture component. This is a capstone course for the mid-range computing specialization AAS, the e-business web developer specialization AAS, the programming specialist specialization AAS, and the programming specialist certificate. Prerequisites: Enrolled in computer information technology AAS degree program; completion of 15 credits in degree plan; approval of computer information technology program chair

ITSE 2413 - WEB AUTHORING
4 Credits (3 hrs. lec., 2 hrs. lab.) Instruction in designing and developing Web pages that incorporate text, graphics, and other supporting elements using current technologies and authoring tools. Prerequisites: IMED 1316; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

ITSE 2417 - JAVA PROGRAMMING
4 Credits (3 hrs. lec., 2 hrs. lab.) Introduction to object-oriented Java programming including the fundamental syntax and semantics of Java for applications and web applets. Prerequisites: ITSE 1402; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; MATH 0310

ITSE 2429 - ORACLE NETWORK ADMINISTRATION AND PERFORMANCE TUNING
4 Credits (3 hrs. lec., 2 hrs. lab.) Introduction to Oracle Client/Server connectivity and distributed databases including configuring, administering, tuning, troubleshooting Oracle SQL*Net and related tools. Prerequisite: ITSE 2456

ITSE 2431 - ADVANCED C++ PROGRAMMING
4 Credits (3 hrs. lec., 2 hrs. lab.) Further application of C++ programming techniques including file access, abstract data structures, class inheritance, and other advanced techniques. Designed to strengthen the student's knowledge of computer programming. The student will develop correct, well-documented programs containing complex data structures; incorporate complex input/output file handling techniques; create classes and objects in programs; and incorporate advanced C++ techniques using a current personal computer C++ compiler. Prerequisites: ITSE 1407; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; MATH 0310

ITSE 2433 - IMPLEMENTING A DATABASE ON MICROSOFT SQL SERVER
4 Credits (3 hrs. lec., 2 hrs. lab.) Skills development in the implementation of a database solution using Microsoft SQL Server client/server database management system. Prerequisites: ITSW 1407 and ITSE 1402

ITSE 2435 - ADVANCED RPG PROGRAMMING
4 Credits (3 hrs. lec., 2 hrs. lab.) Further application of RPG programming technique, including file access methods, data structures, modular programming, program testing and documentation. Prerequisites: ITSE 1414; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; MATH 0310

ITSE 2444 - ORACLE DATABASE STRUCTURE AND WAREHOUSING
4 Credits (3 hrs. lec., 2 hrs. lab.) A practical application course for modeling and designing an Oracle data warehouse using case studies. This is a capstone course. Prerequisites: ITSE 2429; ENGL 0305 AND
ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; Math 0308

**ITSE 2449 - ADVANCED VISUAL BASIC PROGRAMMING**
4 Credits (3 hrs. lec., 2 hrs. lab.) Advanced Visual Basic programming including file access methods, data structures, modular programming, program testing and documentation. Prerequisites: ITSE 1432; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; Math 0310

**ITSE 2451 - ADVANCED COBOL PROGRAMMING**
4 Credits (3 hrs. lec., 2 hrs. lab.) Further applications of programming techniques using COBOL, including file access methods, data structures and modular programming, program testing and documentation. Prerequisites: ITSE 1418; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; Math 0310

**ITSE 2454 - ADVANCED ORACLE PL/SQL**
4 Credits (3 hrs. lec., 2 hrs. lab.) A continuation of Oracle SQL. Topics include hierarchical queries, set based queries, correlated subqueries, scripting, and scripting generation. Prerequisites: ITSE 1445; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; Math 0308

**ITSE 2456 - ORACLE DATABASE ADMINISTRATION I**
4 Credits (3 hrs. lec., 2 hrs. lab.) Fundamentals of tasks and functions required of a database administrator using Oracle. Prerequisites: ITSE 1445; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; Math 0308

**ITSE 2458 - ORACLE DATABASE ADMINISTRATION II**
4 Credits (3 hrs. lec., 2 hrs. 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 throughput will be discussed. Prerequisites: ITSE 2456; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; Math 0308

**ITSE 2459 - ADVANCED COMPUTER PROGRAMMING**
4 Credits (3 hrs. lec., 2 hrs. lab.) Further applications of programming techniques. Topics include file access methods, data structures and modular programming, program testing and documentation. Prerequisites: ITSE 1402 or COSC 1309; one lower-level programming course; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; Math 0308

**ITSE 2472 - WEB APPLICATION DEVELOPMENT**
4 Credits (3 hrs. lec., 2 hrs. lab.) Build dynamic, interactive web sites utilizing Web application development tools. Focus is on design techniques, execution of web programs, and implementation of credit card authorization techniques. Prerequisites: IMED 1316; ITSW 1407; ITSE 1407, 1432, 1445 or 2417; ITSC 1407; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; MATH 0310

**ITSW 1301 - INTRODUCTION TO WORD PROCESSING**
3 Credits (1 hr. lec., 4 hrs. lab.) An overview of the production of documents, tables, and graphics, including advanced applications in merging, macros, desktop publishing, and extensive formatting for technical documents. Prerequisite: Basic keyboarding proficiency

**ITSW 1310 - INTRODUCTION TO PRESENTATION GRAPHICS SOFTWARE**
3 Credits (2 hrs. lec., 3 hrs. lab.) Instruction in the utilization of presentation software to produce multimedia presentations. Graphics, text, sound, animation and/or video may be used in presentation development. Topics will include presentation design principles, effective color schemes and creative transition effects. Guidelines for oral and written presentations are emphasized. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

**ITSW 1404 - INTRODUCTION TO SPREADSHEETS**
4 Credits (3 hrs. lec., 2 hrs. lab.) Instruction in the concepts, procedures, and application of electronic spreadsheets. Prerequisites: ITSC or
DESCRIPTION OF COURSES

COSC 1401; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

ITSW 1407 - INTRODUCTION TO DATABASE
4 Credits (3 hrs. lec., 2 hrs. lab.) Introduction to database theory and the practical applications of a database. Prerequisites: ITSC or COSC 1401; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

ITSW 2434 - ADVANCED SPREADSHEETS
4 Credits (3 hrs. lec., 2 hrs. lab.) Designed to provide an understanding of advanced functionality of electronic spreadsheets. Prerequisites: ITSW 1404; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

ITSW 2437 - ADVANCED DATABASES
4 Credits (3 hrs. lec., 2 hrs. lab.) Advanced concepts of database design and functionality. Prerequisites: ITSW 1407 and ITSE 1402; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

ITSY 1417 - WIRELESS FOUNDATIONS
4 Credits (3 hrs. lec., 2 hrs. lab.) Planning, design, implementation, operation, and troubleshooting for wireless and cellular telephony systems. Includes call processing, hand-off, site analyses, overview of RF antenna, testing, maintenance, access protocols, security, and vendor interoperability. Prerequisites: ITSC 1407 or COSC 1401; ITNW 1425 or ITCC 1401

ITSY 1442 - INFORMATION TECHNOLOGY SECURITY
4 Credits (3 hrs. lec., 2 hrs. lab.) Instruction in security for network hardware, software, and data, including physical security, backup procedures; relevant tools; encryption; and protection from viruses. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

ITSY 2400 - OPERATING SYSTEM SECURITY
4 Credits (3 hrs. lec., 2 hrs. 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. Prerequisites: ITSC 1407; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

ITSY 2401 - FIREWALLS AND NETWORK SECURITY
4 Credits (3 hrs. lec., 2 hrs. lab.) Identify elements of firewall design, types of security threats and responses to security attacks. Use best practices to design, implement, and monitor a network security plan. Examine security incident postmortem reporting and ongoing network security activities. Prerequisites: ITSC 1407 and 2437; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

ITSY 2417 - WIRELESS SECURITY DEVELOPMENT
4 Credits (3 hrs. lec., 2 hrs. lab.) Developing information security policies, standards, and guidelines for an organization. Includes DMZ, antivirus, Virtual Private Network (VPN), wireless communications, remote access, and other critical administrative and operational security policies. Identification of exposures and vulnerabilities and appropriate countermeasures are addressed. Emphasizes wireless security goals of availability, integrity, accuracy, and confidentiality in the design, planning, implementing, operating, and troubleshooting of wireless LAN along with appropriate planning and administrative controls. Prerequisites: ITSY 1417 and ITCC 1409

ITSY 2441 - SECURITY MANAGEMENT AND PRACTICES
4 Credits (3 hrs. lec., 2 hrs. lab.) In-depth coverage of security management practices, including asset evaluation and risk management; cyber law and ethics issues; policies and procedures; business recovery and business continuity planning; network security design; and developing and maintaining a security plan. Prerequisites: ITSY 2400 and 2401; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

ITSY 2442 - INCIDENT RESPONSE AND HANDLING
4 Credits (3 hrs. lec., 2 hrs. lab.) In-depth coverage of incident response and incident handling, including identifying sources of attacks and security breaches; analyzing security logs; recovering the system to normal; performing postmortem analysis; and implement-
ing and modifying security measures. Prerequisites: ITSY 2400 and 2401; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

ITSY 2443 - COMPUTER SYSTEM FORENSICS

4 Credits (3 hrs. lec., 2 hrs. 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. Prerequisites: ITSY 2400 and 2401; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

JAPN 1411 - BEGINNING JAPANESE I

4 Credits (3 hrs. lec., 2 hrs. lab.) Beginner’s pronunciation, oral practice and dictation. Conversation, use of recordings for ear training, basic principles of grammar, simple exercises in composition, easy reading which includes cultural material. (1603025113) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

JAPN 1412 - BEGINNING JAPANESE II

4 Credits (3 hrs. lec., 2 hrs. lab.) A continuation of JAPN 1411 with increased emphasis on comprehension, speaking, reading and writing. Intensive drills to increase vocabulary and knowledge of structure. (1603025113) Prerequisites: JAPN 1411 or 2 years high school language in the preceding two years; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

KINE 1111 - FITNESS FOR LIFE I

1 Credit (3 hrs. lab.) Fitness for Life I is a cardiorespiratory fitness course in which students participate in a self-paced walking, jogging, or stationary cycling program. Muscular endurance and flexibility exercise are presented. The course includes an introduction to facts, concepts, and application of wellness principles, such as, nutrition, diet and weight control. (3601085123) Prerequisites/Corequisite: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

KINE 1112 - WEIGHT TRAINING I

1 Credit (3 hrs. lab.) This course emphasizes the development of muscular strength and endurance, cardiovascular fitness and flexibility. Current information and research in the areas of nutrition, proper training techniques, workout organizations, complementary exercises and additional wellness principles are presented and integrated into this physical activity course. (3601085123) Prerequisites/Corequisite: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

KINE 1113 - JOGGING I

1 Credit (3 hrs. lab.) Jogging I is a cardiorespiratory fitness course which includes instruction and practice in jogging technique and program setup. Flexibility and strength exercises are included with an introduction to wellness concepts including nutrition, disease prevention, weight control and other aspects of a healthy lifestyle. (3601085123) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

KINE 1114 - AEROBICS I

1 Credit (3 hrs. lab.) Aerobics is a group activity class that may include the following: step aerobics, circuit training, sports conditioning, body toning, pilates, yoga, high/low impact, cardio-kickboxing, aerobic dance and interval training. (3601085123) Prerequisites/Corequisite: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

KINE 1115 - BICYCLING I*

1 Credit (3 hrs. lab.) Bicycling I is an introductory course in cycling designed to teach the basic techniques and safety aspects of cycling, as a method of improving cardiovascular endurance. Wellness principles are presented and integrated into this physical activity course. (3601085123) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

KINE 1116 - AQUA AEROBICS I

1 Credit (3 hrs. lab.) Aqua Aerobics I is an introductory course designed to improve cardiorespiratory endurance through a variety of exercises in a pool environment. Flexibility, body composition, basic nutrition, and weight control concepts are addressed. (3601085123) Prerequisites: ENGL 0305 AND ENGL

* This class satisfies the requirements of the wellness core. This core will emphasize the health-related components of fitness, wellness for a lifetime, and disease prevention.
DESCRIPTION OF COURSES

0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

KINE 1118 - INLINE SKATING I *

1 Credit (3 hrs. lab.) Inline Skating I is an introductory course which provides basic instruction in the activity of inline skating. Cardiovascular endurance and additional fitness concepts are included. Wellness principles are presented and integrated into this physical activity course. (3601085123) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

KINE 1121 - BADMINTON I *

1 Credit (3 hrs. lab.) This course offers an introduction to the history, rules, basic strokes, and strategies in singles and doubles play in badminton. Students will participate in intra-class games and other skill development activities. (3601085123) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

KINE 1122 - BOWLING I *

1 Credit (3 hrs. lab.) This course offers basic beginning skills, safety, scorekeeping techniques, rules, and strategies of bowling. Students practice skills through drills and competitive games. (3601085123) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

KINE 1123 - GOLF I *

1 Credit (3 hrs. lab.) Golf I emphasizes basic golf skills, rules, scoring, etiquette, and terminology. (3601085123) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

KINE 1124 - RACQUETBALL I *

1 Credit (3 hrs. lab.) Racquetball I is a beginning course designed to teach the novice player the basic strokes, strategies, and the rules of the game. (3601085123) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

KINE 1125 - TENNIS I *

1 Credit (3 hrs. lab.) Tennis I introduces the student to the rules, scoring, and fundamental techniques for beginners. The course includes participation by skill levels for singles and doubles play. (3601085123) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

KINE 1127 - KARATE I *

1 Credit (3 hrs. lab.) This beginning course allows students to safely practice the physical and mental aspects of martial arts. Students are presented with the history, etiquette, meditation and self-defense techniques. (3601085123) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

KINE 1128 - YOGA I

1 Credit (3 hrs. lab.) This introductory course offers practice in basic Yoga. Students study history and basic terms along with philosophical and physiological principles and the movements of Yoga. (3601085123) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

KINE 1130 - TAI CHI I *

1 Credit (3 hrs. lab.) This introductory course offers practice in the simplified styles and forms of Tai Chi. Students study history and basic terms along with philosophical and physiological principles and the movements of Tai Chi. (3601085123) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

KINE 1131 - BASKETBALL I *

1 Credit (3 hrs. lab.) This course includes the fundamental skills and strategies, history, rules and terminology of basketball. The course includes participation in game situations. (3601085123) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

KINE 1132 - VOLLEYBALL I *

1 Credit (3 hrs. lab.) Volleyball I includes instruction and practice of beginning volleyball techniques and skills, with introduction to the rules, offensive and defensive strategy, and safety aspects. (3601085123) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

* This class satisfies the requirements of the wellness core. This core will emphasize the health-related components of fitness, wellness for a lifetime, and disease prevention.
KINE 1133 - SOFTBALL I *
1 Credit (3 hrs. lab.) Students will receive instruction in the following fundamental skill areas: throwing, batting, fielding, and base running. The rules, safety, offense and defense strategies and basic terminology will be emphasized through game play. (3601085123) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

KINE 1134 - SOCCER I *
1 Credit (3 hrs. lab.) Covers fundamental skills and strategies, history, rules and terminology of soccer. The course includes participation in game situations. (3601085123) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

KINE 1135 - BASEBALL I *
1 Credit (3 hrs. lab.) Baseball I emphasizes instruction and practice of beginning baseball skills, with introduction to the rules, scorekeeping, and offensive and defensive strategies. The course includes participation in game situations. (3601085123) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

KINE 1141 - BALLET I *
1 Credit (3 hrs. lab.) This dance technique course introduces students to beginning ballet techniques at barre and center. Students learn basic terms, general history of this classical dance form and create original combination steps. Not transferable as a fine arts credit. (3601145123) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

KINE 1143 - MODERN DANCE I *
1 Credit (3 hrs. lab.) This beginning level of modern dance technique includes basic terms, history and technique of this creative style of dance. Using artistic free form movements, the students create an original combination of steps. Not transferable as a fine arts credit. (3601145123) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

KINE 1145 - JAZZ DANCE I *
1 Credit (3 hrs. lab.) Students learn and practice beginning jazz techniques. Students will be introduced to basic terms and general history of jazz dance forms. Movement patterns and concepts are used from various styles including lyrical, musical, comedy, fun, street, and Afro-Haitian dance styles. Not transferable as a fine arts credit. (3601145123) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

KINE 1146 - COUNTRY WESTERN DANCE I *
1 Credit (3 hrs. lab.) Country & Western Dance I is an introductory dance technique course. It emphasizes instruction and practice of beginning country western techniques including the two-step, polka, waltz, Cotton-eyed Joe, Schottische, jitterbug, and line dances. (3601145123) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

KINE 1147 - SOCIAL AND POPULAR DANCE
1 Credit (3 hrs. lab.) Instruction and practice in dances that are currently popular. Basic steps and variations, techniques of leading and following are included. Emphasis on “traditional”: Fox Trot, Waltz, Jitterbug, and Polka in Fall semester. Emphasis on Latin dances: Salsa, Tango, Samba, Meringue in the Spring semester. (3601145130) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

KINE 1151 - BASIC SCUBA DIVING *
1 Credit (3 hrs. lab.) Basic SCUBA Diving is an aquatic activity skill course with emphasis on instruction and practice of basic techniques of SCUBA. It includes an introduction to the safety aspects and concepts of SCUBA. Certification is included in the course, but not required for completion of the course for credit. (3601085323) Prerequisites: Ability to swim; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

KINE 1152 - ADVANCED SCUBA DIVING *
1 Credit (3 hrs. lab.) Advanced SCUBA Diving involves participation in and demonstration of advanced SCUBA techniques, including specialty training in compass and natural navigation, search and recovery, limited visibility and night diving, and computer diving. (3601085423) Prerequisites: KINE 1151; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing
DESCRIPTION OF COURSES

KINE 1153 - LIFEGUARD TRAINING *
1 Credit (3 hrs. lab.) Lifeguard training includes instruction in all necessary lifeguard/lifesaving techniques to certify students as specified by the American Red Cross or the YMCA. (3601085323) Prerequisites: Ability to swim; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

KINE 1154 - SCUBA DIVEMASTER
1 Credit (3 hrs. lab.) Preparation for Divemaster certification. This course includes Stress and Rescue, First Aid, CPR certification and other specialty training necessary for entering a professional Divemaster program. (3601085323) Prerequisites: KINE 1151; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

KINE 1171 - VENTURE DYNAMICS I *
1 Credit (3 hrs. lab.) Venture Dynamics I is an outdoor adventure course with emphasis on instruction and practice of basic skills in a variety of outdoor adventure activities, during which the student learns the basic skills of interpersonal and intrapersonal dynamics. (3601085128) Prerequisites: ENGL0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

KINE 1172 - BACKCOUNTRY EXPEDITIONING I *
1 Credit (3 hrs. lab.) This is an experiential outdoor adventure course with emphasis on the instruction in and practical aspects of extended travel and living in wilderness environments. Topics include expedition behavior, group dynamics, nutrition, health and sanitation, navigation, and specialized travel techniques. (3601085128) Prerequisites: ENGL0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

KINE 1173 - ROCK CLIMBING I *
1 Credit (3 hrs. lab.) Rock Climbing I is an outdoor activity course designed to teach the basic skills, safety techniques, concepts, and equipment used in beginning rock climbing. (3601085128) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

* This class satisfies the requirements of the wellness core. This core will emphasize the health-related components of fitness, wellness for a lifetime, and disease prevention.

KINE 1174 - HORSEMANSHIP *
1 Credit (3 hrs. lab.) Horsemanship is a beginning course that guides the student through the proper execution of horseback riding techniques, safety principles for horse and rider, and proper care of the horse and equipment. (3601085128) Prerequisites: ENGL0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

KINE 1180 - SWIMMING I *
1 Credit (3 hrs. lab.) Swimming I is an aquatic skill course that teaches the basic swimming skills, strokes, and safety techniques to instill confidence in the beginning swimmer. (3601085128) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

KINE 1181 - CANOEING I *
1 Credit (3 hrs. lab.) Canoeing is an aquatic activity skill course with emphasis on instruction, safety, and practice of beginning canoeing techniques. (3601085128) Prerequisites: ENGL0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

KINE 1301 - FOUNDATIONS OF PHYSICAL EDUCATION/KINESIOLOGY
3 Credits (3 hrs. lec.) Foundations of Physical Education/Kinesiology is an orientation lecture course for physical education/kinesiology majors and minors. It includes information about the nature and foundations of the discipline, history of the field, career preparation and opportunities, and issues and challenges confronting the profession. This course is intended for majors and will not fulfill the KINE activity requirement. (3105015223) Prerequisites: ENGL0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

KINE 1304 - PERSONAL HEALTH
3 Credits (3 hrs. lec.) Personal Health is a lecture course designed for the health-education major or as a general elective. Fundamentals of personal health will be presented, including topics such as nutrition, mental health, stress management, drugs, and maintenance of physical health and fitness. This course is intended for majors and will not fulfill the KINE activity requirement. (5115045116) Prerequisites: ENGL0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing
KINE 1306 - FIRST AID AND SAFETY

3 Credits (3 hrs. lec.) This course emphasizes the principles of first aid including bleeding control, splinting, and CPR for the adult, child and infant. It is designed for students to obtain American Red Cross certification or American Heart Association in First Aid and CPR. It may be taken as an elective. However, it is required for Physical Education/Kinesiology majors. This course will not fulfill the KINE activity requirement. (5103015316) Prerequisite/Corequisite: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

KINE 1308 - SPORTS OFFICIATING I

3 Credits (2 hrs. lec., 2 hrs. lab.) Sports Officiating I is designed to teach the rules and mechanics of umpiring or officiating one of the following sports: baseball; softball; or volleyball. Certification to umpire or officiate in the Texas Association of Sports Officials or comparable associations is a major objective of this course. (3101015123) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

KINE 1309 - SPORTS OFFICIATING II

3 Credits (2 hrs. lec., 2 hrs. lab.) Sports Officiating II is designed to teach the rules and mechanics of officiating one of the following sports: basketball or football. Certification to officiate in the Texas Association of Sports Officials or comparable associations is a major objective of this course. (3101015123) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

KINE 1331 - KINESIOLOGY FOR ELEMENTARY EDUCATION MAJORS

3 Credits (3 hrs. lec.) Kinesiology for elementary education majors is a state required three-hour course for Kinesiology (physical education) majors and minors. Theoretical principles, including the four domains of movement, school observations, recognizing the different approaches needed for teaching movement to children vs. adults and understanding the realistic issues confronting the contemporary elementary educator are discussed. (3105015223) Prerequisites: ENGL0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

KINE 1336 - OUTDOOR LEADERSHIP I

3 Credits (3 hrs. lec.) Outdoor Leadership I is designed to enhance the skills and understanding of outdoor pursuits through an examination of the role and responsibilities of an outdoor leader. Topics include risk management, trip planning, emergency plans/prevention, decision making and judgment. This course is intended for majors and will not fulfill the KINE activity requirement. (3101015123) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

KINE 1337 - OUTDOOR LEADERSHIP II

3 Credits (3 hrs. lec.) This course is an extension of KINE 1336 designed for the development of advanced outdoor leadership skills. This course is intended for majors and will not fulfill the KINE activity requirement. (3101015123) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

KINE 2111 - FITNESS FOR LIFE II

1 Credit (3 hrs. lab.) Continuation of KINE 1111. Muscular endurance and flexibility are assessed. Students apply concepts of wellness principles, including nutrition, diet, and weight control, and fitness concepts of cardio respiratory endurance, muscular strength, muscular endurance, and flexibility. (3601085123) Prerequisites: KINE 1111; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

KINE 2112 - WEIGHT TRAINING II

1 Credit (3 hrs. lab.) Weight Training II is a continuation of KINE 1112, in which students apply muscular strength, flexibility, endurance and wellness concepts learned in KINE 1112. (3601085123) Prerequisites: KINE 1112; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

KINE 2113 - JOGGING II

1 Credit (3 hrs. lab.) Jogging II is a continuation of Jogging I with students increasing their fitness level. Students increase knowledge and apply the wellness concepts. Participation in local fun runs is encouraged as well as learning to set up specific training programs. (3601085123) Prerequisites: KINE 1113; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing
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KINE 2114 - AEROBICS II
1 Credit (3 hrs. lab.) Aerobics II is a continuation of Aerobics I structured for cardiovascular fitness, muscular endurance, muscular strength, and flexibility. Wellness principles are presented and integrated into this physical activity course. (3601085123) Prerequisites: KINE 1114; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

KINE 2115 - BICYCLING II *
1 Credit (3 hrs. lab.) Bicycling II is a continuation of Bicycling I involving advanced cycling techniques. Wellness principles are presented and integrated into this physical activity course. (3601085123) Prerequisites: KINE 1115; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

KINE 2116 - AQUA AEROBICS II
1 Credit (3 hrs. lab.) Aqua Aerobics II is a continuation of Aqua Aerobics I. (3601085123) Prerequisites: KINE 1116; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

KINE 2118 - INLINE SKATING II *
1 Credit (3 hrs. lab.) Inline Skating II is a continuation of KINE 1118 in which the student learns advanced techniques of Inline Skating. Cardiovascular endurance and additional fitness concepts are included. (3601085123) Prerequisites: KINE 1118; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

KINE 2121 - BADMINTON II *
1 Credit (3 hrs. lab.) This intermediate skill activity builds upon the basics of Badminton I. Students practice advanced skills and apply knowledge of intermediate strategies through competitive play. (3601085123) Prerequisites: KINE 1121; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

KINE 2122 - BOWLING II *
1 Credit (3 hrs. lab.) This intermediate bowling course is designed to increase students skill level through drills, skills, and practice. There are applications of intermediate skill level strategies. (3601085123) Prerequisites: KINE 1122; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

KINE 2123 - GOLF II *
1 Credit (3 hrs. lab.) Golf II is an advanced course emphasizing golf techniques, skills, and mental preparation in competitive situations. (3601085123) Prerequisites: KINE 1123; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

KINE 2124 - RACQUETBALL II *
1 Credit (3 hrs. lab.) Racquetball II is a continuation of Racquetball I involving advanced techniques and strategies of the game needed for a higher level of competition. (3601085123) Prerequisites: KINE 1124; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

KINE 2125 - TENNIS II *
1 Credit (3 hrs. lab.) Tennis II is designed to develop and improve skill levels in serving, forehand and backhand drives, lobs, and volleys. Performance strategies for both singles and doubles are drilled. (3601085123) Prerequisites: KINE 1125; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

KINE 2127 - KARATE II *
1 Credit (3 hrs. lab.) Students will work on intermediate karate skills and techniques and participate in the leadership aspects of this sport. (3601085123) Prerequisites: KINE 1127; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

KINE 2128 - YOGA II *
1 Credit (3 hrs. lab.) This course is a continuation of Yoga I. The course will offer intermediate level practice of Yoga. Students will study the history and intermediate terms along with philosophical principles of the movements and Yoga as a concept. (3601085123) Prerequisites: KINE 1128 or instructor approval; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

KINE 2130 - TAI CHI II *
1 Credit (3 hrs. lab.) This course builds upon the styles and forms of Tai Chi I. Students are introduced to
Tai Chi sword. Students will apply the physiological principles and philosophies of Tai Chi. (3601085123) Prerequisites: KINE 1130; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

**KINE 2131 - BASKETBALL II * **

1 Credit (3 hrs. lab.) Basketball II emphasizes instruction and practice of intermediate basketball techniques and skills. The course includes extensive participation in game situations to increase knowledge of offensive and defensive strategy, teamwork, and safety aspects of the game. (3601085123) Prerequisites: KINE 1131; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

**KINE 2132 - VOLLEYBALL II * **

1 Credit (3 hrs. lab.) Volleyball II is a continuation of Volleyball I with emphasis on the instruction and practice of intermediate volleyball techniques and skills. The course includes extensive practice of intermediate skills and participation in game situations with application of rules, offensive and defensive strategy, teamwork, and safety aspects. (3601085123) Prerequisites: KINE 1132; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

**KINE 2133 - SOFTBALL II * **

1 Credit (3 hrs. lab.) Students will receive instruction at the intermediate level of skill development in throwing, batting, fielding, and base running. Students will apply knowledge of offense and defense strategies through teamwork and competitive interclass play. (3601085123) Prerequisites: KINE 1133; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

**KINE 2134 - SOCCER II * **

1 Credit (3 hrs. lab.) Soccer II is a continuation of Soccer I focusing on skills for individual improvement. Students practice officiating games utilizing knowledge of game rules, history of the game, and rules of tournament play. (3601085123) Prerequisites: KINE 1134; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

**KINE 2135 - BASEBALL II * **

1 Credit (3 hrs. lab.) Students will receive instruction at the intermediate level of skill development in throwing, batting, fielding, and base running. Students will apply knowledge of baseball strategies through teamwork and competitive play. (3601085123) Prerequisites: KINE 1135; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

**KINE 2141 - BALLET II * **

1 Credit (3 hrs. lab.) This course is a continuation of Ballet I. The course will be intermediate level ballet technique at the barre and center. Students will learn advanced terms and history of this classical form and create an original piece of choreography. Not transferable as a fine arts credit. (3601085123) Prerequisites: KINE 1141 or instructor approval; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

**KINE 2143 - MODERN DANCE II **

1 Credit (3 hrs. lab.) This course is a continuation of Modern Dance 1143. It provides intermediate instruction and practice in Modern dance technique. Emphasis continues to be upon placement, alignment, technique, and terminology. The history of Modern dance is studied more thoroughly. Prerequisite: KINE 1143 or instructor approval

**KINE 2145 - JAZZ DANCE II **

1 Credit (3 hrs. lab.) This course is a continuation of Jazz Dance 1145. It provides intermediate instruction and practice in jazz dance technique. Emphasis continues to be upon placement, alignment, technique, and terminology. The history of jazz dance is studied more thoroughly. Prerequisite: KINE 1145 or instructor approval

**KINE 2146 - COUNTRY & WESTERN DANCE II **

1 Credit (3 hrs. lab.) Country & Western Dance II is a continuation of Country & Western Dance I, in which the student learns popular advanced steps. (3601145123) Prerequisites: KINE 1146; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

**KINE 2147 - SOCIAL AND POPULAR DANCE II * **

1 Credit (3 hrs. lab.) This course is a continuation of Social & Popular Dance I. The course will offer intermediate level of instruction and practice in dances that

*This class satisfies the requirements of the wellness core. This core will emphasize the health-related components of fitness, wellness for a lifetime, and disease prevention.*
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are currently popular. Intermediate steps, variations, techniques of leading and following are included. Emphasis will be on Fox Trot, Waltz, Jitterbug, Polka, Salsa, Tango, and Meringue. (3601085123) Prerequisites: KINE 1147 or instructor approval; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

KINE 2171 - VENTURE DYNAMICS II *
1 Credit (3 hrs. lab.) Venture Dynamics II is an extension of Venture Dynamics I with emphasis on instruction and practice of a variety of different outdoor adventure activities. (3601085128) Prerequisites: KINE 1171; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

KINE 2172 - BACKCOUNTRY EXPEDITIONING II *
1 Credit (3 hrs. lab.) This course is an extension of KINE 1172, with an emphasis on advanced concepts and theories associated with traveling and living in the outdoor environment. (3601085128) Prerequisites: KINE 1172; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

KINE 2173 - ROCK CLIMBING II *
1 Credit (3 hrs. lab.) Rock Climbing II is a continuation of Rock Climbing I, designed to teach advanced topics and techniques of rock climbing. (3601085128) Prerequisites: KINE 1173; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

KINE 2174 - ADVANCED HORSEMANSHIP *
1 Credit (3 hrs. lab.) This course will provide instruction on advanced execution of horseback riding techniques, detailed knowledge of horseback riding, equine training, care, and safety aspects needed to enjoy a more advanced level of horsemanship. (3601085128) Prerequisites: KINE 1174; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

KINE 2180 - SWIMMING II *
1 Credit (3 hrs. lab.) Swimming II is a continuation of Swimming I in which the student learns advanced strokes with an emphasis on lap swimming. (3601085128) Prerequisites: KINE 1180; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

KINE 2180 - SWIMMING II *
1 Credit (3 hrs. lab.) Swimming II is a continuation of Swimming I in which the student learns advanced strokes with an emphasis on lap swimming. (3601085128) Prerequisites: KINE 1180; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

LGLA 1219 - LEGAL ETHICS AND PROFESSIONAL RESPONSIBILITY
2 Credits (2 hrs. lec.) This course covers the moral and legal responsibilities and duties that a member of the legal profession owes to the public, the court, clients, and other professional colleagues. Includes a review of canons, codes and rules of professional responsibility. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

LGLA 1303 - LEGAL RESEARCH
3 Credits (3 hrs. lec.) Law library techniques and computer assisted legal research. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

LGLA 1307 - INTRODUCTION TO LAW AND LEGAL PROFESSIONS
3 Credits (3 hrs. lec.) This course provides an overview of the law and the legal professions. Topics include legal concepts, systems, and terminology; ethical obligations and regulations; professional trends and issues with particular emphasis on the paralegal. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

LGLA 1323 - EMPLOYMENT LAW
3 Credits (3 hrs. lec.) This course presents fundamental concepts of, and the paralegal’s role in, employment and labor law. Topics include contracts of employment, governmental regulations, discrimination issues, and worker’s compensation. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

LGLA 1341 - ADMINISTRATIVE LAW
3 Credits (3 hrs. lec.) This course presents fundamental concepts of administrative law and procedure in governmental agencies at all levels with emphasis on the paralegal’s role in the administrative process. Topics include creation of government agencies, operation, rule making and adjudication. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

* This class satisfies the requirements of the wellness core. This core will emphasize the health-related components of fitness, wellness for a lifetime, and disease prevention.
LGLA 1343 - BANKRUPTCY LAW
3 Credits (3 hrs. lec.) This course presents fundamental concepts of bankruptcy law and procedure with emphasis on the paralegal’s role. Topics include individual and business liquidation and reorganization. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing.

LGLA 1345 - CIVIL LITIGATION
3 Credits (3 hrs. lec.) 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. Prerequisites: LGLA 1307; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing.

LGLA 1349 - CONSTITUTIONAL LAW
3 Credits (3 hrs. lec.) This course provides an overview of the United States Constitution and its articles, amendments, and judicial interpretations. Topics include separation of powers, checks and balances, governmental structures and process, and individual rights in relation to government. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing.

LGLA 1353 - WILLS, TRUSTS AND PROBATE ADMINISTRATION
3 Credits (3 hrs. lec.) This course presents fundamental concepts of the law of wills, trusts, and probate administration with emphasis on the paralegal’s role. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing.

LGLA 1355 - FAMILY LAW
3 Credits (3 hrs. lec.) This course presents fundamental concepts of family law with emphasis on the paralegal’s role. Topics include formal and informal marriages, divorce, annulment, marital property, and the parent-child relationship. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing.

LGLA 1359 - IMMIGRATION LAW
3 Credits (3 hrs. lec.) This course presents fundamental concepts of immigration law with emphasis on the paralegal’s role. Topics include substantive and procedural law related to visa applications, deportation, naturalization, and citizenship. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing.

LGLA 1371 - INTELLUCTUAL PROPERTY
3 Credits (3 hrs. lec.) Intellectual property is the study of patents, copyrights and trademarks. This course will prepare the paralegal student to assist in the preparation of filings of trademarks, patents and copyrights, as well as the maintenance and research related to this field. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing.

LGLA 2301 - ENVIRONMENTAL LAW
3 Credits (3 hrs. lec.) This course presents fundamental concepts of environmental law with emphasis on the paralegal’s role. Topics include terminology, creation of environmental law, and the application of statutes and government regulations to specific fact situations. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing.

LGLA 2303 - TORTS AND PERSONAL INJURY LAW
3 Credits (3 hrs. lec.) This course presents fundamental concepts of tort law with emphasis on the paralegal’s role. Topics include intentional torts, negligence and strict liability. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing.

LGLA 2305 - INTERVIEWING AND INVESTIGATING
3 Credits (3 hrs. lec.) This course is a study of principles, methods, and investigative techniques used to locate, gather, document, and manage information. Emphasis on developing interviewing and investigative skills to prepare the paralegal to communicate effectively while recognizing ethical problems. Prerequisites: LGLA 1307; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing.

LGLA 2309 - REAL PROPERTY
3 Credits (3 hrs. lec.) 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. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

**LGLA 2311 - BUSINESS ORGANIZATIONS**
3 Credits (3 hrs. lec.) 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. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

**LGLA 2313 - CRIMINAL LAW AND PROCEDURE**
3 Credits (3 hrs. lec.) 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. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

**LGLA 2315 - OIL AND GAS LAW**
3 Credits (3 hrs. lec.) This course presents the fundamental concepts of oil and gas law, including relationships between landowners and oil and gas operators, government regulation, and documents used in the industry with an emphasis on the paralegal's role. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

**LGLA 2331 - ADVANCED LEGAL RESEARCH AND WRITING**
3 Credits (3 hrs. lec.) This course builds upon skills acquired in prior legal research and writing courses including computerized research techniques and preparation of complex legal documents such as briefs, legal office memoranda, and citation forms. Prerequisites: LGLA 1303 and completion of 12 LGLA credits; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

**LGLA 2370 - RULES OF CIVIL PROCEDURE**
3 Credits (3 hrs. lec.) An in-depth study of both state and federal rules of civil procedure. Designed to make the paralegal student extremely knowledgeable in locating the proper rules in either jurisdiction. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

**LGLA 2388 - INTERNSHIP - PARALEGAL/LEGAL ASSISTANT**
3 Credits (18 hrs. ext.) The internship is 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, the student, and the employer. Prerequisites: 15 LGLA credits, Enrollment in paralegal AAS or certificate program, approval of instructor; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

**LMGT 1319 - INTRODUCTION TO BUSINESS LOGISTICS**
3 Credits (3 hrs. lec.) A systems approach to managing activities associated with traffic, transportation, inventory management and control, warehousing, packaging, order processing, and materials handling. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

**LMGT 1321 - INTRODUCTION TO MATERIALS HANDLING**
3 Credits (3 hrs. lec.) Introduces the concepts and principles of materials management to include inventory control and forecasting activities. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

**LMGT 1323 - DOMESTIC AND INTERNATIONAL TRANSPORTATION MANAGEMENT**
3 Credits (3 hrs. lec.) 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. Prerequisites: LMGT 1319; ENGL0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing
LMGT 1345 - ECONOMICS OF TRANSPORTATION AND DISTRIBUTION
3 Credits (3 hrs. lec.) A study of the basic economic principles and concepts applicable to transportation and distribution. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course [ENGL 1301], OR placement by testing.

LMGT 1393 - SPECIAL TOPICS IN LOGISTICS AND MATERIALS MANAGEMENT
3 Credits (3 hrs. lec.) 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. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course [ENGL 1301], OR placement by testing.

LMGT 1425 - WAREHOUSE AND DISTRIBUTION CENTER MANAGEMENT
4 Credits (3 hrs. lec., 2 hrs. lab.) 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 logistics providers. Prerequisites: ENGL0305 AND ENGL 0307 or 0356, OR higher level course [ENGL 1301], OR placement by testing; MATH 0306; Corequisite: LMGT 1319.

LMGT 2434 - PRINCIPLES OF TRAFFIC MANAGEMENT
4 Credits (3 hrs. lec., 3 hrs. lab.) 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. Prerequisites: LMGT 1319; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course [ENGL 1301], OR placement by testing.

MATH 0110 - BASIC MATH SKILLS - THEA REVIEW
1 Credit (3 hrs. lab.) This is an individualized, laboratory course designed to review the 10 mathematical skills that are covered on the THEA exam. Included are topics covered in pre-algebra (fundamental mathematics), basic algebra, and geometry. Instruction focuses on individual needs. This course carries institutional credit but will not transfer and will not be used to meet degree requirements, nor is it an alternative for the MATH 0306 Pre-algebra Mathematics, MATH 0308 Introductory Algebra or MATH 0310 Intermediate Algebra. [3201045119] Prerequisite: MATH 0310.

MATH 0111 - DEVELOPMENTAL MATH SKILLS REVIEW
1 Credit (1 hr. lec.) This course is established to accommodate students desiring non-course based remediation in developmental mathematics. This structure will best serve students whose assessment score is borderline for an entry course in college level mathematics or a subsequent course in the developmental sequence. The course may be delivered in a traditional or hybrid format, so students must be able to thrive in a self-directed study environment. This course carries institutional credit but will not transfer nor be used to meet degree requirements. [3201045119] Prerequisite: Instructor approval.

MATH 0306, 0308 and 0310 listed below are offered with several course format options. Consult with advisor for proper placement.

Course Format Options:
S Standard three hours per week lecture format
LL Extended 4 hrs. per week combination lec./lab. The LL format will provide an in-depth development of the course concepts and will incorporate lab activities to develop student’s problem-solving skills.

MATH 0306 - PRE-ALGEBRA MATHEMATICS
3 Credits (3 hrs. lec.) Topics for all formats include basic arithmetic operations on integers and rational numbers, order of operations, introduction to basic geometric concepts, simplification of algebraic expressions and techniques of solving simple linear equations. This course carries institutional credit but will not transfer and will not meet degree requirements. [3201045119] Prerequisite: Placement by testing.

MATH 0308 - INTRODUCTORY ALGEBRA
3 Credits (3 hrs. lec.) Topics for all formats include basic algebraic operations, elementary equations, laws of integer exponents, factoring and radical notation, rational expressions and an introduction to the Cartesian coordinate system. This course carries institutional credit but will not transfer and will not be used to meet degree requirements. [3201045119] Prerequisite: MATH 0306 or placement by testing.
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MATH 0310 - INTERMEDIATE ALGEBRA
3 Credits (3 hrs. lec.) Topics for all formats include special products and factoring, rational expressions and equations, rational exponents, radicals, radical equations, quadratic equations and complex numbers; an introduction to the function concept and graphing, equations of lines and linear systems. This course carries institutional credit but will not transfer and will not be used to meet degree requirements. (201045219) Prerequisite: MATH 0308 or placement by testing

MATH 1314 - COLLEGE ALGEBRA
3 Credits (3 hrs. lec.) Topics include absolute value and quadratic equations and inequalities, graphing skills, inverse functions, logarithmic and exponential functions, polynomial and rational functions, piecewise-defined functions, theory of equations and systems of equations. (2701015419) Prerequisites: MATH 0310 or placement by testing; Course may be taken as a corequisite with ENGL 0305 AND ENGL 0307 or ENGL 0356

MATH 1316 - TRIGONOMETRY
3 Credits (3 hrs. lec.) Trigonometric functions and their applications, solutions of right and oblique triangles, trigonometric identities and equations, inverse trigonometric functions and graphs of the trigonometric functions. (2701015319) Prerequisite: MATH 1314 strongly recommended as prerequisite; ENGL 0305 OR higher level course (ENGL 1301), OR placement by testing; Corequisite: ENGL 0307 or 0356

MATH 1324 - FINITE MATHEMATICS
3 Credits (3 hrs. lec.) Matrices, systems of equations, linear programming, the simplex method, probability, and mathematics of finance. Primarily for business majors and liberal arts students. (2703015219) Prerequisites: MATH 1314 or department approval; ENGL 0305 OR higher level course (ENGL 1301), OR placement by testing; Corequisite: ENGL 0307 or 0356

MATH 1325 - ELEMENTS OF CALCULUS WITH APPLICATIONS
3 Credits (3 hrs. lec.) A one-semester calculus course for non-science majors. Topics include limits, continuity, rates of change, differentiation and integration techniques and applications, calculus of the logarithmic and exponential functions and partial derivatives. (2703015319) Prerequisites: MATH 1314 or placement by testing; ENGL 0305 OR higher level course (ENGL 1301), OR placement by testing; Corequisite: ENGL 0307 or 0356

MATH 1332 - COLLEGE MATHEMATICS FOR LIBERAL ARTS
3 Credits (3 hrs. lec.) College Mathematics for Liberal Arts is a course designed for liberal arts and other non-mathematics, non-science, and nonbusiness majors, emphasizing an appreciation of the art, history, beauty, and applications of mathematics. Topics may include, but are not limited to, sets, logic, number theory, measurement, geometric concepts, and an introduction to probability and statistics. (2701015119) Prerequisites: MATH 0310 or placement by testing; ENGL 0305 OR higher level course (ENGL 1301), OR placement by testing; Corequisite: ENGL 0307 or 0356

MATH 1342 - STATISTICS
3 Credits (3 hrs. lec.) An introduction to the concepts and methods of statistics. Topics include probability, random variables, binomial and normal distributions, random sampling, statistical inference, estimation, testing hypotheses, linear regressions and correlation, and chi-square test. (2705015119) Prerequisites: MATH 1314; ENGL 0305 OR higher level course (ENGL 1301), OR placement by testing; Corequisite: ENGL 0307 or 0356

MATH 1350 - FOUNDATIONS OF MATHEMATICS I
3 Credits (3 hrs. lec.) This is designed specifically for students who seek elementary and middle school teacher certification. Topics include set theory, functions, numerations systems, number theory, emphasis on problem solving and critical thinking. (2701015619) Prerequisite: MATH 1314 or equivalent; ENGL 0305 OR higher level course (ENGL 1301), OR placement by testing; Corequisite: ENGL 0307 or 0356

MATH 1351 - FOUNDATIONS OF MATHEMATICS II
3 Credits (3 hrs. lec.) This is designed specifically for students who seek elementary and middle school teacher certification. Topics include 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. (2701016019) Prerequisites: MATH 1314 or equivalent; ENGL 0305 OR higher level course (ENGL 1301), OR placement by testing; Corequisite: ENGL 0307 or 0356
MATH 2318 - LINEAR ALGEBRA
3 Credits (3 hrs. lec.) Matrices and linear systems, determinants, vector spaces, linear independence, basis and dimension, change of basis, linear transformations, similarity, inner product spaces, eigenvalues and eigenvectors, and diagonalization. Applications of these concepts will also be considered. (2701016119) Prerequisites: MATH 2414; ENGL 0305 OR higher level course (ENGL 1301), OR placement by testing; Corequisite: ENGL 0307 or 0356

MATH 2320 - DIFFERENTIAL EQUATIONS
3 Credits (3 hrs. lec. OR 3 hrs. lec., 1 hr. lab.) Linear equations, solutions in series, solutions using Laplace transforms, systems of differential equations and applications to problems in engineering and allied fields. The student may elect to include a technology lab component at some colleges. (2703015119) Prerequisites: MATH 2414; ENGL 0305 OR higher level course (ENGL 1301), OR placement by testing; Corequisite: ENGL 0307 or 0356

MATH 2412 - PRECALCULUS
4 Credits (4 hrs. lec., 1 hr. lab.) An integrated treatment of the concepts necessary for calculus, emphasizing elementary functions and their graphs, including polynomial, rational, exponential, logarithmic and trigonometric functions, also includes topics from analytic geometry. The student may elect to include a technology lab component at some colleges. (2701015819) Prerequisites: MATH 1314 and 1316 or departmental approval; ENGL 0305 OR higher level course (ENGL 1301), OR placement by testing; Corequisite: ENGL 0307 or 0356

MATH 2413, 2414 and 2415 are offered with two lecture/lab options: 3 hrs. lec., 3 hrs. lab. OR 4 hrs. lec., 1 hr. lab.

MATH 2413 - CALCULUS I
4 Credits (3 hrs. lec., 3 hrs. lab. OR 4 hrs. lec., 1 hr. lab.) Functions, limits, continuity, differentiation and integration of algebraic and trigonometric functions, applications of differentiation and an introduction to applications of the definite integral. The student may elect to include a technology lab component at some colleges. (2701015919) Prerequisites: MATH 2412; ENGL 0305 OR higher level course (ENGL 1301), OR placement by testing; Corequisite: ENGL 0307 or 0356

MATH 2414 - CALCULUS II
4 Credits (3 hrs. lec., 3 hrs. lab. OR 4 hrs. lec., 1 hr. lab.) Differentiation and integration of exponential and logarithmic functions, techniques of integration, applications of the definite integral, the calculus of transcendental functions, parametric equations, polar coordinates, indeterminate forms, improper integrals, L'Hôpital's Rule, sequences and series. The student may elect to include a technology lab component at some colleges. (2701015919) Prerequisites: MATH 2413; ENGL 0305 OR higher level course (ENGL 1301), OR placement by testing; Corequisite: ENGL 0307 or 0356

MATH 2415 - CALCULUS III
4 Credits (3 hrs. lec., 3 hrs. lab. OR 4 hrs. lec., 1 hr. lab.) The algebra and geometry of vectors; topics from the calculus of multivariable functions including limits, continuity, partial derivatives, directional derivatives, the gradient, extreme values, multiple integration and vector calculus. The student may elect to include a technology lab component at some colleges. (2701015919) Prerequisites: MATH 2414; ENGL 0305 OR higher level course (ENGL 1301), OR placement by testing; Corequisite: ENGL 0307 or 0356

MCHN 1319 - MANUFACTURING MATERIALS AND PROCESSES
3 Credits (2 hrs. lec., 4 hrs. lab.) A basic study of various materials used in the metals industry and the chemical, physical, and mechanical properties of various metals. Emphasis on manufacturing processes, including casting, forming, machining, and molding. Prerequisite: None

MCHN 1320 - PRECISION TOOLS AND MEASUREMENT
3 Credits (2 hrs. lec., 2 hrs. 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. Prerequisite: None

MCHN 1338 - BASIC MACHINE SHOP I
3 Credits (2 hrs. lec., 2 hrs. lab.) An introductory course that assists the student in understanding the machinist occupation in industry. The student begins
DESCRIPTION OF COURSES

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. Prerequisite: None

MCHN 1343 - MACHINE SHOP MATHEMATICS

3 Credits (2 hrs. lec., 2 hrs. lab.) Designed to prepare the student with technical, applied mathematics that will be necessary in future machine shop-related courses. Prerequisite: Departmental approval

MCHN 1352 - INTERMEDIATE MACHINING I

3 Credits (2 hrs. lec., 2 hrs. lab.) Operation of drills, milling machines, lathes, and power saws. Introduction to precision measuring techniques. Prerequisite: MCHN 1338 or departmental approval

MCHN 1358 - INTERMEDIATE LATHE OPERATIONS

3 Credits (2 hrs. lec., 2 hrs. lab.) Continuation of Basic Lathe Operations with emphasis on continued proficiency in lathe operations. Identification and operation of lathe machine tools, including basic tapered form turning and basic threading operations.

MCHN 1380 - COOPERATIVE EDUCATION - MACHINE TOOL TECHNOLOGY/MACHINIST

3 Credits (1 hr. lec., 14 hrs. ext.) 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. Prerequisites: DFTG 1325, MCHN 1320 and MCHN 1338, OR departmental approval

MCHN 1381 - COOPERATIVE EDUCATION - MACHINE TOOL TECHNOLOGY/MACHINIST

3 Credits (1 hr. lec., 20 hrs. ext.) 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. Prerequisite: Departmental approval

MCHN 1390 - SPECIAL TOPICS IN MACHINE SHOP ASSISTANT

3 Credits (2 hrs. lec., 4 hrs. 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. An advanced study of manual lathe, milling, and drilling operations. Emphasis on advanced cutting operations of the lathe and milling machines, drill presses, including the use of carbide insert tooling, special tooling, bench assembly, and materials metallurgy. Prerequisite: None

MCHN 1391 - SPECIAL TOPICS IN MACHINE TECHNOLOGY

3 Credits (2 hrs. lec., 4 hrs. 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. The students will design a project, made of metal or industrial plastics, with three or more working pieces. They will then make blueprints, manufacture pieces, and assemble them. The project has to work as designed and all pieces have to meet industrial standards in size and finish. Prerequisite: Instructor approval

MCHN 2303 - FUNDAMENTALS OF COMPUTER NUMERIC CONTROLLED (CNC) MACHINE CONTROLS

3 Credits (2 hrs. lec., 2 hrs. lab.) An introduction to G and M codes (RS274-D) necessary to program Computer Numerical Controlled (CNC) machines. Prerequisite: None

MCHN 2305 - MILLWRIGHT III

3 Credits (2 hrs. lec., 2 hrs. lab.) An introduction to bearings and seals. Identification of common bearings and seals. Emphasis on design and installation of seals and bearings, and couplings. Prerequisite: None

MCHN 2331- OPERATION OF CNC TURNING CENTERS

3 Credits (2 hrs. lec., 2 hrs. lab.) A continuation of Fundamentals of CNC Machine Controls with an emphasis on turning centers. Prerequisite: MCHN 1338
MCHN 2334 - OPERATION OF CNC MACHINING CENTERS
3 Credits (2 hrs. lec., 2 hrs. lab.) A continuation of Fundamentals of CNC Machine Controls with an emphasis on machining centers. Prerequisite: None

MCHN 2335 - ADVANCED CNC MACHINING
3 Credits (2 hrs. lec., 2 hrs. lab.) The study of advanced CNC operation with an emphasis on programming and operations of machining and turning centers. Prerequisite: None

MCHN 2341 - ADVANCED MACHINING I
3 Credits (2 hrs. lec., 2 hrs. lab.) A study of advanced lathe and milling operations. Emphasis on advanced cutting operations of the lathe and milling machines, including the use of special tooling, bench assembly, and materials identification. Prerequisite: MCHN 1352 or departmental approval

MCHN 2381 - COOPERATIVE EDUCATION - MACHINE TOOL TECHNOLOGY/MACHINIST
3 Credits (1 hr. lec., 20 hrs. ext.) 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. Prerequisite: MCHN 1338 or departmental approval

MCHN 2438 - ADVANCED COMPUTER-AIDED MANUFACTURING (CAM)
4 Credits (2 hrs. lec., 6 hrs. lab.) A study of advanced techniques in Computer-Aided Manufacturing (CAM). Prerequisite: INMT 1443

MDCA 1154 - MEDICAL ASSISTING CREDENTIALING EXAM REVIEW
1 Credit (1 hr. lec.) A preparation for the Certified Medical Assisting Exam, including a review of all three components of the CMA exam. Presents an explanation of how the exam is scored and provides opportunities to take practice exams. Prerequisites: MDCA 1417; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

MDCA 1205 - MEDICAL LAW AND ETHICS
2 Credits (2 hrs. lec.) Instruction in principles, procedures, and regulations involving legal and ethical relationships among physicians, patients, and medical assistants. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

MDCA 1213 - MEDICAL TERMINOLOGY
2 Credits (2 hrs. lec.) 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. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; MATH 0306

MDCA 1264 - MEDICAL ASSISTANT PRACTICUM
2 Credits (15 hrs. ext.) A practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student. Requires LSCS liability insurance. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

MDCA 1291 - SPECIAL TOPICS IN MEDICAL ASSISTANT
2 Credits (2 hrs. lec.) This course provides the medical assistant student with principles of behaviors involved in the development of human relationships. Emphasis is given to the development of self concept, attitudes, and major aspects of interpersonal communications dealt in an ambulatory care setting. 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. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

MDCA 1348 - PHARMACOLOGY AND ADMINISTRATION OF MEDICATIONS
3 Credits (2 hrs. lec., 2 hrs. 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 as-
DESCRIPTION OF COURSES

sistant. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

MDCA 1352 - MEDICAL ASSISTANT LABORATORY PROCEDURES
3 Credits (2 hrs. lec., 2 hrs. lab.) Waived procedures stated in the Current Clinical Laboratory Improvement Act (CLIA). Includes blood collection, specimen handling, identification of normal ranges, quality assurance, and quality control. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

MDCA 1409 - ANATOMY & PHYSIOLOGY FOR MEDICAL ASSISTANTS
4 Credits (4 hrs. lec.) Emphasis on structure and function of human cells, tissues, organs, and systems with overview of common pathophysiology. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

MDCA 1417 - PROCEDURES IN A CLINICAL SETTING
4 Credits (2 hrs. lec., 6 hrs. lab.) Emphasis on patient assessment, examination, and treatment as directed by physician. Includes vital signs, collection and documentation of patient information, asepsis, office clinical procedures, and other treatments as appropriate for the medical office. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; MATH 0306

MDCA 1421 - ADMINISTRATIVE PROCEDURES
4 Credits (4 hrs. lec.) Medical office procedures including appointment scheduling, medical records creation and maintenance, interpersonal communications, financial processes, coding, billing, collecting, third party reimbursement, credit arrangements, and computer use in the medical office. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; MATH 0306

MDCA 1443 - MEDICAL INSURANCE
4 Credits (3 hrs. lec., 2 hrs. lab.) Emphasizes medical office coding for payment/reimbursement by patient or third party. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

METL 1266 - PRACTICUM – METALLURGICAL TECHNOLOGY/TECHNICIAN
2 Credits (14 hrs. ext.) Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student. Prerequisites: METL 1313 and METL 2441

METL 1301 - INTRODUCTION TO METALLURGY
3 Credits (3 hrs. lec.) A comprehensive study of refining properties, mechanical properties, and physical properties of ferrous and nonferrous materials including the theory of alloys, heat treatment, and testing. Prerequisite: None

METL 1313 - INTRODUCTION CORROSION
3 Credits (3 hrs. lec.) An introduction to internal, external, and atmospheric corrosion including terminology, causes of common corrosion problems in industry, and general remedies such as cathodic protection, protective coatings, material selection, and chemical treatments. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; MATH 0308

METL 1405 - WELDING METALLURGY I
4 Credits (3 hrs. lec., 3 hrs. lab.) An introduction to physical metallurgy and its application related to welding including studies of metal characteristics, testing, effects of alloying and heat treating, and basic properties. Emphasis on conducting tests and metallographic techniques. Prerequisite: None

METL 2168 - PRACTICUM – METALLURGICAL TECHNOLOGY/TECHNICIAN
1 Credit (7 hrs. ext.) Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student. Prerequisites: METL 1313 and METL 2441

METL 2401 - INTERNAL CORROSION CONTROL
4 Credits (3 hrs. lec., 3 hrs. lab.) An in-depth study of internal corrosion found in oil and gas wells, pipelines, refineries, process plants, and other industrial installations including the common forms of nondestructive testing, internal corrosion monitoring techniques, and chemical corrosion treatment methods. Prerequisites: METL 1313 and METL 2441

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**METL 2405 - ATMOSPHERIC CORROSION CONTROL**

4 Credits (3 hrs. lec., 3 hrs. lab.) An in-depth study of atmospheric corrosion control by coatings which includes surface preparation, coating selection, coating application, inspection, and failure analysis. Prerequisites: METL 1313 and METL 2441

**METL 2441 - CATHODIC PROTECTION**

4 Credits (3 hrs. lec., 3 hrs. lab.) An in-depth study of corrosion control of buried or submerged metallic structures utilizing both impressed and galvanic cathodic protection systems. Emphasis on regulatory compliance for pipelines and underground storage tanks. Prerequisite: METL 1313

**MRKG 1301 - CUSTOMER RELATIONS**

3 Credits (3 hrs. lec.) General principles of customer service including skills, knowledge, attitudes, and behaviors. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

**MRKG 1302 - PRINCIPLES OF RETAILING**

3 Credits (3 hrs. lec.) Introduction to the retailing environment and its relationship to consumer demographies, trends, and traditional/nontraditional retailing markets, the employment of retailing techniques and the factors that influence modern retailing. Prerequisite: None

**MRKG 1311 - PRINCIPLES OF MARKETING**

3 Credits (3 hrs. lec.) Introduction to basic 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. Prerequisite: None

**MRKG 2333 - PRINCIPLES OF SELLING**

3 Credits (3 hrs. lec.) 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. Prerequisite: None

**MRKG 2348 - MARKETING RESEARCH AND STRATEGIES**

3 Credits (3 hrs. lec.) 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. Prerequisite: None

**MRKG 2349 - ADVERTISING AND SALES PROMOTION**

3 Credits (3 hrs. lec.) Integrated marketing communications. Includes advertising principles and practices. Emphasizes multi-media of persuasive communication including buyer behavior, budgeting, and regulatory constraints. Prerequisite: None

**MRKG 2380 - CO-OP - BUSINESS MARKETING AND MARKETING MANAGEMENT I**

3 Credits (1 hr. lec., 20 hrs. ext.) 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. Prerequisites: Enrollment in management AAS degree program; completion of 15 credits in degree plan; and departmental approval

**MRKG 2388 - INTERNSHIP - BUSINESS MARKETING AND MARKETING MANAGEMENT**

3 Credits (9 hrs. ext.) 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. Prerequisite: Departmental approval

**MRMT 1192 - REVIEW COURSE**

1 Credit (1 hr. lec.) A comprehensive review course, which incorporates concepts from all previous medical transcription courses, in preparation for the student licensing exam. Includes application of knowledge, judgment, skills, and professional values within a legal/ethical framework. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

**MRMT 1266 - PRACTICUM**

2 Credits (14 hrs. ext.) Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student. Requires LSCS liability insurance. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing
DESCRIPTION OF COURSES

MRMT 1307 - MEDICAL TRANSCRIPTION I
3 Credits (1 hrs. lec., 4 hrs. 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. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

MRMT 2433 - MEDICAL TRANSCRIPTION II
4 Credits (2 hrs. lec., 4 hrs. lab.) Transcription of advanced medical reports with increasing speed and accuracy including history and physicals, consultation, discharge summaries, operative reports, and other medical reports. Prerequisites: MRMT 1307; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

MSCI 1271 - LEADERSHIP AND PERSONAL DEVELOPMENT
2 Credits (1 hr. lec., 2 hrs. lab.) Introduction to the personal challenges and competencies that are critical for effective leadership. Students will learn personal development and life skills such as goal setting, time management, physical fitness, and stress management and how they relate to leadership, officership and the Army profession. The focus is on developing basic knowledge and comprehension of Army leadership dimensions while gaining a big picture understanding of the ROTC program, its purpose in the Army, and its advantages for the student. Prerequisite: None

MSCI 1272 - INTRODUCTION TO TACTICAL LEADERSHIP
2 Credits (1 hr. lec., 2 hrs. lab.) Overview of leadership fundamentals such as setting direction, problem-solving, listening, presenting briefs, providing feedback, and using effective writing skills. Cadets explore dimensions of leadership values, attributes, skills, and actions in the context of practical, hands-on, and interactive exercises. Prerequisite: None

MSCI 2271 - INNOVATIVE TEAM LEADERSHIP
2 Credits (2 hrs. lec., 2 hrs. lab.) Explores the dimensions and innovative tactical leadership strategies and styles by examining team dynamics and two historical leadership theories that form the basis of the Army leadership framework. Aspects of personal motivation and team building are practiced by planning, executing and assessing team exercises and participating in leadership labs. The focus continues to build on developing knowledge of the leadership values and attributes through understanding Army rank, structure, and duties as well as broadening knowledge of land navigation and squad tactics. Case studies will provide a tangible context for learning the Soldier’s Creed and Warrior Ethos as they apply in the contemporary operating environment. Prerequisite: None

MSCI 2272 - FOUNDATIONS OF TACTICAL LEADERSHIP
2 Credits (2 hrs. lec., 2 hrs. lab.) Examines the challenges of leading tactical teams in the complex contemporary operating environment (COE). This course highlights dimensions of terrain analysis, patrolling, and operation orders. Continued study of the theoretical basis of the Army leadership framework explores the dynamics of adaptive leadership in the context of military operations. Cadets develop greater self awareness as they assess their own leadership styles and practice communication and team building skills. COE case studies give insight into the importance and practice of teamwork and tactics in real-world scenarios. Prerequisite: None

APPLIED MUSIC
Private instruction in instruments and voice is available to students majoring or minoring in music and to other students who desire to gain or improve proficiency in individual vocal or instrumental performance. These courses will be taught as instructors are available. Refer to the class schedule each semester for specific course laboratory fees. Fees are due at the time of registration and are not refundable or transferable. (5009035426) Prerequisite: Departmental approval. Corequisite: Enrollment in at least one MUEN or MUSI course.

MUAP 1101 - STRINGS
1 Credit (One 1/2 hour lesson per week)

MUAP 1121 - WOODWINDS
1 Credit (One 1/2 hour lesson per week)

MUAP 1141 - BRASS
1 Credit (One 1/2 hour lesson per week)

MUAP 1157 - PERCUSSION
1 Credit (One 1/2 hour lesson per week)
MUAP 1161 - GUITAR
1 Credit (One 1/2 hour lesson per week)

MUAP 1165 - ORGAN
1 Credit (One 1/2 hour lesson per week)

MUAP 1169 - KEYBOARD
1 Credit (One 1/2 hour lesson per week)

MUAP 1181 - VOICE
1 Credit (One 1/2 hour lesson per week)

MUAP 1201 - STRINGS
2 Credits (Two ½ hour lessons per week; two credit hours per semester)

MUAP 1221 - WOODWINDS
2 Credits (Two ½ hour lessons per week; two credit hours per semester)

MUAP 1241 - BRASS
2 Credits (Two ½ hour lessons per week; two credit hours per semester)

MUAP 1257 - PERCUSSION
2 Credits (Two ½ hour lessons per week; two credit hours per semester)

MUAP 1261 - GUITAR
2 Credits (Two ½ hour lessons per week; two credit hours per semester)

MUAP 1265 - ORGAN
2 Credits (Two ½ hour lessons per week; two credit hours per semester)

MUAP 1269 - KEYBOARD
2 Credits (Two ½ hour lessons per week; two credit hours per semester)

MUAP 1281 - VOICE
2 Credits (Two ½ hour lessons per week; two credit hours per semester)

MUAP 2141 - BRASS
1 Credit (Second year, one 1/2 hour lesson per week; one credit hour per semester)

MUAP 2157 - PERCUSSION
1 Credit (Second year, one 1/2 hour lesson per week; one credit hour per semester)

MUAP 2161 - GUITAR
1 Credit (Second year, one 1/2 hour lesson per week; one credit hour per semester)

MUAP 2169 - KEYBOARD
1 Credit (Second year, one 1/2 hour lesson per week; one credit hour per semester)

MUAP 2181 - VOICE
1 Credit (Second year, one 1/2 hour lesson per week; one credit hour per semester)

MUAP 2201 - STRINGS
2 Credits (Second year, two 1/2 hour lessons per week; two credit hours per semester)

MUAP 2221 - WOODWINDS
2 Credits (Second year, two 1/2 hour lessons per week; two credit hours per semester)

MUAP 2241 - BRASS
2 Credits (Second year, two 1/2 hour lessons per week; two credit hours per semester)

MUAP 2257 - PERCUSSION
2 Credits (Second year, two 1/2 hour lessons per week; two credit hours per semester)

MUAP 2261 - GUITAR
2 Credits (Second year, two 1/2 hour lessons per week; two credit hours per semester)

MUAP 2265 - ORGAN
2 Credits (Second year, two 1/2 hour lessons per week; two credit hours per semester)

MUAP 2269 - KEYBOARD
2 Credits (Second year, two 1/2 hour lessons per week; two credit hours per semester)

MUAP 2281 - VOICE
2 Credits (Second year, two 1/2 hour lessons per week; two credit hours per semester)

MUEN 1123 - SYMPHONY ORCHESTRA
1 Credit (3 hrs. lab.) The study and performance of music compositions for full orchestra, including strings, woodwinds, brass, and percussion. Recommended for music majors whose principle performance instrument is violin, viola, cello, or string bass. A maximum of four credit hours may be earned. (5009035526) Prerequisites/Corequisite: Course may be taken as a corequisite with ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing
DESCRIPTION OF COURSES

MUEN 1127 - JAZZ ENSEMBLE
1 Credit (3 hrs. lab.) The study and performance of big band jazz. Swing, Latin, rock and other jazz styles are included. A maximum of four credit hours may be earned. (5009035526) Corequisite: Course may be taken as a corequisite with ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

MUEN 1131 - STRING ENSEMBLE
1 Credit (3 hrs. lab.) This course involves the study and performances of music compositions for small string groups. It is recommended for music majors whose principle performing medium is the violin, viola, or cello. A maximum of four credit hours may be earned. (5009035626) Prerequisite: None

MUEN 1132 - PIANO ENSEMBLE
1 Credit (3 hrs. lab.) A course which is designed to offer students an opportunity to work with piano literature written for two or more performers. A maximum of four credit hours may be earned. (5009035626) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

MUEN 1133 - GUITAR ENSEMBLE
1 Credit (3 hrs. lab.) This course involves the study and performances of music compositions for small guitar groups. It is recommended for music majors whose principal performing medium is the guitar. A maximum of four credit hours may be earned. (5009035626) Prerequisite: None

MUEN 1134 - PERCUSSION ENSEMBLE
1 Credit (3 hrs. lab.) This course involves the study and performance of music compositions for small percussion groups. It is recommended for music majors whose performing medium is percussion. Open to other qualified students by approval of department. A maximum of four credit hours may be earned. (5009035626) Prerequisites: Audition and departmental approval; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

MUEN 1135 - STEEL DRUM BAND
1 Credit (3 hrs. lab.) Membership is open to all students on the basis of audition and/or conference to assess the students ability to count fundamental rhythms. Percussionist, vocalist, woodwind, brass, and keyboard players are encouraged to audition. The class meets four hours per week with special rehearsals and performances called as needed. A maximum of four credit hours may be earned. (5009035626) Prerequisites: None

MUEN 1136 - CHAMBER ENSEMBLE
1 Credit (3 hrs. lab.) Chamber Ensemble is a mixed instrumentation group of wind, string, percussion, and brass players performing chamber (small group) repertoire from any style period. A maximum of four credit hours may be earned. (5009035626) Prerequisite: None

MUEN 1141 - CONCERT CHOIR
1 Credit (3 hrs. lab.) Concert Choir is a large vocal ensemble performing large-scale sacred and secular works. In addition to local concerts, the group participates in campus activities. The Choir is open to students with vocal experience. A maximum of four credit hours may be earned. (5009035726) Prerequisites/Corequisite: Course may be taken as a corequisite with ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

MUEN 1151 - CHAMBER SINGERS
1 Credit (3 hrs. lab.) The Chamber Singers are a small vocal ensemble performing sacred and secular choral literature of various eras including madrigals. A maximum of four credit hours may be earned. (5009035826) Prerequisite: None

MUEN 1154 - POP SINGERS
1 Credit (3 hrs. lab.) The Pop Singers specialize in performing contemporary popular music, including music of radio, TV, motion picture, and Broadway. Some choreography and staging may be involved. A maximum of four credit hours may be earned. (5009035826) Prerequisite: None

MUEN 2123 - PIANO ENSEMBLE
1 Credit (3 hrs. lab.) A continuation of the study and performances of music composition for full orchestra, including strings, woodwinds, brass, and percussion. Recommended for music majors. A maximum of four credit hours may be earned. (5009035626) Prerequisite: MUEN 1123
MUEN 2124 - SYMPHONIC BAND
1 Credit (3 hrs. lab.) The study of a wide variety of literature for wind and percussion instruments through rehearsal and performance. Open to all students with instrumental music experience. A maximum of four credit hours may be earned. (5009035526) Prerequisite: None; Corequisite: course may be taken as a corequisite with ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301)

MUEN 2133 - WOODWIND ENSEMBLE
1 Credit (3 hrs. lab.) This course involves the study and performance of music compositions for small woodwind groups. It is recommended for music majors whose principle performing medium is a woodwind instrument. A maximum of four credit hours may be earned. (5009035626) Prerequisite: None

MUEN 2134 - BRASS ENSEMBLE
1 Credit (3 hrs. lab.) This course involves the study and performance of music compositions for small brass groups. It is recommended for music majors whose performing medium is a brass instrument. A maximum of four credit hours may be earned. (5009035626) Prerequisite: None

MUEN 2135 - JAZZ COMBO
1 Credit (3 hrs. lab.) A study of the techniques involved in the improvisation of a solo in the jazz idiom through rehearsal and performance in a small ensemble. Open to all students with instrumental music experience. A maximum of four credit hours may be earned. (5009035626) Prerequisite: None

MUSI 1157 - OPERA WORKSHOP
1 Credit (3 hrs. lab.) The performance of portions or complete operas and the study of the integration of music, acting and staging of an opera. Students may repeat for four hours of credit. (5009085226) Prerequisites: Audition and departmental approval

MUSI 1159, 2159 - MUSICAL THEATRE I & II
1 Credit (5 hrs. lab.) Practical experience in auditioning, rehearsing, and performing in a major musical. (5009036126) Prerequisite: None

MUSI 1162 - DICTION I
1 Credit (2 hrs. lab.) This course provides a framework for singing in English, Latin, and Italian. While some grammatical rules will be taught, the course does not attempt to teach the language. (5009085326) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

MUSI 1165 - DICTION II
1 Credit (2 hrs. lab.) This course provides a framework for singing in French and German. While some grammatical rules will be taught, the course does not attempt to teach the language. (5009085326) Prerequisites: MUSI 1162; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

MUSI 1181, 1182, 2181, 2182 - CLASS PIANO
1 Credit (3 hrs. lab.) Beginning keyboard instruction for the general music major as well as the nonmusic major who wishes to learn piano. The use of electronic pianos permits individual instruction. A maximum of four credit hours may be earned. (5009075126) Prerequisite: None

MUSI 1183, 1184, 2183, 2184 - CLASS VOICE
1 Credit (3 hrs. lab.) Beginning voice instruction for the student who has little or no experience. A maximum of four credit hours of voice classes may be earned. (5009085126) Prerequisite: None

MUSI 1192, 1193, 2192, 2193 - CLASS GUITAR
1 Credit (3 hrs. lab.) Beginning guitar instruction for the general music major as well as the non-music major who wishes to learn guitar. A maximum of four credit hours may be earned. (5009115126) Prerequisite: None

MUSI 1211 - THEORY I
2 Credits (3 hrs. lec.) A study of elementary harmony and part writing up to and including diatonic seventh chords. Analysis and writing of small compositional forms. Correlated study at the keyboard. (5009045126) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; Corequisites: MUSI 1216 and 1181

MUSI 1212 - THEORY II
2 Credits (3 hrs. lec.) A continuation of MUSI 1211 including modulation, secondary dominants and secondary leading-tone chords. (5009045126) Prerequisites: MUSI 1211; ENGL 0305 AND ENGL
DESCRIPTION OF COURSES

0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; Corequisites: MUSI 1182 and 1217

MUSI 1216 - EAR TRAINING AND SIGHT SINGING I

2 Credits (1 hr. lec., 2 hrs. lab.) An aural study (including dictation) of rhythm, melody and diatonic harmony. Singing tonal music in treble, bass, alto and tenor clefs. (5009045626) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; Corequisites: MUSI 1211 and 1181

MUSI 1217 - EAR TRAINING AND SIGHT SINGING II

2 Credits (1 hr. lec., 2 hrs. lab.) A continuation of MUSI 1216. (5009045626) Prerequisites: MUSI 1216; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; Corequisites: MUSI 1212 and 1181

MUSI 1301 - MUSIC FUNDAMENTALS

3 Credits (3 hrs. lec.) A course for developing basic music skills with emphasis on music reading and elementary music theory for the nonmusic major and the classroom teacher. (5009045526) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

MUSI 1306 - MUSIC APPRECIATION

3 Credits (3 hrs. lec.) A nontechnical course designed to provide the layperson with the understanding necessary for greater enjoyment of music. (5009025126) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

MUSI 1307 - MUSIC LITERATURE

3 Credits (3 hrs. lec.) A study, through lecture, listening, score-analysis, and research, of the literature and stylistic trends of Western art music as well as examples of American popular music and non-Western music. (5009025226) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

MUSI 1308 - MUSIC LITERATURE TO 1827

3 Credits (3 hrs. lec.) A study, through lecture and listening, of the literature and stylistic trends of the Baroque and Classical periods. Separate course available for nonmajors. (5009025226) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

MUSI 1309 - MUSIC LITERATURE SINCE 1827

3 Credits (3 hrs. lec.) A study, through lecture and listening, of the literature and stylistic trends of the Romantic and Contemporary periods. Separate course available for nonmajors. (5009025226) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

MUSI 1310 - AMERICAN MUSIC

3 Credits (3 hrs. lec.) This course is a survey of American popular and art music. Course topics may include the study of blues, jazz, rock, and ragtime and the major artists and other influential persons associated with each genre. Special emphasis is given to the interaction of various native and world musical cultures in the evolution of American musical styles. (5009025326) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

MUSI 1386 - POPULAR SONG WRITING I - COMPOSITION

3 Credits (3 hrs. lec.) Instruction in music composition, including small forms for simple media in both traditional styles and styles of the student's choice. Lyrics, melodies, harmonies, arrangements, performance and studio recording will be covered. (5009045326) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

MUSI 1390 - ELECTRONIC MUSIC I

3 Credits (3 hrs. lec.) Introduction to the use of synthesizers, computers, sequencing and other music printing software, and multitrack recorders and other MIDI (Music Instrument Digital Interface) devices in the notation, arrangement, composition, and performance of music. (5009045826) Corequisites: may be taken with ENGL 0305 AND ENGL 0307 or 0356

MUSI 1391 - ELECTRONIC MUSIC II

3 Credits (3 hrs. lec.) Further study and application of synthesizers, computers, sequencing and music printing software, and multi-track digital recorders. Includes MIDI (Music Instrument Digital Interface) devices used for notation, arrangement, composition,
and performance of music. This course is a continuation of Electronic Music I. (5009045826) Prerequisites: MUSI 1390; Corequisites: may be taken with ENGL 0305 AND ENGL 0307 or 0356

**MUSI 2211 - THEORY III**

2 Credits (3 hrs. lec.) A study of advanced harmony with emphasis on chromaticism, extended tertian structures and twentieth-century compositional procedures. (5009045226) Prerequisites: MUSI 1212; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; Corequisites: MUSI 2216 and 2181

**MUSI 2212 - THEORY IV**

2 Credits (3 hrs. lec.) A continuation of MUSI 2211. (5009045226) Prerequisites: MUSI 2211; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; Corequisites: MUSI 2216 and 2181

**MUSI 2216 - EAR TRAINING AND SIGHT SINGING III**

2 Credits (1 hr. lec., 2 hrs. lab.) An aural study (including dictation) of more complex rhythm, melody, chromatic harmony and extended tertian structures. Singing more difficult tonal music including modulations and modal melodies. (5009045726) Prerequisites: MUSI 1217; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; Corequisites: MUSI 2211 and 2181

**MUSI 2217 - EAR TRAINING AND SIGHT SINGING IV**

2 Credits (1 hr. lec., 2 hrs. lab.) A continuation of MUSI 2216. (5009045726) Prerequisites: MUSI 2216; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; Corequisites: MUSI 2212 and 2182

**MUSI 2386 - POPULAR SONG WRITING II - COMPOSITION**

3 Credits (3 hrs. lec.) Individual or class instruction in music composition. Composing in small forms for simple media in both traditional styles and styles of the student’s choice. This is a continuation of Music 1386, including the study of lyrics, melodies, harmonies, arrangements, performance and studio recording. (5009045326) Prerequisites: MUSI 1386; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

**MUSI 2389 - ACADEMIC CO-OP IN MUSIC**

3 Credits (1 hr. lec., 6 hrs. lab.) An instructional program designed to integrate on-campus study with practical hands-on work experience in music. In conjunction with class seminars, the instructor and institutional representative, the individual student will set specific goals and objectives in music. (2401035212) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

**NDTE 1301 - FILM INTERPRETATION OF WELDMENTS**

3 Credits (2 hrs. lec., 2 hrs. lab.) A study of radiographic film, including exploration of radiographic basics, interpretation, and causes and effects of discontinuities. Prerequisite: None

**NDTE 1410 - LIQUID PENETRANT/MAGNETIC PARTICLE TESTING**

4 Credits (2 hrs. lec., 4 hrs. lab.) A theoretical study and practical application of the non-destructive testing techniques of penetrant and magnetic particle testing required by quality assurance and test personnel including proper test technique, or combination of techniques and interpretation, evaluation of test results. Prerequisite: None

**NDTE 1440 - EDDY CURRENT TESTING**

4 Credits (3 hrs. lec., 3 hrs. lab.) General principles of Eddy Current Testing including theory, knowledge, and skills for basic examination; effects of material properties, probe types, calibration standards, and equipment selection. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

**NDTE 1454 - INTERMEDIATE ULTRASONICS**

4 Credits (2 hrs. lec., 4 hrs. lab.) Basic theory and applications of the ultrasonic techniques of materials testing covering the theoretical material from the certification test for Ultrasonic Level I American Society of Non-Destructive Testing. Prerequisite: None

**NDTE 2311 - PREPARATION FOR WELDING INSPECTION**

3 Credits (2 hrs. lec., 2 hrs. lab.) General principles of welding inspection including welding processes, terms and definitions, welding discontinuities, duties and responsibilities of inspectors, destructive and
DESCRIPTION OF COURSES

nondestructive testing, quality assurance/quality control, welding codes and blueprints, procedures, and case studies. An overview of welding tools and equipment, metallurgy, chemistry, and joint design. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

NDTE 2401 - ADVANCED ULTRASONICS
4 Credits (2 hrs. lec., 4 hrs. lab.) Designed to strengthen the students’ knowledge and skills in ultrasonic testing. Emphasis is on examination of plate and pipe welds, characterization of flaws, immersion testing, written practices, and procedures. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

OTHA 1301 - INTRODUCTION TO OCCUPATIONAL THERAPY
3 Credits (3 hrs. lec.) 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. Prerequisites: Admission to the OTA program; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

OTHA 1309 - HUMAN STRUCTURE AND FUNCTION IN OCCUPATIONAL THERAPY
3 Credits (2 hrs. lec., 2 hrs. lab.) Study of the biomechanics of human motion. Emphasis on the musculoskeletal system including skeletal structure, muscles and nerves, and biomechanical assessment procedures. Prerequisites: OTHA 1301 and 1315; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

OTHA 1315 - THERAPEUTIC USE OF OCCUPATIONS OR ACTIVITIES I
3 Credits (2 hrs. lec., 2 hrs. 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. Prerequisites: Admission to the OTA program; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

OTHA 1319 - THERAPEUTIC INTERVENTIONS I
3 Credits (2 hrs. lec., 3 hrs. 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. Prerequisites: OTHA 1309 and 2301; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

OTHA 1341 - OCCUPATIONAL PERFORMANCE FROM BIRTH THROUGH ADOLESCENCE
3 Credits (2 hrs. lec., 3 hrs. lab.) Occupational performance of newborns through adolescents. Includes frames of reference, evaluation tools and techniques, and intervention strategies specific to this population. Prerequisites: OTHA 1315 and PSYC 2314; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

OTHA 1353 - OCCUPATIONAL PERFORMANCE FOR ELDERS
3 Credits (2 hrs. lec., 3 hrs. lab.) Occupational performance of elders. Includes frames of reference, evaluation tools and techniques, and intervention strategies specific to this population. Prerequisites: OTHA 2309 and 2331; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

OTHA 2166 - PRACTICUM - OCCUPATIONAL THERAPY ASSISTANT
1 Credit (7 hrs. ext.) Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student. Requires LSCS liability insurance. Prerequisites: OTHA 2302 and 2309; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

OTHA 2301 - PATHOPHYSIOLOGY FOR OCCUPATIONAL THERAPY
3 Credits (3 hrs. lec.) 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. Prerequisites: OTHA 1301 and BIOL 2401; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing
OTHA 2302 - THERAPEUTIC USE OF OCCUPATIONS OR ACTIVITIES II
3 Credits (2 hrs. lec., 3 hrs. lab.) Continuation of OTHA 1315: Therapeutic Use of Occupations or Activities I. Emphasis on advanced techniques and applications used in traditional and non-traditional practice settings. Prerequisites: OTHA 1315; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

OTHA 2309 - MENTAL HEALTH IN OCCUPATIONAL THERAPY
3 Credits (2 hrs. lec., 3 hrs. lab.) Promotion of mental health and wellness through occupational therapy. Topics include theory and intervention strategies to enhance occupational performance. Prerequisites: OTHA 1301 and PSYC 2301; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

OTHA 2331 - PHYSICAL FUNCTION IN OCCUPATIONAL THERAPY
3 Credits (2 hrs. lec., 3 hrs. lab.) Physical function to promote occupational performance. Includes frames of reference, assessment/evaluation tools and techniques, patient/client education, and intervention strategies. Prerequisites: OTHA 1315 and BIOL 2401; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

OTHA 2335 - HEALTH CARE MANAGEMENT IN OCCUPATIONAL THERAPY
3 Credits (3 hrs. lec.) Explores the roles of the occupational therapy assistant in health care delivery. Topics include documentation, reimbursement, credentialing, ethical standards, health care team role delineation, and management. Prerequisites: OTHA 1315 and 2302; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

OTHA 2460 - CLINICAL - OCCUPATIONAL THERAPY ASSISTANT
4 Credits (20 hrs. ext.) A health-related work-based learning experience that enables the student to apply specialized occupational therapy, skills, and concepts. Direct supervision is provided by the clinical professional. Requires LSCS liability insurance. Prerequisites: Successful completion of OTHA 1319, 1341, 1353, 2335, and 2166; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

OTHA 2461 - CLINICAL - OCCUPATIONAL THERAPY ASSISTANT
4 Credits (20 hrs. ext.) A health-related work-based learning experience that enables the student to apply specialized occupational therapy, skills, and concepts. Direct supervision is provided by the clinical professional. Requires LSCS liability insurance. Prerequisites: Successful completion of OTHA 1319, 1341, 1353, 2335, and 2166; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

PHIL 1301 - INTRODUCTION TO PHILOSOPHY
3 Credits (3 hrs. lec.) This course examines fundamental philosophical topics, such as knowledge, morality, the existence of God, reality, and free will. Each theory, presented through the study of selected major philosophers and representative works, is critically analyzed. (3801015112) Prerequisites: ENGL0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

PHIL 1304 - INTRODUCTION TO WORLD RELIGIONS
3 Credits (3 hrs. lec.) This course introduces the student to the central teachings and practices of major world religions, including Hinduism, Judaism, Buddhism, Christianity, and Islam. Ways in which religions have influenced, and been influenced by, history and culture are studied. The lives and teachings of representative religious figures are presented. The varied accounts and dynamics of religion offered by scholars of religion are also covered. Students are challenged to engage in critical thinking as a basis for assessing and appreciating world religions. (3802015212) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

PHIL 2303 - LOGIC
3 Credits (3 hrs. lec.) This course teaches students to analyze and evaluate arguments using the formal techniques of modern symbolic logic. The basics of propositional logic are covered, including truth tables, proof construction, and the translation of natural language arguments into symbolic form. (3801015212) Prerequisites: ENGL 0305 AND
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ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

PHIL 2306 - INTRODUCTION TO ETHICS
3 Credits (3 hrs. lec.) This course explores the major problems and questions of moral philosophy from ancient to modern times by critically evaluating and applying various ethical theories and principles to historical and contemporary moral dilemmas. (3801015312) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

PHIL 2307 - SOCIAL & POLITICAL PHILOSOPHY
3 Credits (3 hrs. lec.) This course conducts a critical examination of the major theories concerning the organization of societies and governments. (3801015412) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

PHIL 2316 - HISTORY OF PHILOSOPHY I
3 Credits (3 hrs. lec.) This course presents the story of Western thought of the ancient through fifteenth century periods. Major figures are Plato, Aristotle, Augustine and Aquinas. (3801015512) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

PHIL 2317 - HISTORY OF PHILOSOPHY II
3 Credits (3 hrs. lec.) This course continues the History of Philosophy I from the sixteenth through the twentieth centuries. Major figures are Descartes, Spinoza, Leibnitz, Locke, Berkeley, Hume, Kant, Hegel, Mill, Marx, Nietzsche, and Kierkegaard. (3801015512) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

PHIL 2321 - PHILOSOPHY OF RELIGION
3 Credits (3 hrs. lec.) This course uses philosophical methods of conceptual analysis and logical argumentation to illuminate and assess the central claims to truth made by major religions. Topics may include issues such as the nature of religious language, the existence and nature of God, the problem of evil, and the relationship of faith and reason. (3802015312) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

PHRA 1102 - PHARMACY LAW
1 Credit (1 hr. lec.) This course is a survey of federal and state laws governing the practice of pharmacy. It describes the legal and ethical constraints governing technician responsibilities and pharmacist responsibilities in various settings. Prerequisites: Admission to the program; ENGL 0305 AND ENGL 0306 or 0355, OR higher level course (ENGL 1301), OR placement by testing; MATH 0308

PHRA 1143 - PHARMACY TECHNICIAN CERTIFICATE REVIEW
1 Credit (1 hr. lec.) An overview of the major topics covered on the National Pharmacy Technician Certification examination. Prerequisites: PHRA 1361 or permission of program director; ENGL 0305 AND ENGL 0306 or 0355, OR higher level course (ENGL 1301), OR placement by testing; MATH 0308

PHRA 1164 - PRACTICUM - PHARMACY TECHNICIAN ASSISTANT
1 Credit (10 hrs. ext.) Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student. Requires LSCS liability insurance. Prerequisites: PHRA 1240; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; MATH 0308

PHRA 1206 - COMPUTERIZED DRUG DELIVERY SYSTEMS I
2 Credits (1 hr. lec., 2 hrs. lab.) Fundamentals of computer information systems and technology within the health care system. Includes specialized skills in the production of pharmaceutical documentation using selected pharmacy software packages. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; MATH 0308

PHRA 1207 - ETHICS AND TEXAS PHARMACY LAW
2 Credits (2 hrs. lec.) The role of the pharmacy technician and the pharmacist and their associated responsibilities. Includes state law governing the practice of pharmacy, code of ethics, patient confidentiality, and a comparison of legal and ethical aspects, including criminal and civil statutes. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; MATH 0308
PHRA 1240 - PHARMACY THIRD PARTY PAYMENT
2 Credits (2 hrs. lec., 1 hr. lab.) Overview of the health care system and the impact of managed care on pharmacy reimbursements. Includes the principles and practices of managed care pharmacy, Medicaid and Medicare, payment plans, reimbursement methods, and formularies. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; MATH 0308

PHRA 1304 - PHARMACOTHERAPY AND DISEASE PROCESS
3 Credits (3 hrs. lec.) A study of disease processes and the therapeutic properties of the drugs used in treatment. Prerequisites: PHRA 1361; ENGL 0305 AND ENGL 0306 or 0355, OR higher level course (ENGL 1301), OR placement by testing; MATH 0308

PHRA 1305 - DRUG CLASSIFICATION
3 Credits (3 hrs. lec.) An introduction to the study of disease processes, pharmaceutical drugs, abbreviations, classifications, dosages, actions in the body, and routes of administration. Prerequisites: Admission to the program; ENGL 0305 AND ENGL 0306 or 0355, OR higher level course (ENGL 1301), OR placement by testing; MATH 0308

PHRA 1309 - PHARMACEUTICAL MATHEMATICS I
3 Credits (3 hrs. lec.) Pharmaceutical mathematics includes reading, interpreting, and solving calculation problems encountered in the preparation and distribution of drugs. This course also discusses the 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. Prerequisites: Admission to the program; ENGL 0305 AND ENGL 0306 or 0355, OR higher level course (ENGL 1301), OR placement by testing; MATH 0308

PHRA 1345 - INTRAVENOUS ADMIXTURE AND STERILE COMPOUNDING
3 Credits (2 hrs. lec., 2 hrs. lab.) A study of sterile products, legal and regulatory guidelines, 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. Prerequisites: PHRA 1361; ENGL 0305 AND ENGL 0306 or 0355, OR higher level course (ENGL 1301), OR placement by testing; MATH 0308

PHRA 1347 - PHARMACEUTICAL MATHEMATICS II
3 Credits (3 hrs. lec.) In-depth continuation of Pharmaceutical Mathematics I. Addresses ratio and proportion, dilution and concentration, alligations, milliequivalent units, and intravenous flow rates. Prerequisites: PHRA 1361; ENGL 0305 AND ENGL 0306 or 0355, OR higher level course (ENGL 1301), OR placement by testing; MATH 0308

PHRA 1361 - CLINICAL - COMMUNITY PHARMACY
3 Credits (10 hrs. ext.) 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. Requires LSCS liability insurance. Prerequisites: Admission to the program; ENGL 0305 AND ENGL 0306 or 0355, OR higher level course (ENGL 1301), OR placement by testing; MATH 0308

PHRA 1413 - COMMUNITY PHARMACY PRACTICE
4 Credits (3 hrs. lec., 2 hrs. 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. Prerequisites: Admission to the program; ENGL 0305 AND ENGL 0306 or 0355, OR higher level course (ENGL 1301), OR placement by testing; MATH 0308

PHRA 1449 - INSTITUTIONAL PHARMACY PRACTICE
4 Credits (3 hrs. lec., 2 hrs. 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. Prerequisites: PHRA
DESCRIPTION OF COURSES

1361; ENGL 0305 AND ENGL 0306 or 0355, OR higher level course (ENGL 1301), OR placement by testing; MATH 0308

PHRA 2361 - CLINICAL - INSTITUTIONAL PHARMACY

3 Credits (10 hrs. ext.) 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. Requires LSCS liability insurance. Prerequisites: PHRA 1361; ENGL 0305 or AND ENGL 0306 or 0355, OR higher level course (ENGL 1301), OR placement by testing; MATH 0308

PHYS 1401 - GENERAL PHYSICS I

4 Credits (3 hrs. lec., 3 hrs. lab.) This course includes the study of vector algebra, Newtonian mechanics, mechanical properties of matter, gases and kinetic theory, thermal properties of matter, thermodynamics, vibratory motion and sound. The study also includes an appropriate laboratory program illustrating the principles learned in lecture. This course is not for physical science and engineering majors but can serve as the Physics requirement for the pre-professional medical programs. (4008015303) Prerequisites: MATH 1316 or equivalent; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

PHYS 1402 - GENERAL PHYSICS II

4 Credits (3 hrs. lec., 3 hrs. lab.) A continuation of PHYS 1401, including the study of electrostatic forces, fields and potentials, DC and AC circuits, magnetism, electromagnetic waves, the reflection, refraction, diffraction and interference of light and introduction modern physics. Also included is an appropriate laboratory program illustrating the principles learned in lecture. This course is also not for physical science and engineering majors but can serve as the Physics requirement for the pre-professional medical programs. (4008015303) Prerequisites: PHYS 1401; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

PHYS 1403 - STELLAR ASTRONOMY

4 Credits (3 hrs. lec., 3 hrs. lab.) This is an introductory course that will concentrate on the origin, life and fate of the stars and the universe, the various objects in the universe, the exploration of the universe by astronomers and the understanding of the principles that lie behind the functioning of the universe. An appropriate laboratory program will include real-time telescope observations, field trips and experience with more advanced observing techniques. This is a course for non-science majors who need natural science credit or anyone who wants to study the wonders of the universe. (4002015103) Prerequisites: MATH 0306 or departmental approval; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

PHYS 1404 - PLANETARY ASTRONOMY

4 Credits (3 hrs. lec., 3 hrs. lab.) This is an introductory course that will concentrate on the origin, life and fate of the solar system, the various bodies in the solar system and solar system mechanics. An appropriate laboratory program may include real-time telescope observations, field trips and internet research. This is a course for nonscience majors who need natural science credit or anyone who wants to study the wonders of the universe. (4002015203) Prerequisites: MATH 0306 or departmental approval; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

PHYS 1410 - ELEMENTARY PHYSICS

4 Credits (3 hrs. lec., 3 hrs. lab.) Conceptual level survey of topics in physics intended for liberal arts and other non-science majors. This course offers the opportunities for the students to explore the basic principles in motion, matter, heat, sound, electricity, light, and modern physics. It includes an appropriate laboratory program. (4008015103) Prerequisites: TECM 1303 or MATH 0310; ENGL0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

PHYS 2425 - MECHANICS AND HEAT

4 Credits (3 hrs. lec., 3 hrs. lab.) This course includes the study of measurement, vector algebra, one- and two- dimensional motion, Newton’s laws of motion, kinematics, momentum and collisions, rotational motion and angular momentum, elasticity, oscillations and gravitational interactions, fluids, waves, temperature and the laws of thermodynamics. It also includes an appropriate laboratory program illustrating the principles learned in lecture. This course is primarily for physical science and engineering majors. (4008015403) Prerequisites: MATH 2413, or departmental approval; ENGL0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing
PHYS 2426 - ELECTRICITY, MAGNETISM, AND LIGHT

4 Credits (3 hrs. lec., 3 hrs. lab.) This course is a continuation of PHYS 2425, including the study of electrostatics, Gauss’s law, circuit theory, magnetism and Faraday’s law, electromagnetic waves and Maxwell’s equations, geometric and physical optics, and introduction to modern physics. It includes an appropriate laboratory program illustrating the principles learned in lecture. This course is primarily for physical science and engineering majors. (4008015403) Prerequisites: PHYS 2425; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

POFL 1303 - LEGAL OFFICE PROCEDURES

3 Credits (2 hrs. lec., 3 hrs. lab.) This course presents the fundamental administrative duties of support personnel in a law office including issues involved operating within social, organizational, and technological systems. This class is the capstone course for the Legal Office Receptionist certificate. Prerequisite: None

POFL 1305 - LEGAL TERMINOLOGY

3 Credits (2 hrs. lec., 2 hrs. lab.) This course presents an overview of the areas of law and legal professions, including spelling, pronunciation, and definition of legal terms. Prerequisite: Keyboarding proficiency

POFL 2301 - LEGAL DOCUMENT PROCESSING

3 Credits (1 hr. lec., 4 hrs. lab.) This course develops the skills for the production of legal documents. Prerequisite: POFT 1329 or ITSW 1301

POFL 2305 - INTRODUCTION TO LEGAL RESEARCH

3 Credits (2 hrs. lec., 3 hrs. lab.) This course presents an introduction to research techniques relating to legal issues. Prerequisite: POFL 1305

POFL 2380 - COOPERATIVE EDUCATION - LEGAL ADMINISTRATIVE ASSISTANT/SECRETARY

3 Credits (1 hr. lec., 20 hrs. ext.) 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. Prerequisites: Enrollment in professional office technology/legal track AAS degree or certificate program; completion of 15 credits in degree plan; approval of coordinator

POFM 1300 - MEDICAL CODING BASICS

3 Credits (2 hrs. lec., 2 hrs. lab.) Presentation and application of basic coding rules, principles, guidelines, and conventions utilizing various coding systems. Prerequisite: HIIT 1305

POFM 1302 - MEDICAL SOFTWARE APPLICATIONS

3 Credits (2 hrs. lec., 3 hrs. lab.) Medical software applications for the management and operation of health care information systems. Prerequisites: Basic keyboarding and computer skills are suggested Prerequisites, but the course can be taken concurrently with ITSC 1401 or COSC 1401; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; Corequisite: ITSC 1401 or COSC 1401

POFM 1309 - MEDICAL OFFICE PROCEDURES

3 Credits (2 hrs. lec., 3 hrs. lab.) Introduction to basic medical office skills including telephone techniques, filing and indexing, mail handling, appointment scheduling, travel arrangements, correspondence, and business transactions. Emphasis on human relations and customer service skills. This class is the capstone course for the Medical Office Receptionist certificate. Prerequisite: None

POFM 1317 - MEDICAL ADMINISTRATIVE SUPPORT

3 Credits (3 hrs. lec., 1 hr. lab.) Instruction in medical office procedures including appointment scheduling, medical records creation and maintenance, telephone communications, coding, billing, collecting, and third party reimbursement. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

POFM 1327 - MEDICAL INSURANCE

3 Credits (2 hrs. lec., 3 hrs. lab.) Survey of medical insurance including the life cycle of various claim forms, terminology, litigation, patient relations, and ethical issues. This is a capstone course for medical front office specialist certificate. Prerequisite: HIIT 1305

POFM 2310 - INTERMEDIATE MEDICAL CODING

3 Credits (2 hrs. lec., 3 hrs. lab.) Assignment and application of ICD, CPT, and HCPCS coding guidelines with emphasis on physician billing and regulatory
DESCRIPTION OF COURSES

requirements. Includes code selection for Evaluation and Management (E/M) and Medical/Surgical cases. Prerequisites: HITT 1213 or POFM 1300; ENGL 0305 and ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

POFM 2333 - MEDICAL DOCUMENT PRODUCTION
3 Credits (2 hrs. lec., 3 hrs. lab.) Study of advanced concepts of medical office activities, practices, and procedures. Topics include advanced medical report, coding, billing, insurance activities, and records management. Prerequisites: POFM 1309 OR POFM 1317; 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

POFM 2380 - COOPERATIVE EDUCATION - MEDICAL ADMINISTRATIVE ASSISTANT/SECRETARY
3 Credits (1 hr. lec., 20 hrs. ext.) 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. Requires LSCS liability insurance. Prerequisites: Enrollment in professional office technology/medical track AAS degree or certificate program; completion of 15 credits in degree plan; approval of coordinator

POFT 1301 - BUSINESS ENGLISH
3 Credits (2 hrs. lec., 3 hrs. lab.) Introduction to a practical application of basic language usage skills with emphasis on fundamentals of writing and editing for business. Prerequisite: None

POFT 1309 - ADMINISTRATIVE OFFICE PROCEDURES I
3 Credits (2 hrs. lec., 3 hrs. lab.) Study of current office procedures, duties, and responsibilities applicable to an office environment. Prerequisite: Keyboarding proficiency recommended

POFT 1325 - BUSINESS MATH & MACHINE APPLICATIONS
3 Credits (2 hrs. lec., 3 hrs. lab.) Business math problem-solving skills using office technology. Emphasis on business problem-solving skills using spreadsheet software and/or electronic calculator/keyboard. Prerequisite: None

POFT 1329 - BEGINNING KEYBOARDING
3 Credits (1 hr. lec., 4 hrs. lab.) Skill development keyboarding techniques. Emphasis on development of acceptable speed and accuracy levels and formatting basic documents. Prerequisite: None

POFT 1371 - BILINGUAL BUSINESS WRITING
3 Credits (2 hrs. lec., 3 hrs. lab.) Designed for bilingual English/Spanish students who are proficient in Spanish. This course is designed to give students the tools for developing professional business correspondence in both Spanish and English. Emphasis is placed on proofreading, grammar, spelling, vocabulary, and composing business letters in both English and Spanish. Prerequisites: ENGL 0307 or 0356 OR higher level course (ENGL 1301), OR placement by testing; and fluency in written and spoken Spanish

POFT 2301 - INTERMEDIATE KEYBOARDING
3 Credits (1 hr. lec., 4 hrs. lab.) A continuation of keyboarding skills emphasizing acceptable speed, accuracy levels and formatting documents. Emphasis on proofreading, editing, and following instructions, and keying documents from various copy. Prerequisites: POFT 1329 or ITSW 1301; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing
**DESCRIPTION OF COURSES**

**POFT 2331 - ADMINISTRATIVE SYSTEMS**

3 Credits (2 hrs. lec., 3 hrs. lab.) Advanced concepts of project management and office procedures integrating software applications. Students will use Internet research and collaboration to complete projects. Prerequisites: ITSC 1401 or COSC 1401 or ITSW 1301; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course [ENGL 1301], OR placement by testing.

**POFT 2380 - COOPERATIVE EDUCATION - ADMINISTRATIVE ASSISTANT/SECRETARIAL SCIENCE GENERAL**

3 Credits (1 hr. lec., 20 hrs. ext.) 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. Requires LSCS liability insurance. Prerequisites: Enrollment in professional office technology AAS degree or certificate program; completion of 15 credits in degree plan; approval of coordinator.

**POFT 2381 - COOPERATIVE EDUCATION - ADMINISTRATIVE ASSISTANT/SECRETARIAL SCIENCE GENERAL II**

3 Credits (1 hr. lec., 20 hrs. ext.) 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. Requires LSCS liability insurance. Prerequisites: POFT 2380; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course [ENGL 1301], OR placement by testing.

**POFT 2386 - INTERNSHIP - ADMINISTRATIVE ASSISTANT**

3 Credits (9 hrs. ext.) 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. Requires LSCS liability insurance. Prerequisite: POFT 2331.

**PSYC 2301 - GENERAL PSYCHOLOGY**

3 Credits (3 hrs. lec.) An introductory course dealing with the elementary principles of human behavior. Designed especially for those students majoring in the social or biological sciences, premedicine, or education. (4201015125) Prerequisites: ENGL0305 AND ENGL 0307 or 0356, OR higher level course [ENGL 1301], OR placement by testing.

**PSYC 2302 - APPLIED PSYCHOLOGY**

3 Credits (3 hrs. lec.) A survey of psychological knowledge and methods in the fields of business, industry, education, medicine, mental health, law enforcement, environmental science, and consumer behavior. (4201015225) Prerequisites: PSYC 2301; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course [ENGL 1301], OR placement by testing.

**PSYC 2306 - HUMAN SEXUALITY**

3 Credits (3 hrs. lec.) An examination of sexual myths, functions, attitudes, behaviors, dysfunctions, and variations in sexual behavior in order to increase knowledge, awareness, and understanding. Class experience will emphasize the value-clarification process and examine the role of values in personal decision making. (4201015325) Prerequisites: PSYC 2301 or departmental approval; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course [ENGL 1301], OR placement by testing.

**PSYC 2308 - CHILD GROWTH AND DEVELOPMENT**

3 Credits (3 hrs. lec.) A study of physical and psychological development from conception through adolescence with emphasis on factors which influence growth and development. Students who have taken PSYC 2314 must have instructor approval to enroll. (4207015125) Prerequisites: PSYC 2301 or departmental approval; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course [ENGL 1301], OR placement by testing.

**PSYC 2314 - LIFE-SPAN GROWTH AND DEVELOPMENT**

3 Credits (3 hrs. lec.) A study of development from conception to death with emphasis on factors which influence growth and development. Consideration will be given to social, emotional, cognitive, and physical growth and development at each period of the life-span. Students who have taken PSYC 2308 must have instructor approval to enroll. (4207015125) Prerequisites: PSYC 2301; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course [ENGL 1301], OR placement by testing.
DESCRIPTION OF COURSES

PSYC 2315 - PSYCHOLOGY OF ADJUSTMENT
3 Credits (3 hrs. lec.) An examination of psychological issues common to everyday life. Topics include issues of personal growth and development, relationship factors, stress and behavioral control, and behavioral change. (4201015625) Prerequisites: PSYC 2301; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

PSYC 2316 - PSYCHOLOGY OF PERSONALITY
3 Credits (3 hrs. lec.) An examination of the major personality theories and ideas within the field of psychology. Includes, but not limited to, psychoanalytic, Neo-Freudian, humanistic and behavioral ideas and methods of personality measurement. (4201015725) Prerequisites: PSYC 2301; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

PSYC 2317 - BASIC STATISTICS
3 Credits (3 hrs. lec.) Introduction to basic statistical concepts including measures of central tendency, variability, and statistical inference. Some emphasis is placed on t-test, correlation, and analysis of variance. (4201015225) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; Math 0310

PSYC 2319 - SOCIAL PSYCHOLOGY
3 Credits (3 hrs. lec.) The course focuses on individual behavior as affected by cultural and social stimuli. Social behavior, interpersonal influence, group membership, and the relations between persons and social systems are emphasized. (4216015125) Prerequisites: SOCI 1301 or PSYC 2301 or departmental approval; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

PTHA 1260 - CLINICAL - PHYSICAL THERAPIST ASSISTANT
2 Credits (6 hrs. ext.) 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. Requires LSCS liability insurance. Prerequisites: PTHA 1225, 1305 and 1413; Corequisites: PTHA 1431, 2201 and 2435

PTHA 1291 - SPECIAL TOPICS IN PHYSICAL THERAPY ASSISTANT
2 Credits (2 hrs. lec.) The course is designed so that student physical therapist assistants will learn the theory and application of physical therapy procedures, or other activities in specialized areas of physical therapist assistant practice, in order to gain advanced competency in these areas. Topics may include sports rehabilitation, oncology, pediatrics, geriatrics/rehabilitation, wound care, hippotherapy, orthopedics/manual therapy, myofascial release, craniosacral therapy, acute care, aquatics and home health. The emphasis of this series of classes will be on specialized areas of physical therapy practice. 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. Requires LSCS liability insurance. Prerequisites: PTHA 1321 and 2409

PTHA 1305 - BASIC PATIENT CARE SKILLS
3 Credits (2 hrs. lec., 3 hrs. lab.) The application of basic patient handling, functional skills, communication, and selected data collection techniques. The student will distinguish and examine the theory, principles, and techniques of patient handling/functional skills and will perform basic patient handling/functional skills and assessment techniques. Requires LSCS liability insurance. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; Corequisites: PTHA 1225 and 1413

PTHA 1225 - COMMUNICATION IN HEALTH CARE
2 Credits (2 hrs. lec.) Communication theories and principles for optimal delivery of health care. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; Corequisites: PTHA 1305 and 1413

PTHA 1321 - PATHOPHYSIOLOGY
3 Credits (3 hrs. lec.) The study of the pathophysiology of diseases/conditions commonly encountered in
DESCRIPTION OF COURSES

PTHA 1413 - FUNCTIONAL ANATOMY
4 Credits (3 hrs. lec., 4 hrs. lab.) The relationship of the musculoskeletal and neuromuscular systems to normal and abnormal movement. Study of human anatomy and its application to physical therapy. Integration of skills related to the kinesiological assessment of the human body. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; Corequisites: PTHA 1225 and 1305

PTHA 1431 - PHYSICAL AGENTS
4 Credits (3 hrs. lec., 4 hrs. lab.) Biophysical principles, physiological effects, intervention efficacy, and application of physical agents. The theory and application of thermal and electrotherapy treatments, hydrotherapy and wound care, massage, and traction techniques are presented. The indications, contraindications, clinical efficacy and relevant documentation are discussed. Requires LSCS liability insurance. Prerequisites: PTHA 1225, 1305, and 1413; Corequisites: PTHA 1260, 2201 and 2435

PTHA 2201 - ESSENTIALS OF DATA COLLECTION
2 Credits (1 hrs. lec., 3 hrs. lab.) Data collection techniques used to prepare the physical therapist assistant to assist in patient/client management. Prerequisites: PTHA 1225, 1305, and 1413; Corequisites: PTHA 1260, 1431 and 2435

PTHA 2217 - ISSUES IN HEALTH CARE
2 Credits (2 hrs. lec.) Organizational patterns, administrative principles, legal and ethical issues in physical therapy, and preparation for licensure and employment. Exploration of the job placement skills in physical therapy. Additional emphasis will be placed on the transition from student to practitioner. Prerequisites: PTHA 1321 and 2409

PTHA 2409 - THERAPEUTIC EXERCISE
4 Credits (3 hrs. lec., 4 hrs. lab.) Concepts, principles, and application of techniques related to therapeutic exercise and functional training. Prerequisites: PTHA 1260, 1431, 2201 and 2435; Corequisite: PTHA 1321

PTHA 2435 - REHABILITATION TECHNIQUES
4 Credits (3 hrs. lec., 3 hrs. lab.) Advanced course integrating previously learned and new skills/techniques into the comprehensive rehabilitation of selected musculoskeletal, neuromuscular, cardio-pulmonary, and integumentary disorders. The student will distinguish and critically examine the concepts and principles of comprehensive management of long-term pathologies; and develop, implement, and revise a comprehensive treatment approach for various long-term pathologies. The student gains increased technical skills related to joint mobilization techniques, ambulation, ambulation aids, pre-ambulation exercises, mat programs, gait drills and patterns and specific rehabilitation techniques; i.e., basic NDT, PNF, sensory integration, functional training, and spasticity inhibiting techniques. Prerequisites: PTHA 1225, 1305 and 1413; Corequisites: PTHA 1260, 1431, and 2201

PTHA 2461 - CLINICAL - PHYSICAL THERAPY ASSISTANT
4 Credits (12 hrs. ext.) 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. Prerequisite: None; Corequisites: PTHA 2462 and 1291

PTHA 2462 - CLINICAL - PHYSICAL THERAPY ASSISTANT
4 Credits (12 hrs. ext.) 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. Prerequisite: None; Corequisites: PTHA 2461 and 1291

PTHA 2563 - CLINICAL - PHYSICAL THERAPY ASSISTANT
5 Credits (15 hrs. ext.) 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. Prerequisite: None; Corequisites: PTHA 2461 and 1291
DESCRIPTION OF COURSES

professional. Prerequisites: PTHA 2461 and 2462; Corequisite: PTHA 2217

PTRT 1301 - INTRODUCTION TO PETROLEUM INDUSTRY

3 Credits (3 hrs. lec.) 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. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; MATH 0308

PTRT 1424 - PETROLEUM INSTRUMENTATION

4 Credits (3 hrs. lec., 3 hrs. lab.) Surveys the instruments, measurements, and control devices used within the major aspects of the petroleum industry, basic terminology, functions, and applications of the various instruments will be discussed. Prerequisite: IEIR 1310

QCTC 1303 - QUALITY CONTROL

3 Credits (3 hrs. lec., 1 hr. lab.) Information on quality control principles and applications. Designed to introduce the student to the quality control profession. The student will be introduced to the use of statistical analysis of data to establish control systems for use in product manufacturing. Prerequisites: MATH 1314 and MCHN 1319; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

QCTC 1371 - PRESSURE VESSELS CODES

3 Credits (2 hrs. lec., 2 hrs. 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. A course in the requirements of inspection of pressure vessels including ASME Code Structure, function and requirements, Nondestructive Examination, Maintenance Inspection, Repairs and Alterations and Pressure Vessel Inspection Code. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

QCTC 1446 - TESTING AND INSPECTION SYSTEMS

4 Credits (3 hrs. lec., 2 hrs. lab.) A study of testing and inspection systems including pertinent specifications, inspection tools, gauges, instruments, and mechanisms, used in illustrating the need for maintaining quality to established standards. Prerequisite: None

QCTC 2331 - STANDARDS

3 Credits (2 hrs. lec., 2 hrs. lab.) Philosophy and theory of appropriate standards, organizations, and systems integration relating to the standards criteria in society. Prerequisite: None

RADR 1260 - CLINICAL *

2 Credits (12 hrs. ext.) 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. Requires LSCS liability insurance. Prerequisites: RADR 1409, 1411, and 1313

RADR 1313 - PRINCIPLES OF RADIOGRAPHIC IMAGING I

3 Credits (3 hrs. lec., 1 hr. lab.) An introduction to radiographic image qualities and the effects of exposure variables upon these qualities. Prerequisite: Admission to the program

RADR 1360 - CLINICAL *

3 Credits (15 hrs. ext.) 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. Requires LSCS liability insurance. Prerequisite: RADR 1260

RADR 1409 - INTRODUCTION TO RADIOGRAPHY AND PATIENT CARE

4 Credits (3 hrs. lec., 2 hrs. lab.) An overview of the historical development of radiography, basic radiation protection, an introduction to medical terminology, ethical and legal issues for health care professionals, and an orientation to the program and to the health care system. Patient assessment, infection control procedures, emergency and safety procedures, communication and patient interaction skills, and basic pharmacology are also included. Prerequisite: Admission to the program
RADR 1411 - BASIC RADIOGRAPHIC PROCEDURES
4 Credits (3 hrs. lec., 2 hrs. 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. Prerequisite: Admission to the program

RADR 1460 - CLINICAL *
4 Credits (24 hrs. ext.) 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. Prerequisite: RADR 1360

RADR 2217 - RADIOGRAPHIC PATHOLOGY
2 Credits (2 hrs. lec.) A presentation of disease processes and their appearance on radiographic images. Prerequisite: RADR 2309

RADR 2240 - SECTIONAL ANATOMY FOR MEDICAL IMAGING
2 Credits (2 hrs. lec.) Anatomic relationships that are present under various sectional orientations as depicted by computed tomography or magnetic resonance imaging. Course will focus on the cross-sectional anatomical structures of the head, neck, thorax, abdomen, and pelvic regions, in the axial plane, as depicted by Computed Tomography (CT) and Magnetic Resonance Imaging (MRI). Prerequisites: Admission to the program; RADR 1409

RADR 2271 - COMPUTERS IN THE IMAGING SCIENCES
2 Credits (2 hrs. lec.) Overview of computer information systems. Introduces hardware, software, and procedures in the imaging sciences. This course introduces students to word processing, presentation media, and software applications applicable to medical imaging. Prerequisite: RADR 2305

RADR 2305 - PRINCIPLES OF RADIOGRAPHIC IMAGING II
3 Credits (3 hrs. lec., 1 hr. lab.) A continuation of radiographic imaging technique formulation. Includes equipment quality control, image quality assurance, and the synthesis of all variables in image production. Prerequisite: RADR 1313

RADR 2309 - RADIOGRAPHIC IMAGING EQUIPMENT
3 Credits (3 hrs. lec., 1 hr. lab.) A study of the equipment and physics of x-ray production. Includes basic x-ray circuits. Also examines the relationship of conventional and digital equipment components to the imaging process. Prerequisite: RADR 2305

RADR 2313 - RADIATION BIOLOGY AND PROTECTION
3 Credits (3 hrs. lec.) A study of the 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. Prerequisites: BIOL 2404 and RADR 2331

RADR 2331 - ADVANCED RADIOGRAPHIC PROCEDURES
3 Credits (3 hrs. lec., 1 hr. lab.) Continuation of positioning; alignment of the anatomical structure and equipment, evaluation of images for proper demonstration of anatomy and related pathology. Prerequisite: RADR 2401

RADR 2335 - RADIOLOGIC TECHNOLOGY SEMINAR
3 Credits (3 hrs. lec.) A capstone course focusing on the synthesis of professional knowledge, skills, and attitudes in preparation for professional employment and lifelong learning. Prerequisite: RADR 2360

RADR 2340 - SECTIONAL ANATOMY FOR MEDICAL IMAGING
3 Credits (3 hrs. lec.) In-depth coverage of anatomic relationships that are present under various sectional orientations as depicted by medical imaging. Prerequisite: Admission to program

RADR 2360 - CLINICAL *
3 Credits (18 hrs. ext.) 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. Requires LSCS liability insurance. Prerequisite: RADR 1460

*LSC-CyFair and LSC-Montgomery offer these courses in different semesters so the weekly hours may differ (12 hrs/wk in the fall and 16 hrs/wk in the summer.)
DESCRIPTION OF COURSES

**RADR 2401 - INTERMEDIATE RADIOGRAPHIC PROCEDURES**
4 Credits (3 hrs. lec., 2 hrs. 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 intermediate anatomy. Prerequisite: RADR 1411

**RADR 2460 - CLINICAL * **
4 Credits (24 hrs. ext.) 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. Requires LSCS liability insurance. Prerequisite: RADR 2360

**RBTC 1305 - ROBOTIC FUNDAMENTALS**
3 Credits (2 hrs. lec., 3 hrs. lab.) An introduction to flexible automation. Topics include installation, repair, maintenance, and development of flexible robotic manufacturing systems. Prerequisites: CETT 1409 AND COSC 1401 or ITSC 1401

**RBTC 1401 - PROGRAMMABLE CONTROLLERS**
4 Credits (3 hrs. lec., 3 hrs. lab.) A study in programmable controllers. Topics include processor units, numbering systems, memory organization, relay type devices, times, counters, data manipulators and programming and troubleshooting skills on a cross section of industrial PLCs. Prerequisite: None

**RELI 1311 - OLD TESTAMENT SURVEY**
3 Credits (3 hrs. lec.) This course presents the historical, cultural, and literary approaches to understanding the religious themes of the Hebrew Bible. This course is a non-funded course and may not transfer. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

**RELI 1312 - NEW TESTAMENT SURVEY**
3 Credits (3 hrs. lec.) This course presents the historical, cultural, and literary approaches to understanding the religious themes of the New Testament. This course is a non-funded course and may not transfer. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

**RNSG 1105 - NURSING SKILLS I**
1 Credit (3 hrs. lab.) Study of the 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. Prerequisites: ENGL 1301, PSYC 2301 and BIOL 2401; Corequisites: RNSG 1144, 1209, 1115 and 1146

**RNSG 1115 - HEALTH ASSESSMENT**
1 Credit (3 hrs. lab.) Development of skills and techniques required for a comprehensive health assessment within a legal/ethical framework. Prerequisites: ENGL 1301, BIOL 2401, PSYC 2301; Corequisites: BIOL 2402, RNSG 1144, 1146, 1209 and 1105

**RNSG 1119 - INTEGRATED NURSING SKILLS I**
1 Credit (3 hrs. lab.) Study of the concepts and principles necessary for performing basic nursing skills for care of diverse clients across the life span. Topics include knowledge, judgment, skills, and professional values within a legal/ethical framework. Skills include basic physical assessment, communication, dosage calculations, medical asepsis, hygiene, and administration of oral, topical, ophthalmic, otic, vaginal, and rectal medications. Prerequisites: RNSG 1172, PSYC 2301, BIOL 2401, ENGL 1301 and admission to the ADN program; Corequisites: RNSG 1361 and 1523, BIOL 2402

**RNSG 1129 - INTEGRATED NURSING SKILLS II**
1 Credit (3 hrs. lab.) Study of the concepts and principles necessary to perform intermediate or advanced nursing skills for care of diverse clients across the life span. Topics include knowledge, judgment, skills, and professional values within a legal/ethical framework. Skills include surgical asepsis, wound care, urinary catheterization, intravenous therapy, enteral tube insertion and care, administration of intramuscular, subcutaneous, and intradermal medications, and intermediate physical assessment skills. Prerequisites: ENGL 1301, RNSG 1119, 1301, 1523 and BIOL 2402; Corequisites: RNSG 1362 and 2504

**RNSG 1144 - NURSING SKILLS II**
1 Credit (3 hrs. lab.) Study of the 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. Prerequisites: BIOL
2401, PSYC 2301, ENGL 1301; Corequisites: RNSG
1105, 1209, 1115, 1146

RNSG 1146 - LEGAL AND ETHICAL ISSUES
FOR NURSES
1 Credit (1 hr. lec.) Study of the laws and regulations
related to the provision of safe and effective profes-
sional nursing care; attention given to the develop-
ment of a framework for addressing ethical issues; and
topics to include confidentiality, the Nursing Practice
Act, professional boundaries, ethics, and health care
legislation. Prerequisites: BIOL 2401, PSYC 2301,
ENGL 1301; Corequisites: RNSG 1105, 1115,
1144, 1209

RNSG 1162 - CLINICAL - NURSING REGISTERED
NURSE TRAINING
1 credit hours (3 hrs. ext.) 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 profes-
sional. This course provides clinical experience at
medical-surgical facilities that provide opportunities
for the vocational nurse to begin the transition to the
registered nurse role and function. Prerequisites:
ENGL 1301, BIOL 2401, PSYC 2301; RNSG 1201
or RNSG 1301; Corequisites: RNSG 1327, RNSG
1115 and RNSG 1146

RNSG 1172 - PREPARATION FOR BASIC CARE
1 Credit (3 hrs. lab.) Introduction to basic nursing
care skills that are fundamental to all nursing care.
Topics include development of skills and techniques
required for a comprehensive assessment in a con-
textual framework and the theoretical concepts that
serve as a foundation for skills. Articulated credit may
be available. Prerequisites: BIOL 2401, PSYC 2301,
ENGL 1301 and admission to the ADN Program

RNSG 1201 - PHARMACOLOGY
2 Credits (2 hrs. lec.) Introduction to the science of
pharmacology with emphasis on the actions, inter-
actions, adverse effects, and nursing implications
of each drug classification. Topics include the roles
and responsibilities of the nurse in safe administra-
tion of medications within a legal/ethical framework.
Prerequisite: BIOL 2401

RNSG 1207 - NURSING JURISPRUDENCE
2 Credits (1 hr. lec., 2 hrs. lab.) A course in nursing
jurisprudence and ethics with an emphasis on personal
and professional responsibility. Study of the laws and
regulations related to the provision of safe and effective
professional nursing care. This course lends itself to
either a blocked or integrated approach. Prerequi-
tites: RNSG 2173, RNSG 2361, and RNSG 2514;
Corequisites: RNSG 2362 and RNSG 2535

RNSG 1209 - INTRODUCTION TO NURSING
2 Credits (2 hrs. lec.) Overview of nursing and the role
of the professional nurse as a provider of care, coor-
dinator of care, and member of a profession. Topics
include knowledge, judgment, skills and professional
values within a legal/ethical framework. Prerequisites:
BIOL 2401, PSYC 2301, ENGL 1301; Corequisites:
RNSG 1105, 1144, 1115, BIOL 2402

RNSG 1260 - CLINICAL - NURSING FOR
ARTICULATING STUDENTS
2 Credits (6 hrs. ext.) 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 profes-
sional. Requires LSCS liability insurance. Prerequisites:
Admission to nursing RN transition program and PSYC
2301, 2314, BIOL 2401, 2402, 2420, ENGL 1301,
RNSG 1301; Corequisite: RNSG 1417

RNSG 1261 - CLINICAL - COMMON CONCEPTS OF
ADULT HEALTH
2 Credits (6 hrs. ext.) 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 profes-
sional. Requires LSCS liability insurance. Prerequisites:
RNSG 1144 and BIOL 2402; Corequisites: RNSG
1341 and BIOL 2420

RNSG 1301 - PHARMACOLOGY
3 Credits (2 hrs. lec., 2 hrs. lab.) Introduction to the
science of pharmacology with emphasis on the
actions, adverse effects, and nursing implications
of each drug classification. Topics include the roles
and responsibilities of the nurse in safe administra-
tion of medications within a legal/ethical framework. Prereq-
usite: BIOL 2401 OR current licensure as RN, LVN,
or Paramedic; Corequisite: BIOL 2402

* LSC-CyFair and LSC-Montgomery offer these courses
in different semesters so the weekly hours may differ
(12 hrs/wk in the fall and 16 hrs/wk in the summer.)
DESCRIPTION OF COURSES

RNSG 1327 - TRANSITION FROM VOCATIONAL TO PROFESSIONAL NURSING
3 Credits (3 hrs. lec.) 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. This bridging course provides the Licensed Vocational Nurse (LVN) an opportunity to enhance his/her theory base and develop skills essential for joining the generic ADN student for the second year of the program. Prerequisites: ENGL 1301, BIOL 2401, PSYC 2301; RNSG 1201 or RNSG 1301; Corequisites: RNSG 1162, RNSG 1115 and RNSG 1146.

RNSG 1341 - COMMON CONCEPTS OF ADULT HEALTH
3 Credits (3 hrs. lec.) Study of the general principles of caring for selected adult clients and families with common health needs in a structured setting. Emphasis on knowledge, judgment, skills and professional values within a legal/ethical framework. Prerequisites: RNSG 1144 and BIOL 2402; Corequisites: RNSG 1261 and BIOL 2420.

RNSG 1343 - COMPLEX CONCEPTS OF ADULT HEALTH
3 Credits (3 hrs. lec.) 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. Prerequisites: RNSG 1341 and BIOL 2402; Corequisites: RNSG 1261 and BIOL 2420.

RNSG 1361 - CLINICAL-NURSING I
3 Credits (9 hrs. ext.) 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. Requires LSCS liability insurance. Prerequisites: BIOL 2401, ENGL 1301, PSYC 2301 and RNSG 1172 and admission to the ADN Program; Corequisites: RNSG 1119 and 1523.

RNSG 1362 - CLINICAL - NURSING II
3 Credits (9 hrs. ext.) 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. Requires LSCS liability insurance. Prerequisites: RNSG 1119, 1361, 1523, 1301; BIOL 2402; Corequisites: RNSG 1129 and 2504.

RNSG 1417 - CONCEPTS OF NURSING PRACTICE I FOR ARTICULATING STUDENTS
4 Credits (4 hrs. lec.) Provides the articulating student the opportunity to examine the role of the professional nurse; application of a systematic problem-solving process and critical thinking skills which includes a focus on the adult population in selected settings; and competency in knowledge, judgment, skill, and professional values within a legal/ethical framework. Prerequisites: Admission to Nursing RN transition program, BIOL 2401, 2402; ENGL 1301, PSYC 2301, 2314, RNSG 1301; Corequisite: RNSG 1260.

RNSG 1462 - CLINICAL: CONCEPTS OF ADULT HEALTH
4 Credits (12 hrs. ext.) 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. Requires LSCS liability insurance. Prerequisites: RNSG 1261 and 1341; Corequisite: RNSG 1343.

RNSG 1523 - INTRO TO PROFESSIONAL NURSING FOR INTEGRATED PROGRAMS
5 Credits (4 hrs. lec., 2 hrs. lab.) Introduction to the profession of nursing including the roles of the registered nurse with emphasis on health promotion and primary disease prevention across the life span; essential components of the nursing health assessment; identification of deviations from expected health patterns; the application of a systematic, problem-solving process to provide basic nursing care to diverse clients across the life span; and applicable competencies in knowledge, judgment, skills, and professional values within a legal/ethical framework. This initial course focuses on basic human needs; health related learning needs; nursing process, concepts of mental/physical health, decision making, scientific principles, critical thinking, and resource management as a basis for nursing action. Assessment, communication, cultural and developmental diversities, medication math skills, and principles related to pharmacology, and basic.
nursing skills are taught in selected classroom, laboratory, seminar, and clinical activities. Prerequisites: Admission to ADN program, BIOL 2401, PSYC 2301, ENGL 1301 and RNSG 1172; Corequisites: RNSG 1119 and 1361

RNSG 2162 - CLINICAL: MENTAL HEALTH NURSING
1 Credit (3 ext. hrs.) 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. Requires LSCS liability insurance. Prerequisites: RNSG 1462 or RNSG 1162; PSYC 2314, SOCI 1301; Corequisites: RNSG 2213 and SPCH 1318

RNSG 2171 - ROLE TRANSITION FOR ARTICULATING STUDENTS
1 Credit (1 hr. lec.) This is the third course in the sequence for licensed vocational nurses in preparation for transition to the professional nursing role. It includes exploration of the role of the professional nurse as a provider of care, coordinator of care, member of a profession, application of knowledge, judgment, skills and professional values within a legal/ethical framework. The focus is on role transition, including assessment, analysis of data, nursing process, pharmacology, interdisciplinary team process, communication process, and legal/ethical responsibilities. Prerequisites: RNSG 1260, 1301, 1417, 2173, 2361, 2514; Corequisites: RNSG 1207, 2362 and 2535

RNSG 2173 - ADVANCED NURSING SKILLS
1 Credit (3 hrs. lab.) Study of the concepts and principles necessary to perform advanced nursing skills. Topics include knowledge, judgment, skill, critical decision-making, and professional values within a legal/ethical framework. Skills include venipuncture, intravenous medication administration, care of the violent patient, advanced EKG interpretation, ventilator care, chest tubes, problem-solving, phlebotomy, tracheostomy care, suctioning, central line dressing changes, and total parenteral nutrition. Prerequisites: RNSG 1129, 1260, 1417, 2504, BIOI 2420, PSYC 2314, SOCI 1301; Corequisites: RNSG 2361 and 2514

RNSG 2201 - CARE OF CHILDREN AND FAMILIES
2 Credits (2 hrs. lec.) Study of concepts related to the provision of nursing care for children and their families, emphasizing judgment and professional values within a legal/ethical framework. Prerequisites: PSYC 2314; RNSG 1462 or RNSG 1162; Corequisites: RNSG 2260, 2261

RNSG 2207 - TRANSITION TO NURSING PRACTICE
2 Credits (2 hrs. lec.) Introduction to selected concepts related to the role of the associate degree nurse as a provider of care, coordinator of care and member of the profession. Review of trends and issues impacting nursing and health care today and in the future. Topics include knowledge, judgment skill, and professional values within a legal/ethical framework. Prerequisites: RNSG 2162, 2260, and 2261; Corequisites: RNSG 2231 and 2660

RNSG 2208 - MATERNAL/NEWBORN NURSING AND WOMEN’S HEALTH
2 Credits (2 hrs. lec.) Study of concepts related to the provision of nursing care for normal childbearing families and those at risk, as well as women’s health issues; competency in knowledge, judgment, skill, and professional values within a legal ethical framework, including a focus on normal and high-risk needs for the childbearing family during the preconceptual, prenatal, intrapartum, neonatal and postpartum periods; and consideration of selected issues in women’s health. Prerequisite: RNSG 1462 or RNSG 1162; Corequisites: RNSG 2201, 2261, and SPCH 1318

RNSG 2213 - MENTAL HEALTH NURSING
2 Credits (2 hrs. lec.) Principles and concepts of mental health, psychopathology, and treatment modalities related to the nursing care of clients and their families. Prerequisites: RNSG 1462 or RNSG 1162; SOCI 1301; Corequisites: RNSG 2162 and 2201

RNSG 2231 - ADVANCED CONCEPTS OF ADULT HEALTH
2 Credits (2 hrs. lec.) Application of advanced concepts and skills for the development of the professional nurse’s role in complex nursing situations with adult clients/families with complex health needs involving multiple body systems in intermediate and critical care settings. Emphasis on knowledge, judgment, skills and professional values within a legal ethical framework. Prerequisites: RNSG 2162, 2260, 2261; Corequisites: RNSG 2207 and 2660
DESCRIPTION OF COURSES

RNSG 2260 - CLINICAL - CARE OF CHILDREN AND FAMILIES
2 Credits (6 hrs. ext.) 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. Work based instruction that allows the student to synthesize and apply theoretical concepts learned in caring for the pediatric client and family to the community, clinical, and acute care setting. Close and/or direct supervision is provided by the clinical professional (faculty or preceptor), generally in a clinical setting. Requires LSCS liability insurance. Prerequisites: RNSG 1462 or RNSG 1162; Corequisite: RNSG 2201

RNSG 2261 - CLINICAL - MATERNAL/NEWBORN NURSING
2 Credits (6 hrs. lec.) 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. Requires LSCS liability insurance. Prerequisites: RNSG 1462 or RNSG 1162; Corequisite: RNSG 2208

RNSG 2361 - CLINICAL - NURSING III
3 Credits (9 hrs. ext.) 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. Requires LSCS liability insurance. Prerequisites: RNSG 1129, 1260, 1362, 1417, 2504; BIOL 2420; PSYC 2314; SOCI 1301; Corequisites: RNSG 2173 and 2514

RNSG 2362 - CLINICAL - NURSING IV
3 Credits (9 hrs. ext.) 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. Requires LSCS liability insurance. Prerequisites: RNSG 2173, 2361, 2514; Corequisites: RNSG 1207 and 2535

RNSG 2504 - INTEGRATED CARE OF THE CLIENT WITH COMMON HEALTH CARE NEEDS: NURSING II
5 Credits (4 hrs. lec., 2 hrs. lab.) Application of a systematic problem-solving process and critical-thinking skills to provide nursing care to diverse clients/families across the life span with common health care needs. Opportunities for collaboration with members of the multidisciplinary health care team. Content includes applicable competencies in knowledge, judgement, skills, and professional values within a legal/ethical framework. Prerequisites: RNSG 1119, 1301, 1361, 1523; BIOL 2402; Corequisites: RNSG 1129 and 1362

RNSG 2514 - INTEGRATED CARE OF THE CLIENT WITH COMPLEX HEALTH CARE NEEDS
5 Credits (4 hrs. lec., 2 hrs. lab.) Application of a systematic problem-solving process and critical thinking skills to provide comprehensive nursing care to diverse clients/families across the life span with complex health care needs including, but not limited to, complex childhood/adolescent diseases, complicated perinatal care, acute mental illness, complex perioperative care, serious adult health problems and health issues related to aging. Emphasis on tertiary disease prevention, health maintenance/restoration and collaboration with members of the multidisciplinary health care team. Topics include the role of the nurse as client advocate and coordinator of care and applicable competencies in knowledge, judgment, skills, and professional values within a legal/ethical framework. Content includes complex health problems and pathological processes that occur in all age groups, related to mental and physical illness, obstetrical problems, and end stage or emergency health problems. Clinical activities are offered in acute care settings, with added long term and community-based activities. Prerequisites: RNSG 1129, 1260, 1362, 1417, 2504; BIOL 2420; PSYC 2314; SOCI 1301; Corequisites: RNSG 2173 and 2361

RNSG 2535 - INTEGRATED CLIENT CARE MANAGEMENT: NURSING IV
5 Credits (4 hrs. lec., 2 hrs. lab.) Application of client assessment skills, critical thinking, and independent nursing interventions to care for diverse clients/families throughout the life span whose health care needs may be difficult to predict. Emphasis on collaborative clinical decision-making, nursing leadership skills, and client management. Topics include the significance of professional development, trends in nursing and health care, and applicable knowledge, judgement, skills, and professional values within a legal/ethical framework. Content includes human needs and nursing role development continue as a focus, with long-term health problems in diverse individuals. Students use the nursing process for making nursing judgments and setting priorities. Discussion of current issues affecting health care and additional legal/ethical aspects enhance the student's personal
and professional growth. Course includes management of chronic health problems, delegation, utilization of resources, and case management. Prerequisites: RNSG 2173, 2361, 2514; Corequisites: RNSG 1207, 2171, 2362

RNSG 2660 - CLINICAL - RN TRAINING
6 Credits (18 hrs. ext.) 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. Requires LSCS liability insurance. Prerequisites: RNSG 2162, 2260, 2261; Corequisites: RNSG 2207 and 2231

RSPT 1101 - INTRODUCTION TO RESPIRATORY CARE
1 Credit (3 hrs. lab.) 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). This course may be offered only by a college with a program approved by the Commission on Accreditation of Allied Health Education Programs (CAAHEP), Committee on Accreditation for Respiratory Care Education (CoARC) or successor organizations. Prerequisite: None; Corequisite: RSPT 1166

RSPT 1160 - CLINICAL RESPIRATORY CARE THERAPY/ThERAPIST
1 Credit (6 hrs. ext.) 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. Requires LSCS liability insurance. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; Corequisite: RSPT 1166

RSPT 1167 - PRACTICUM RESPIRATORY CARE THERAPY/ThERAPIST
1 Credit (7 hrs. ext.) Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student. Requires LSCS liability insurance. Prerequisite: None; Corequisite: RSPT 1431

RSPT 1207 - CARDIOPULMONARY ANATOMY AND PHYSIOLOGY
2 Credits (1 hr. lec., 4 hrs. lab.) An introduction to the anatomy and physiology of the cardiovascular system. This course may be offered only by a college with a program approved by the Commission on Accreditation of Allied Health Education Programs (CAAHEP), Committee on Accreditation for Respiratory Care Education (CoARC) or successor organizations. Prerequisite: None

RSPT 1213 - BASIC RESPIRATORY CARE PHARMACOLOGY
2 Credits (1 hr. lec., 2 hrs. lab.) A study of basic pharmacological principles/practices of respiratory care drugs. Emphasis on classification, routes of administration, dosages/calculations, and interaction of the autonomic nervous system and physiological interaction. This course may be offered only by a college with a program approved by the Commission on Accreditation of Allied Health Education Programs (CAAHEP), Committee on Accreditation for Respiratory Care Education (CoARC) or successor organizations. Prerequisite: None

RSPT 1241 - RESPIRATORY HOME CARE/REHABILITATION
2 Credits (2 hrs. lec.) A study of respiratory home care/rehabilitation equipment, procedures, and patient education. Emphasizes treatment of patients in home care and alternate settings. This course may be offered only by a college with a program approved by the Commission on Accreditation of Allied Health Education Programs (CAAHEP), Committee on Accreditation for Respiratory Care Education (CoARC) or successor organizations. Prerequisite: None

RSPT 1325 - RESPIRATORY CARE SCIENCES
3 Credits (2 hrs. lec., 4 hrs. lab.) Physics, mathematics, and chemistry as related to respiratory care. This course may be offered only by a college with a program approved by the Commission on Accreditation of Allied Health Education Programs (CAAHEP), Committee on
DESCRIPTION OF COURSES

Accreditation for Respiratory Care Education (CoARC) or successor organizations. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

RSPT 2160 - CLINICAL RESPIRATORY CARE THERAPY/Therapist
1 Credit (6 hrs. ext.) 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. This course may be offered only by a college with a program approved by the Commission on Accreditation of Allied Health Education Programs (CAAHEP), Committee on Accreditation for Respiratory Care Education (CoARC) or successor organizations. Requires LSCS liability insurance. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

RSPT 2166 - PRACTICUM RESPIRATORY CARE THERAPY/Therapist
1 Credit (7 hrs. ext.) Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student. This course may be offered only by a college with a program approved by the Commission on Accreditation of Allied Health Education Programs (CAAHEP), Committee on Accreditation for Respiratory Care Education (CoARC) or successor organizations. Requires LSCS liability insurance. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

RSPT 2139 - ADVANCED CARDIAC LIFE SUPPORT
1 Credit (3 hrs. 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. This course may be offered only by a college with a program approved by the Commission on Accreditation of Allied Health Education Programs (CAAHEP), Committee on Accreditation for Respiratory Care Education (CoARC) or successor organizations. Prerequisite: None; Corequisite: RSPT 1166

RSPT 2190 - CLINICAL RESPIRATORY CARE THERAPY/Therapist
1 Credit (6 hrs. ext.) 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. This course may be offered only by a college with a program approved by the Commission on Accreditation of Allied Health Education Programs (CAAHEP), Committee on Accreditation for Respiratory Care Education (CoARC) or successor organizations. Requires LSCS liability insurance. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

RSPT 2160 - CLINICAL RESPIRATORY CARE THERAPY/Therapist
1 Credit (6 hrs. ext.) 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. This course may be offered only by a college with a program approved by the Commission on Accreditation of Allied Health Education Programs (CAAHEP), Committee on Accreditation for Respiratory Care Education (CoARC) or successor organizations. Requires LSCS liability insurance. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

RSPT 2166 - PRACTICUM RESPIRATORY CARE THERAPY/Therapist
1 Credit (7 hrs. ext.) Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student. This course may be offered only by a college with a program approved by the Commission on Accreditation of Allied Health Education Programs (CAAHEP), Committee on Accreditation for Respiratory Care Education (CoARC) or successor organizations. Requires LSCS liability insurance. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

RSPT 2210 - CARDIOPULMONARY DISEASE
2 Credits (1 hr. lec., 4 hrs. lab.) Etiology, pathogenesis, pathology, diagnosis, history, prognosis, manifestations, treatment, and detection of cardiopulmonary diseases. This course may be offered only by a college with a program approved by the Commission on Accreditation of Allied Health Education Programs (CAAHEP), Committee on Accreditation for Respiratory Care Education (CoARC) or successor organizations. Requires LSCS liability insurance. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

RSPT 2230 - EXAMINATION PREPARATION
2 Credits (1 hr. lec., 4 hrs. lab.) Comprehensive review to optimize respiratory care credentialing exam success. This course may be offered only by a college with a program approved by the Commission on Accreditation of Allied Health Education Programs (CAAHEP), Committee on Accreditation for Respiratory Care Education (CoARC) or successor organizations. Prerequisite: None

RSPT 2210 - CARDIOPULMONARY DISEASE
2 Credits (1 hr. lec., 4 hrs. lab.) Etiology, pathogenesis, pathology, diagnosis, history, prognosis, manifestations, treatment, and detection of cardiopulmonary diseases. This course may be offered only by a college with a program approved by the Commission on Accreditation of Allied Health Education Programs (CAAHEP), Committee on Accreditation for Respiratory Care Education (CoARC) or successor organizations. Requires LSCS liability insurance. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

RSPT 2230 - EXAMINATION PREPARATION
2 Credits (1 hr. lec., 4 hrs. lab.) Comprehensive review to optimize respiratory care credentialing exam success. This course may be offered only by a college with a program approved by the Commission on Accreditation of Allied Health Education Programs (CAAHEP), Committee on Accreditation for Respiratory Care Education (CoARC) or successor organizations. Prerequisite: None
**RSPT 2243 - Research in Respiratory Care**

2 Credits (1 hr. lec., 4 hrs. lab.) Analysis of current respiratory care research material and determination of scientific validity. May include active clinical research. This course may be offered only by a college with a program approved by the Commission on Accreditation of Allied Health Education Programs (CAAHEP), Committee on Accreditation for Respiratory Care Education (CoARC) or successor organizations. Prerequisite: None

**RSPT 2266 - Practicum Respiratory Therapy Technician**

2 Credits (16 hrs. ext.) Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student. This course may be offered only by a college with a program approved by the Commission on Accreditation of Allied Health Education Programs (CAAHEP), Committee on Accreditation for Respiratory Care Education (CoARC) or successor organizations. Prerequisite: None

**RSPT 2325 - Cardiopulmonary Diagnostics**

3 Credits (2 hrs. lec., 4 hrs. lab.) A study of physical, radiological, hemodynamic, laboratory, nutritional, and cardiopulmonary diagnostic assessments. This course may be offered only by a college with a program approved by the Commission on Accreditation of Allied Health Education Programs (CAAHEP), Committee on Accreditation for Respiratory Care Education (CoARC) or successor organizations. Prerequisite: None

**RSPT 2353 - Neonatal/Pediatric Cardiopulmonary Care**

3 Credits (1 hrs. lec., 5 hrs. lab.) A study of acute care, monitoring, and management of the neonatal/pediatric patient. This course may be offered only by a college with a program approved by the Commission on Accreditation of Allied Health Education Programs (CAAHEP), Committee on Accreditation for Respiratory Care Education (CoARC) or successor organizations. Prerequisite: None

**RSPT 2366 - Practicum Respiratory Care Therapy/Therapist**

3 Credits (24 hrs. ext.) Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student. This course may be offered only by a college with a program approved by the Commission on Accreditation of Allied Health Education Programs (CAAHEP), Committee on Accreditation for Respiratory Care Education (CoARC) or successor organizations. Requires LSCS liability insurance. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

**RSPT 2414 - Mechanical Ventilation**

4 Credits (2 hr. lec, 6 hrs. 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 ventilator support. This course may be offered only by a college with a program approved by the Commission on Accreditation of Allied Health Education Programs (CAAHEP), Committee on Accreditation for Respiratory Care Education (CoARC) or successor organizations. Prerequisite: None; Corequisite: RSPT 1167

**RSTO 1313 - Hospitality Supervision**

3 Credits (3 hrs. lec.) Fundamentals of recruiting, selection, and training of food service and hospitality personnel. Topics include job descriptions, schedules, work improvement, motivation, and applicable personnel laws and regulations. Emphasis on leadership development. Prerequisites: HAMG 1321; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

**RSTO 1325 - Purchasing for Hospitality Operations**

3 Credits (3 hrs. lec.) 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 comparisons, proper receiving procedures, storage management, and issue procedures. Emphasis on product cost analysis, yields, pricing formulas, controls, and record keeping at each stage of the purchasing cycle. Prerequisites: HAMG 1321; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

**RTVB 1321 - TV Field Production**

3 Credits (2 hrs. lec., 4 hrs. lab.) Pre-production, production, and post-production process involved in field television production. Topics include field camera setup and operation, field audio, television
DESCRIPTION OF COURSES

directing, and in-camera or basic continuity editing with an emphasis on underlying principles of video technology. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing.

RTVB 1325 - TV STUDIO PRODUCTION
3 Credits (2 hrs. lec., 4 hrs. lab.) Basic television production. Includes studio program content, studio camera operation, and television audio. Prerequisite: None

RTVB 2381 - COOPERATIVE EDUCATION - RADIO/TELEVISION BROADCASTING
3 Credits (1 hr. lec., 20 hrs. ext.) 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. Prerequisite: Meets final semester requirements

SCWK 1321 - ORIENTATION TO SOCIAL SERVICES
3 Credits (3 hrs. lec.) 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. Prerequisites: ENGL 0304 or ENGL 0339 AND ENGL 0306 or 0355, OR higher level course (ENGL 1301), OR placement by testing

SCWK 2186 - INTERNSHIP - SOCIAL WORK
1 Credit (6 hrs. ext.) 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. Requires LSCS liability insurance. Prerequisites: SCWK 1321 and DAAC 1317

SCWK 2286 - INTERNSHIP - SOCIAL WORK
2 Credits (12 hrs. ext.) 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. Requires LSCS liability insurance. Prerequisites: SCWK 1321 and DAAC 1317

SCWK 2331 - ABNORMAL BEHAVIOR
3 Credits (3 hrs. lec.) An exploration and identification of maladaptive behavior including characteristics, classification, diagnosis, and treatment modalities. Topics include factors associated with defining and identifying abnormal behavior. Prerequisites: ENGL 0304 or ENGL 0339 AND ENGL 0306 or 0355, OR higher level course (ENGL 1301), OR placement by testing

SCWK 2386 - INTERNSHIP - SOCIAL WORK
3 Credits (18 hrs. ext.) 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. Requires LSCS liability insurance. Prerequisites: SCWK 1321 and DAAC 1317

SGNL 1401 - BEGINNING AMERICAN SIGN LANGUAGE I
4 Credits (3 hrs. lec., 2 hrs. lab.) Manual and receptive proficiency on a basic level. Signed conversation, use of CD-ROM for visual training, basic principles of grammar, simple exercises, easy reading which includes cultural material. (1616035113) Prerequisite: None

SGNL 1402 - BEGINNING AMERICAN SIGN LANGUAGE II
4 Credits (3 hrs. lec., 2 hrs. lab.) Continuation of SGNL 1401 with increased emphasis on comprehension, signing and receptive skills. Intensive drills to increase vocabulary and knowledge of ASL structure. (1616035113) Prerequisite: SGNL 1401

SGNL 2301 - INTERMEDIATE AMERICAN SIGN LANGUAGE I
3 Credits (2 hrs. lec., 3 hrs. lab.) Review and application of conversational skills in American Sign Language. Introduction to American Sign Language literature and folklore. (1616035213) Prerequisite: SGNL 1402

SGNL 2302 - INTERMEDIATE AMERICAN SIGN LANGUAGE II
3 Credits (2 hrs. lec., 3 hrs. lab.) Continuation of SGNL 2301 with increased emphasis on conversational skills. (1616035213) Prerequisite: SGNL 2301
SLNG 1211 - FINGERSPELLING
2 Credits (2 hrs. lec., 2 hrs. lab.) Develops expressive and receptive fingerspelling skills. Receptive skills focus on whole word and phrase recognition as well as reading fingerspelling in context. Expressive skills focus on the development of speed, clarity, and fluency. Additionally, this course develops expressive skills in signing numbers and skills in receptively interpreting numbers in a variety of areas including sports, mathematics, weights, and measures. Prerequisite: None

SLNG 1215 - VISUAL/GESTURAL COMMUNICATION
2 Credits (2 hrs. lec.) A course in the development of skills in nonverbal communications. Emphasizes the use and understanding of facial expression, gestures, pantomime, and body language. Creation and/or performance of stories using these elements. Prerequisite: None

SLNG 1317 - INTRODUCTION TO THE DEAF COMMUNITY
3 Credits (3 hrs. lec.) An overview of the physical, educational, social, and cultural implications of deafness and hearing loss within the context of the individual’s personal life, family, and community in today’s multicultural world. Emphasis on current educational and vocational programs, legislation, technology, and other issues. Prerequisite: None

SLNG 1321 - INTRODUCTION TO THE INTERPRETING PROFESSION
3 Credits (3 hrs. lec.) 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. This course will also include identification of professional interpreting organizations and journal/publications that provide information on sign systems and other interpreting methods. Prerequisites: SGNL 1401 and SLNG 1317; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

SLNG 1347 - DEAF CULTURE
3 Credits (3 hrs. lec.) Provides a historical and contemporary perspective of American deaf culture using a sociocultural model. Includes cultural identity, values, group norms, communication, language, and significant contributions made by deaf people to the world. This course will also identify organizations of the deaf and will explore implications of deafness on family dynamics. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

SLNG 2315 - INTERPRETING IN EDUCATIONAL SETTINGS
3 Credits (2 hrs. lec., 4 hrs. lab.) Increases awareness of current techniques, issues, and ethics in mainstreaming and bilingual/bicultural education practices. Includes a survey of technical signs and signed English systems currently in use. This course will also include the use of computer laboratories, multimedia equipment and video equipment to assess and enhance sign-to-voice and voice-to-sign skill development. Prerequisites: SLNG 2401, ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

SLNG 2401 - INTERPRETING I
4 Credits (3 hrs. lec., 3 hrs. lab.) An overview of the interpreting process and current models. Introduces the skills necessary to achieve message equivalency in interpreting and transliterating. This course will also include the use of computer laboratories, multimedia equipment and video equipment to assess and enhance sign-to-voice and voice-to-sign skill development. Prerequisites: SGNL 1402; SLNG 1211, or permission of instructor; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

SLNG 2402 - INTERPRETING II
4 Credits (3 hrs. lec., 4 hrs. lab.) Enhancement of interpreting skills and discourse analysis to increasingly complex tasks utilizing simulated interpreting experiences via multimedia materials. Emphasis on skill analysis and peer evaluation and additional development of transliterating skills in increasingly complex tasks. This course includes a study of current business practice and the use of computer laboratories, multimedia equipment and video equipment to assess and enhance sign-to-voice and voice-to-sign skill development. Prerequisites: SLNG 1321, 1347, and 2401; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing
DESCRIPTION OF COURSES

SLNG 2431 - INTERPRETING III
4 Credits (3 hrs. lec., 4 hrs. lab.) A practice oriented course to strengthen skills in the integration and application of processing more complex selections. Continued exposure to simulated interpreting experience through the use of multimedia material. This course will also include the use of computer laboratories, multimedia equipment and video equipment to assess and enhance sign-to-voice and voice-to-sign skill development. Prerequisites: SLNG 2402; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

SLNG 2589 - INTERNSHIP: SIGN LANGUAGE INTERPRETER
5 Credits (20 hrs. ext.) 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. Requires LSCS liability insurance. Prerequisites: Successful completion of all SLNG courses within the AAS degree plan; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

SOCI 1301 - PRINCIPLES OF SOCIOLOGY
3 Credits (3 hrs. lec.) This course is an introduction to the basic elements of society. In looking at human behavior, this course includes an introduction to dynamics of society, culture, social groups, social institutions, socialization, social processes and social structure. (4511015125) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

SOCI 1306 - SOCIAL PROBLEMS
3 Credits (3 hrs. lec.) The emphasis in this course is on the identification and analysis of contemporary social problems. An analysis of the problems of social planning and of the conventional solutions to these problems is included in the course. (4511015225) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

SOCI 2301 - MARRIAGE AND FAMILY
3 Credits (3 hrs. lec.) This course has been developed to examine two phases of marriage and the family experience. First, it examines the structure of family life and the variance of this structure in different cultures and subcultures. Second, this course examines some of the problems and possible solutions that have developed in courtship, marriage and parenthood in a society undergoing rapid social change. (4511015425) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

SOCI 2319 - MINORITY STUDIES
3 Credits (3 hrs. lec.) A sociological description, analysis and interpretation of racial and ethnic relations in America and other areas of the world is the focus of this course. Special emphasis is given to cultural development and inter-group relations of groups such as African Americans, Hispanics, Asian-Americans and Native Americans. (4511015325) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

SOCI 2326 - SOCIAL PSYCHOLOGY
3 Credits (3 hrs. lec.) The course focuses on individual behavior as affected by cultural and social stimuli. Social behavior, interpersonal influence, group membership and the relations between persons and social systems are emphasized. (4216015125) Prerequisites: SOCI 1301 or PSYC 2301 or departmental approval; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

SPAN 1300 - SPANISH CONVERSATION I
3 Credits (3 hrs. lec.) This is a conversational Spanish course for beginners. It includes extensive comprehension, oral practice, and use of multimedia materials. It is intended to develop basic communication skills for the student to apply these skills to everyday life and work situation. It is an alternate track for the student who needs immediate communicative experience in Spanish. (1609055413) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

SPAN 1310 - SPANISH CONVERSATION II
3 Credits (3 hrs. lec.) This course is a continuation of Conversational Spanish I. It includes extensive comprehension, oral practice, and use of multimedia materials. It is intended to develop communication skills for the student to apply these skills to everyday life and work situations. It is an alternate track for the student who needs immediate communicative experience in Spanish. (1609055413) Prerequi-
DESCRIPTION OF COURSES

SPAN 1411 - BEGINNING SPANISH I

4 Credits (3 hrs. lec., 2 hrs. lab.) This course includes beginner’s pronunciation, oral practice, conversation, development of listening comprehension, basic principles of grammar, simple exercises in composition, easy reading which includes cultural material. Students with prior language experience must take a placement exam to advance to the next level and receive credit. (1609055113) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

SPAN 1412 - BEGINNING SPANISH II

4 Credits (3 hrs. lec., 2 hrs. lab.) This course is a continuation of SPAN 1411 with increased emphasis on comprehension, speaking, reading and writing. Intensive drills to increase vocabulary and knowledge of structure. Students with prior language experience must take a placement exam to advance to the next level and receive credit. (1609055113) Prerequisites: SPAN 1411 or placement exam; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

SPAN 2306 - INTERMEDIATE SPANISH CONVERSATION

3 Credits (3 hrs. lec.) Intensive oral practice in small and large group context for students who have learned Spanish as a foreign language and have mastered speaking, reading and writing competencies in the language. (1609055413) Prerequisites: SPAN 1412; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

SPAN 2311 - INTERMEDIATE SPANISH I

3 Credits (3 hrs. lec.) This course stresses both oral and written exercises to increase vocabulary, expansion of grammatical principles and short themes written on a variety of topics. Selected readings are included to improve comprehension in Spanish. Students with prior language experience should take a placement exam to advance to the next level and receive credit. (1609055213) Prerequisites: SPAN 1412 or placement by exam; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

SPAN 2312 - INTERMEDIATE SPANISH II

3 Credits (3 hrs. lec.) This course is a continuation of SPAN 2311, with emphasis on works by Spanish-speaking authors. Continued reinforcement of grammatical principles and development of writing skills are stressed. (1609055213) Prerequisites: SPAN 2311 or placement by exam; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

SPAN 2313 - SPANISH FOR NATIVE SPEAKERS I

3 Credits (3 hrs. lec.) Review and application of skills in listening comprehension, speaking, reading, and writing geared to compensate for the weaknesses and capitalize on the strengths of native speakers. Emphasizes conversation, vocabulary acquisition, reading, composition, and culture. (1609055213) Prerequisites: SPAN 1412 OR placement by exam; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

SPAN 2315 - SPANISH FOR NATIVE SPEAKERS II

3 Credits (3 hrs. lec.) This course is a continuation of SPAN 2313, with emphasis on works by Spanish-speaking authors. Continued reinforcement of grammatical principles and development of writing skills are stressed. (1609055213) Prerequisites: SPAN 2311, SPAN 2313 OR placement by exam, ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

SPAN 2316 - SPANISH FOR BUSINESS

3 Credits (3 hrs. lec.) This course will prepare the student for successful communication in the Hispanic business world by building on existing knowledge and emphasizing practical, real-life use of Spanish. This course will also emphasize cultural awareness in doing business in Hispanic countries or with Hispanics in the United States. (1609055413) Prerequisites: SPAN 2311; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

SPAN 2321 - INTRODUCTION TO SPANISH LITERATURE I (iberian)

3 Credits (3 hrs. lec.) A survey of literature of Spain from the 16th Century to the beginning of the 20th Century. This course is taught in Spanish. (1609055313) Prerequisites: SPAN 2311 and SPAN 2312; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing
DESCRIPTION OF COURSES

SPAN 2322 - INTRODUCTION TO SPANISH LITERATURE II (IBERIAN)
3 Credits (3 hrs. lec.) A survey of literature of Spain from the Beginning of the 20th Century to the present. This course is taught in Spanish. (1609055313) Prerequisites: SPAN 2311 and SPAN 2312; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing.

SPAN 2323 - INTRODUCTION TO LATIN AMERICAN LITERATURE
3 Credits (3 hrs. lec.) A survey of literature of Latin American Literature. This course is taught in Spanish. (1609055313) Prerequisites: SPAN 2311 and SPAN 2312; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing.

SPAN 2324 - SPANISH CULTURE
3 Credits (3 hrs. lec.) This course will prepare the student for successful communication in the Hispanic world by building on existing knowledge and emphasizing practical, real-life use of Spanish and cultural awareness towards Hispanic countries or with Hispanics in the United States. This course is taught in Spanish. (1609055313) Prerequisites: SPAN 2311; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing.

SPCH 1144, 1145, 2144, 2145 - FORENSIC ACTIVITIES
1 Credit (4 hrs. lab.) Laboratory course for students who participate extensively in forensic activities. Participation in intercollegiate forensic meets each semester is required. A maximum of four credit hours may be earned. (2310016012) Prerequisites: Approval of instructor; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing.

SPCH 1311 - INTRODUCTION TO SPEECH COMMUNICATION
3 Credits (3 hrs. lec.) Through the delivery of a variety of speeches, the observation of mass media and participation in an assortment of group activities, this course is meant to familiarize the student with those motivational elements which affect the delivery and reception of oral communication. (2310015112) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing.

SPCH 1315 - PUBLIC SPEAKING
3 Credits (3 hrs. lec.) Public Speaking provides the student with practical tools and skills necessary to communicate ideas. Selection of topic, organization of data, exercises in vocal awareness, evaluation of audience and situation and techniques of delivery are discussed and put into action. Through oral presentations in class, students will enhance their competence in oral communication. (2310015412) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing.

SPCH 1318 - INTERPERSONAL COMMUNICATION
3 Credits (3 hrs. lec.) Interpersonal Communication focuses on the complex process of person-to-person communication. The course is designed to facilitate the student's conscious awareness of the impact of messages, verbal and nonverbal, sent and received by him/her. (2310015212) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing.

SPCH 1321 - BUSINESS SPEECH
3 Credits (3 hrs. lec.) Business Speech is devoted to the study of communication in a business setting. Topics discussed and placed in practical application are interviewing, evaluation of communications in business, problem-and-solution exercises, and sales presentations and reports. Where applicable, examples, exercises and assignments are made in a real-life circumstance. (2310015312) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing.

SPCH 1342 - VOICE AND DICTION
3 Credits (3 hrs. lec.) Development and establishment of a good voice habit through a study of the principles and a practice of the techniques involved in excellence of voice and diction. Includes proper breathing techniques, sound production, kinesics, general speech standards, common voice problems, and methods to overcome problems. (2310015812) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing.

SPCH 2333 - DISCUSSION AND SMALL GROUP COMMUNICATION
3 Credits (3 hrs. lec.) Designed to promote a better understanding of how communication is used in the
small group. More specifically, it will focus on both the theoretical principles and practical application of skills appropriate to effective small group interaction. Such a focus will entail active participation in groups, both in and out of class. (2310015612) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

**SPCH 2335 - ARGUMENTATION AND DEBATE**

3 Credits (3 hrs. lec.) A study and practice of the theories in argumentation and debate, including instruction in reasoning, analysis, organization, evidence, refutation, and presentation of critical decision making. (2310015912) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

**SPCH 2341 - ORAL INTERPRETATION**

3 Credits (3 hrs. lec.) This course consists of the interpretation of literature; preparation and reading of poetry and prose; storytelling for children; exercises in arranging and adapting stories; choral speaking; practice in phrasing, vocal quality, rhythm, and bodily responses. Recommended for majors in speech, radio-television, English, elementary education. (2310015712) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

**SRGT 1260 - CLINICAL I - SURGICAL/OPERATING ROOM TECH**

2 Credits (6 hrs. ext.) 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. Prerequisites SRGT 1405, ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; Corequisite: BIOL 2404

**SRGT 1301 - MEDICAL TERMINOLOGY**

3 Credits (3 hrs. lec.) 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 professional vocabulary required for employment within the allied health care field. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; MATH 0306

**SRGT 1405 - INTRODUCTION TO SURGICAL TECHNOLOGY**

4 Credits (3 hrs. lec., 2 hrs. lab.) Orientation to surgical technology theory, surgical pharmacology and anesthesia, technological sciences, and patient care concepts. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; MATH 0306

**SRGT 1409 - FUNDAMENTALS OF PERIOPERATIVE CONCEPTS AND TECHNIQUES**

4 Credits (3 hrs. lec., 2 hrs. 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. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; MATH 0306

**SRGT 1460 - CLINICAL II - SURGICAL TECHNOLOGY/TECHNOLOGIST**

4 Credits (16 hrs. ext.) 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. Prerequisites: SRGT 1260, ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; MATH 0306

**SRGT 1541- SURGICAL PROCEDURES I**

5 Credits (4 hrs. lec., 2 hrs. 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. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; MATH 0306

**SRGT 1542 - SURGICAL PROCEDURES II**

5 Credits (4 hrs. lec., 2 hrs. 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. Prerequisites: SRGT 1541, ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; MATH 0306
DESCRIPTION OF COURSES

SRGT 2130 - PROFESSIONAL READINESS
1 Credit (1 hr. lec.) 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. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing, MATH 0306; Corequisite: SRGT 2462

SRGT 2462 - CLINICAL III
4 Credit (24 hrs. ext.) 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. Prerequisites: SRGT 1460, ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; MATH 0306

SRVY 1171 - CAPSTONE EXAM PREP
1 Credit (3 hrs. lab.) This course provides an alternative learning experience for industry-employed students in lieu of the 256 contact hour internship and enhances their marketability in the field of surveying. The course serves as a comprehensive review for students planning to sit for NSPS/ACSM Survey Technician Certification Exam. Prerequisite: Departmental approval

SRVY 1301 - INTRODUCTION TO SURVEYING
3 Credit (3 hrs. lec.) 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. It includes an introduction to survey elements in CAD drafting. Prerequisites: ENGL 0304 or 0339 AND ENGL 0306 or 0355, OR higher level course (ENGL 1301), OR placement by testing

SRVY 1315 - SURVEYING CALCULATIONS I
3 Credits (3 hrs. lec.) An introduction to the mathematics used in surveying and mapping, including algebra, plane trigonometry, and plane, solid, and analytical geometry. Prerequisites: SRVY 1301 and MATH 0306

SRVY 1342 - GLOBAL POSITIONING SYSTEM TECHNIQUES FOR SURVEYING AND MAPPING
3 Credits (2 hrs. lec., 2 hrs. lab.) Introduction to Global Positioning System (GPS) in surveying and mapping activities. Major topics include structuring a GPS system, designing a GPS data collection project, using GPS data collection equipment, collecting and processing GPS data, and correcting data errors. Surveying and mapping activities with public and private control networks. Prerequisites: SRVY 1301 and 2313

SRVY 1349 - SURVEYING CALCULATIONS II
3 Credits (3 hrs. lec.) A study of the mathematical applications used in surveying and mapping. An overview of software and hardware, including programmable calculators and computers used in problem solving. Prerequisites: SRVY 1315 and MATH 0308

SRVY 1413 - PLANE SURVEYING
4 Credits (3 hrs. lec., 2 hrs. lab.) An introductory overview of surveying equipment and measurement techniques with emphasis on leveling and traversing. Prerequisite: None; Corequisite: SRVY 1301

SRVY 1441 - LAND SURVEYING
4 Credits (3 hrs. lec., 3 hrs. 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. Prerequisite: None; Corequisite: SRVY 1301

SRVY 2313 - CONTROL SURVEYING
3 Credits (3 hrs. lec.) Emphasis on field astronomy calculations, state plane coordinates and the reduction of information received from Global Positioning System receivers. Prerequisite: SRVY 1301

SRVY 2340 - ADVANCED PLANE SURVEYING
3 Credits (2 hrs. lec., 2 hrs. lab.) Advanced computational skills and application of contemporary tools to the execution of surveying projects, mapping, and construction stakeout. Laboratory exercise use total stations, electronic field books, global positioning systems, and computer software. Prerequisites: SRVY 1413 and MATH 0306
SRVY 2343 - SURVEYING - LEGAL PRINCIPLES I

3 Credits (3 hrs. lec.) The study of location, conveyance, ownership and transfer of real property under the laws of the State of Texas. Emphasis on the history of disposition of public land, interpreting written descriptions, dignity of calls and evidence, record search of public and private land records and preparation of a deed record sketch. Prerequisites: SRVY 1301, ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

SRVY 2344 - SURVEYING - LEGAL PRINCIPLES II

3 Credits (3 hrs. lec.) An advanced course in legal principles, retracement and boundary location with application of legal principles and Rules of Construction for public land and Texas land laws; writing survey reports and property descriptions; and a review of boundary law cases. Prerequisites: SRVY 2343 and ENGL 1301

SRVY 2487 - INTERNSHIP - SURVEY TECHNOLOGY/SURVEYING

4 Credits (16 hrs. ext.) 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. Prerequisite: Departmental approval

TECA 1303 - FAMILIES, SCHOOL AND COMMUNITY

3 Credits (2 hrs. lec., 2 hrs. lab.) A study of the child, family, community and schools; including parent education and involvement; family and community lifestyle, child abuse, and current family life issues. Course content is aligned with State Board for Educator Certification Pedagogy and Professional Responsibilities standards. The course will provide students with opportunities to participate in a minimum of 16 hours field experience at sites with children (infants – age 12) in a variety of settings with varied and diverse populations. Requires LSCS liability insurance. (1312025109) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

TECA 1318 - WELLNESS OF THE YOUNG CHILD

3 Credits (2 hrs. lec., 2 hrs. lab.) A study of the factors that impact the well-being of the young child including healthy behavior, food, nutrition, fitness and safety practices. Focus on local and national standards and legal implications of relevant policies and regulations. Course content is aligned with State Board of Educator Certification Pedagogy and Professional Responsibilities standards. The course will provide students with opportunities to participate in a minimum of 16 hours field experience at sites with children (infants – age 12) in a variety of settings with varied and diverse populations. Requires LSCS liability insurance. (1301015309) Prerequisites: ENGL0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

TECA 1354 - CHILD GROWTH AND DEVELOPMENT

3 Credits (3 hrs. lec.) A study of the physical, emotional, social, and cognitive factors impacting growth and development of children through adolescence. (1312025209) Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

TECM 1303 - TECHNICAL CALCULATIONS

3 Credits (3 hrs. lec.) A review of basic mathematics including whole numbers, fractions, mixed numbers, decimals, percents, ratios, and proportions. Converting to different units of measure (standard and/or metric) and other topics as required by specific businesses and industries will be covered. Prerequisite: MATH 0306 or placement by testing

VNSG 1116 - NUTRITION

1 Credit (1 hr. lec) Introduction to nutrients and diet therapy and the role of each in proper growth and development and the maintenance of health. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing
DESCRIPTION OF COURSES

VNSG 1122 - VOCATIONAL NURSING CONCEPTS
1 Credit (1 hr. lec) Introduction to the nursing profession and its responsibilities and the legal and ethical issues in nursing practice. Concepts related to the physical, emotional, and psychosocial self-care of the learner/professional. This course is an elective for students enrolled in the integrated ADN program. Prerequisites: RNSG 1129, 1362, 2504; BIOL 2420; PSYC 2314; SOCI 1301; ENGL 1301 and 1 credit hour of KINE; Corequisite: VNSG 2362

VNSG 1160 - CLINICAL - BASICS
1 Credit (4 hrs. ext.) 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. This course involves direct patient interaction for mastery of entry level nursing skills and competencies performed in a variety of health care settings with a focus on long term care. Requires LSCS liability insurance. Prerequisites: Program admission; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; Corequisite: VNSG 1323

VNSG 1163 - CLINICAL - PEDIATRIC
1 Credit (6 hrs. ext.) 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. This course involves direct patient interaction for mastery of nursing skills and competencies performed in a variety of health care settings with a focus on the care of the well and the ill child. Requires LSCS liability insurance. Prerequisites: VNSG 1160, 1260, 1304, 1323, 1400 and BIOL 2404; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; Corequisite: VNSG 1307

VNSG 1219 - PROFESSIONAL DEVELOPMENT
2 Credits (2 hrs. lec.) 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. Emphasis on application and preparation for the licensing examination and the workforce. Prerequisites: VNSG 1163, 1231, 1262 and 1409; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

VNSG 1226 - GERONTOLOGY
2 Credits (2 hrs. lec.) Overview of the normal physical, psychosocial, and cultural aspects of the aging process. Addresses common disease processes of aging. Exploration of attitudes toward care of the elderly. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

VNSG 1231 - PHARMACOLOGY
2 Credits (2 hrs. lec., 1 hr. lab.) This course provides instruction in fundamentals of medications and their diagnostic, therapeutic, and curative effects. Includes nursing interventions utilizing the nursing process. Prerequisites: VNSG 1160, 1260, 1304, 1323, 1400; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; Corequisites: VNSG 1262 and 1409

VNSG 1238 - MENTAL ILLNESS
2 Credits (2 hrs. lec.) Study of human behavior with emphasis on emotional and mental abnormalities and modes of treatment incorporating the nursing process. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

VNSG 1260 - CLINICAL I
2 Credits (8 hrs. ext.) 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. This course involves direct patient interaction for mastery of nursing skills and competencies performed in a variety of health care settings with a focus on acute care. Requires LSCS liability insurance. Prerequisites: VNSG 1160; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; Corequisite: VNSG 1400

VNSG 1262 - CLINICAL II
2 Credits (8 hrs. ext.) 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. This course involves direct patient interaction for mastery of nursing skills and competencies performed in a variety of health care settings with a focus on acute care. Requires LSCS liability insurance. Prerequisites: VNSG 1160, 1260, 1304, 1323, 1400; ENGL 0305 AND ENGL 0307 or 0356, OR
DESCRIPTION OF COURSES

VNSG 1304 - FOUNDATIONS OF NURSING
3 Credits (3 hrs. lec.) This course provides an introduction to the nursing profession including history, standards of practice, legal and ethical issues, and role of the vocational nurse. Topics include mental health, therapeutic communication, cultural and spiritual diversity, nursing process, and holistic awareness. Prerequisites: Program Admission; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; Corequisite: VNSG 1409

VNSG 1306 - MATERNAL/NEWBORN NURSING
3 Credits (3 hrs. lec., 1 hr. lab.) This course is a study of the biological, psychological, and sociological concepts applicable to basic needs of the family including childbearing and neonatal care. Topics include physiological changes related to pregnancy, fetal development, and nursing care of the family during labor and delivery and the puerperium. Prerequisites: VNSG 1163, 1231, 1262 and 1409; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; Corequisite: VNSG 2161

VNSG 1307 - PEDIATRIC NURSING
3 Credits (3 hrs. lec., 1 hr. lab.) Study of the pediatric client and family during health and disease. Emphasis on growth and developmental needs. Prerequisites: VNSG 1160, 1260, 1304, 1323, 1400 and BIOL 2404; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; Corequisite: VNSG 1163

VNSG 1323 - BASIC NURSING SKILLS
3 Credits (2 hrs. lec., 3 hrs. lab.) This course provides instruction toward 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. Prerequisites: Program Admission; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; Corequisite: VNSG 1160

VNSG 1400 - NURSING IN HEALTH AND ILLNESS I
4 Credits (4 hrs. lec., 1 hr. lab.) Introduction to general principles of growth and development, primary health care needs of the client across the life span and therapeutic nursing interventions. Prerequisites: Program Admission; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; Corequisite: VNSG 1260

VNSG 1409 - NURSING IN HEALTH AND ILLNESS II
4 Credits (4 hrs. lec., 1 hr. lab.) This course provides an introduction to common health problems of the adult requiring medical and surgical interventions. Prerequisites: VNSG 1160, 1260, 1304, 1323, and 1400; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; Corequisite: VNSG 1262

VNSG 1410 - NURSING IN HEALTH AND ILLNESS III
4 Credits (4 hrs. lec., 1 hr. lab.) This course is a continuation of Nursing in Health & Illness II. Further study of common medical-surgical health problems of the adult including concepts of mental illness. Incorporates knowledge necessary to make the transition from student to graduate vocational nurse. Prerequisites: VNSG 1163, 1231, 1262 and 1409; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; Corequisite: VNSG 2361

VNSG 2161 - MATERNAL/NEWBORN CLINICAL
1 Credit (6 hrs. ext.) 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. This course involves direct patient interaction for mastery of nursing skills and competencies performed in a variety of health care settings with a focus on maternal/newborn care. Requires LSCS liability insurance. Prerequisites: VNSG 1163, 1231, 1262 and 1409; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; Corequisite: VNSG 2361

VNSG 2361 - CLINICAL III
3 Credits (12 hrs. ext.) 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. This course involves direct patient interaction for mastery of nursing skills and competencies performed in a variety of health care settings with a focus on acute care. Requires LSCS liability insurance. Prerequisites: VNSG 1163, 1231, 1262 and 1409; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing; Corequisite: VNSG 1306
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level course (ENGL 1301), OR placement by testing; Corequisite: VNSG 1410

VNSG 2362 - CLINICAL: PRACTICAL NURSE I
3 Credits (12 hrs. ext.) 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. This course is an elective for students enrolled in the integrated ADN program. Requires LSCS liability insurance. Prerequisites: RNSG 1129, 1362, and 2504, BIOL 2420; PSYC 2314; SOCI 1301; ENGL 1301 and 1 credit hour of KINE; Corequisite: VNSG 1122

VNSG 2363 - CLINICAL: PRACTICAL NURSE II
3 Credits (12 hrs. ext.) 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. This course is an elective for students enrolled in the ADN program. Requires LSCS liability insurance. Prerequisite: VNSG 2362 with a “C” or better

VTHT 1125 - PHARMACOLOGICAL CALCULATIONS
1 Credits (1 hr. lec.) Skill development in calculating oral and parenteral drug dosages. Instructions on reading drug orders and labels, calculating intravenous flow rates and a study into the various systems of measurement. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing AND departmental approval

VTHT 1140 - VETERINARY JURISPRUDENCE AND ETHICS
1 Credit (1 hr. lec.) This course is designed to inform veterinary technology students about the interpretation of the laws and regulations governing the profession. Topics include recent changes and comprehension of the Veterinary Licensing Act, Veterinary Rules of Professional Conduct, and the RVT Program Standard Operating Procedures. Prerequisites: VTHT 1413; Corequisite: VTHT 1441

VTHT 1205 - VETERINARY MEDICAL TERMINOLOGY
2 Credits (2 hrs. lec.) Introduction to word parts, directional terminology, and analysis of common veterinary terms. Students will master the common terminology associated with the numerous systems covered in subsequent veterinary technology courses. Prerequisites: Departmental approval; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

VTHT 1209 - VETERINARY NUTRITION
2 Credits (2 hrs. lec.) Fundamentals of energy and non-energy producing nutrients and their sources and functions. Integration of concepts including digestion, absorption, and metabolism with application to normal and therapeutic nutritional needs. Prerequisites: VTHT 1205, VTHT 1301 AND departmental approval

VTHT 1266 - PRACTICUM VETERINARY/ANIMAL HEALTH TECHNOLOGY/TECHNICIAN
2 Credits (14 hrs. ext.) Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student. Prerequisites: VTHT 1209, VTHT 1413 AND departmental approval

VTHT 1301 - INTRODUCTION TO VETERINARY TECHNOLOGY
3 Credits (2 hrs. lec., 2 hrs. lab.) Survey of the profession of veterinary technology with emphasis on basic techniques, handling and care of animals, and ethical and professional requirements. Prerequisites: Departmental approval; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

VTHT 1345 - VETERINARY RADIOLOGY
3 Credits (2 hrs. lec., 2 hrs. lab.) Presentation of theory and principles and practical application of radiology within the field of veterinary medicine. Preparation of technique charts, implementation of safety measures, radiographic processing, care of equipment, use of ultrasonography equipment, and performing contrast media studies. Prerequisites: VTHT 1413 AND departmental approval; Corequisites: VTHT 1140, VTHT 1441 and VTHT 2431

VTHT 1349 - VETERINARY PHARMACOLOGY
3 Credits (2 hrs. lec., 2 hrs. 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. Prerequisites: VTHT 1209 and VTHT 1413
VTHT 1413 - VETERINARY ANATOMY AND PHYSIOLOGY
4 Credits (2 hrs. lec., 4 hrs. lab.) Gross anatomy of domestic animals including physiological explanations of how each organ system functions. Studies are to develop a practical application of knowledge and its relationship to the diagnoses and treatment of certain pathological problems and surgical conditions. Prerequisites: VTHT 1205 and VTHT 1301 AND departmental approval

VTHT 1441 - ANESTHESIA AND SURGICAL ASSISTANCE
4 Credits (2 hrs. lec., 4 hrs. lab.) In-depth application of surgical, obstetrical, and anesthesia techniques including identification and use of instruments and equipment. A major portion of the course will include detailed instruction in the principles of pharmacology with a practical application in determining anesthetic dosages and after care treatments for patients. Necropsy techniques will be demonstrated with active participation by students. Prerequisites: VTHT 1413 and departmental approval; Corequisites: VTHT 1140, VTHT 1345 and VTHT 2431

VTHT 2201 - CANINE AND FELINE CLINICAL MANAGEMENT
2 Credits (1 hr. lec., 2 hrs. 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. Prerequisites: VTHT 1209, VTHT 1301 and VTHT 1413

VTHT 2205 - EQUINE CLINICAL MANAGEMENT
2 Credits (1 hr. lec., 2 hrs. lab.) Survey of feeding, common management practices, and care of equines encountered in the practice of veterinary medicine. Prerequisite: VTHT 1301; Corequisite: VTHT 1205

VTHT 2209 - FOOD ANIMAL CLINICAL MANAGEMENT
2 Credits (1 hr. lec., 2 hrs. lab.) Survey of feeding, common management practices, and care of food producing animals in a clinical setting. Review of common diseases of food producing animals encountered in the practice of veterinary medicine. Prerequisites: VTHT 1205 and VTHT 1301

VTHT 2213 - LAB ANIMAL CLINICAL MANAGEMENT
2 Credits (2 hrs. lec., 1 hr. lab.) Survey of feeding, common management practices, and care of laboratory animals in a clinical setting. Review of common diseases of laboratory animals encountered in the practice of veterinary medicine. Prerequisites: VTHT 1209 and VTHT 1413

VTHT 2217 - EXOTIC ANIMAL CLINICAL MANAGEMENT
2 Credits (2 hrs. lec.) Survey of feeding, common management practices, and care of exotic animals in a clinical or zoological setting. Review of common diseases of exotic animals encountered in the practice of veterinary medicine. Prerequisites: VTHT 1301 and VTHT 1205

VTHT 2321 - VETERINARY PARASITOLOGY
3 Credits (2 hrs. lec., 2 hrs. lab.) Study of parasites common to domestic animals including zoonotic diseases. This course will include the study of both ectoparasites and endoparasites with discussions on control measures of public health importance and the pharmaceuticals appropriate for the parasite’s elimination. Prerequisites: VTHT 1209 and VTHT 1413

VTHT 2323 - VETERINARY CLINICAL PATHOLOGY I
3 Credits (2 hrs. lec., 2 hrs. lab.) In-depth study of hematology and related chemistries with emphasis on lab procedures. This course is designed to introduce the student to the theory of hematology and urology. Hematology evaluation and urinalysis will be stressed to determine chemical and physical properties of all the diagnostic fluids. Prerequisite: VTHT 2321 or permission from the program director

VTHT 2360 - CLINICAL
3 Credits (14 hrs. ext.) 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. Prerequisites: VTHT 1345, 1441, 1140, 2323 and 2431

VTHT 2431 - VETERINARY CLINICAL PATHOLOGY II
4 Credits (3 hrs. lec., 3 hrs. lab.) In-depth study of urinalysis and cytology. Survey of microbiological techniques. Emphasis of laboratory procedures. A
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continuation of VTHT 2323 with a more technologically oriented evaluation of body fluids including blood chemistry and cytology. Microbiology, bacteriology and virology are also presented in detail. Prerequisite: VTHT 2323; Corequisites: VTHT 1140, 1345, and 1441

WLDG 1401 - METALSMITHING

4 Credits (3 hrs. lec., 3 hrs. lab.) A study of welding techniques for ferrous and non-ferrous metals. Skill development in brazing, forging, and welding in all processes to include coal and gas forges. Emphasis on combining metals and processes to demonstrate technique versatility. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

WLDG 1405 - ART METALS

4 Credits (3 hrs. lec., 3 hrs. lab.) Fundamentals of conceptualizing and producing utilitarian items in ferrous and non-ferrous metals. Skill development through the techniques of sinking, raising, repoussé, and piercing to create objects from sheet and stock materials. Includes welding, brazing, soldering, tinning, polishing, and tool making. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

WLDG 1408 - METAL SCULPTURE

4 Credits (3 hrs. lec., 3 hrs. lab.) Instruction in the techniques and methods of art metals and metal smithing. Skill development in welding, brazing, and finishing techniques. Topics address work ethics, artistic styles, and professionalism. Prerequisites: ARTS 1316 and WLDG 1421; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

WLDG 1413 - INTRODUCTION TO BLUEPRINT READING FOR WELDERS

4 Credits (3 hrs. lec., 3 hrs. lab.) 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. Prerequisite: None

WLDG 1417 - INTRODUCTION TO LAYOUT AND FABRICATION

4 Credits (3 hrs. lec., 3 hrs. lab.) A fundamental course in layout and fabrication related to the welding industry. Major emphasis on structural shapes and use in construction. Prerequisites: ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

WLDG 1421 - INTRODUCTION TO WELDING FUNDAMENTALS

4 Credits (3 hrs. lec., 3 hrs. lab.) An introduction to the fundamentals of equipment used in oxyacetylene and arc welding, including welding and cutting safety, basic oxyacetylene welding and cutting, basic arc welding processes and basic metallurgy. Prerequisites: ENGL 0304 or ENGL 0339 AND ENGL 0306 or 0355, OR higher level course (ENGL 1301), OR placement by testing; MATH 0306

WLDG 1428 - INTRODUCTION TO SHIELDED METAL ARC WELDING (SMAW)

4 Credits (3 hrs. lec., 3 hrs. lab.) An introduction to shielded metal arc welding process. Emphasis placed on power sources, electrode selection, oxy-fuel cutting, and various joint designs. Instruction provided in SMAW fillet welds in various positions. Prerequisite: None

WLDG 1430 - INTRODUCTION TO GAS METAL ARC WELDING (GMAW)

4 Credits (3 hrs. lec., 3 hrs. lab.) A study of the principles of gas metal arc welding, setup and use of GMAW equipment, and safe use of tools/equipment. Instruction in various joint designs. Prerequisite: None

WLDG 1434 - INTRODUCTION TO GAS TUNGSTEN ARC WELDING (TIG)

4 Credits (3 hrs. lec., 3 hrs. 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. Prerequisite: None

WLDG 1435 - INTRODUCTION TO PIPE WELDING

4 Credits (3 hrs. lec., 3 hrs. lab.) An introduction to welding of pipe using the shielded metal arc welding process, including electrode selection, equipment
setup, and safe shop practices. Emphasis on weld positions 1G and 2G using various electrodes. Prerequisite: None; Corequisite: WLDG 1457

WLDG 1437 - INTRODUCTION TO WELDING METALLURGY
4 Credits (3 hrs. lec., 3 hrs. lab.) A study of ferrous and nonferrous metals from the ore to the finished product. Emphasis on metal alloys, heat treating, hard surfaceing, welding techniques, forging, foundry processes, and mechanical properties of metal including hardness, machinability, and ductility. Prerequisites: ENGL0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

WLDG 1457 - INTERMEDIATE SHIELDED METAL ARC WELDING (SMAW)
4 Credits (3 hrs. lec., 3 hrs. lab.) The student will identify principles of arc welding; describe arc welding operations of fillet and groove joints; explain heat treatments of low alloy steels; and explain weld size and profiles. The student will prepare test plates; perform fillet welds in the overhead position; perform air carbon arc weld removal; perform bevel groove welds with backing plates in various positions; and demonstrate use of tools and equipment. Prerequisite: WLDG 1428

WLDG 2380 - COOPERATIVE EDUCATION - WELDER/WELDING
3 Credits (1 hr. lec., 20 hrs. ext.) 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. Prerequisite: Departmental approval

WLDG 2413 - INTERMEDIATE WELDING USING MULTIPLE PROCESSES
4 Credits (3 hrs. lec., 3 hrs. lab.) Instruction using layout tools and blueprint reading with demonstration and guided practices with some of the following welding processes: oxy-fuel gas cutting and welding, shield metal arc welding (SMAW), gas metal arc welding (GMAW), flux-cored arc welding (FCAW), gas tungsten arc welding (GTAW), or any other approved welding process. Prerequisites: WLDG 1421; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

WLDG 2440 - STUDIO PROBLEMS IN ART METALS
4 Credits (3 hrs. lec., 3 hrs. lab.) Project development in an open-studio atmosphere. Individualized instruction to encourage skill combinations and experimentation. Topics include portfolio preparation and presentation. Prerequisites: WLDG 1405; ENGL 0305 AND ENGL 0307 or 0356, OR higher level course (ENGL 1301), OR placement by testing

WLDG 2447 - ADVANCED METAL ARC WELDING (MIG)
4 Credits (3 hrs. lec., 3 hrs. lab.) Advanced topics in Gas Metal Arc Welding (GMAW). Includes welding in various positions and directions. Prerequisite: WLDG 1430

WLDG 2451 - ADVANCED GAS TUNGSTEN ARC WELDING (TIG)
4 Credits (3 hrs. lec., 3 hrs. lab.) The student will exhibit expertise in various welding positions; describe safety rules and equipment used; and describe the effects of welding parameters in GTAW. The student will weld various joint designs; diagnose welding problems; and perform visual inspection. Prerequisite: WLDG 1434

WLDG 2453 - ADVANCED PIPE WELDING
4 Credits (3 hrs. lec., 3 hrs. lab.) Advanced topics involving welding of pipe using the shielded metal arc welding process. Topics include electrode selection, equipment setup, and safe shop practices. Emphasis on weld positions 5G and 6G using various electrodes. Prerequisite: WLDG 1435
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<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>University/College</th>
<th>Degree</th>
<th>Institution</th>
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<tbody>
<tr>
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<tr>
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<thead>
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<th>Department</th>
<th>Degrees</th>
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<tbody>
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<td>M.A., University of Texas-Austin</td>
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<td>M.S., University of Kerala-India</td>
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<tr>
<td>Philip M. McCue</td>
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<td>B.S., Long Beach State University</td>
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<tr>
<td>Heidi M. McDonald</td>
<td>Early Childhood Education</td>
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<tr>
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<tr>
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<table>
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<tr>
<th>Name</th>
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<tbody>
<tr>
<td>Kulwant Singh, Engineering</td>
<td>M.S., Louisiana State University</td>
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<td>Velma P. Smith, English</td>
<td>Ph.D., Northern Illinois University</td>
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<td>Ursula R. Sohns, Developmental Studies</td>
<td>M.Ed., University of Houston</td>
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<td>B.A., University of Iowa</td>
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<td>Diane V. Springman, Associate Degree Nursing</td>
<td>M.S., University of Southern Maine</td>
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<td>B.S., Colorado State University</td>
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<td>M.Div., Southwestern Baptist Theological Seminary</td>
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<td>B.A., Howard Payne University</td>
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<td>A.A.S., Lone Star College System</td>
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<tr>
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<td>B.S., Lamar University</td>
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<td>B.S., Duquesne University</td>
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<tr>
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<td>B.S., University of North Dakota</td>
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<td>B.S., University of Oklahoma</td>
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A.S., Blinn College
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B.S., Sam Houston State University
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B.S., University of Stuttgart
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Ph.D., University of Pittsburgh
Sarah Y. David, Student Success  
Ph.D., University of Texas-Austin  
M.Ed., North Carolina State University  
B.A., Louisiana Tech University
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<td>Catherine D. Davis, Computer Information</td>
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<td>Systems</td>
<td>B.A., University of Houston</td>
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<tr>
<td>Claudia C. Davis, Mathematics/Developmental</td>
<td>M.A., Duke University</td>
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<td>Math</td>
<td>M.S., University of Louisiana At Lafayette</td>
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<td>Lisa M. Davis, Student Success</td>
<td>A.B.D., West Virginia University</td>
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<tr>
<td>Martha E. Donnelly, Mathematics</td>
<td>M.A., Sam Houston State University</td>
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<tr>
<td>Jean M. Dorsi, Computer Information Systems</td>
<td>M.S., Texas A&amp;M University-College Station</td>
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<td>Robert B. Eubank, Political Science</td>
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<td>Patricia M. Falbo, Mathematics/Developmental</td>
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<tr>
<td>Math</td>
<td>B.S., University of Maryland-College Park</td>
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<td>Janie Filoteo, Sociology</td>
<td>M.A., Our Lady of the Lake University-San Antonio</td>
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<td>Clifton R. Fox, History</td>
<td>M.A., Michigan State University</td>
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<td>Steffani A. Frideres, Art</td>
<td>M.F.A., Washington State University</td>
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<td>Clark W. Friesien, Speech</td>
<td>M.A., Texas A&amp;M University-College Station</td>
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<td>Leslie W. Grunden, Associate Degree Nursing</td>
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<td>Abraham Haje, Mathematics/Developmental Math</td>
<td>M.S., University of Houston-Clear Lake</td>
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<td>Judith E. Harris, Developmental Studies</td>
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<td>Virginia M. Haysley, Political Science</td>
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<td>Barbara J. Hayward, History</td>
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<td>Mary R. Hood, Biology</td>
<td>Ed.S., Auburn University-Montgomery</td>
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<tr>
<td>Mary Ann C. Jackson, Teacher Education</td>
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<td>Roger L. Jay, Mathematics/Developmental Math</td>
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<td>Margaret S. Jelinek Lewis, Psychology</td>
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<tr>
<td>David W. Jensen, Biology</td>
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2 TECH- Technology Center
3 ART- Center for the Arts
4 HSC- Health Science Center
5 CENT- College Center
6 ESEC- Emergency Services Education Center
7 Mod-1

SP Student Parking
VP Visitor Parking
LONE STAR COLLEGE-MONTGOMERY

Building A  (Wellness Center, Bookstore, Commons, Cafeteria, Classrooms/Labs, Facilities)
Building B  (Science Classrooms/Labs)
Building C  (Extended Learning Center, Corporate/Continuing Education, Student Activities, Testing Center, Information Technology, College Relations, Human Resources, Education for Tomorrow Alliance)
Building D  (Center for the Arts, Gallery, Theatre, Art/Music Labs)
Building E  (Student Services, Administrative Offices, Police, Classrooms)
Building F  (Library, Classrooms)
Building G  (LSC-Montgomery Child Care Center)
Building T  (Temporary Classrooms 101-109)
SP             Student Parking
S               Sports & Athletics
1. Library (LIBR)
2. Academic Building (ACAD)
3. Winship Building (WNSP)
4. Industrial Education (INED)
5. Fine Arts (ARTS)
6. Student Center (STSC)
7. Continuing Education (CMED)
8. Health & Physical Education (HPE)
9. College Bookstore (CBST)
10. Energy Training Center (ETRC)
11. Digital Technology Center (DTC)
12. Child Development Center (CDC)
13. Applied Technology Center (ATC)

SP: Student Parking
FP: Faculty Parking
VP: Visitor Parking
A: Athletics
P: Police
1 North Hall (N)  
2 West Hall (W)  
3 Student Center (C)  
4 East Hall (E)  
5 Beckendorf Conference Center  
6 South Hall (S)  
7 Large Animal Facility (LAF)  
8 Wellness Center  
9 Library  

LP Library Parking  
SP Student Parking  
CCP Conference Center Parking  
FSP Faculty/Staff Parking  
T Tennis Courts
1  Lone Star College-University Center

SP  Student Parking
1. District Services II
2. Training and Development Center
3. District Services I
4. HARC (Houston Advanced Research Center)
LONE STAR COLLEGE SYSTEM
Colleges, Satellite Centers, and Off-Campus Sites

LSC-Tomball
LSC-Cyfair
LSC-North Harris
LSC-Kingwood
LSC-University Center
LSC-Montgomery
LSC-System
LSC-Conroe Center
LSC-Willow Chase Center
LSC-Carver Center
LSC-Greenspoint Center
LSC-Fairbanks Center

Magnolia West High School
Klein Oak High School

The Woodlands
Klein
Tomball
Cy-Fair

Willis
Conroe
Splendora
New Caney
Humble

The Woodlands
Magnolia
Montgomery
Tomball
Klein
Cy-Fair

LSC-System
LSC-EMCID Center
LSC-Conroe Center
LSC-Willow Chase Center
LSC-Carver Center
LSC-Greenspoint Center
LSC-Fairbanks Center

Downtown Houston
W. Little York
S. Victory

10
190
290
45
59
610
105
1940
1210
1314
1420
2220
2420
2120
1740
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The members of the Board of Trustees are elected to their positions by voters of the Lone Star College System for a term of six years. The board has the responsibility for policy making and evaluating the total program of the system.