Welcome to the Lone Star College System!

Lone Star College System is a world-renowned leader in higher education that is committed to your success and ready to help you achieve your academic goals.

We recognize that education and career training have never been more important in today's world. That's why we offer you the opportunity to earn an associate degree, take classes that transfer to four-year universities, update your current job skills, train for a new profession, or take continuing education classes for enrichment.

Lone Star College System classes are small – most average about 23 students – which gives you the personal attention to help lead to your credential completion. LSCS offers mentoring, tutoring and counseling to help you succeed. LSCS also offers two University Centers that are designed to provide you access to upper-level university classes and a seamless transfer process to earn a four-year college degree.

We appreciate that in today's frenzied world, not everyone can be a 9 to 5, full-time student. That's why we have classes throughout the day, evenings and weekends. And Lone Star College System provides opportunities in specialized training for long-term careers in high-demand fields such as energy, manufacturing, health care and computer technology. LSCS also offers cutting-edge online access to classes via LSC-Online and provides customized workforce training and development to employers through our Lone Star Corporate College.

Lone Star College System is proud to have been recognized as the top producer of associate degrees in Texas and third among all community colleges in the nation by Community College Week magazine in 2013. LSCS was listed third in the nation among more than 1,100 community colleges for the number of associate degrees it awarded. LSCS was first in Texas among the 50 community colleges in the state.

LSCS was recently named as the top community college in Texas by RateMyProfessors.com and constantly strives to develop innovative ways to assist you through your college experience including an improved orientation process, more advisors to help you focus on selecting the right program of study, and other strategies – all designed to help you perform at your highest level and fulfill your educational goals.

Lone Star College System is close to home, dedicated to keeping your education accessible and also keeping it affordable. Our advisors can provide you with a variety of financial aid options including scholarships, grants, work study and more if you need financial aid.

Lone Star College System is constantly evolving and changing to meet the needs of the community and prepare students to enter the workforce fully qualified to succeed. You can be assured that you will receive a first-rate education no matter what program of study or career training you choose to pursue.

We know you have a choice and we are honored you have chosen Lone Star College System for your education needs. You will be joining more than 90,000 students who call LSCS home each year.

It's a great time to attend Lone Star College System. Welcome!
NOTE: Pages that include red text, tabs or notations have been edited after the publication of the print edition of the catalog. These edits can also be found in the addendum.

Latest update: April 27, 2016

Lone Star College System 42nd Annual Catalog

A system of comprehensive, public, two-year colleges, the Lone Star College System offers academic, workforce development, continuing and technical 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.

Publication date June 26, 2014. For updates, refer to the catalog online at LoneStar.edu/LSCS-catalog.
Campus Locations

Lone Star College-CyFair
9191 Barker Cypress Road
Cypress, TX 77433-1383
281.290.3200

Lone Star College-Kingwood
20000 Kingwood Drive
Kingwood, TX 77339-3801
281.312.1600

Lone Star College-Montgomery
3200 College Park Drive
Conroe, TX 77384-4500
936.273.7000

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

Lone Star College-Tomball
30555 Tomball Parkway
Tomball, TX 77375-4096
281.351.3300

Lone Star College-University Center
at University Park
20515 S.H. 249
Houston, TX 77070-2607
281.290.2600

System Office and Training Center
5000 Research Forest Drive
The Woodlands, TX 77381-4399
832.813.6500

INTERNATIONAL
Lone Star College-Jakarta
Mulia Business Park, JI.
MT. Haryono Kav. 58-60,
Jakarta, Selatan Indonesia 12780
+62 085857418425 (Indonesia)
+1 832.217.0176 (USA)
Phone Numbers

ADMISSIONS (CREDIT CLASSES ONLY)
For application information about early admission (concurrent with high school enrollment); foreign student admission; policies on admission; or residency information:

LSC-CyFair ........................................... 281.290.3950
LSC-Kingwood ....................................... 281.312.1613
LSC-Montgomery ................................... 936.273.7236
LSC-North Harris .................................. 281.618.5410
LSC-Tomball ......................................... 281.351.3310
LSC-University Park ................................ 281.401.5300

ADVISING & COUNSELING SERVICES
For appointment with a counselor, testing, advanced placement, academic warning, registration and advising, degree planning, disabled student assistance, orientation, transferability of courses/course equivalence:

LSC-CyFair ........................................... 281.290.3910
LSC-Kingwood ....................................... 281.312.1613
LSC-Montgomery ................................... 936.273.7236
LSC-North Harris .................................. 281.618.5410
LSC-Tomball ......................................... 281.351.3310
LSC-University Park ................................ 281.401.5370
Veteran Services .................................. 281.290.2898

BOOKSTORE
LSC-CyFair ........................................... 281.290.5950
LSC-Kingwood ....................................... 281.312.1699
LSC-Montgomery ................................... 936.273.7338
LSC-North Harris .................................. 281.618.5699
LSC-Tomball ......................................... 281.351.3398
LSC-University Park ................................ 281.401.5323

BUSINESS OFFICE
LSC-CyFair ........................................... 281.290.3975
LSC-Kingwood ....................................... 281.312.1581
LSC-Montgomery ................................... 936.273.7214
LSC-North Harris .................................. 281.618.5474
LSC-Tomball ......................................... 281.357.3754
LSC-University Park ................................ 281.401.5303

CAREER SERVICES
For career information, cooperative education, and employment advising:

LSC-CyFair ........................................... 281.290.3260
LSC-Kingwood ....................................... 281.312.1435
LSC-Montgomery ................................... 936.273.7221
LSC-North Harris .................................. 281.618.5481
LSC-Tomball ......................................... 281.351.3383
LSC-University Park ................................ 281.290.5050

COLLEGE CENTERS
LSC-Atascocita Center (LSC-Kingwood) ........ 832.775.0800
LSC-Conroe Center (LSC-Montgomery) .......... 936.521.4500
LSC-Cypress Center (LSC-CyFair) ............... 832.782.5000
LSC-EMCID Center (LSC-Kingwood) .............. 281.312.1750
LSC-Fairbanks Center (LSC-CyFair) ............. 832.782.5000
LSC-Greenspoint Center (LSC-North Harris) .... 281.260.3500
LSC-Victory Center (LSC-North Harris) ........ 281.810.5602

CONTINUING EDUCATION (NON-CREDIT CLASSES)
For Continuing Education schedules and GED information:

LSC-CyFair ........................................... 281.290.3460
LSC-Kingwood ....................................... 281.312.1660
LSC-Montgomery ................................... 936.273.7446
LSC-North Harris .................................. 281.618.5634
LSC-Tomball ......................................... 281.357.3676
LSC-University Park ................................ 281.290.2601

FINANCIAL AID
Financial Aid for all colleges: .................... 281.290.2700

LABORATORIES/LEARNING ASSISTANCE
Language Lab (LSC-CyFair) ......................... 832.482.1024
Tutoring Programs (LSC-CyFair) ................. 281.290.3279
Learning Center (LSC-Kingwood) .................. 281.312.1439
Learning Center (LSC-Montgomery) .............. 936.273.7373
Learning Center (LSC-North Harris) ............. 281.618.5445
Extended Learning Center (LSC-Tomball) ....... 832.559.4240
Tutoring Programs (LSC-University Park) ...... 281.401.5386

LIBRARY
LSC-CyFair ........................................... 281.290.3210
LSC-Kingwood ....................................... 281.312.1691
LSC-Montgomery ................................... 936.273.7390
LSC-North Harris .................................. 281.618.5491
LSC-Tomball ......................................... 832.359.4200
LSC-University Park ................................ 281.401.5390

OFFICE OF INSTRUCTION
LSC-CyFair ........................................... 281.290.3952
LSC-Kingwood ....................................... 281.312.1504
LSC-Montgomery ................................... 936.273.7231
LSC-North Harris .................................. 281.618.5601
LSC-Tomball ......................................... 281.357.3755
LSC-University Park ................................ 281.290.3600

PRESIDENT’S OFFICE
LSC-CyFair ........................................... 281.290.3942
LSC-Kingwood ....................................... 281.312.1640
LSC-Montgomery ................................... 936.273.7222
LSC-North Harris .................................. 281.618.5440
LSC-Tomball ......................................... 281.351.3360
LSC-University Park ................................ 281.290.2777

REGISTRAR’S OFFICE
For catalogs, changes of address or name, class schedules, drop/add/withdrawal, enrollment information and graduation:

LSC-CyFair ........................................... 281.290.3200
LSC-Kingwood ....................................... 281.312.1613
LSC-Montgomery ................................... 936.273.7236
LSC-North Harris .................................. 281.618.5410
LSC-Tomball ......................................... 281.351.3310
LSC-University Park ................................ 281.401.5300

SYSTEM OFFICE
Chancellor’s Office ................................ 832.813.6500
Small Business Development Center .......... 832.813.6674

LSC-UNIVERSITY CENTER AT MONTGOMERY
General Information ....................... 936.321.4500 or 936.273.7510

LSC-UNIVERSITY CENTER AT UNIVERSITY PARK
General Information ....................... 281.290.2600
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**Important Dates**

**Fall 2014**
- Aug 25: Fall classes begin
- Sep 1: Last day to drop class for a “W”
- Sep 22-26: Fall 2014 Final Exams
- Dec 14: End of semester
- Dec 15-Jan 11: Winter mini-semester (3 & 4 wks)

**Spring 2015**
- Jan 12: Spring classes begin
- Apr 2: Last day to drop class for a “W”
- May 8-9: Commencement
- May 10: End of semester

**Summer 2015**
- June 1: Summer classes begin
- June 1–July 7: First summer session
- June 23: Last day to drop and receive a “W” for first summer session
- July 9–Aug 16: Second summer session
- Aug 4: Last day to drop and receive a “W” for second summer session
- Aug 16: End of semester

**College Holidays**

**2014**
- Aug 30–Sept 1: Labor Day holiday
- Nov 27-30: Thanksgiving holiday
- Dec 22-Jan 4: Winter holiday

**2015**
- Jan 19: MLK holiday
- Mar 9–15: Mid-semester break
- Apr 3–5: Spring holiday
- May 23–25: Memorial Day holiday
- July 2–5: Independence Day holiday

**Financial Aid Dates**

- April 1: Priority Awarding Date
- April 1: Summer Processing Priority Date
- July 15: Fall Processing Priority Date
- Nov 1: Spring Processing Priority Date

**View other dates online:**
- Registration Deadlines: LoneStar.edu/registration
- Tuition Payment Deadlines: LoneStar.edu/payment
- SAP Submission Deadlines: LoneStar.edu/sap
Accreditations and Affiliations

The Lone Star College System is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools to award Associate of Arts, Associate of Science, Associate of Arts in Teaching, and Associate of Applied Science Degrees. Contact the Commission on Colleges at 1866 Southern Lane, Decatur, Georgia 30033-4097 or call 404.679.4500 for questions about the accreditation of the Lone Star College System, to file a third-party comment at the time of the 10-year review, and to file a complaint against the institution for alleged non-compliance with a standard or requirement. Normal inquiries about Lone Star College System such as admissions requirements, financial aid, educational programs, etc. should be addressed directly to Lone Star College System and not to the Commission’s office. Accredited since 1976, Lone Star College was recently re-accredited in 2012 in its 10-year re-accreditation process.

Individual programs at Lone Star College are further approved by numerous national associations and state credentialing agencies including the American Dental Association, the American Society of Health - System Pharmacists Commission on Credentialing, the American Veterinary Medical Association, The Texas Board of Nursing, the Commission on Accreditation for Allied Health Education Programs, the Commission on Accreditation for Physical Therapy Education, the Texas Department of Health Services, the Texas Education Agency, and many others.

Accreditations and Affiliations

- Accreditation Commission for Education in Nursing
- Accrediting Council for Occupational Therapy Education
- American Bar Association
- American Council on Education
- American Dental Association
- American Health Information Management Association
- American Society of Health - System Pharmacists Commission on Credentialing
- American Veterinary Medical Association
- Building Industry Consulting Services International
- 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 on Education in Diagnostic Medical Sonography
- Joint Review Committee on Education in Radiologic Technology
- Microsoft Academy
- Microsoft IT Academy
- Microsoft MOS Certification Test Center
- National Automotive Education Foundation
- National Kitchen and Bath Association
- Texas Board of Nursing
- Texas Commission on Alcohol and Drug Abuse
- Texas Commission on Fire Protection
- Texas Commission on Law Enforcement Officer Standards and Education
- Texas Community College Speech & Theatre Association
- Texas Department of State Health Services
- Texas Education Agency
- Texas Real Estate Commission
- Texas State Board of Public Accountancy
- Texas State Cosmetology Commission
- The Community Leadership Association
General Information

Lone Star College System
Vision
Lone Star College System is recognized globally as the premier community college for student success, innovation and partnerships.

Lone Star College System
Mission
Lone Star College System provides comprehensive educational opportunities and programs to enrich lives.

Lone Star College System
Value Statements

Affordable Access
We believe that the Lone Star College System provides an affordable and accessible educational experience which meets the needs of its diverse communities.

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

Commitment to International Education
We believe that the Lone Star College System demonstrates its commitment to international education by embracing multiple perspectives, promoting understanding and educating students to become contributing members in a culturally and ethnically diverse world.

Communication
We believe that the achievement of the Vision and Mission of the Lone Star College System requires an effective system of communication among both internal and external constituencies.

Diversity
We believe the Lone Star College System provides an inclusive learning and working environment for our diverse students, faculty, administrators and staff and that our System programs, services and personnel reflect the communities we serve.

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

Ethics/Integrity
We believe that it is essential that all Lone Star College System employees adhere to the highest standards of ethics and integrity.

Evaluation/Accountability
We believe that it is essential that the Lone Star College System employ data-supported decision making and regularly assess the impact and outcomes of our efforts for continuous improvement.

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 and innovation, creates opportunities for professional development, fosters meaningful involvement in shared governance and provides excellent compensation.
Leadership
We believe that the Lone Star College System, building on a solid foundation of growth and service, is a recognized leader in the community college movement, making important contributions to the profession through partnerships, innovation, scholarship, creative services and integrated technologies.

Learning Environment
We believe that the Lone Star College System is a dynamic learning environment, distinguished by academic freedom and 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.

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

Technology
We believe that technology is a critical resource in supporting and achieving instructional, operational and strategic goals of the Lone Star College System.

Lone Star College System at a Glance

LoneStar.edu
Known for its innovation and the visionary thinking of its leaders, the Lone Star College System is the largest institution of higher education in the greater Houston area and one of the fastest-growing college systems in the U.S. The multi-college system, located across the north Houston region, is comprised of six colleges, seven satellite centers, and two university centers: Lone Star College-University Center at Montgomery and Lone Star College-University Center at University Park. Student success is the core mission of this publicly-supported, two-year, comprehensive community college system and it is committed to helping students complete their education and reach their goals. From associate, bachelor’s and master’s degrees to certification in high-demand careers, Lone Star College and its progressive partnerships with many universities provide quality educational opportunities for the successful development of knowledge, skills and attitudes for a rapidly-changing world.

The college system encompasses more than 1,400 square miles and serves a population of more than 2 million. As the largest community college system in the Houston area, it enrolls more than 78,000 credit students each semester with a total enrollment of more than 90,000 students. Student enrollment has doubled each of the last two decades. Lone Star College has many student groups and organizations that welcome participation and encourage student involvement, which is part of the LSCS Best Start program initiated in 2011 to help students succeed. Best Start is Lone Star College’s Quality Enhancement Plan, an important required component for the college’s accreditation process with The Southern Association of Colleges and Schools Commission on Colleges, the regional body for the accreditation of degree-granting higher education institutions in the Southern states.

The Best Start plan involves a specific set of instructional activities designed to enhance Lone Star College’s current efforts to help more students succeed. The four steps of the plan are:

• Set a goal.
• Make a plan.
• Get connected (with faculty, advisor or counselor).
• Get involved (join campus organizations and volunteer).

The plan was introduced in fall 2011 and continues in 2014-15.
About LSC-CyFair
Cypress-Fairbanks residents voted to become part of the Lone Star College System in August 2000 and the new Lone Star College-CyFair opened in August 2003 as the fifth Lone Star College. LSC-CyFair now has three locations to help make education accessible and convenient for the rapidly-growing Cypress-Fairbanks area: 1) The LSC-CyFair campus on Barker Cypress Road at West Road, a 200-acre, state-of-the-art campus centered around beautiful ponds; 2) The LSC-Fairbanks Center at U.S. Highway 290 and West Little York Road, which is strategically designed for students who live or work in the southeast portion of the Cy-Fair community; and 3) The LSC-Cypress Center, which opened last fall at Clay and Fry Roads, to serve residents in the southwest area of Cypress-Fairbanks.

Highlights
- LSC-CyFair offers more than 60 areas of study for the traditional, full- or part-time student; university partnerships, academic transfer courses and degrees; and workforce development and continuing education.
- Leading-edge technology to promote relevant job skills in CISCO, Visual Communications and more.
- State-of-the-art advanced manufacturing center, preparing students for degrees in welding, manufacturing, machining, electronics, drafting, engineering technology and more.
- Exceptional health care programs including nursing, medical radiologic technology, medical assisting and sonography.
- Access to a comprehensive library system via a collaborative community partnership with the Harris County Public Library and LSC-CyFair.
- Training for Emergency Medical Services and fire science students at the Emergency Services Education Center via a collaborative community partnership with LSC-CyFair and the Emergency Services District.
- The Center for the Arts houses the visual and performing arts featuring artistic talent in many mediums displayed in the Bosque Gallery as well as choral, instrumental and theatrical performances year round.
Selected Program Highlights

**Logistics Management** – This program of study involves the planning, implementing and controlling the flow and storage of goods, services and related information from point of origin to point of consumption.

**Echocardiography** – Echocardiography (Cardiac Sonography) is the use of continuous ultrasound waves to diagnose cardiovascular diseases. This degree program is designed to prepare graduates for employment in the healthcare industry as echocardiographers.

**CISCO** – Covering a wide variety of technologies from routing and switching, security, voice over IP to data center design and more, this program helps students build skills such as collaboration and problem solving by encouraging practical application of knowledge through hands-on activities and network simulations.

**Engineering Technology** – Specialized courses in this program emphasize application more than theoretical development through classroom studies with hands-on, high-tech laboratories.

**Oil Field Service Technician** – The Oil Field Service Technician program prepares students to enter the oil and gas industry as an entry level field service technician.

**Machining Technology** – The Machining Technology Program prepares students to enter the manufacturing industry as entry level manual machinist and CNC operators. The certificates can be completed in two semesters allowing for job placement within one year of starting the program.

**Welding Technology** – The Welding Technology program prepares students to enter the manufacturing and oil and gas industry as an entry level welder. Certificates can be completed in SMAW, GMAW, GTAW, Layout and Fabrication and Pipe.

**Visual Communication** – In addition to developing design and conceptual skills, this degree program trains today’s digital designers for careers in commercial art and design, desktop publishing, multimedia development, web design, 3-D animation, video and post production.

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Lone Star College-CyFair Campus

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1 Center for the Arts (ART)
2 Technology Center (TECH)
3 Learning Commons/College and Harris County Public Library (LRNC)
4 Student Services/Admissions/Financial Aid (CASA)
5 Instructional Building (CASA)

6 College Center/Food Service/Bookstore/Fitness Center (CENT)
7 Health Science Center (HSC)
8 Science Laboratory Building (HSC)
9 Central Plant
10 Emergency Service Education Center (ESEC)
SP Student Parking
About LSC-Kingwood
When Lone Star College-Kingwood opened in August 1984 as the second Lone Star College it was referred to as the “East campus”. Situated on 273 beautifully landscaped wooded acres, LSC-Kingwood is conveniently located at U.S Highway 59 and Kingwood Drive in the northeast sector of the Lone Star College System.
LSC-Kingwood offers two off-site locations to better serve the rapidly-growing communities of Kingwood, Humble, Atascocita, and eastern Montgomery County. The locations include: 1) The LSC-Atascocita Center at 15903 West Lake Houston Parkway, which opened in 2011; and 2) The LSC-EMCID Center at the East Montgomery County Improvement District’s state-of-the-art, high-tech facility. In addition, LSC-Kingwood offers high school students the opportunity to earn college credits through its dual credit and early college programs.

Highlights
• In 2011, LSC-Kingwood opened the John E. Pickelman Student Conference Center and the Music Instructional Building. These state-of-the-art facilities are designed to support student success and improve the college experience for LSC-Kingwood students.
• LSC-Kingwood offers more than 60 areas of study for the traditional, full- or part-time student; university partnerships, academic transfer courses and degrees; and workforce development and continuing education.
• LSC-Kingwood’s Center for Civic Engagement is a unique program that encourages students, faculty, and staff to become active citizens involved in their communities by providing opportunities and resources to engage in service oriented community activities.
• LSC-Kingwood’s Dental Hygiene Program, which is one of the top in the state of Texas, has consistently had an 100 percent pass rate on state board exams by its students.
• LSC-Kingwood offers other health-related training to prepare students for health careers including nursing, occupational therapy assistant and respiratory care therapist.
• LSC-Kingwood offers Cosmetology and Facial programs that fully prepare students to meet the requirements to take licensing exams for the state of Texas.
• LSC-Kingwood has its own television production studio and cable TV station (Channel 42 on Suddenlink.)
Selected Program Highlights

**Nursing** – The nursing program offers a hands-on education for students to achieve their nursing dreams through the completion of a vocational nursing certificate, or through the completion of an associate of applied science degree in nursing. Leading laboratories and state-of-the-art equipment ensure that nursing students graduate with real world experience.

**Fire Science** – Fire science is a one- to two-year program that leads to either a basic structural firefighter certificate and/or an associate of applied science degree. Students will learn the skills needed to become a state certified firefighter through studying specific techniques while working with trained professionals.

**Game Design and Simulation** – Upon completion of the Game Design and Simulation program with either an associate of applied science degree or a one year certificate, students will have learned all aspects of game design from concept to completion including documentation and play testing.

**Dental Hygiene** – Dental hygiene is a two-year program leading to an associate of applied science degree. Once they pass their state board exams, graduates will be an asset to future employers by knowing how to perform oral health assessments; expose, process and interpret x-rays when diagnosed by a dentist; remove soft and hard deposits above and below the gum line; and much more.

**Cosmetology** – The cosmetology program offers an associate of applied science degree as well as certificate programs in facial specialist and cosmetology operator to train future cosmetologists on various skills they can use to improve the personal appearances of their customers.

**Interior Design** – Students in the interior design program will receive both classroom and hands-on experience to train them to work for various architecture firms, design studios or corporations, and perform tasks such as space planning, lighting design, drafting and furniture specifications.

**Men’s, Women’s and Intercultural Centers** – The Men’s and Women’s Centers are designed to provide men and women with support services and academic enrichment programs to enhance the student life experience at the college. The Intercultural Center seeks to foster intercultural awareness, inclusiveness and respect for all in the LSC-Kingwood community.

**The Center for Civic Engagement** – The center encourages students, faculty and staff to become active citizens involved in their communities by providing opportunities and resources to engage in service oriented community activities. Campus programs that receive assistance and support are Service Learning, Student Life, Phi Theta Kappa, Public Achievement, Honors Program and Honors Student Organization.

**Occupational Therapy** – Occupational therapy is a dynamic allied health profession that provides specialized assistance to help people learn or regain skills needed to live productive and satisfying lives. Through their training, students will be able to show their patients with physical, emotional, social or developmental disabilities how to lead independent and successful lives.

**Continuing Education** – Continuing Education (CE) responds to community needs by opening its doors to all who are motivated to learn and enrich their lives. CE provides opportunities to change lives, improve skills, and develop talents leading to better jobs and a stronger community.

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### Lone Star College-Kingwood Campus

1. Fitness Center (FTC)
2. Classroom Building B (CLB)
3. Performing Arts Center (PAC)
4. Classroom Building A (CLA)
5. Library (LIB)
6. Administration Building (ADM)
7. Health Science Building (HSB)
8. Music Building (MUS)
9. Student Conference Center (SCC)
10. Cottages

Tennis Courts

Baseball Field

Student Parking

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Lone Star College-Kingwood Campus Map
About LSC-Montgomery

In August 1995, Lone Star College-Montgomery opened its doors as the fourth Lone Star College with a dedication ceremony led by then Texas Gov. George W. Bush. It was established as a comprehensive college located on 165 acres of pine forest between The Woodlands and Conroe, to serve the residents of Montgomery County. In 2011, LSC-Montgomery opened three new buildings on the main campus to better serve its students, as well as a new northside center in the Conroe/Willis area – the LSC-Conroe Center. LSC-Montgomery is also located just footsteps away from the LSC-University Center at Montgomery, which offers bachelor’s, master’s and specialized degrees from several university partners.

Highlights

- LSC-Montgomery’s newest buildings include a Health Science Center, a one-of-its-kind Music Hall, and a General Academic Center, as well as a 1,000-space parking garage.
- LSC-Montgomery offers a comprehensive range of transfer, workforce education, continuing education, and developmental education programs.
- The new LSC-Conroe Center, which was added as a convenience for northern Montgomery County residents, offers both transferable college credit classes and career-oriented workforce programs in a variety of trades.
- The Learning Center on campus provides free support services, including tutoring, study groups, seminars, consultations, and placement test preparation. Resources for use in the center include Internet access, academic and productivity software, scientific calculators, science models and kits, and study guides for placement testing.
- A wide variety of career programs is offered, including nursing, radiologic technology, physical therapist assistant, live entertainment technology, human services, land surveying, automotive technology, fire science, welding, and many others.
- The college offers an outstanding honors program, honor societies, service learning, learning communities and an array of clubs and extracurricular activities.
- Many classes are offered in online or hybrid formats, as well as early morning or late evening.
Selected Program Highlights

**Automotive Technology** – In LSC-Conroe Center’s high tech automotive lab, earn a General Service Technician certificate, the first step toward accurately diagnosing and repairing components of automobiles, as well as coursework leading toward the Associate of Applied Science in Automotive Technology.

**Biotechnology** – With opportunities for innovative, hands-on research in molecular medicine, energy and the environment, DNA forensics, and more, the renowned biotechnology program offers a two-year degree or an advanced certificate for students with a four-year degree.

**Criminal Justice** – This program prepares students for an exciting career in law enforcement, private investigation, social services, and more, and is a great starting point for those interested in becoming lawyers, paralegals, or other law-related personnel.

**Fire Science Technology** – Earn a certificate or two-year degree in fire science, which trains students on the tools, techniques, fitness requirements, and emergency skills needed to become a firefighter.

**Human Services** – Equipped with a better understanding of counseling, behavior modification, substance abuse, and addiction, graduates from the human services program are able to prevent and remediate problems facing individuals or families.

**Land Surveying & Mapping Technology** – Surveying is an integral component of land usage and development, and this program uses state-of-the-art equipment to teach students how to determine and measure the exact contours of the earth’s surface.

**Live Entertainment Technology** – As one of only four schools nationwide that offer this audio/visual program, LSC-Montgomery’s LET students learn to design, maintain, and operate specialty lighting, audio, and visual equipment needed for live productions, along with a new video production component.

**Physical Therapist Assistant** – Find a rewarding career that helps others restore function after injuries or relieve pain from medical conditions with the two-year fully accredited physical therapist assistant program.

**Radiologic Technology** – Graduates from the elite radiologic technology program, which trains students to utilize x-ray technology to create images of body parts and organ systems, boast a long-running, 100-percent first-attempt pass rate on the national board exam.

**Welding** – The welding program, at the new welding lab at LSC-Conroe Center, offers extensive training for the beginner to the experienced welder, as well as an almost 100-percent hiring rate.
About LSC-North Harris
Since 1973, Lone Star College-North Harris has been serving the residents of the Aldine, Spring and Humble school districts. It was the first and founding college of the Lone Star College System and set the pace with quality, affordable education. In addition to the 200-acre main campus located north Houston, LSC-North Harris serves thousands of students via two satellite centers – LSC-Greenspoint Center and LSC-Victory Center. Industry-specific classes are also offered through the college’s two specially-designed facilities, the LSC-Health Professions Building and the CHI LSC-North Harris School of Cosmetology, both of which capitalize on local partnerships to provide valuable training in high-demand fields.

Highlights
- Flexible class schedules and first-class professors who recognize students’ need to juggle classes with work and family responsibilities. Courses are held during the day, in the evening, on weekends and in fast-track, independent, online or individualized study formats.
- More than 110 degree and certificate programs designed for both university transfer and career building.
- A comprehensive library for students and the community.
- On-campus child care facility operated by the Aldine-Greenspoint YMCA includes a pre-school program for children 3 and 4 years of age, after-school program for children 5 to 12 years of age, and Child Watch* – a drop-in care for children 18 months to 5 years of age, available only to currently-enrolled LSC-North Harris students.
- Free tutoring, computer lab use, on-campus parking, intramural sports programs, plus a comprehensive weight training center, dance/aerobics studio, walking trail and gymnasium.
- Leading-edge technology in emerging technical job fields.
- A safe, beautifully landscaped, suburban campus tucked amidst 200 acres of forest and clearings.
- The college’s fine arts department offers a comprehensive curriculum with programs in art, dance, theater and music.
- Classes and programs offered at LSC-Victory Center, located in the Acres Homes community and LSC-Greenspoint Center, located in Greater Greenspoint. The Health Professions Building is home to many of the college’s medical programs.

* Child Watch is only available to currently enrolled LSC-North Harris students.
Selected Program Highlights

**Visual Communication** – In addition to developing design and conceptual skills, this degree program trains today’s digital designers for careers in commercial art and design, desktop publishing, multimedia development, web design, 3-D animation, video and post production.

**Network and Computer System Administration** – An interdisciplinary program which focuses on applying the principles of computer science, networking, and business to design and maintain integrated technology solutions.

**Health Information Technology** – Provides the training and academic and technical education necessary to function in today’s medical field, including a specialized certificate in medical coding.

**Welding Technology** – The welding technology program is designed to prepare the individual for a career as a welding technician in the fabrication, construction and manufacturing industries.

**Pharmacy Technology** – Graduates from the program are prepared for a career in retail or hospital pharmacies as a pharmacy technician, lead pharmacy technician or, in some cases, store manager.

**Paralegal Studies** – Prepares graduates for legal assistant and paralegal positions at law firms of all types and for the NALA Certified Legal Assistant exam.

**Automotive Technology** – Students in this Automotive Service Excellence (ASE) certified program study the mechanical, electrical, electronic and environmental systems of today’s automobiles and light trucks.

**Heating, Ventilation AC & Refrigeration Technology** – The HVAC-R program offers training for a career in residential and/or light commercial environmental systems service including repair, maintenance and installation.

**CHI Lone Star College-North Harris School of Cosmetology** – A unique partnership which brings the world-renowned methods and products of Farouk Systems, Inc. to the high-demand cosmetology program at LSC-North Harris and offers students up-to-date curriculum and experienced instructors.

**Nursing** – An integrated nursing curriculum with ample opportunities for real-world experience housed at our state-of-the-art Health Professions Building in the heart of the Houston Northwest Medical Center.

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**Lone Star College-North Harris Campus**

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1. Library (LIBR)  
2. Academic Building (ACAD)  
3. Winship Building (WNSP)  
4. Industrial Education (INED)  
5. Student Center (STSC)  
6. Fine Arts (ARTS)  
7. Continuing Education (CMED)  
8. Health and Wellness (HPE)  
9. College Bookstore (CBST)  
10. Training Center (TRC)  
11. Digital Technology Center (DTC)  
12. Student Services (SSB)  
13. Applied Technology Center (ATC)  
14. Child Development Center (CDC)  
P. Police  
SP. Student Parking  
FP. Faculty Parking  
VP. Visitor Parking

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About LSC-Tomball
Lone Star College-Tomball, the third of the six Lone Star Colleges, was the result of many years of dedication by community members to bring higher education to the Tomball and Magnolia communities. Residents of the Tomball Independent School District voted in 1982 to join the Lone Star College System and LSC-Tomball opened its doors for students in 1988. Today, LSC-Tomball students can earn the Associate of Arts, Associate of Science or Associate of Applied Science degrees, complete their general education courses for transfer to a four-year college or university, or earn workforce certificates in a variety of areas that lead to high-demand jobs.

Highlights
• The Honors program, service learning, dual credit and international studies allow LSC-Tomball students to have an advanced academic college experience. Learning spaces such as the Performing Arts Center, Health Science Building, Veterinary Technology Building, Language and Culture Center, the iClassroom, the 21st Century Classroom and the Communications Center also enhance the collegiate experience for students.
• The LSC-Tomball Community Library, in partnership with the Harris County Public Library system, houses a wide variety of resources for the community, including a children’s library, as well as a wealth of resources to serve the research needs of students.
• In addition to traditional course offerings, fast track options, “late start” and “finish early” courses, and weekend and evening courses allow students who are balancing demands for family, school and work to find classes that best suit their lifestyle.
• To support student success, LSC-Tomball offers professional advising and counseling, financial aid services, recruitment and outreach services, testing and tutoring support, and accommodations for students with disabilities. Additionally, a vibrant Student Life department provides students with many opportunities to get connected, make friends, learn leadership skills, and enhance their academic experience.
• Continuing education courses for lifelong learners are also available. Discovery College provides a safe and fun college experience during the summer for students age 6 – 17. The Academy for Lifelong Learning (ALL) program offers opportunities for adults age 50+ to take free or low-cost classes and participate in personal interest activities. Preparation courses for the General Educational Development (GED) test are also offered, along with other adult basic education courses.
Selected Program Highlights

Veterinary Technology – LSC-Tomball’s Vet Tech program has been twice recognized as an exemplary program by the state of Texas and its students have one of the highest success rates in passing the state and national board exams among the 185 accredited programs in the U.S. and Canada.

Surgical Technology – Surgical technologists assist in the operating room under the direct supervision of surgeons and registered nurses. LSC-Tomball is the only college in the area to offer the Surgical Technology program.

Pharmacy Technology – Prepares graduates to pass the Board Exam and become Certified Pharmacy Technicians (CPhT).

Computer Networking Technology/Cisco – Certifications in Cisco Certified Network Associate (CCNA) and Cisco Certified Network Professional (CCNP) are offered. All courses are taught by Certified Cisco Academic Instructors and feature web-based content, simulations and hands-on labs.


Transitions Project – A college readiness program for students who are preparing for the GED credential and college placement assessments. Students complete intensive academic instruction in College Student Success Strategies integrated into the Transitions in Language Arts and Transitions Mathematics courses.

Arts – A variety of courses are offered in art, photography, music, and drama.

Business Administration – One year specialization certificates are available in Supervision, Human Resources, Marketing and General Business. A two year Associate of Applied Science (AAS) degree in Business Administration is an advanced degree that more fully prepares students for work as business managers or business owners.

Accounting – The Associate of Applied Science (AAS) degree in Accounting can be completed in two years. Students desiring a less comprehensive program can complete an Accounting Certificate in one year.

CPA – Courses approved by the Texas State Board of Public Accountancy to sit for the Texas CPA exam are offered online and in class. To qualify for the CPA program, a B.A. or B.S. (in any discipline) is required.

Lone Star College-Tomball Campus
About LSC-University Park

Lone Star College-University Park, the system’s sixth college, opened for classes in spring 2010 where Compaq Computer and Hewlett Packard’s world headquarters once were on State Highway 249 at Louetta Road.

It is designed to be a college as well as an incubator for innovative partnerships between education, business and industry, and the community. Along with two-year degrees and certificates in many areas, LSC-University Park also offers bachelor’s and master’s degrees at the LSC-University Center at LSC-University Park, through partnerships with a number of four-year universities. LSC-University Park also houses LSC-Online, the Veterans Affairs Center, Lone Star Corporate College and the Lone Star College Conference Center. The new Lone Star College Energy & Manufacturing Institute is also housed at LSC-University Park and will open this fall for classes.

LSC-University Park is one location with many opportunities, making higher education convenient, affordable and accessible to the northwest Harris County community.

Highlights

• Offers associate degrees, face-to-face or online, credit and non-credit courses, workforce training, and continuing education classes as well as certificates in many workforce programs of study.
• Faculty members possess the academic credentials, business and industry experience, and student-centered focus that deepen critical and creative thinking to enhance student success.
• Interactive teaching and engaged learning.
• On-site “first-stop” student services including admissions, financial aid assistance, tutoring, advising, counseling, and assessment and placement testing.
• On-site bookstore, digital library services, computer resources and much more to help students achieve their goals.
• Specialized services available for veterans, international students, and ADA accommodations.
• University partners offer bachelor’s and master’s level classes and degrees on-site at the same facility. Current LSC-University Center at University Park partners include: University of Houston, University of Houston-Downtown and Sam Houston State University.
• 2+2 programs offer seamless credit transfer – two years at Lone Star College with two years at a four-year university on site.
Selected Program Highlights
LSC-University Park is the newest campus within the Lone Star College System. Currently, LSC-University Park is designing two-year degree programs that transfer directly to our University Partners (Sam Houston State University, University of Houston-Downtown Northwest and University of Houston-Northwest). This seamless transition model provides LSC-University Park students one location for degree completion with an enormous economic benefit.

AA in Business – The Associate of Arts in Business degree provides students with the basic foundational knowledge in the business field. Students of the business program will learn business theories and acquire skills required in human relations, management, marketing, and computer technology.

AA in Speech Communications – LSC-University Park offers an Associate of Arts in Speech Communications. Students develop knowledge and skill in expressing ideas verbally and nonverbally. They learn to interpret, debate ideas, work productively in teams, and examine the role of culture in communication.

AA in Teaching – LSC-University Park offers courses that fulfill the state requirements for an Associate of Arts in Teaching (AAT). A variety of courses are offered to meet the diverse goals of education majors. The AAT degree offers the first two years of classes toward initial teacher certification. All courses in the AAT lead to teacher certification programs at a four-year university.

AAS in Accounting – The Associate of Applied Science in Accounting degree is designed to prepare students for occupations in the accounting profession. Students are prepared for entry-level work in investment planning, auditing, accounts payable and accounts receivable.

*AAS in Engineering Technician – Students who would like to earn their Associate in Applied Science (AAS) degree begin by completing the Engineering Technician Level I Certification program. After completing a Level I Certification, one of two tracks may be pursued. Students can obtain an entry-level position in the workforce, or build on their skills and complete a Level II Certification: Automated Manufacturing Technician and Petroleum Field Service Technician.

*AAS in Management – The program in Management prepares students for roles in a business environment as managers. The Associate of Applied Science in Management will provide supplemental training for persons who are currently, or hope to hold upper management positions in future careers.

*Anticipated Programs
What are the LSC-University Centers?
Higher Education Close to Home

The Lone Star College-University Centers offer junior, senior and graduate level classes through partnerships with several universities. Students who enroll with one of the partner universities on-site at either the Montgomery or University Park locations are able to complete a bachelor's or master's degree (or teaching certificate) without traveling to the university campuses.
Student success
Student success and credential completion – students completing their educational goals – is a core value for Lone Star College System.

LSCS works to provide proven steps and procedures to help students from the first day they step on campus until they complete their degree or credential – whatever their educational goal. In addition to associate degrees and certifications in career and technical education, Lone Star College opens doors for students who want to continue their education and obtain a four-year degree and more.

Transfer made easy
The Lone Star College University Center model is unique, innovative and is one that has been duplicated at many colleges across the country. Transferring to a four-year university partner has never been easier for Lone Star College students.

First, LSCS University Center partners have operations on site at the Lone Star College University Centers, which makes for a smoother transition process. Also, specific transfer programs – like the 2+2 program – allow students to take their first two years of classes at Lone Star College and then the second two years of upper-level courses at one of the university partners, without having to reapply.

Because of these agreements between Lone Star College and its university partners, students who complete their associate degrees are automatically accepted at the four-year colleges on site.

Joint Admission
Students are also able to better maximize the number of courses completed at Lone Star College that can be applied toward their bachelor’s degrees by joint admission, which allows students to co-enroll at a partner university while attending Lone Star College. Benefits include a simplified application process, discounted or no application fees, and complete access to the facilities and resources of both institutions.

Reverse transfer
Lone Star College also has reverse transfer programs with its University Center partner universities, and other colleges in Texas, which establish policies and procedures for credits earned at universities to be transferred back to Lone Star College and applied toward associate degrees. Students wishing to obtain an associate degree while attending a partner university are able to transfer university credit toward the Lone Star College associate degree.
As the first of the two university centers at Lone Star College System, the LSC-University Center at Montgomery has been setting the standard for on-site delivery of various upper level bachelor’s, master’s and doctoral degree programs for more than 10 years. It is conveniently located in a 78,000-square-foot building on the edge of the LSC-Montgomery campus.

Students are able to select from more than 50 programs offered by four universities operating on site: Our Lady of the Lake University-Weekend College, Sam Houston State University, University of Houston-Victoria and University of St. Thomas. Call 936.273.7510 or visit LoneStar.edu/UC-Montgomery.

Lone Star College-University Center at Montgomery
3232 College Park Drive  •  The Woodlands, TX 77384  •  936.273.7510  •  936.321.4500 (Metro)

1 Lone Star College-University Center at Montgomery
2 SHSU Parking Garage
3 SHSU - Woodlands University Center
SP Student Parking

Highlights
• Students are able to complete freshman and sophomore level requirements from any Lone Star College or any other Texas community college before transferring to one of the partner universities.
• In addition to junior- and senior-level courses leading to bachelor’s degrees, the four partner universities offer graduate programs for master’s and doctoral degrees on-site.
• Classes offered are identical to those offered on the university home campuses. Each university’s faculty teach courses on site at the University Center.
• Students have access to the University Center’s wireless network and a virtual library connecting them to their home university library.
• Visit LoneStar.edu/UC-Montgomery for detailed descriptions of programs.
### University Partner Degrees Offered

Web: LoneStar.edu/uc-montgomery  
Phone: 936.273.7510  936.321.4500 (Metro)  
A schedule of classes for each university can be found at:  
LoneStar.edu/UC-Montgomery ➔ select course schedules

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### Our Lady of the Lake University - Weekend College

Web: ollusa.edu  
Phone: 936.273.7510  
A schedule of classes can be found at: ollusa.edu ➔ Academics ➔ Weekend College

#### Undergraduate Degrees
- Accounting
- Business
- Criminal Justice
- Human Sciences

#### Graduate Degrees and Post-Baccalaureate Certificate
- Management
- Multi-Disciplinary Studies
- Psychology

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### Sam Houston State University

Web: shsu.edu  
Phone: 1.866.BEARKAT

A schedule of classes can be found at: shsu.edu/academics/ucenter/

#### Undergraduate Degrees
- Accounting
- Applied Arts and Sciences
- Banking and Financial Institutions
- Criminal Justice
- English
- Family and Consumer Sciences
- Finance
- General Business Administration
- History
- Interdisciplinary Academic Studies
- Elementary Cert.
- Management
- Marketing
- Mass Communications/Public Relations

#### Graduate Degrees and Post-Baccalaureate Certificate
- Political Science
- Psychology
- Sociology
- Spanish

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### University of Houston-Victoria

Web: uhv.edu/nursing  
Phone: 877.970.4848

A schedule of classes can be found at:  
uhv.edu/nursing ➔ RN to BSN ➔ Degree Plan and Schedule of Courses

#### Undergraduate Degrees
- RN to BSN

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### University of St. Thomas

Web: stthom.edu  
Phone: 713.522.7911

A schedule of classes can be found at: stthom.edu ➔ Degrees & Programs ➔ Courses & Schedules

#### Graduate Degrees
- Bilingual Education/Dual Language
- Counselor Education
- Curriculum and Instruction

#### Educational Leadership
- Exceptionality/Educational Diagnostician
- Reading
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

Business
Our Lady of the Lake University-Weekend College

Criminal Justice
Sam Houston State University

English
Sam Houston State University

Family and Consumer Sciences
Sam Houston State University

Finance
Sam Houston State University

General Business Administration
Sam Houston State University

History
Sam Houston State University

Interdisciplinary Academic Studies in Elementary Certification
Sam Houston State University

Management
Our Lady of the Lake University-Weekend College

Marketing
Sam Houston State University

Political Science
Sam Houston State University

Psychology
Sam Houston State University

Sociology
Sam Houston State University

Spanish
Sam Houston State University

MASTER’S DEGREES
(graduate programs)

Applied Geographic Information Systems
Sam Houston State University

Bilingual Education/Dual Language
University of St. Thomas

Business Administration
Sam Houston State University

Communication Studies
Sam Houston State University

Counselor Education
University of St. Thomas

Criminal Justice
Our Lady of the Lake University-Weekend College

Curriculum and Instruction
Sam Houston State University

Curriculum and Instruction: EC-12 Physical Education Certification
University of St. Thomas

Educational Leadership
University of St. Thomas

Educational Leadership: Administrators/Instructional Leadership & Principalship
Sam Houston State University

English
Sam Houston State University

Exceptionality/Special Education
University of St. Thomas

Healthcare Management
Our Lady of the Lake University-Weekend College

History
Sam Houston State University

Human Sciences
Our Lady of the Lake University-Weekend College
MASTER’S DEGREES (con’t)

Kinesiology-Sports Management
Sam Houston State University

Management
Our Lady of the Lake University-Weekend College

Multi-Disciplinary Studies
Our Lady of the Lake University-Weekend College

Political Science
Sam Houston State University

Psychology
Our Lady of the Lake University-Weekend College
Sam Houston State University

Public Administration
Sam Houston State University

Reading
University of St Thomas

Sociology
Sam Houston State University

Spanish
Sam Houston State University

Special Education: Educational Diagnostician Certification
Sam Houston State University

SPECIAL PROGRAMS

Doctor of Education in Educational Leadership
Sam Houston State University

Doctor of Philosophy in Counselor Education
Sam Houston State University

Doctor of Philosophy in Leadership Studies
Our Lady of the Lake University-Weekend College

Post Baccalaureate Teacher Certification
Sam Houston State University
The second of the Lone Star College university centers, LSC-University Center at University Park is also designed to provide easy transfer for LSCS graduates into advance degrees and programs offered by the four-year university partners on site at this location. The partners include Sam Houston State University, the University of Houston Northwest and University of Houston-Downtown Northwest—offering more than 52 unduplicated degrees to help advance the educational goals of students after attaining an associate degree with Lone Star College. To provide for easier access to upper-level education, LSC-University Center at University Park offers a 2+2 transfer agreement which gives students the opportunity to earn a two-year AA or AS degree (some AAS degrees apply) from Lone Star College and then continue with two years at one of the partner universities on site to complete a bachelor’s degree.

**Highlights**
- Lone Star College advisors and partner university advisors are available in the one location to assist students planning to transfer into a variety of undergraduate, graduate and doctorate degree programs, along with professional certification programs.
- Students are able to complete freshman and sophomore level requirements from any Lone Star College before transferring to one of the partner universities on site.
- The campus consists of five major office buildings and facilities totaling more than 1.2 million square feet with supporting facilities and parking.
- Complete student support services for Lone Star College and each university are also available, including assistance with applications, admission, degree planning, class transfer and transcript analysis.
- Lone Star College advisors and university partner advisors are on site weekdays and are available by appointment or walk-in.
- Programs offered are of the same quality as those on the university home campuses and are taught by partner faculty members.
- Students have access to a variety of multi-media equipment, computer labs and an electronic library connecting them to their home universities and other library services, inter-library loans, and research opportunities.
- Visit LoneStar.edu/UC-UniversityPark for detailed descriptions of each program offered.

**Lone Star College-University Center at University Park**
20515 State Highway 249 at Louetta • Houston, TX 77070 • 281.290.2600
University Partner Degrees Offered
Web: LoneStar.edu/UC-UniversityPark      Phone: 281.290.2600
A schedule of classes for each university can be found at:
LoneStar.edu/UniversityCenter ➔ select course schedules

SAM HOUSTON STATE UNIVERSITY
Web: SHSU.edu/academics/University_Park
Email: universitypark@shsu.edu      Phone: 281.290.2900      Fax: 281.290.2905

Undergraduate Degrees
EC-6 Generalist
EC-6 Generalist with Special Education
EC-6 Bilingual Generalist
4-8 English, Language Arts, Reading, and Social Studies
4-8 Mathematics/Science
4-8 Mathematics
8-12 Certification

Graduate Degrees
Instructional Technology
Special Education
Counseling
Educational Administration

UNIVERSITY OF HOUSTON NORTHWEST CAMPUS
Web: UH.edu/northwest      Email: northwest@UH.edu      Phone: 832.842.5700
Twitter: @UHNorthwest      Facebook: facebook.com/UHNorthwest

Undergraduate Degrees
B.A., Integrated Communications
B.S., Mechanical Engineering Technology
B.S., Organizational Leadership and Supervision
B.A./B.S., Psychology
B.S., Retailing and Consumer Science
B.S., Supply Chain and Logistics Global

Graduate Degrees and Post-Baccalaureate Certificate
M.Ed., Administration and Supervision
M.B.A., Business Administration
M.S., Human Resource Development

UNIVERSITY OF HOUSTON DOWNTOWN NORTHWEST
Web: UHD.edu/northwest      Email: distance@UHD.edu      Phone: 713.237.5400
Fax: 713.237.5403           Facebook: facebook.com/UHNorthwest

Undergraduate Degrees
B.S., Criminal Justice
B.A.A.S., Criminal Justice
B.A.I.S., with EC-6 Generalist Cert.
B.A.I.S., with EC-6 Bilingual Cert.
B.A.I.S., with 4-8 Generalist Cert.
B.B.A., General Business
B.A.A.S., Safety Management
B.A., Mathematics
B.A., Mathematics with Secondary-level Teacher Certificate
B.S., Biological & Physical Sciences
B.S., Biological & Physical Sciences with Secondary-level Teacher Certificate

B.S., Interdisciplinary Studies
B.B.A., Marketing
B.B.A., Computer Information Systems
B.B.A., Management
B.B.A., Accounting
B.B.A., Finance

Graduate Degrees
M.A., Teaching
M.S., Criminal Justice
GENERAL INFORMATION

LSC-UNIVERSITY CENTER AT UNIVERSITY PARK
(located at 249 SH & Louetta Road)
20414 SH 249; Houston, 77070
LoneStar.edu/UniversityPark

BACHELOR’S DEGREE
(undergraduate programs)

Accounting
University of Houston-Downtown

Biological and Physical Sciences
University of Houston-Downtown

Biological and Physical Sciences with Secondary Teacher Certification
University of Houston-Downtown

Communication
University of Houston

Consumer Science and Merchandising
University of Houston

Criminal Justice (B.A.A.S., B.S.)
University of Houston-Downtown

Enterprise Information Systems
University of Houston-Downtown

Finance
University of Houston-Downtown

General Business
University of Houston-Downtown

Interdisciplinary Studies
University of Houston-Downtown

Interdisciplinary Studies with 4-8 English, Language Arts, Reading, and Social Studies
Sam Houston State University

Interdisciplinary Studies with 4-8 Generalist
University of Houston-Downtown

Interdisciplinary Studies with 4-8 Mathematics
Sam Houston State University

Interdisciplinary Studies with 4-8 Mathematics/Science
Sam Houston State University

Interdisciplinary Studies with EC-6 Bilingual Generalist
Sam Houston State University

Interdisciplinary Studies with EC-6 Bilingual Generalist
University of Houston-Downtown

Interdisciplinary Studies with EC-6 Generalist
University of Houston-Downtown

Interdisciplinary Studies with EC-6 Generalist
Sam Houston State University

Interdisciplinary Studies with EC-6 Generalist
Sam Houston State University

Logistics and Supply Chain Technology
University of Houston

Management
University of Houston-Downtown

Marketing
University of Houston-Downtown

Math with Secondary Certification
University of Houston-Downtown

Mathematics
University of Houston-Downtown

Mechanical Engineering Technology
University of Houston

Organizational Leadership and Supervision
University of Houston

Psychology
University of Houston

Safety Management
University of Houston-Downtown

Sports Management
MASTER’S DEGREES
(graduate programs)

Administration & Supervision
Sam Houston State University

Administration & Supervision
University of Houston

Administration and Supervision - Higher Education, M. Ed.
University of Houston

Criminal Justice
University of Houston-Downtown

Human Resource Development
University of Houston

Instructional Leadership
Sam Houston State University

MBA, C.T. Bauer College of Business
University of Houston

School Counseling
Sam Houston State University

Security Management for Executives
University of Houston-Downtown

Special Education, M.A., M.Ed.
Sam Houston State University

Teaching, M.A.
University of Houston-Downtown

Technology Project Management
University of Houston

SPECIAL PROGRAMS

Bridge Program in Hotel and Restaurant Management
University of Houston

Certificate in Accountancy (Post Baccalaureate)
University of Houston

Corporate Entrepreneurship Certificate
University of Houston

Early Childhood Minor
Sam Houston State University

Global Business Minor
University of Houston

Grades 8-12 Certificate
Sam Houston State University

Human Services Minor
Sam Houston State University

Secondary Education Minor
Sam Houston State University
LSC-Online supports online students and faculty, as well as managing the delivery of online courses and online components of hybrid courses. Fully online courses are delivered completely online using synchronous and/or asynchronous activities. Hybrid courses combine online instruction with campus-based instruction. Both fully online and hybrid courses may include learning activities such as discussions, projects, exams, presentations, and papers. The content and transferability of online and hybrid courses are the same as traditional face-to-face on-campus courses. Students enrolled in online and hybrid courses have the same rights and responsibilities as those enrolled in traditional campus-based courses.

Students can complete all core degree requirements, 11 online associate degrees, and 23 certificates fully online. However, fully online courses may require proctored (supervised) exams or other learning activities such as orientations or labs that are not offered online. For these activities, fully online students have the option to go to a LSCS college site or to an off-campus location that is convenient to them and pre-approved by the instructor. Online students are encouraged to clarify these requirements with their instructors during the first class session.

For additional information, call LSC-Online Advising at 281.290.5000, email onlineadvisor@LoneStar.edu, or visit the Web at LoneStar.edu/LSC-Online.

Career and Technical Education
In addition to associate degrees and college transfer credits, Lone Star College opens doors to personal growth with Career and Technical Education certification programs, professional development seminars and conferences, and community education classes.

Whether the goal is to start a new career, improve current job skills, learn a new language, prepare for the GED or other standardized tests, or take a class to learn something new, Lone Star College has something for all ages. In most cases, no college application or prior testing is required. Class start dates are available throughout the year.

For those interested in earning a Career and Technical Education certification to start a new
To learn more about Lone Star College’s Career and Technical Education certification programs, go to LoneStar.edu/CTE.

Lone Star Corporate College partners with Houston-based, global corporations to identify and meet the Houston region’s workforce training needs. Through both customized and standardized training programs, Lone Star Corporate College works to ensure that these organizations’ employees receive the technical training they need to remain highly skilled and effective in their industries.

Lone Star Corporate College has training programs for several industries, specializing in energy, health care, computer technology, and advanced manufacturing. Training can be held on-site, at a Lone Star College campus, or online. Subject matter experts with years of industry experience teach all programs.

For more information, go to LoneStar.edu/CorporateCollege.

For more information on Lone Star Corporate College’s Community Education programs, go to LoneStar.edu/CE.
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 Regional Center for Economic Development 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.

Student Rights

Information on some student rights and responsibilities is included below. For additional information, please refer to the Student Code of Conduct at LoneStar.edu/conduct and the Student Handbook/Guide at LoneStar.edu/advising.

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 website at 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 system 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.

**Student Consumer and Safety Information**

A list of helpful website links and information is available at [LoneStar.edu/consumer-safety](http://LoneStar.edu/consumer-safety) for student reference.

**Notice of Non-discrimination**

Lone Star College System maintains a work and academic environment that is free from discriminatory actions based on race, color, gender, age, sexual orientation, religion, ethnic or national origin, disability, veterans' status, or any other protected status, and free of sexual discrimination, which includes sexual harassment and sexual violence. Unlawful discrimination and sexual discrimination by officers, managers, faculty, supervisors, employees, students, advisors, vendors, clientele, and contractors will not be tolerated. Persons who violate such are subject to disciplinary action, up to and including termination of employment, expulsion and/or termination of the contractual relationship.

The following employee has been designated to handle inquiries regarding the non-discrimination policies:

Ronda Rotelli
Chief Human Resources Officer, Equal Opportunity Officer, Title IX Investigator
5000 Research Forest Drive
The Woodlands, TX 77381
832.813.6235.

Inquiries may also be directed to the Office of Civil Rights, U.S. Department of Education.

**ADA Statement**

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

**Clery Act**

LSCS complies with the Jeanne Clery Campus Security Policy and Crime Statistics Act and the Jacob Wetterling Crimes Against Children and Sexually Violent Offender Registration Act. Relevant information can be found at: [LoneStar.edu/crime-stats](http://LoneStar.edu/crime-stats) in the LSCS Annual Security Report.

**Minors on Campus**

Lone Star College System is a community college system that embraces our communities and welcomes residents of all ages. However, in order to provide for the safety of all children, students who are enrolled in credit classes and who are age sixteen or younger must have a parent, legal guardian or authorized responsible adult at the LSCS campus, center or facility to monitor the student’s activities outside of class and to be immediately available in case of an emergency.

**Racial Profiling**

The LSCS Police Department prohibits the practice known as “racial profiling” by its officers. More information can be found at [LoneStar.edu/racial-profiling](http://LoneStar.edu/racial-profiling).

**Sex Offender Data**

Information concerning registered sex offenders can be accessed from the Texas DPS website at [https://records.txdps.state.tx.us/sexoffender/](https://records.txdps.state.tx.us/sexoffender/).

**Sex Offender Policy**

Effective September 1, 2005, the Texas Code of Criminal Procedure Art 62.153(a) requires
Computer System Availability

Lone Star College recognizes the value technology adds to teaching and learning, and built a robust and stable infrastructure to support it. Because regular maintenance of computer systems is critical to their performance and efficiency, planned downtimes are normally performed after-hours to minimize disruption to faculty, students and staff. Advanced notice of the scheduled maintenance is distributed in many ways and provides information on the services impacted with estimated start and end times. Users are encouraged to note these communications and plan accordingly. Contact the Service Desk at 813.813.6600 or OTS@LoneStar.edu for updates.

Communication

All official communication from Lone Star College System to its students is delivered through its web portal system, myLoneStar, and Lone Star College provided email accounts.

Health Occupations Clinical Requirement

Lone Star College System policy is consistent with Texas law as to requirements and admission of any resident or non-resident student. For admission and tuition purposes, residency is defined within Texas Education Code §54.052. In addition, LSCS will notify students prior to, but not as a condition or requirement of admission, that health care facilities will require students to have a Social Security number or a Visa as a condition of being assigned to a clinical facility. Students who are unable to complete the LSCS health program clinical skills requirement will not be able to complete the program due to a lack of clinical placement. Additionally, LSCS will notify students that a Social Security number or a Visa may be required for a background check, and may also be required for taking the licensing examination upon completion of program requirements.

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 to submit information pertinent to his or her offenses to the System 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 website at LoneStar.edu.
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 a LSCS application form at LoneStar.edu/apply to expedite the application process. Alternately, new students may complete the Texas Common Application for Community Colleges at 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 an 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 Educational 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 section of this catalog for additional information.
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. Approvals will be considered upon receipt of supporting documentation, as described above, and Individual Approval Form.

Admissions Process: Credit Courses

As an open admissions college system, LSCS makes it easy to get started. The steps are:

- Submit an online admissions application at LoneStar.edu/apply.
ADMISSIONS PROCEDURES

- Apply for financial aid if needed.
- 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 qualifying assessment scores, or complete Pre-Assessment Activity and take an assessment test (see LoneStar.edu/placement-testing-info for details).
- Submit all official transcripts.
- Submit meningitis documentation if applicable.
- Attend a New Student Orientation.
- Meet with advisor/counselor to discuss academic plans.
- Apply for Academic Fresh Start if needed.

Special Admissions Requirements
Specific programs may have special admission requirements. Students should check program information in the LSCS Catalog for details.
In addition, students age 16 or younger must provide proof of high school graduation. The student’s transcript(s) will be reviewed by a committee as outlined in the LSCS Policy Manual. If admitted:
- Students age 17 or younger must complete and return a Parental Consent and Waiver Form prior to enrolling at LSCS.
- Students age 16 or younger must meet with LSCS personnel prior to registering each semester.
- Students age 16 or younger must have a parent or legal guardian at the LSCS campus, center, or facility at all times to monitor the student’s activities outside of class and to be immediately available in case of an emergency. Failure to do so will cause the student to be removed from each enrolled class.

Mandatory New Student Orientation
Getting off to the best start at the beginning of the semester is important; therefore, all First Time in College students at Lone Star College are required to complete a student orientation. Beginning with the fall 2014 registration period, any new FTIC, Dual Credit, or Exceptional Admission student taking a class on a LSCS
campus will need to complete the New Student Orientation Requirement. Note that students will be unable to register for classes until this requirement is complete. Please visit LoneStar.edu/orientation for additional details.

**Exceptional Admissions: Definition**

College credits earned through the exceptional admissions 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.

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 actions must be completed by all exceptional admission students prior to registering:

1. Visit LoneStar.edu/apply to complete the application.
2. Submit qualifying assessment scores, or complete the Pre-Assessment Activity and take an assessment test (high school transcript is not sufficient). See LoneStar.edu/placement-testing-info for details.
3. Submit meningitis documentation if applicable.
4. Attend a New Student Orientation if applicable.
5. Present evidence that required course prerequisites have been satisfied such as high school, home school, or college transcript, and high school graduation plan.
6. Complete the college registration form with college classes authorized by high school counselor or home school administrator.
7. Complete the exceptional admission form signed by student, parent/guardian, high school principal, or designee which lists the college classes and high school classes.
8. Present 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.
9. Students 16 years or younger must receive approval for exceptional admission.

**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. Dual credit students receive a 100 percent discounted tuition rate. All other fees will be assessed at the stated rate.

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.
ADMISSIONS PROCEDURES

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 a current 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 demonstrated TSI compliance and/or taken an approved assessment.

Significant changes at the state level were made, effective Fall 2013. Please refer to LoneStar.edu/dualcredit/eligibility for the most current information.

Dual Credit Registration Deadlines
- Fall term: June 6*
- Spring term: December 9*
- Summer term: Follows regular college credit schedule

*Dates subject to change.

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. 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 visit LoneStar.edu/dualcredit.

Dual Credit Students on Campus
Lone Star College System is a community college system that embraces our communities and welcomes residents of all ages. However, in order to provide for the safety of all children, students age sixteen or younger must have a parent, legal guardian or authorized responsible adult at the LSCS campus, center or facility to monitor the student’s activities outside of class and to be immediately available in case of an emergency.

Joint Admissions and Reverse Transfer
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, University of Houston-Downtown, Our Lady of the Lake University, Prairie View A&M, University of Texas at Dallas, 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 a simplified application process, discounted or no application fee, and 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. Students can apply for LSCS graduation online. For additional information, go to our website at LoneStar.edu/joint-admissions or contact Educational Partnerships at 281.290.3634.
Admissions Procedures for International Students

LSCS is authorized under federal law to enroll non-immigrant students carrying valid visas. Currently there are about 2,100 international students from 92 different countries. LSCS adheres to U.S. Department of Homeland Security (DHS) Student and Exchange Visitor Program (SEVP) guidelines. It is the responsibility of the student to have knowledge of DHS regulations pertaining to their visa type.

Enrollment involves four processes: admission, visa approval by the U.S. government, advisement and course registration.

F-1 students with a LSCS Form I-20 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 and maintain enrollment in a minimum of 12 credit hours each fall and spring semester. At least 9 of these credit hours must be in face-to-face classes each semester.

Visit LoneStar.edu/International-Students 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 new (F-1) international students must attend a mandatory international student orientation session before the start of their first semester. Please check with the International Student Advisor/DSO at the college.

Applicants should choose the LSCS campus that they would like to attend and contact the International Student Advisor/DSO (SEVIS Designated School Official) for that location. Visit Lonestar.edu/maps for a listing of LSCS locations. All required forms are available on Lonestar.edu/international-students.

Deadlines for admission:
- July - Fall Semester
- November - Spring Semester

LSC-Jakarta

Lone Star College System and Universitas Siswa Bangsa Internasional (USBI, Jakarta, Indonesia) have established the first U.S. associate degree program offered in Indonesia. The LSCS/USBI dual enrollment International Educational Pathway Program is the only one of its kind in Indonesia. Students electing to participate in the Pathway program will receive a U.S. associate degree after completing the first two years of the Lone Star College international academic program curriculum at the USBI campus in Pancoran, South Jakarta, Indonesia.

These courses are taught in English by local faculty in Jakarta and have met the qualifications as required by the LSCS United States regional accrediting body, the Commission on Colleges of the Southern Association of Schools and Colleges (SACS) and are approved by LSCS.

All USBI courses are designed to meet industry needs through the oversight of industry advisory boards.

After completing the Lone Star College associate degree, students have a number of options for completing their bachelor’s degree in Jakarta, Indonesia or the U.S.

LSC-Jakarta students enrolled in the International Academic Pathway program are also co-enrolled in the Sampoerna School of Business and the Sampoerna School of Education.

For more information go to LoneStar.edu/Jakarta or call: +62 085857418425 (Indonesia) +1 832.217.0176 (USA)
ADMISSIONS PROCEDURES

To be considered for admission to LSCS on a F-1 student visa, the applicants must present the following items with their completed application forms:

1. Online general admission application.
2. A LSCS International Student Application (form) completed and signed by applicant.
3. Evidence of financial support, showing that adequate funding is available to pay for the applicant’s educational and living expenses as outlined at LoneStar.edu/international-tuition. All applicants must provide a completed and signed Financial Responsibility Statement (form) and additional supporting financial documents as listed on LoneStar.edu/international-students.
4. Proof of sufficient English proficiency by submitting one of the following:
   • 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.
   • Minimum scores on approved ESOL tests for admission into the Intensive English Program: TOEFL paper 347, TOEFL CBT 63, TOEFL IBT 19; TOEIC 255; or IELTS-3. Upon arrival, individuals will be assessed for placement into the Intensive English program.
   • TOEFL paper 530, TOEFL CBT 197, or TOEFL IBT 71; TOEIC 700; or IELTS 5.7 allow students to take the TSI test for admission into college-transfer courses. Scores are valid for two years. Refer to LoneStar.edu/English-Proficiency-Requirement for more information.
5. Evidence of high school graduation or college-level work including complete official high school records showing completion or college/university transcripts translated into English and as outlined on LoneStar.edu/International-Students. 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, by a service that maintains current membership in the National Association of Credential Evaluation Services, Inc. (NACES), or any evaluation service which is a member of the Association of International Credentials Evaluators (AICE).
6. To promote the F-1 student’s success, a signed and dated Maintaining F-1 Status Form agreeing to follow the Department of Homeland Security and LSCS rules that govern the F-1 student visa program if the applicant is accepted by LSCS and enrolls.
7. A copy of the applicant’s passport valid for at least six months at the time of application.

If you have additional questions, please contact the International Student Advisor/DSO at the campus you wish to attend.

Transfer Students on a F-1 Student Visa

A F-1 student transferring from another U.S. college/university must submit the following documents to LSCS:

1. Items 1-7 listed above.
2. International Student Transfer-In Information Form completed by an international student advisor from the student’s previous institution.
3. Current copies of relevant documents including passport pages, U.S. visa, Form I-94, and I-20s from all schools previously attended.
Types of Courses
Lone Star College System offers various course delivery methods and enrollment options. LSCS has offerings in College Credit and Continuing Education (non-credit). Continuing Education courses range from GED to leisure to non-credit workforce development Career & Technical Education. College Credit courses are designed for students desiring to complete a certificate, an associate degree, and/or transfer to a four-year university.

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

For information and advising for Workforce, Languages and Personal Enrichment Continuing Education (CE) certificates and classes, please contact one of the college CE departments or visit LoneStar.edu/Continuing-Ed.

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 if course prerequisites are met. Students must be assessed if course prerequisites are not met. A student who regularly attends another college and plans to enroll only in the summer or minimesters must provide documentation of enrollment in another institution prior to enrolling at LSCS.

Registration for Students Seeking College Credit
Registration for courses occurs several times throughout the year. Registration dates, procedures, and other pertinent information are available online at LoneStar.edu/class-search. Additional registration, assessment testing, and advising information may also be obtained at the college where students register. All First Time in College students are required to attend a New Student Orientation at one of the LSCS colleges. Please contact your LSCS college for scheduling information.

How to Enroll: Credit Courses
- Ensure all admissions steps have been completed.
- Attend a New Student Orientation.
- Develop your educational plan at MyLoneStar.edu; select MyLoneStar; select Student Center; select Plan on the main Student Center page.
- Develop course schedule based on placement scores (see an advisor for assistance.)
- Register for classes.
- Pay tuition and fees.

Auditing a Course
Approval to enter or audit a course may be granted by the instructional vice president or designee during the last week of registration for the class, providing the class is open for enrollment. 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-mester. An overload during any term must be approved by the academic vice president or designee.
Normally dual credit students are permitted to enroll in only two college courses each semester.

**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 concurrent 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.

**Change of Schedule**

Students may not add a course, regardless of format, after the class has met once, without the signature of an academic dean, vice president or their designee.

**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). If a student registers and pays for a course, it is the student’s responsibility to drop/withdraw before the “W” date. 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 withdraw a student under appropriate circumstances, which are outlined in the class syllabus.

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 as there may be repayment obligations.

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 criteria required 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 prior to the Academic Fresh Start being granted. 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.

**Test Preparation Session**

Regulations set by the Texas Higher Education Coordinating Board require students to participate in a Pre-Assessment Activity (PAA); information regarding TSI statutes, rules, cut scores, sample test questions and additional helpful information can be found at LoneStar.edu/testing-centers.

LSC is required to provide the Pre-Assessment Activity, as well as document your participation. You will not be allowed to take the TSI Assessment until you have completed this activity. The Pre-Assessment Activity can be completed online through the myLoneStar Student Portal. The Pre-Assessment Activity
REGISTRATION PROCEDURES

includes the following information:

- An explanation of the importance of the TSI Assessment;
- Practice test questions and feedback;
- An explanation of all your developmental education options, if you don’t meet the minimum passing standard; and
- Information on campus and community resources that will help you succeed as a college student.

For information about Testing Centers, location information and contact information for each campus, please visit LoneStar.edu/testing-centers.

In order to assist students in performing their best, college students may utilize test preparation sessions prior to taking placement tests. Test preparation includes materials that provide an overview of the assessment areas on the test and basic test preparation tips. For more information, please visit LoneStar.edu/test-preparation.

Texas Success Initiative (TSI)

1. Pre-Assessment Activity: All students, who are not exempt from the TSI assessment, are required to take the Pre-Assessment Activity.
2. A student is considered TSI Complete and Exempt from mandatory assessment if:

- The student has recently taken an approved college assessment test (SAT, ACT, STAAR, TAKS, TAAS) and earned the necessary scores (Please see Chart A);

SAT, ACT, STAAR, TAKS and TSI exemptions are valid for 5 years if the student has enrolled in an institution of higher education during that time period (does not have to be just LSCS); TAAS scores are valid for 3 years if the student has enrolled in an institution of higher education during that time period (does not have to be just LSCS).

### CHART A
(TSI Complete/Exempt)

Minimum Score and Course Requirements

<table>
<thead>
<tr>
<th></th>
<th>Reading</th>
<th>Writing</th>
<th>Math</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAT*</td>
<td>1070 combined with 500</td>
<td>1070 combined</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Verbal/Critical Reading</td>
<td>with 500 Math</td>
<td></td>
</tr>
<tr>
<td>ACT*</td>
<td>23 composite with 19</td>
<td>23 composite</td>
<td></td>
</tr>
<tr>
<td></td>
<td>English</td>
<td>with 19 Math</td>
<td></td>
</tr>
<tr>
<td>11th Grade TAKS**</td>
<td>2200 with 3 on essay</td>
<td>2200</td>
<td></td>
</tr>
<tr>
<td>TAAS***</td>
<td>89 Reading</td>
<td>1770 Writing</td>
<td>86 Texas Learning Index</td>
</tr>
<tr>
<td>STAAR****</td>
<td>English III: Level II: 2000 (Reading) and 2000 (Writing)</td>
<td>Algebra II: Level II 4000+</td>
<td></td>
</tr>
</tbody>
</table>

* SAT and ACT: the combined score with the specified minimum scores above shall be exempt for those corresponding sections.

** TAKS: a minimum scale score of 2200 on the math section and/or a minimum scale score of 2200 on the English Language Arts section with a writing subsection score of at least 3, shall be exempt from the assessment required under this title for those corresponding sections.

*** TAAS: a minimum scale score of 1770 on the writing test, a Texas Learning Index (TLI) of 86 on the mathematics test and 89 on the reading test shall be exempt from the assessment required for those corresponding sections.

**** STAAR end-of-course (EOC) with a minimum score of Level 2 on the English III shall be exempt from the TSI Assessment for both reading and writing, and a minimum score of Level 2 on the Algebra II EOC shall be exempt from the TSI Assessment for the mathematics section.
# CHART B
## Course Placement Scores

<table>
<thead>
<tr>
<th>Course</th>
<th>TSIA</th>
<th>TAKS</th>
<th>STAAR</th>
<th>ACT</th>
<th>SAT</th>
<th>COMPASS</th>
<th>ACCUPLACER</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Math</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0306</td>
<td>310-335/3-4 ABE</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0308</td>
<td>336-342/5-6 ABE</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>0309</td>
<td>336-349/5-6 ABE</td>
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<td></td>
</tr>
<tr>
<td>0310</td>
<td>343-349</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0312</td>
<td>310-349</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1314, 1324, 1332, 1342</td>
<td>350-390</td>
<td>2200</td>
<td>Algebra II: Level II 4000+</td>
<td>19:22 (Composite 23)</td>
<td>500-549 (Composite 1070)</td>
<td></td>
<td></td>
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<tr>
<td>1316, 1325, 1350, 1351</td>
<td></td>
<td>23:24</td>
<td></td>
<td>550-599</td>
<td>CA 51-99</td>
<td>CLM 85-93</td>
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</tr>
<tr>
<td>2412</td>
<td></td>
<td>25-26 and B or better in HS Pre-Cal or Trig</td>
<td>600-649 and B or better in HS Pre-Cal or Trig</td>
<td>CA 51-99 &amp; T 0-50 and B or better HS Pre-Cal or Trig</td>
<td>CLM 94-102 and B or better in HS Pre-Cal or Trig</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2413</td>
<td></td>
<td>27 and B or better in HS Pre-Cal or Trig</td>
<td>650+ and B or better in HS Pre-Cal or Trig</td>
<td>TI 51-99 and B or better on HS Pre-Cal or Trig</td>
<td>CLM 103+ and B or better in HS Pre-Cal or Trig</td>
<td></td>
<td></td>
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<tr>
<td><strong>Reading</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td>0304</td>
<td>310-341/3-4 ABE</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>0305 0309</td>
<td>342-350/5-6 ABE</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1301</td>
<td>351-390</td>
<td>2200 and 3 on Essay</td>
<td>English III: Level II 2000+</td>
<td>19 (Composite 23)</td>
<td>500 (Composite 1070)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Writing</strong></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0306</td>
<td>310-349 OR 1-3 on Essay/3-4 ABE</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>0307 0309</td>
<td>350-362 and 4 on Essay/5-6 ABE</td>
<td></td>
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<td></td>
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<tr>
<td>1301</td>
<td>363-390 and 4 on Essay OR 5+ on Essay</td>
<td>2200 and 3 on Essay</td>
<td>English III: Level II 2000+</td>
<td>19 (Composite 23)</td>
<td>500 (Composite 1070)</td>
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<tr>
<td><strong>Integrated Reading and Writing (IRW)</strong></td>
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<td></td>
</tr>
<tr>
<td>0302</td>
<td>Reading: 310-341 OR Writing: 310-349 OR 1-3 on Essay/3-4 ABE</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0309</td>
<td>Reading: 342-350 AND Writing: 350-362 and 4 on Essay/5-6 ABE</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1301</td>
<td>Reading: 351-390 AND Writing: 363-390 and 4 on Essay OR 5+ on Essay</td>
<td>2200 and 3 on Essay</td>
<td>English III: Level II 2000+ Reading and Writing</td>
<td>19 (Composite 23)</td>
<td>500 (Composite 1070)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Students should visit with their advisors to learn about other campus options such as refresher courses and non-course based options. Reading and writing placement scores on COMPASS, ASSET, Accuplacer, and THEA are valid for five years. Math placement scores on COMPASS, ASSET, Accuplacer, and THEA are valid for three years. COMPASS/ESL scores are valid for three years. Students with expired test scores are required to retest.
Mathematics Pathways: College Algebra and Statistics
All previous classes have to be passed with a grade of C or higher

<table>
<thead>
<tr>
<th>Pathways</th>
<th>Placement by TSI</th>
<th>1st Course</th>
<th>2nd Course</th>
<th>3rd Course</th>
<th>4th Course</th>
<th>TSI Complete</th>
<th>College Ready</th>
</tr>
</thead>
<tbody>
<tr>
<td>College Algebra</td>
<td>ABE Sequence 310-335</td>
<td>MATH 0306</td>
<td>MATH 0308</td>
<td>MATH 0310</td>
<td></td>
<td>TSI Placement Score</td>
<td>MATH 1314, MATH 1324, MATH 1332, MATH 1342</td>
</tr>
<tr>
<td>Statistics</td>
<td>ABE Sequence 310-335</td>
<td>MATH 0306</td>
<td>MATH 0309</td>
<td></td>
<td></td>
<td>TSI Placement Score</td>
<td>MATH 1342</td>
</tr>
<tr>
<td>College Algebra</td>
<td>Developmental: Low Sequence 336-342</td>
<td></td>
<td>MATH 0308</td>
<td>MATH 0310</td>
<td></td>
<td>TSI Placement Score</td>
<td>MATH 1314, MATH 1324, MATH 1332, MATH 1342</td>
</tr>
<tr>
<td>College Algebra</td>
<td>Developmental: High Sequence 343-349</td>
<td></td>
<td></td>
<td>MATH 0310</td>
<td></td>
<td>TSI Placement Score</td>
<td>MATH 1314, MATH 1324, MATH 1332, MATH 1342</td>
</tr>
<tr>
<td>Statistics</td>
<td>Developmental Sequence 336-349</td>
<td></td>
<td>MATH 0309</td>
<td></td>
<td></td>
<td>TSI Placement Score</td>
<td>MATH 1342</td>
</tr>
<tr>
<td>Modular Math</td>
<td>Everyone 310-349</td>
<td></td>
<td></td>
<td></td>
<td>MATH 0312</td>
<td>TSI Placement Score</td>
<td>MATH 1314, MATH 1324, MATH 1332, MATH 1342</td>
</tr>
<tr>
<td>College Algebra</td>
<td>Bubble/Holistic Advising: 335</td>
<td>Pass Criteria</td>
<td>MATH 0308</td>
<td>Re-test or MATH 0310, or MATH 0310 +0111</td>
<td></td>
<td>Enrollment Overwrite</td>
<td></td>
</tr>
<tr>
<td>Statistics</td>
<td>Bubble/Holistic Advising: 335</td>
<td>Pass Criteria</td>
<td>MATH 0309</td>
<td>+MATH 0111</td>
<td></td>
<td>Enrollment Overwrite</td>
<td></td>
</tr>
<tr>
<td>College Algebra</td>
<td>Bubble Dev: Low Sequence 342</td>
<td>Pass Criteria</td>
<td>MATH 0310</td>
<td>+MATH 0111</td>
<td></td>
<td>Enrollment Overwrite</td>
<td></td>
</tr>
<tr>
<td>College Algebra</td>
<td>Bubble/Holistic Advising: 349</td>
<td>Pass Criteria</td>
<td></td>
<td></td>
<td></td>
<td>Enrollment Overwrite</td>
<td>MATH 1314 + MATH 0111</td>
</tr>
</tbody>
</table>

* If student tests into College Ready in Math, student may choose to take COMPASS or Accuplacer to test into a higher-level Math course.
** If student does not complete MATH 1342, student will need to retest and be placed into the appropriate Math Course which may include developmental math.
**CHART B**  
**Developmental Pathways**

Reading and Writing Pathways: Integrated (IWR), Reading, Writing

<table>
<thead>
<tr>
<th>Pathways</th>
<th>Placement by TSI</th>
<th>1st Course</th>
<th>2nd Course</th>
<th>3rd Course</th>
<th>TSI Complete</th>
<th>College Ready</th>
</tr>
</thead>
<tbody>
<tr>
<td>Integrated**</td>
<td>ABE Sequence Reading 310-341 OR Writing: 310-349 OR 1-3 on Essay</td>
<td>ENGL 0302</td>
<td>ENGL 0309</td>
<td></td>
<td>TSI Complete</td>
<td>ENGL 1301</td>
</tr>
<tr>
<td>Reading</td>
<td>ABE Sequence 310-341</td>
<td>ENGL 0304</td>
<td>ENGL 0309</td>
<td></td>
<td>TSI Complete</td>
<td>ENGL 1301</td>
</tr>
<tr>
<td>Writing</td>
<td>ABE Sequence 310-349 OR 1-3 on Essay</td>
<td>ENGL 0306</td>
<td>ENGL 0309</td>
<td></td>
<td>TSI Complete</td>
<td>ENGL 1301</td>
</tr>
<tr>
<td>Integrated**</td>
<td>Developmental Sequence Reading: 342-350 AND Writing: 350-362 and 4 on Essay</td>
<td></td>
<td>ENGL 0309</td>
<td></td>
<td>TSI Complete</td>
<td>ENGL 1301</td>
</tr>
<tr>
<td>Reading</td>
<td>Developmental Sequence 342-350</td>
<td></td>
<td>ENGL 0309</td>
<td></td>
<td>TSI Complete</td>
<td>ENGL 1301</td>
</tr>
<tr>
<td>Writing</td>
<td>Developmental Sequence 350-362 AND 4 on Essay</td>
<td></td>
<td>ENGL 0309</td>
<td></td>
<td>TSI Complete</td>
<td>ENGL 1301</td>
</tr>
<tr>
<td>Integrated**</td>
<td>Bubble/Holistic Reading: 340-341 OR Writing: 348-349 OR 1-3 on Essay</td>
<td>Pass Criteria</td>
<td>ENGL 0309 + NCBO</td>
<td></td>
<td>TSI Complete</td>
<td></td>
</tr>
<tr>
<td>Reading</td>
<td>Bubble/Holistic 340-341</td>
<td>Pass Criteria</td>
<td>ENGL 0309 + NCBO</td>
<td></td>
<td>TSI Complete</td>
<td>ENGL 1301</td>
</tr>
<tr>
<td>Writing</td>
<td>Bubble/Holistic 348-349 AND 4 on Essay</td>
<td>Pass Criteria</td>
<td>ENGL 0309 + NCBO</td>
<td></td>
<td>TSI Complete</td>
<td>ENGL 1301</td>
</tr>
<tr>
<td>Reading</td>
<td>Bubble/Holistic Advising: 349-350</td>
<td>Pass Criteria</td>
<td></td>
<td></td>
<td>TSI Complete</td>
<td>ENGL 1301 + ENGL 0115</td>
</tr>
<tr>
<td>Writing</td>
<td>Bubble/Holistic Advising: 361-362 AND 4 on Essay</td>
<td>Pass Criteria</td>
<td></td>
<td></td>
<td>TSI Complete</td>
<td>ENGL 1301 + ENGL 0117</td>
</tr>
</tbody>
</table>

* Students can begin in non-IRW reading and writing courses and then move to IRW courses.
The student has completed the approved developmental course sequence;

- The student transfers from a private or independent institution of higher education or an accredited out-of-state institution of higher education and who has satisfactorily completed college-level coursework as determined by LSCS;
- The student has previously attended any institution and has been determined to have met readiness standards by that institution.
- The student has graduated with an associate or baccalaureate degree from an institution of higher education.
- The student is enrolled in a certificate program of one year or less (Level-One certificates, 42 or fewer semester credit hours or the equivalent at a public junior college, a public technical institute, or a public state college).
- The student 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.

The Texas Success Initiative requires assessment to determine when students are ready to enroll in college-level work. See CHART A for TSI requirements, scores, and exemption criteria. All students, unless exempt (see Chart A), must take a complete assessment prior to enrolling at LSC.

Enrollment in most college-level courses requires scores high enough to place into the college-level course (see Chart B) or students will need to complete all appropriate developmental coursework with a “C” or better. All associate degrees, certificates over 42 credit hours, level II certificates, and post AAS certificates require completion of TSI requirements.

All transfer developmental courses must be a “C” or better or the student will need to retake the section of the TSI Assessment and score high enough to place into the college-level course (see Chart B).

**Student Success Course**

A core value of Lone Star College is the expectation that every student successfully completes his or her educational goals. Lone Star College is committed to utilizing research-based best practices to support every student’s successful integration into a collegiate environment and movement toward a pathway of college completion. Through research and experience, Lone Star College recognizes that successful college transition and completion is dependent on a student’s ability to: 1) develop an awareness of collegiate processes, resources, and expectations; 2) acquire assistance in academic and career planning; and 3) apply appropriate execu-
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 42-57</td>
<td>ENGL 0361 ESOL Reading I</td>
<td>ENGLC 3006101 ESOL Reading I</td>
</tr>
<tr>
<td>2</td>
<td>Read 58-73</td>
<td>ENGL 0362 ESOL Reading II</td>
<td>ENGLC 3006201 ESOL Reading II</td>
</tr>
<tr>
<td>3</td>
<td>Read 74-86</td>
<td>ENGL 0363 ESOL Reading III</td>
<td>ENGLC 3006301 ESOL Reading III</td>
</tr>
<tr>
<td>4</td>
<td>Read 87-95</td>
<td>ENGL 0364 ESOL Reading IV</td>
<td>ENGLC 3000401 Reading IV</td>
</tr>
<tr>
<td>5</td>
<td>Read 96-99</td>
<td>ENGL 0365 ESOL Reading V</td>
<td>ENGLC 3000501 Reading V</td>
</tr>
</tbody>
</table>

**ESOL WRITING/ESOL GRAMMAR WORKSHOP**

<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 42-57</td>
<td>ENGL 0371 ESOL Writing I</td>
<td>ENGLC 3007101 ESOL Writing I</td>
</tr>
<tr>
<td>2</td>
<td>Grammar 58-73</td>
<td>ENGL 0372 ESOL Writing II</td>
<td>ENGLC 3007201 ESOL Writing II</td>
</tr>
<tr>
<td>3</td>
<td>Grammar 74-86</td>
<td>ENGL 0373 ESOL Writing III</td>
<td>ENGLC 3007301 ESOL Writing III</td>
</tr>
<tr>
<td>4</td>
<td>Grammar 87-95</td>
<td>ENGL 0374 ESOL Writing IV</td>
<td>ENGLC 3007401 ESOL Writing IV</td>
</tr>
<tr>
<td>5</td>
<td>Grammar 96-99</td>
<td>ENGL 0375 ESOL Writing V</td>
<td>ENGLC 3000701 Writing V</td>
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</tbody>
</table>

**ESOL ORAL COMMUNICATION**

<table>
<thead>
<tr>
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<th>CREDIT</th>
<th>CONTINUING EDUCATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Listen 42-57 Grammar 42-57</td>
<td>ENGL 0381 ESOL Oral Communication I</td>
<td>ENGLC 3008101 ESOL Oral Communication I</td>
</tr>
<tr>
<td>2</td>
<td>Listen 58-73 Grammar 58-73</td>
<td>ENGL 0382 ESOL Oral Communication II</td>
<td>ENGLC 3008201 ESOL Oral Communication II</td>
</tr>
<tr>
<td>3</td>
<td>Listen 74-86 Grammar 74-86</td>
<td>ENGL 0383 ESOL Oral Communication III</td>
<td>ENGLC 3008301 ESOL Oral Communication III</td>
</tr>
<tr>
<td>4</td>
<td>Listen 87-95 Grammar 87-95</td>
<td>ENGL 0384 ESOL Oral Communication IV</td>
<td>ENGLC 3008401 ESOL Oral Communication IV</td>
</tr>
<tr>
<td>5</td>
<td>Listen 96-99 Grammar 96-99</td>
<td>Recommend: ENGL 0308 Advanced Language Skills Workshop; EDUC 1300 Student Success Course</td>
<td></td>
</tr>
</tbody>
</table>

* Writing sample required for ESOL Reading, Writing and Grammar courses

Beginning fall 2014 Lone Star College requires all First-Time-In-College (FTIC) students enroll in the student success course their first semester in college. FTIC is defined as having not completed any college courses post high school. Lone Star College’s student success course is EDUC 1300 Learning Framework – First Year Experience. Students who do not pass the required Lone Star College student success course will not be allowed to register for subsequent semesters without re-enrolling in the student success course.

**Intensive English Program**

The Intensive English Program is designed for non-native English speakers who want to improve their language and culture skills. The LSC-CyFair and the LSC-North Harris programs have been accredited by the Commission on English Language Program Accreditation (CEA). 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.

ESOL Waiver-- A temporary waiver from the assessment is granted to students with demonstrated limited English proficiency in order to provide appropriate ESOL coursework and interventions. The waiver must be removed prior to the student coursework or attempting entry-level freshman coursework, whichever comes first, at which time the student would be administered the TSI Assessment. Funding limits as defined in Texas Education Code, §51.3062(1)(1) and (2) for developmental education still apply.

ESOL Placement

• Students who score into levels 1-3 of LSCS ESOL program are waived from the TSI;
• Students who tested into level 4 and/or 5 (developmental level courses) need to take TSI assessment;

In the semester before an ESOL student enters credit classes, the student should take the TSI assessment test (not the COMPASS ESL) as required by the State.

Developmental Education

According to Texas Administrative Code (Title 19, Part 1, Chapter 4, Subchapter C, Rule §4.56), an institution shall assess, by an instrument approved, the academic skills of each entering, non-exempt undergraduate student prior to enrollment of the student. To encourage the development of college-level reading, writing, and math skills, LSCS has adopted the following policies: Students who are not college ready in reading, writing, and/or math are required to enroll in developmental education immediately upon enrolling at LSCS if the students seek enrollment in college credit courses that lead to an associates or baccalaureate degree. Students enrolling in workforce programs leading to a level 1 certificate or marketable skills award are not required to enroll in developmental education during the time they are taking certificate courses. Students enrolling in certificate programs will follow program requirements for college skills development. LSCS students are required to enroll in developmental education in any area they are not college ready until college readiness is demonstrated.

Once a student has met the college readiness standard for a particular skill area, the student may enroll in college credit courses related to the skill area while completing other developmental education requirements. Students who are not college ready in any skill area may not enroll in college credit courses for which they are college ready without enrolling in required developmental courses in other areas. Developmental courses appear on transcripts from LSCS but do not transfer to four-year institutions, nor do they apply to LSCS degrees or certificates.

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, continuing
LSCS participates in the Advanced Technical Credit (ATC) program. A student may receive credit for a high school 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 advising office at any college campus. The website for articulated credit is LoneStar.edu/hsa or visit atcTexas.org for statewide information.

GED®, High School Equivalency

LSCS offers a high school equivalency, General Educational Development, preparation program. The orientation and preparation classes are offered at campuses within the college system. The 2014 GED® test aligns with current high school standards and college- and career-readiness expectations. The test is now computer-based. LSCS’ orientation and preparation classes are designed to prepare students for the new GED® test. Consult the continuing education office or website at LoneStar.edu/GED for further information and registration for the orientation sessions and preparation classes.
## Financial Information & Assistance

### 2014-2015 Tuition & Fees Schedule

**Tuition and fees are subject to change**

Visit LoneStar.edu/tuition

Students are responsible for paying all tuition and fee charges in full by the payment due date. Students not paying by the due date may be dropped from their classes. Refer to LoneStar.edu/payment for payment due dates.

### Tuition & Fees per Credit Hour

<table>
<thead>
<tr>
<th>Credit Hours</th>
<th>Resident of District</th>
<th>Out-of-District Texas Resident</th>
<th>International/Out-of-State</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>92</td>
<td>162</td>
<td>250</td>
</tr>
<tr>
<td>2</td>
<td>152</td>
<td>292</td>
<td>322</td>
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<tr>
<td>3</td>
<td>212</td>
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<tr>
<td>4</td>
<td>272</td>
<td>552</td>
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<td>5</td>
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<tr>
<td>6</td>
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<td>14</td>
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<td>15</td>
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<tr>
<td>16</td>
<td>992</td>
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<td>2,352</td>
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<tr>
<td>18</td>
<td>1,112</td>
<td>2,372</td>
<td>2,642</td>
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<tr>
<td>19</td>
<td>1,172</td>
<td>2,502</td>
<td>2,787</td>
</tr>
<tr>
<td>20</td>
<td>1,232</td>
<td>2,632</td>
<td>2,932</td>
</tr>
</tbody>
</table>

**Note:** Minimum tuition rates are set by the state legislature and are subject to change by legislative action. Student tuition and fees are subject to change by the Lone Star College System Board of Trustees. Dual credit students receive a 100 percent discounted tuition rate, all other fees will be assessed at their regular rate. Textbooks and lab fees vary by program.

1, 2 & 3 Notes: Applies to all students enrolled in credit classes: Includes tuition at the rate of $42 per credit hour, a $9 per credit hour technology fee, a $2 per credit hour student activity fee, a $7 per credit hour general use fee, a non-refundable registration fee of $12, and an infrastructure fee of $20.

1 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 an additional out-of-district tuition fee of $70 per credit hour.

3 Applies to all other students. By legislative action, the tuition may not be less than $200 (minimum tuition). Includes an additional out-of-state tuition fee of $85 per credit hour.

Students who enroll in the same course for the third or more time will be assessed an additional $60 per credit hour. Certain courses are excluded. See LoneStar.edu/repeatcourse for details.
FINANCIAL INFORMATION

Payment Policy
Please go to LoneStar.edu/payment

Differential Fee by Program

Most programs of study have discipline-based differential fees charged per credit in addition to the base credit hour tuition charge. The differential fee offsets the costs incurred for each discipline that are above the base credit hour tuition rate. For the current discipline-based differential fee schedule, please go to LoneStar.edu/tuition.

Credit Refund Policy
For more details please go to LoneStar.edu/refunds

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 before the first class day 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, Direct Loans) aid recipients are subject to a different policy upon complete withdrawal of classes (refer to LoneStar.edu/refunds.)

Refunds for tuition are processed from the Lone

Fee Schedule*

Mandatory fees per credit hour:

Differential fee – Varies by program, see note at right.
General use fee ..................................................$7
Infrastructure fees (per semester) ......................$20
   Fully online course loads do not require an infrastructure fee.
Student activity fee..............................................$2
Technology fee ..................................................$9

ACCUPLACER or COMPASS math exam .... $10
AVANT placement exam .................................$25
Audit ......................................................... $25
International student insurance fee.... See advisor
Lab fees .........................................................Varies by course
Liability insurance .................................Varies by program
Online fee (per credit hour) .........................$15
Payment plan administration fee  
   (non-refundable) ......................................$20
Payment plan late fee  
   (per past due payment) .............................$25
Registration fee  
   (per semester-non-refundable) .................$12
Repeated course** (per credit hour) ...............$60
Returned check (per check) or electronic .........$30
Texas Success Initiative Assessment fee  
   ($10 per section) .................................. $29
Textbooks ..................................................Varies by course 
   (new, used, or rental)
Transcript ...................................................$9
Specialty fees: liability insurance, uniforms,  
   supplies, etc. .............................................By program
Portfolio evaluations ......................................$60

* These fees are subject to change by board  
or legislative action.
** Most courses that are repeated 3 or more times.
FINANCIAL INFORMATION

Star College System beginning two 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%

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

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

After classes begin, see drops and withdrawals chart.

**Regulations Concerning Checks**

1. A returned check fee of $30 will be assessed if a check presented for payment of a student's obligation to the college is returned for any reason or is not honored by your financial institution.

2. Checks returned unpaid for any reason must be promptly redeemed. If your check is returned you must settle your obligation promptly, or registration in the college may be canceled and all records withheld.

---

**Drops and Withdrawals**

<table>
<thead>
<tr>
<th>Length of Class Session 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 session</td>
<td>N/A</td>
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<tr>
<td>3 weeks</td>
<td>3rd day of session</td>
<td>4th day of session</td>
</tr>
<tr>
<td>4 weeks</td>
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<td>5th day of session</td>
<td>6th day of session</td>
</tr>
<tr>
<td>6 weeks</td>
<td>5th day of session</td>
<td>7th day of session</td>
</tr>
<tr>
<td>7 weeks</td>
<td>7th day of session</td>
<td>9th day of session</td>
</tr>
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<td>13th day of session</td>
<td>16th day of session</td>
</tr>
<tr>
<td>14 weeks</td>
<td>13th day of session</td>
<td>17th day of session</td>
</tr>
<tr>
<td>15 weeks</td>
<td>14th day of session</td>
<td>19th day of session</td>
</tr>
<tr>
<td>16 weeks or longer</td>
<td>15th day of session</td>
<td>20th day of session</td>
</tr>
</tbody>
</table>
3. Checks presented for payment of tuition and fees, for deposits, or for the purchase of books or equipment, will not be accepted in an amount greater than the total amount due for 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 financial obligations are not paid in full by their due dates, these debts may be referred to an outside collection agency and to the appropriate credit bureaus. The amount referred to the collection agency will be subject to collection costs. Collection fees up to 30 percent may be assessed and will be added to the original debt. The student must pay these costs, as well as applicable interest and fees. Furthermore, all unpaid obligations will result in holds placed on student records affecting the issuance of diplomas and transcripts, and will prevent future registration activity.

**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 (I-485) 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 cannot 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:

**A. 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.

B. 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 U.S. 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.

C. 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.

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

E. 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 home-
maker, 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.
   - Canceled checks that reflect a Texas residence for the 12 months preceding the official reporting date.
FINANCIAL INFORMATION

- 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.
- A student is entitled to pay resident tuition if the student has filed for adjustment of status to that of a person admitted as a Permanent Resident under 8 U. S. Code 1255, or under the “registry” program (8 USC 1259), or the Special Immigrant Juvenile Program (8 USC 1101(a)(27)(J)) and has been issued a fee/filing receipt or Notice of Action by USCIS. Students who fall into this category must provide proof of eligibility by showing a copy of their I-485 USCIS receipt or Notice of Action.

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:

- Attended a Texas public or accredited private high school for at least 36 months immediately prior to high school graduation.
- Resided in Texas for at least 36 months immediately prior to receiving a GED as an alternative to a high school diploma.
- Continuously resided in Texas for the 12 months prior to the official day of record for the semester in which the student registers.
- Is registering for the first time after fall 2001.
- 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. It is the student’s responsibility to change the residency status if their residency changes. 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 INFORMATION
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 April 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
Lone Star College System offers a variety of need and scholarship based financial awards. Each spring, the Lone Star College Foundation announces available scholarships. Applications and specific details related to each scholarship are available through the financial aid offices of each college campus. A current list of Endowed Scholarships may be found in the catalog appendix. This list includes the primary criteria and requirements for each award; please see a financial aid advisor for more details.

Grants/Application Processing
1. Apply for aid as soon as possible after January 1 each year for the following fall term.
2. Complete the Free Application for Federal Student Aid (FAFSA) on the Web at 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 specialist at the college you plan to attend. Complete and submit required documents, if needed.
3. Allow four 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. It is recommended that you respond promptly to any request made by the financial aid office. Official financial aid communication is sent only to students’ LSCS email accounts.
5. In order to receive financial aid at any college in the system, a student must be admitted as a regular student, must have officially declared a degree or certificate major and must make Satisfactory Academic Progress (SAP) in accordance with system policy. For a copy of this policy, contact the financial aid office at the college you plan to attend or review the SAP policy on the financial aid website.

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 April 1 for the following fall and spring enrollment periods.
FINANCIAL INFORMATION

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 2014-15 year is $5,730. Eligible students may still be considered after April 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 $555 to $5,550 per year.

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. Diverse positions are available at the campuses. Limited funds are available.

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. Limited funds are available.

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 $1,890 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 $1,890 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 website at LoneStar.edu for a copy of the LSCS award guidelines.

Refund Policy for Students Receiving Financial Aid

A 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.

5. The student must pay the debt in full to LSCS.

6. 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 Direct Student Loans
- Subsidized Direct Student Loans
- Plus Loan program
- Pell Grant program
- SEOG Grant program

**Other Financial Aid 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 complete an application for employment or visit the financial aid office at the college where they desire to work.

**Federal Stafford Loan** - The LSCS colleges participate in the Federal Direct Student Loan Program, referred to as FDSL or Direct Loans. The FDSL includes both subsidized and unsubsidized student loans and PLUS loans for parents. In the FDSL, the lender is the United States government through the U.S. Department of Education. To be processed for a Direct Student Loan, students must complete the grant application (FAFSA), complete an online entrance counseling session, and meet all eligibility criteria. The amounts listed below are maximum annual loan limits. Your individual eligibility will be determined by your financial aid counselor. Additionally all federal student loans are disbursed no earlier than 30 days after you begin attending classes. Please contact the financial aid office at the college that you plan to attend for more information.

**Dependent Students**

- Freshman - up to $5,500 (max $3,500 subsidized)
- Sophomore - up to $6,500 (max $4,500 subsidized)

**Independent Students**

- Freshman - up to $9,500 (max $3,500 unsubsidized)
- Sophomore - up to $10,500 (max $4,500 subsidized)

**Federal Parent Loan for the Undergraduate Student (PLUS)** - A dependent student whose parents’ request a PLUS loan is 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.

**Installment Payment Plans** - Students may defer one half of eligible tuition and fee charges by obtaining an installment payment plan. This plan is available for fall and spring semesters only, and must be obtained through myLoneStar - Financial Information. One half of eligible tuition and fees is due up front, and the remainder is deferred in two equal installments. A $20 payment plan fee is assessed and due upon enrollment in the plan. A $25 late fee will be assessed on each delinquent installment. For more information visit LoneStar.edu/payment-plan.

**The Hazlewood Act for Texas Veterans** – Texas provides a tuition and fee exemption for any student who:

1. At the time of entry into the U.S. Armed Forces, designated Texas as Home of Record; or entered the service in Texas; or was a Texas resident;
2. Has received an honorable discharge or separation or a general discharge under honorable conditions, and
3. Have no federal Veterans education benefits dedicated to the payment of tuition and fees only (such as Chapter 31 or Chapter 33) that do not exceed the value of Hazlewood benefits;
4. Served at least 181 days of active
duty service (excluding training);
5. Is not in default on a loan guaranteed by Texas, and
6. Veterans must reside in Texas during the semester or term for which the exemption is claimed.

All applicants must register online at https://www1.thecb.state.tx.us/apps/hsh/students/ in the Hazlewood Database Registration website.

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 online or you may get an application at the campus financial aid office. College scholarship committees evaluate scholarship applications. You may check with each colleges’ financial aid office for a comprehensive list of scholarship opportunities and deadlines. 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.

A family may claim a tax credit of up to $2,500 per tax year for each eligible dependent. This can be done for up to four tax years.

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

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, or be an active member of a volunteer fire department that holds an accredited advance certificate (or equivalent).
• 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 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.
• Students receiving the Fire Science Ex-
emption as a continuation award must meet Lone Star College's Financial Aid GPA SAP (Satisfactory Academic Progress) policy requirement. Students will be required to maintain a 2.0 GPA or higher. The 2.0 GPA SAP requirements do not pertain to students receiving this award for the first time.

**Veteran/Military Educational 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.

Veterans and other eligible persons using GI Bill education benefits should visit the LSCS Veterans Affairs Center webpage at Lonestar.edu/Veterans-Affairs to receive detailed instructions for the processing and procedures of GI Bill benefits.

Students wanting to use GI Bill benefits should review the Department of Veterans Affairs benefit eligibility requirements by visiting GIBill.VA.Gov.

Each LSCS campus has a Veterans Affairs Advisor available to guide the active duty or guard/reservist member through the GI Bill and/or Tuition Assistance application process. The Campus VA advisor can assist the veteran/dependent student through the Hazelwood Exemption application process as well. Students can find out more about the Hazelwood Exemption by visiting: CollegeForAllTexans.com. In addition students can contact the Veterans Affairs Center at GIBill@Lonestar.edu or call 281.290.2922 for assistance.

**Certification Requirements:**

- Students must follow a LSCS degree plan. Only courses that apply to the specific degree plan will be approved for benefits. Please visit your Campus VA advisor every term to insure classes qualify for benefits. Although students may plan to transfer to a four-year college, all LSCS classes must apply to your designated LSCS degree plan to receive benefits.
- Students must provide official transcripts from all previously attended institutions, including military transcripts, prior to receiving GI Bill tuition assistance certification.

Students who receive VA benefits are responsible for reading and following the guidelines set forth in the GI Bill Handbook at Lonestar.edu/Veterans-Affairs.

**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 will suspend the students VA benefits for the following fall or spring semester.

**Tutorial Assistance:**

The VA provides additional financial assistance for students who need tutorial help. Certain restrictions and requirements apply in order to obtain this assistance.
Records Policies and Procedures

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. Transfer of developmental courses require a grade of “C” or above. Transcripts from previously attended institutions are needed before registration for prerequisites and placement. The criteria for transfer from accredited institutions is on the website at LoneStar.edu/transfer-into-lsc. Official transcripts must be received before subsequent registration or before a student is admitted to some degrees or certificate programs. 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), or
3. Association of International Credentials Evaluations (AICE)

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 system student records 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 at LoneStar.edu/Transcript. 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 LoneStar.edu/myLoneStar 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 or student records 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. The cumulative grade point average will be adjusted 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.”

Students who enroll in the same course for the third or more time will generally be assessed an additional $60 per credit hour. For more details, go to LoneStar.edu/repeatcourse.

**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 Veterans Affairs office at gibill@LoneStar.edu or 281.290.2922.

**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 complete the FERPA release at LoneStar.edu/myLoneStar in the online Student Center under Personal Information - Security/FERPA Restrictions.

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 LoneStar.edu/joint-admissions 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 (a) 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.

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 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.
Academic Policies, Procedures and Services

**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) identifies 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 and workforce courses).

More information about the TCCNS at LSCS may be obtained at [tccns.org](http://tccns.org) or by visiting the admissions office.

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. Courses delivered in shortened semesters are expected to have the same number of contact hours and the same requirement for out-of-class learning as courses taught in a normal semester.

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**

Hybrid classes are a combination of online instruction and campus-based instruction.

**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 as soon as possible by calling 832.813.6700, or e-mailing online@LoneStar.edu.

**Weekend College**

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

**Mini-Mester Terms**

Typically, mini-mesters are offered in December and May each year in a condensed timeframe with a standard number of contact hours.

**Condensed Formats**

Selected courses are available in accelerated time frames of fewer than 16 weeks. All courses meet the standard number of contact hours.
**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**
A student needing to be absent from class to observe a religious holy day must submit a written notice to each instructor whose class falls on that day. Written notice must be provided to the instructor no later than the second class meeting. The student may deliver the written notice personally to the instructor by receipted delivery, or in the alternative, the student may forward the written notice to the instructor by receipted courier delivery or by United States certified mail, return receipt requested, sent in enough time so as to be delivered no later than the fifteenth day after the first day of the semester. Upon receipt of a timely written notice, the student’s attendance record will properly reflect an excused absence.

A student who is absent from classes for the observance of a religious holy day shall be allowed to complete an assignment or take an examination scheduled for that day within a reasonable time after the absence. A student who is excused under this section may not be penalized for the absence; however, the instructor may appropriately respond if the stu-

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### Credit Grade/Marks Interpretation

<table>
<thead>
<tr>
<th>Grade</th>
<th>Description</th>
<th>Grade Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Excellent Performance</td>
<td>4</td>
</tr>
<tr>
<td>B</td>
<td>Good Performance</td>
<td>3</td>
</tr>
<tr>
<td>C</td>
<td>Acceptable Performance</td>
<td>2</td>
</tr>
<tr>
<td>D</td>
<td>Passing (not available for developmental studies courses)</td>
<td>1</td>
</tr>
<tr>
<td>F</td>
<td>Failing</td>
<td>0</td>
</tr>
<tr>
<td>I</td>
<td>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</td>
<td>Withdrawal</td>
<td>Not Computed</td>
</tr>
<tr>
<td>IP</td>
<td>Course in progress (for developmental courses). 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</td>
<td>Not Reported by faculty member</td>
<td>Not Computed</td>
</tr>
<tr>
<td>NC</td>
<td>No Credit (prior to September 1982)</td>
<td>Not Computed</td>
</tr>
<tr>
<td>NP</td>
<td>Not Passing (after August 2012)</td>
<td>Not Computed</td>
</tr>
<tr>
<td>X</td>
<td>No Credit (prior to September 1975)</td>
<td>Not Computed</td>
</tr>
<tr>
<td>P</td>
<td>Pass (after August 2012)</td>
<td>Not Computed</td>
</tr>
<tr>
<td>P</td>
<td>Course in Progress (prior to September 1993)</td>
<td>Not Computed</td>
</tr>
<tr>
<td>CR</td>
<td>Credit Awarded</td>
<td>Not Computed</td>
</tr>
<tr>
<td>TCR</td>
<td>Credit Awarded</td>
<td>Not Computed</td>
</tr>
</tbody>
</table>

### Continuing Education Grades

<table>
<thead>
<tr>
<th>Grade</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>S</td>
<td>Satisfactory</td>
</tr>
<tr>
<td>N</td>
<td>Non-Satisfactory</td>
</tr>
</tbody>
</table>
student fails to satisfactorily complete any missed assignment and/or examination. If a student and an instructor disagree about the nature of the absence for the observance of a religious holy day as defined [above], or if there are similar disagreements about whether the student has been given a reasonable time to complete any missed assignments or examinations, either the student or the instructor may request a ruling from the Chief Student Services Officer or his or her designee. The student and instructor shall abide by such ruling.

**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 credit course taken:

**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.

**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, and 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. All grades are calculated for the student in the MyLoneStar portal; grades include both developmental and college credit courses.

**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 the student and college staff can 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 classes at LSCS (includes 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 2.0.
- **Academic Progress:** A student will be considered to be making academic progress when the student earns a semester GPA of at least 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 advising 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 participate in specially designed programs designated by the college.

- **Academic Warning:** The first time a student earns a semester GPA of less than 2.0, the student is placed on academic warning.
- **Academic Probation:** The second time a student earns a semester GPA of less than 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; 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; 2) has a cumulative GPA below 2.0; and 3) has a semester GPA below 2.0. An aca-
demic 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 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 College

The Honors College is designed to meet the needs of high-achieving students seeking to improve their college transcripts and transferability with challenging coursework provided across a broad range of disciplines. The Honors College offers a wide range of opportunities for honors students — from incoming freshman wanting to graduate with an Honors AA or Honors AS degree, to high-achieving students seeking to graduate with Honors distinction, to students interested in earning individual honors course credit.

Honors College courses will engage and challenge students inside and outside the classroom through small classes and close interaction with dedicated faculty. Opportunities to enrich the total college experience while at The Honors College include travel, off-campus educational and cultural events, service learning opportunities, conferences and special seminars.

Eligibility

Open to new or returning students with at least one of the following:

- A high school GPA of 3.5 on a 4.0 scale.
- 1150 or higher on the SAT (combined math and critical reading sections).
- 26 or higher composite score on the ACT.
- 3.25 GPA with 9 or more college credit hours with a minimum 3.25 GPA.
- TSI scores can also be used. To determine eligibility, contact your Honors College director.

Benefits

The Honors College students have access to:
1. Scholarships.
2. Early registration and Honors orientation.
3. Small, interactive classes and sense of community.
4. Dedicated Honors faculty and specialized advising.
5. Participation in local and regional conferences.
6. Integration of advanced academics with service learning, Model U.N., study abroad and more.
7. Professional/industry internship opportunities.
8. Honors designation on transcript.
9. Opportunity to earn Honors graduation distinctions.
10. Articulation agreements with major transfer universities.

**Honors College Fellows**

A limited number of incoming freshmen will be admitted in the fall as Chancellor’s Honors College Fellows. Recipients of this award will receive a full scholarship to pursue a course of study culminating in an Honors AA or AS degree. The Honors College Fellows curriculum is comprised of a two-year course of study requiring a minimum of 27 honors credit hours toward completion of an Honors AA or Honors AS. The curriculum includes a 6-hour cohort taken during the first two semesters, as well as a second-year capstone experience. Honors Fellows must meet additional eligibility requirements, which can be found at [LoneStar.edu/HonorsCollegeFellows](http://LoneStar.edu/HonorsCollegeFellows). Additional benefits of being an Honors Fellow:

1. Honors Associate Degree (AA or AS).
2. Scholarship package to include tuition and fees (up 15 credit hours per semester).
3. Book allowance ($600 per semester) and Stipend ($600 per semester).
4. International travel opportunities.

Questions? Contact the Executive Director of The Honors College or the Honors Director on your campus. For additional information and contacts, visit [LoneStar.edu/HonorsCollege](http://LoneStar.edu/HonorsCollege).

**Phi Theta Kappa**

Colleges within the system all have active chapters of Phi Theta Kappa Honor Society. Students who have a 3.5 cumulative GPA or higher, have completed at least 12 college-level credit hours at a community college, and are currently enrolled in at least three credit hours are eligible for membership. In addition to emphasizing academic excellence, Phi Theta Kappa 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 international Phi Theta Kappa Honor Society will be recognized in the commencement program and may wear the Phi Theta Kappa 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.

**Military Science**

The Air Force Reserve Officer Training Corps (ROTC) is an educational program designed to provide students with the opportunity to become an Air Force officer while completing an academic degree. The Air Force ROTC program provides cadets the opportunity to develop and strengthen leadership skills, while maintaining camaraderie within the corps. Air Force ROTC Detachment 003 maintains Cross-Town agreements with several Houston area colleges and universities, including Lone Star College-North Harris. All classes are held on the main University of Houston campus. Go to [LoneStar.edu/af-rotc](http://LoneStar.edu/af-rotc) for more information.
Recognition of Non-Traditional Learning Experiences

Students with certain documented learning experiences may be eligible for course credit through faculty assessment. Credit is awarded only to experiences that equate to a LSCS course number and description.

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.

Prior Learning Assessment

Prior Learning Assessment (PLA) allows students to demonstrate their knowledge in a number of content areas for credit. This arrangement offers students an opportunity to lower costs and prevent repetition of material mastered outside the traditional college experience. LSCS faculty assess employment, industry certification/licenses, non-credit workforce training, corporate training, exams and military service for potential college course credit. Students enrolled in a course on or after official day may not request credit for a prior learning experience. For student eligibility criteria, limitations and guidelines, visit LoneStar.edu/PLA. Students must request assessment of their learning experience with a campus advisor. Students who wish to transfer PLA credit must verify transferability with the academic institution of interest.

PLA credit is only awarded when it applies to an available LSCS course and program of study. Students pursuing any prior learning assessment option may receive credit for up to 50 percent of certificate or associate degree coursework.

Internal Challenge Exams

Course challenge exams are developed and approved by LSCS curriculum teams and administered by the campus. The same course challenge exam is used at all campuses.

1. Each examination may only be attempted one time.

2. Credit by examination will be recorded on the student’s official transcript without grade equivalent or inclusion in the student’s GPA.

3. Applicable test fees must be paid in advance.

The following courses can be completed by taking an internal challenge exam. For further information on exams and other course requirements, go to LoneStar.edu/PLA or contact the program area of interest at a LSCS college.

- AUMT 1405
- EMSP 2348
- PHRA 1309
- AUMT 1407
- EMSP 2434
- PHRA 1347
- CETT 1402
- EMSP 2444
- PHRA 1413
- COSC 1301
- HART 1407
- PHRA 1449
- CSME 1254
- HIIT 1305
- POFT 1329
- CSME 1310
- ITAL 1412
- POFT 1371
- CSME 1501
- ITNW 1325
- RADR 1260*
- CSME 1505
- ITSC 1301
- RADR 1313*
- DFTG 1305
- ITSE 1402 1302
- RADR 1409*
- DFTG 1309
- ITSW 1301
- RADR 1411*
- DFTG 1325
- METL 1405
- SGNL 1401
- EMSP 1338
- NDTE 2311
- SGNL 1402
- EMSP 1355
- PHRA 1102
- SLNG 1211
- EMSP 1356
- PHRA 1304
- SRVY 1301
- EMSP 2330
- PHRA 1305
- WLDG 1428
- EMSP 2338
- WLDG 1457

* Student must provide evidence of current LMRT licensure before taking any RADR challenge exam.
External Examination

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 THEA</th>
<th>CLEP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lone Star College-CyFair</td>
<td>4786</td>
</tr>
<tr>
<td>Lone Star College-Kingwood</td>
<td>4260</td>
</tr>
<tr>
<td>Lone Star College-Montgomery</td>
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</tr>
<tr>
<td>Lone Star College-North Harris</td>
<td>4139</td>
</tr>
<tr>
<td>Lone Star College-Tomball</td>
<td>4261</td>
</tr>
<tr>
<td>Lone Star College-University Park</td>
<td>n/a</td>
</tr>
</tbody>
</table>

LSCS curriculum teams evaluate various external challenge exams for course matches. Prior learning assessment credit may be obtained by different academic examinations in certain subject areas.

1. Achievement Test (ACT).

2. College level examination program (CLEP):
   Specific subject areas only. Students may resubmit new CLEP foreign language scores for PLA every six months.

3. DANTES Subject Standardized Tests (DSST)

4. Advanced placement program by the college board. The AP College Board tests are offered through the high schools.

5. International Baccalaureate (IB) diploma program examinations.

LSC-Tomball, LSC-North Harris, and LSC-University Park are the official testing sites for CLEP exams at LSCS. The registered LSC-Tomball CLEP test center number is 8720, and the phone number is 832.559.4245. The registered LSC-North Harris CLEP test center number is 6508, and the phone number is 281.618.5744. The registered LSC-University Park CLEP test center number is 4246, and the phone number is 281-401-5314. A list of available credits through external examination follows.
### Subject Area

<table>
<thead>
<tr>
<th>Examination</th>
<th>LSCS Course</th>
<th>Min. Score</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ENGLISH</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>English IB (SL)</td>
<td>ENGL 1301 &amp; 1302</td>
<td>4</td>
</tr>
<tr>
<td>English IB (HL)</td>
<td>ENGL 1301, 1302 &amp; 2332</td>
<td>4</td>
</tr>
<tr>
<td>English Usage</td>
<td>ENGL 1301</td>
<td>31</td>
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<tr>
<td>English Language &amp; Composition</td>
<td>AP College Board</td>
<td>ENGL 1301</td>
</tr>
<tr>
<td>American Literature</td>
<td>CLEP</td>
<td>ENGL 2327 &amp; 2328</td>
</tr>
<tr>
<td>English Literature</td>
<td>CLEP</td>
<td>ENGL 2322 &amp; 2323</td>
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<tr>
<td>English Literature &amp; Composition</td>
<td>AP College Board</td>
<td>ENGL 1302</td>
</tr>
<tr>
<td><strong>FOREIGN LANGUAGES</strong></td>
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<tr>
<td>French CLEP</td>
<td>FREN 1411 &amp; 1412</td>
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<tr>
<td>Spanish IB (AB)</td>
<td>SPAN 1411</td>
<td>4</td>
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<tr>
<td>Spanish IB (B) (SL)</td>
<td>SPAN 1411 &amp; 1412</td>
<td>4</td>
</tr>
<tr>
<td>Spanish IB (HL)</td>
<td>SPAN 1411, 1412, 2311 &amp; 2312</td>
<td>4</td>
</tr>
<tr>
<td>Spanish CLEP</td>
<td>SPAN 1411 &amp; 1412</td>
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<td>German CLEP</td>
<td>GERM 1411 &amp; 1412</td>
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<td>Spanish Language AP College Board</td>
<td>SPAN 1411, 1412 &amp; 2311</td>
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<td>Spanish Language AP College Board</td>
<td>SPAN 1411, 1412, 2311 &amp; 2312 &amp; 2306</td>
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<td>French IB (AB)</td>
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<td>French IB (HL)</td>
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<tr>
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<td>French Language AP College Board</td>
<td>FREN 1411, 1412, 2311 &amp; 2312</td>
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<td>German IB (AB)</td>
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<td>GERM 1411 &amp; 1412</td>
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<td>German IB (HL)</td>
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<td>German Language AP College Board</td>
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<td>German Language AP College Board</td>
<td>GERM 1411, 1412 &amp; 2311</td>
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<td>Italian IB (AB)</td>
<td>ITAL 1411</td>
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<td>Italian Language AP College Board</td>
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<tr>
<td><strong>COMPUTER SCIENCE</strong></td>
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<tr>
<td>Computer Science A</td>
<td>AP College Board</td>
<td>COSC 1436 &amp; 1437</td>
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<tr>
<td><strong>SOCIAL &amp; BEHAVIORAL SCIENCE</strong></td>
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<tr>
<td>American Government CLEP</td>
<td>GOVT 2301</td>
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<tr>
<td>Macroeconomics AP College Board</td>
<td>ECON 2301</td>
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<tr>
<td>Microeconomics AP College Board</td>
<td>ECON 2302</td>
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<tr>
<td>US History I CLEP</td>
<td>HIST 1301</td>
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<tr>
<td>US History II CLEP</td>
<td>HIST 1302</td>
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<tr>
<td>US History AP College Board</td>
<td>HIST 1301 or 1302</td>
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<tr>
<td>World History IB (SL)</td>
<td>HIST 2321 or 2322</td>
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## Subject Area

### Examination

<table>
<thead>
<tr>
<th>Subject Area</th>
<th>Examination</th>
<th>LSCS Course</th>
<th>Min. Score</th>
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<tbody>
<tr>
<td>World History</td>
<td>IB (HL)</td>
<td>HIST 2321 or 2322</td>
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<tr>
<td>Western Civilization I</td>
<td>CLEP</td>
<td>HIST 2311</td>
<td>46</td>
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<tr>
<td>Western Civilization II</td>
<td>CLEP</td>
<td>HIST 2312</td>
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<tr>
<td>Fundamentals of Counseling</td>
<td>DSST</td>
<td>DAAC 1311</td>
<td>45</td>
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<tr>
<td>Lifespan/Developmental Psychology</td>
<td>DSST</td>
<td>PSYC 2314</td>
<td>46</td>
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<td>Sociology</td>
<td>CLEP</td>
<td>SOCI 1301</td>
<td>53</td>
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<tr>
<td>Social &amp; Cultural Anthropology</td>
<td>IB (HL)</td>
<td>ANTH 2346</td>
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<tr>
<td>Statistics*</td>
<td>CLEP</td>
<td>PSYC 2317</td>
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<td>Substance Abuse</td>
<td>DSST</td>
<td>DAAC 1319</td>
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<tr>
<td>Philosophy</td>
<td>IB (SL) (HL)</td>
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<td>Psychology</td>
<td>AP College Board</td>
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<td>PSYC 2301</td>
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<tr>
<td>Geography</td>
<td>IB (HL)</td>
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### BUSINESS

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<tr>
<td>Principles of Financial Accounting</td>
<td>DSST</td>
<td>ACCT 2401</td>
</tr>
<tr>
<td>Business Law II</td>
<td>DSST</td>
<td>BUSI 2301</td>
</tr>
<tr>
<td>Business &amp; Management</td>
<td>IB</td>
<td>BUSI 1301</td>
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<tr>
<td>Financial Accounting</td>
<td>CLEP</td>
<td>ACCT 2401</td>
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<tr>
<td>Personal Finance</td>
<td>DSST</td>
<td>BUSI 1307</td>
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<tr>
<td>Principles of Supervision</td>
<td>DSST</td>
<td>BMGT 1301</td>
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### MATH AND SCIENCE

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<th>LSCS Course</th>
<th>Min. Score</th>
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<tbody>
<tr>
<td>Mathematical Studies</td>
<td>IB (SL)</td>
<td>MATH 1332</td>
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<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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<td>Math</td>
<td>ACT</td>
<td>MATH 1314</td>
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<td>College Algebra</td>
<td>CLEP</td>
<td>MATH 1314</td>
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<td>Precalculus</td>
<td>CLEP</td>
<td>MATH 2412</td>
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<td>Calculus with Elementary Functions</td>
<td>CLEP</td>
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<td>Biology</td>
<td>IB (SL)</td>
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<td>Biology</td>
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<td>Math Calculus BC</td>
<td>AP College Board</td>
<td>MATH 2413 &amp; 2414</td>
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<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>
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<tr>
<td>Chemistry</td>
<td>AP College Board</td>
<td>CHEM 1411 &amp; 1412</td>
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<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 (HL)</td>
<td>PHYS 1401</td>
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<tr>
<td>Geology</td>
<td>IB (SL)</td>
<td>ENVR 1401 or GEOL 1405</td>
</tr>
<tr>
<td>Geography</td>
<td>IB (HL)</td>
<td>GEOG 1301</td>
</tr>
</tbody>
</table>

### ARTS, MUSIC

<table>
<thead>
<tr>
<th>Examination</th>
<th>LSCS Course</th>
<th>Min. Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appreciating Music</td>
<td>IB (SL or HL)</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 (SL or HL)</td>
<td>ARTS 1301 or 1311 or 1316</td>
</tr>
<tr>
<td>Theatre Arts</td>
<td>IB (SL or HL)</td>
<td>DRAM 1310</td>
</tr>
</tbody>
</table>

* LSCS essay required.
** Portfolio review with LSCS faculty.

**Note:** A fee of $25 per assessment will be charged for any additional assessments needed.
Portfolio
LSCS may award course credit to students who can document content mastery. Credit is generally awarded only for introductory level courses. Application details and eligibility requirements are available at LoneStar.edu/PLA.

Licensure or Industry Certification
LSCS curriculum teams evaluate professional certifications and state licenses for course matches. Official and current documentation is required for eligibility. Visit LoneStar.edu/PLA for a list of certifications and licenses accepted for credit.

Non-Regionally Accredited
Students who attend institutions not accredited by regional accrediting entities must pursue prior learning assessment to request LSCS course credit. Visit LoneStar.edu/PLA for student eligibility requirements and application instructions. See an advisor/counselor for additional assistance.

American Council on Education (ACE)
ACE uses expert evaluators to review workplace training, military experiences and national exams for potential college credit matches. ACE provides colleges and universities with recommendations, and acceptance of suggested course credit is the prerogative of the college. Students seeking credit for ACE reviewed trainings and exams must provide an ACE transcript. Military veteran students should visit with a VA advisor for assistance with requesting credit by ACE. Visit LoneStar.edu/PLA for further details.

Continuing Education Articulation
Students have the opportunity to earn college semester credit hours for certain LSCS Continuing Education (CE) courses. Students must meet all admissions requirements for credit enrollment before requesting PLA credit through CE articulation. Visit LoneStar.edu/PLA for eligibility requirements and a list of CE courses eligible for articulation.

Foreign Language Placement Exams
AVANT Placement is an initial measurement of real-world language ability in reading, writing, and speaking as it pertains to credit (university-transferable) courses in Arabic, Chinese, French, German, Italian, Japanese, and Spanish in the Lone Star College System. Students who have studied a language in high school or have had exposure to a language at home should take the AVANT Language Placement Test before registering for a language class. Students will be placed into the appropriate course as indicated below. Upon completion of the course with a grade of C or better, the student receives credit for the course and may request PLA credit for certain lower level courses. This is a placement exam only. It does not award credit toward language classes or requirements. See LoneStar.edu/exam-credit for details and applicable fees.

<table>
<thead>
<tr>
<th>AVANT score</th>
<th>Class Placement</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 2.1</td>
<td>1411</td>
</tr>
<tr>
<td>2.2 - 3.5</td>
<td>1412</td>
</tr>
<tr>
<td>3.6 - 5.1</td>
<td>2311 or 2313</td>
</tr>
<tr>
<td></td>
<td>(Students who are heritage or native speakers of Spanish should take 2313.)</td>
</tr>
<tr>
<td>5.2 - 6.0</td>
<td>2312 or 2315</td>
</tr>
<tr>
<td></td>
<td>(Students who are heritage or native speakers of Spanish should take 2315.)</td>
</tr>
</tbody>
</table>
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 document 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.

Refer to the website for more information: LoneStar.edu/academic-appeal. The decision of the Academic Appeals Committee is final.

LSCS Libraries
The library at each campus provides access and user privileges to resources and services for students, faculty and staff in support of their curricular, workforce and leisure needs. The libraries maintain a common library system at all campuses to facilitate the sharing of resources and services.
catalog of holdings, so that students at any campus have online access to the system-wide collections. Each campus library provides online access to a variety of collections and information including full-text databases, indexes to journals, and a variety of Internet resources. Library users are able to access electronic resources remotely from their home computers or from their mobile devices. The libraries provide a variety of methods for students to interact with library staff. Library facilities and selected services are available to the community according to system-wide policies.

LSCS libraries participate in several reciprocal/joint borrowing agreements. Through the Harmonic Consortium, the LSCS libraries provide borrowing privileges with the Montgomery County Memorial Library System and the Harris County Public Library System. Other partnerships provide additional access to other resources throughout the state and the nation. Student holds, including library holds, bar the release of official transcripts. Students are responsible for clearing their library records. Library holds are removed when all obligations with the library are cleared. For more information visit the libraries home-page at LoneStar.edu/library.

**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.
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. LSCS Academic Advising Mission Statement: Lone Star College System is committed to providing quality academic advising through a teaching and learning experience that empowers students to make thoughtful and informed decisions as they relate to their education, career, and life goals. 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 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. Career 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 such as disability assessment, depression, substance abuse, etc., in the geographical area.

- **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.

**System-wide Talent Acquisition Center**

The system-wide Job Placement Center establishes links with regional and local employers to develop competitive jobs and internship opportunities for LSC students and graduates, and increases the variety of industries recruiting students. Services include:

- **Coordinate Administrative Services & Computer Technology Career Fairs and Technical & Skilled Trade Career Fairs** each academic year.

- **Promote LSCS as a talent pool that can meet local and regional employer needs.**

- **Establish a comprehensive online database where employers of all sizes can post permanent and temporary positions within their companies and whereby LSCS students can apply for such positions.**

- **Identify and develop new opportunities to increase the visibility of new companies and industries.**
Campus 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 career decisions; selecting 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: Résumé and interviewing seminars; résumé critiques; job search coaching; and job postings on system databases.

Visit LoneStar.edu/career-services for more information.

Student Life
There are many opportunities to get involved in the college community beyond classroom activities. A variety of student social, educational, and cultural programs are coordinated through the Student Life office at each campus. Contact the Student Life office to learn more about getting involved.

Student Organizations
Lone Star College recognizes that student organizations provide a framework for students to nurture their own special talents and interests. Through involvement in student organizations, students may enhance their personal and leadership development while getting connected with the campus and community. Information about current organizations and guidelines for starting a new organization may be obtained from the Student Life office or the website LoneStar.edu/student-activities.

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 may be published periodically. 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 vary between campuses and may 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, and events on the school calendar and student activities. Any written material to be posted or distributed must be approved by the college. 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 at each college.

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. 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. 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 LoneStar.edu/advising 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 online at LoneStar.edu/student-handbook.

**Student Complaints**

Lone Star College System has procedures for addressing written student complaints related to academic appeals, student conduct and unlawful discrimination and prohibited harassment. Please refer to the Student Guide for each process at LoneStar.edu/student-handbook.

**Emergency Procedures**

Lone Star College System is committed to providing a safe environment in which to learn, study, and work. Knowing what to do is your best protection and your responsibility. In the event of a health, safety, or environmental emergency while on campus, students should immediately contact LSCS police at 281.290.5911 or the administrator on duty. If you know you will need assistance to evacuate during an emergency, please register by calling 281.290.5911 at any time. Detailed information on LSCS emergency procedures is available at LoneStar.edu/oem.
LSCS 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 LSCS’ 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 quickly. 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 LoneStar.edu/meningitis or in the student services office at each campus. There are new legal requirements for bacterial meningitis vaccinations. Details may be reviewed at LoneStar.edu/meningitis.

**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 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.

**Parking**

All students, visitors, faculty and staff at Lone Star College who operate a vehicle on college property are required to register their vehicle on-line with the Parking Administration Office of the Lone Star College Police Department and obtain a parking permit assigning a designated colored permit for parking. The college reserves the right to require proof of ownership of the vehicle being registered. Parking permits are required 24 hours a day. Current permits must be properly displayed on vehicles at all times. Violators may be subject to a citation. Additional parking and traffic regulations may be found online at LoneStar.edu/parking.

**Smoke Free Campuses**

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 rentals, new and used book purchases, and refunds are available from the bookstore or online at LoneStar.edu/bookstore.
GRADUATION REQUIREMENTS

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 system 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, students should follow their program of study to facilitate the completion of their educational goal. 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. Regardless of transferability policies and agreements, students intending to transfer to a college or university should check on course and/or program transferability with that institution so that they make the best educational choices for them individually.

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 that will generally transfer to a four-year college or university. Refer to LoneStar.edu/aa-requirements.

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 that will generally transfer to a four-year college or university. Refer to LoneStar.edu/as-requirements.

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. Refer to LoneStar.edu/teaching-aa.

Associate of Applied Science Degree (AAS) – A degree in a workforce field for students who wish to begin a career after completing this program of study. Refer to LoneStar.edu/programs.

Core Curriculum – Through the general education core curriculum, students gain a foundation of knowledge of human cultures and the physical and natural world; develop principles of personal and social responsibility for living in a diverse global world; and advance intellectual and practical skills that are essential for all learning. All students seeking an undergraduate degree must complete this curriculum in the state of Texas before receiving their degree. Completion of core curriculum requirements is a significant educational milestone. Lone Star College acknowledges students’ efforts by placing “core complete” on their transcripts and issuing commendations in recognition of this accomplishment toward the AA or AS degree. To receive an associate degree a student must also complete the remaining AA or AS requirements.

Field of Study – A curriculum that will satisfy the lower division requirements for a bachelor’s degree in a specific academic area at a general academic teaching institution. The student shall receive full academic credit toward the degree program for the block of courses transferred which will meet that institution’s lower division requirements for the degree program in the field of
study into which the student transfers. Refer to LoneStar.edu/degrees-certificates.

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. Refer to LoneStar.edu/degrees-certificates.

Area of Concentration – A program that combines either the associate of arts or associate of science degree with an emphasis in a specific academic discipline. Transferability for area of concentration courses should be checked with the transfer university. Refer to LoneStar.edu/concentration-intl-studies.

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

LSCS Core Curriculum

The core curriculum is designed to empower students with foundational knowledge and transferable skills guided by a strong sense of values, ethics, and civic engagement. It prepares students for academic excellence and careers through progressively higher-level studies in the areas of critical thinking, communication, empirical and quantitative skills, teamwork, personal responsibility, and social responsibility. Embedded in the core curriculum is a firm belief that educated members of society must possess a broad base of experience and general knowledge to balance the narrow focus of degree and vocational requirements. Students taking the core curriculum develop important individual traits and skills that are critical for their future careers and personal development. The Texas Higher Education Coordinating Board approved a 42 semester credit hour (SCH) core curriculum for all undergraduate students in Texas, including a following statement of purpose, six core objectives, and foundational component areas, to be implemented in Fall 2014.

Statement of Purpose

Through the core curriculum, students will gain a foundation of knowledge of human cultures and the physical and natural world, develop principles of personal and social responsibility for living in a diverse world, and advance intellectual and practical skills that are essential for all learning.

Core Objectives

- Critical Thinking Skills – to include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information.
- Communication Skills – to include effective development, interpretation and expression of ideas through written, oral and visual communication.
- Empirical and Quantitative Skills – to include the manipulation and analysis of numerical data or observable facts resulting in informed conclusions.
- Teamwork – to include the ability to consider different points of view and to work effectively with others to support a shared purpose or goal.
- Personal Responsibility – to include the ability to connect choices, actions and consequences to ethical decision-making.
- Social Responsibility – to include intercultural competence, knowledge of civic responsibility, and the ability to engage effectively in regional, national, and global communities.

Foundational Component Areas

- Communication – (6 SCH) Courses in this category focus on developing ideas and expressing them clearly, considering the effect of the message, fostering understanding, and building the skills needed to communicate persuasively. Courses involve the command of oral,
aural, written, and visual literacy skills that enable people to exchange messages appropriate to the subject, occasion, and audience.

- Mathematics – (3 SCH) Courses in this category focus on quantitative literacy in logic, patterns and relationships. Courses involve the understanding of key mathematical concepts and the application of appropriate quantitative tools to everyday experience.

- Life and Physical Sciences – (6 SCH) Courses in this category focus on describing, explaining and predicting natural phenomena using the scientific method. Courses involve the understanding of interactions among natural phenomena and the implications of scientific principles on the physical world and on human experiences.

- Language, Philosophy & Culture – (3 SCH) Courses in this category focus on how ideas, values, beliefs, and other aspects of culture express and affect human experience. Courses involve the exploration of ideas that foster aesthetic and intellectual creation in order to understand the human condition across cultures.

- Creative Arts – (3 SCH) Courses in this category focus on the appreciation and analysis of creative artifacts and works of the human imagination. Courses involve the synthesis and interpretation of artistic expression and enable critical, creative, and innovative communication about works of art.

- American History – (6 SCH) Courses in this category focus on the consideration of past events and ideas relative to the United States, with the option of including Texas History for a portion of this component area. Courses involve the interaction among individuals, communities, states, the nation, and the world, considering how these interactions have contributed to the development of the United States and its global role.
GRADUATION REQUIREMENTS

- Government/Political Science – (6 SCH)
  Courses in this category focus on consideration of the Constitution of the United States and the constitutions of the states, with special emphasis on that of Texas. Courses involve the analysis of governmental institutions, political behavior, civic engagement, and their political and philosophical foundations.

- Social and Behavioral Sciences – (3 SCH) Courses in this category focus on the application of empirical and scientific methods that contribute to the understanding of what makes us human. Courses involve the exploration of behavior and interactions among individuals, groups, institutions, and events, examining their impact on the individual, society, and culture.

- Component Area Option – (6 SCH)
  a. A minimum of 3 SCH must meet the definition and corresponding Core Objectives specified in one of the foundational component areas;
  b. As an option for up to 3 semester credit hours of the Component Area Option, an institution may select course(s) that:
     • Meet(s) the definition specified for one or more of the foundational component areas;
     • Include(s) a minimum of 3 Core Objectives, including Critical Thinking Skills, Communication Skills, and one of the remaining Core Objectives of the institution’s choice.

Demonstration of Mastery
Each professor will select strategies and activities that foster the development and mastery of the six core objectives. Strategies may include book reviews, article reviews, chapter reviews, writing assignments, role playing, question groups, role reversal, free association discussion, group presentations, 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.

Completion of associate degrees requires the following:

1. At least 60 semester hours of earned credit, 25 percent 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 2.0.
c. AAS graduates may be required to demonstrate skills/proficiencies in the discipline.

2. Satisfaction of core competency requirements.

3. At least a 2.0 cumulative GPA for LSCS courses applying toward their degree requirements.

4. A cumulative 2.0 GPA on all credit courses earned at LSCS (graduation GPA).

5. Students are encouraged to complete formal application for graduation on or before the announced deadline. Note: Students will be awarded their degree upon completion of all degree requirements.

6. All transcripts 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 (AAS) degree is issued to students who complete a college-level workforce 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.

Students pursuing an Associate of Applied Science degree will automatically be awarded related certificate(s) that lead to the degree as the requirements for the certificate(s) are completed. Students pursuing a certificate will also be awarded any related credential that leads to the requirements for that certificate as the requirements for that certificate are completed.

**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. Furthermore, graduates must meet the computer literacy, math and oral communication competencies.

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 that 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. Fulfill 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. Students are encouraged to complete formal application for graduation on or before the announced deadline. Note: Students will be awarded their certificate upon completion of all degree requirements.
If pursuing an Enhanced Skills Certificate, students must complete the related LSCS associate degree simultaneously.

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

All associate degrees, certificates over 42 credit hours, level II certificates and post AAS certificates require completion of TSI requirements.

Students pursuing an Associate of Applied Science (AAS) degree will automatically be awarded related certificate(s) that lead to the degree as the requirements for the certificate(s) are completed. Students pursuing a certificate will also be awarded any related credential that leads to the requirements for that certificate as the requirements for that certificate are completed.

Students must complete 50 percent of the credits of a credit certificate program or at least 25 percent of an associate degree with Lone Star College System credit courses to meet graduation requirements.

**Graduation**

Students will be awarded a LSCS diploma when they graduate from one of the six 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 they have 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 they have 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.

**Graduation Through Reverse Transfer**

Reverse transfer provides an avenue for obtaining an associate degree after transferring to an university. 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 website at LoneStar.edu/joint-admissions.

Text on this page has been revised since publication of the printed catalog. Please see addendum for details.
Academic Degree Options

**LSC Success** – Learn, Succeed, Complete is the Lone Star College success and completion plan. Embraced throughout the entire LSC community, it is our commitment to the success of every student. We are here to help students Learn, Succeed & Complete their goals to:

- Earn an Associate Degree
- Earn a Career & Technical Education (CTE) Credential
- Transfer to a four-year university with core curriculum completed
- Complete coursework to improve career opportunities

The **LSC Success** plan started with the launch of **LSC Best Start** in 2011. Designed as the Quality Enhancement Plan (QEP) of our ten-year SACS reaccreditation process, **Best Start** focused students, faculty and staff on four key actions necessary to achieve student success:

- Set a Goal
- Make a Plan
- Get Connected
- Stay Involved

Since then, **LSC Success** has dedicated resources to studying and revising the policies, procedures, processes and practices that will accelerate and support these actions. **LSC Success** is equally focused on removing any barriers that prevent students from making progress towards goal completion. As a result, **LSC Success** is a well-researched and intentionally designed roadmap to significantly improve student success and credential completion. Many aspects of our completion plan have been in place to varying degrees in the past, but all are now consistently implemented and fully integrated into the day to day operations of every LSC campus location.

Since Best Start was launched, successive components are being phased in over several years. The current **LSC Success** phase includes:

- Common mandatory new student orientation
- Required student success course
- Required academic plan
- Declared program of study in first year
- Required first term and continuous remediation
- Required test preparation prior to placement testing

Lone Star College is dedicated to increasing the number of students who complete a degree, earn a career certification or successfully transfer core curriculum credits to a four-year undergraduate program. **LSC Success – Learn, Succeed, Complete** is our plan to make sure goals become reality.
# Degree & Certificate Options

Choose the career path that will help you reach your goals for the future.

<table>
<thead>
<tr>
<th>Degree/Program</th>
<th>Description</th>
</tr>
</thead>
</table>
| **A.A.**  
Associate of Arts | Prepares you to transfer to a Texas public university or college as a junior with the intention of declaring a major in the liberal or fine arts (English; History, others).  
- Includes general education core courses common to Texas four-year universities also called “the basics” or “core requirements.” |
| **A.A.– F.O.S.**  
Associate of Arts–Field of Study | Prepares you to transfer to a Texas public university or college as a junior with transferability of courses chosen for a specific major (Criminal Justice; Speech; Music; Business, and others). |
| **A.A.T.**  
Associate of Arts in Teaching | Prepares you to transfer to a Texas public university as a junior with a specific teaching major: Early Childhood through Grade 6 Generalist or Grades 4 through 8 Generalist. |
| **A.S.**  
Associate of Science | Prepares you to transfer to a Texas public university or college as a junior with the intention of majoring in the sciences (Math, Engineering, Biology Social/Behavioral Science, and others)  
- Includes general education core courses common to Texas four-year universities also called “the basics” or “core requirements.” |
| **A.A.S.**  
Associate of Applied Science | A degree program for the student seeking technical career skills for work in a specific career.  
- Includes about 18 hours of general education core courses.  
- Generally designed not to transfer except for the general education courses. |
| **CERTIFICATES** | Prepares you to enter a specialized career field or upgrade your skills for job advancement. Most certificate awards are structured to allow you to move on to a higher level certificate or associate of applied science degree. |
| Marketable Skills Award | Prepares you to enter a high-demand career field with minimal training. |
| First & Second Level | Prepares you for entry in a career field requiring up to 2 years of training. |
| Enhanced Skills Certificate | Pursued simultaneously with an AAS, prepares you for a career field with more specialized training. |
| Advanced Technical Certificate | Pursued after the completion of a related bachelor’s or associates degree, prepares you for a specialized career field. |

For more information on degrees, certificates, and requirements, visit LoneStar.edu/degrees-certificates
Academic Transfer

ASSOCIATE OF ARTS DEGREE AND ASSOCIATE OF SCIENCE DEGREE

These programs are designed primarily for students who desire to continue their education at a four-year college/university. At Lone Star College System, the Associate of Arts degree and the Associate of Science degree are generalized degrees. Each degree will not list a specific major but will be called associate of arts or associate of science.

Core Requirements for the Associate of Arts and the Associate of Science:
A course cannot count toward more than one requirement of the degree.

<table>
<thead>
<tr>
<th>Foundational Component Area</th>
<th>Course Options</th>
<th>Semester credit hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMMUNICATION</td>
<td>ENGL 1301 and 3 hours of Speech: SPCH 1311, 1315, 1318, 1321</td>
<td>6 hours</td>
</tr>
<tr>
<td>MATHEMATICS</td>
<td>MATH 1314, 1316, 1324, 1325, 1332, 1342, *1350, 2318, †2412, †2413</td>
<td>3 hours</td>
</tr>
<tr>
<td>LIFE &amp; PHYSICAL SCIENCES</td>
<td>BIOL 1406 OR 1408; 1407 OR 1409; 1414, 2401, 2402, 2404, 2406, 2420, 2421; CHEM 1405, 1411, 1412, 2423, 2425; ENVY 1401, 1402; GEOL 1403, 1404, 1405, 1445; PHYS 1401, 1402, 1403, 1404, 1410, 2425, 2426</td>
<td>8 hours</td>
</tr>
<tr>
<td>CREATIVE ARTS</td>
<td>ARTS 1301, 1303, 1304; DANC 2303; DRAM 1310, 2366; MUSI 1306, 1308, 1309, 1310</td>
<td>3 hours</td>
</tr>
<tr>
<td>LANGUAGE, PHILOSOPHY, &amp; CULTURE</td>
<td>ENGL 2322, 2323, 2327, 2328, 2332, 2333, 2341, 2342 2343, 2351; HUMA 1301, 1302; PHIL 1301, 1304, 2306, 2307, 2316, 2317, 2318, 2321; ARAB 2311, 2312; CHIN 2311, 2312; FREN 2311, 2312; GERM 2311, 2312; ITAL 2311, 2312; JAPN 2311, 2312; PORT 2311, 2312; SGNL 2301, 2302; SPAN 2311, 2312, 2313, 2315</td>
<td>3 hours</td>
</tr>
<tr>
<td>HISTORY</td>
<td>HIST 1301, HIST 1302, HIST 2301 (select two HIST courses)</td>
<td>6 hours</td>
</tr>
<tr>
<td>GOVERNMENT</td>
<td>GOVT 2305 and 2306</td>
<td>6 hours</td>
</tr>
<tr>
<td>SOCIAL/BEHAVIORAL SCIENCES</td>
<td>ANTH 2301, 2351; CRUJ 1301, 1307; ECON 2301, 2302; GEOG 1301, 1303; HIST 2311, 2312, 2321, 2322; PSYC 2301; SOCI 1301, 1306</td>
<td>3 hours</td>
</tr>
<tr>
<td>COMPONENT AREA OPTION</td>
<td>Select one ENGL course - ENGL 1302 or ENGL 2311 And PHED 1164</td>
<td>4 hours</td>
</tr>
</tbody>
</table>

* 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.

TOTAL 42 hours
# Requirements for the Associate of Arts:

A course cannot count toward more than one requirement of the degree.

<table>
<thead>
<tr>
<th>Foundational Component Area</th>
<th>Course Options</th>
<th>Semester credit hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMMUNICATION</td>
<td>ENGL 1301 and 3 hours of Speech: SPCH 1311, 1315, 1318, 1321</td>
<td>6 hours</td>
</tr>
<tr>
<td>MATHEMATICS</td>
<td>MATH 1314, 1316, 1324, 1325, 1332, 1342, *1350, 2318, †2412, †2413</td>
<td>3 hours</td>
</tr>
<tr>
<td>LIFE &amp; PHYSICAL SCIENCES</td>
<td>BIOL 1406 OR 1408; 1407 OR 1409; 1414, 2401, 2402, 2404, 2406, 2420, 2421; CHEM 1405, 1411, 1412, 2423, 2425; ENV 1401, 1402; GEO 1403, 1404, 1405, 1445; PHYS 1401, 1402, 1403, 1404, 1410, 2425, 2426</td>
<td>8 hours</td>
</tr>
<tr>
<td>CREATIVE ARTS</td>
<td>ART 1301, 1303, 1304; DANC 2303; DRAM 1310, 2366; MUSI 1306, 1308, 1309, 1310</td>
<td>3 hours</td>
</tr>
<tr>
<td>LANGUAGE, PHILOSOPHY, &amp; CULTURE</td>
<td>ENGL 2322, 2323, 2327, 2328, 2332, 2333, 2341, 2342 2343, 2351; HUMA 1301, 1302; PHIL 1301, 1304, 2306, 2307, 2316, 2317, 2318, 2321; ARAB 2311, 2312; CHIN 2311, 2312; FREN 2311, 2312; GERM 2311, 2312; ITAL 2311, 2312; JAPN 2311, 2312; PORT 2311, 2312; SGNL 2301, 2302; SPAN 2311, 2312, 2313, 2315</td>
<td>3 hours</td>
</tr>
<tr>
<td>HISTORY</td>
<td>HIST 1301, HIST 1302, HIST 2301 (select two HIST courses)</td>
<td>6 hours</td>
</tr>
<tr>
<td>GOVERNMENT</td>
<td>GOVT 2305 and 2306</td>
<td>6 hours</td>
</tr>
<tr>
<td>SOCIAL/BEHAVIORAL SCIENCES</td>
<td>ANTH 2301, 2351; CRU 1301, 1307; ECON 2301, 2302; GEOG 1301, 1303; HIST 2311, 2312, 2321, 2322; PSYC 2301; SOCI 1301, 1306</td>
<td>3 hours</td>
</tr>
<tr>
<td>COMPONENT AREA OPTION</td>
<td>Select one ENGL course: ENGL 1302 or ENGL 2311 And PHED 1164</td>
<td>4 hours</td>
</tr>
<tr>
<td>ELECTIVES</td>
<td>Choose elective courses based on university requirements if transferring.</td>
<td>18 hours</td>
</tr>
</tbody>
</table>

**Notes:**
* 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 Science:

A course cannot count toward more than one requirement of the degree.

<table>
<thead>
<tr>
<th>Foundational Component Area</th>
<th>Course Options</th>
<th>Semester credit hours</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>COMMUNICATION</strong></td>
<td><strong>ENGL</strong> 1301 and 3 hours of Speech: <strong>SPCH</strong> 1311, 1315, 1318, 1321</td>
<td>6 hours</td>
</tr>
<tr>
<td><strong>MATHEMATICS</strong></td>
<td><strong>MATH</strong> 1314, 1316, 1324, 1325, 1332, 1342, *1350, 2318, †2412, †2413</td>
<td>6 hours</td>
</tr>
<tr>
<td><strong>LIFE &amp; PHYSICAL SCIENCES</strong></td>
<td><strong>Biol</strong> 1406 OR 1408; 1407 OR 1409; 1414, 2401, 2402, 2404, 2406, 2420, 2421; <strong>CHEM</strong> 1405, 1411, 1412, 2423, 2425; <strong>ENVR</strong> 1401, 1402; <strong>GEOL</strong> 1403, 1404, 1405, 1445; <strong>PHYS</strong> 1401, 1402, 1403, 1404, 1410, 2425, 2426</td>
<td>16 hours</td>
</tr>
<tr>
<td><strong>CREATIVE ARTS</strong></td>
<td><strong>ARTS</strong> 1301, 1303, 1304; <strong>DANC</strong> 2303; <strong>DRAM</strong> 1310, 2366; <strong>MUSI</strong> 1306, 1308, 1309, 1310</td>
<td>3 hours</td>
</tr>
<tr>
<td><strong>LANGUAGE, PHILOSOPHY, &amp; CULTURE</strong></td>
<td><strong>ENGL</strong> 2322, 2323, 2327, 2328, 2332, 2333, 2341, 2342 2343, 2351; <strong>HUMA</strong> 1301, 1302; <strong>PHIL</strong> 1301, 1304, 2306, 2307, 2316, 2317, 2318, 2321; <strong>ARAB</strong> 2111, 2312; <strong>CHIN</strong> 2311, 2312; <strong>FREN</strong> 2311, 2312; <strong>GERM</strong> 2311, 2312; <strong>ITAL</strong> 2311, 2312; <strong>JAPN</strong> 2311, 2312; <strong>PORT</strong> 2311, 2312; <strong>SGNL</strong> 2301, 2302; <strong>SPAN</strong> 2311, 2312, 2313, 2315</td>
<td>3 hours</td>
</tr>
<tr>
<td><strong>HISTORY</strong></td>
<td><strong>HIST</strong> 1301, <strong>HIST</strong> 1302, <strong>HIST</strong> 2301 (select two HIST courses)</td>
<td>6 hours</td>
</tr>
<tr>
<td><strong>GOVERNMENT</strong></td>
<td><strong>GOVT</strong> 2305 and 2306</td>
<td>6 hours</td>
</tr>
<tr>
<td><strong>SOCIAL/BEHAVIORAL SCIENCES</strong></td>
<td><strong>ANTH</strong> 2301, 2351; <strong>CRIJ</strong> 1301, 1307; <strong>ECON</strong> 2301, 2302; <strong>GEOG</strong> 1301, 1303; <strong>HIST</strong> 2311, 2312, 2321, 2322; <strong>PSYC</strong> 2301; <strong>SOCI</strong> 1301, 1306</td>
<td>3 hours</td>
</tr>
<tr>
<td><strong>COMPONENT AREA OPTION</strong></td>
<td>Select one ENGL course - <strong>ENGL</strong> 1302 or <strong>ENGL</strong> 2311 And <strong>PHED</strong> 1164</td>
<td>4 hours</td>
</tr>
<tr>
<td><strong>ELECTIVES</strong></td>
<td>Choose elective courses based on university requirements if transferring.</td>
<td>7 hours</td>
</tr>
</tbody>
</table>

**TOTAL** 60 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.
**Associate of Arts in Teaching**

Students interested in acquiring knowledge and skills in the field of education can take the courses offered in our Associate of Arts in Teaching (AAT) Program. Courses within the program align with State Board for Educator Certification Pedagogy and Professional Responsibilities Standards. The degree plan satisfies the core requirements for baccalaureate programs at four-year institutions that lead to initial Texas teacher certification.

Field experiences are an integral part of becoming a professional teacher. Courses that are field-based require outside classroom time for observation and experiential learning in Texas Education Agency accredited schools.

(AAT_EC6G degree offered at LSC-CyFair, Kingwood, Montgomery, North Harris, Tomball, and University Park)

**FIRST YEAR**

<table>
<thead>
<tr>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 1301 Composition &amp; Rhetoric I</td>
</tr>
<tr>
<td>MATH 1314 College Algebra</td>
</tr>
<tr>
<td>EDUC 1301 Introduction to the Teaching Profession</td>
</tr>
<tr>
<td>PHIL 1301 Introduction To Philosophy</td>
</tr>
<tr>
<td>Creative Arts Elective</td>
</tr>
</tbody>
</table>

**Second Semester**

<table>
<thead>
<tr>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 1302 Composition &amp; Rhetoric II</td>
</tr>
<tr>
<td>HIST 1301 United States History to 1877</td>
</tr>
<tr>
<td>SPCH 1315 Public Speaking OR SPCH 1318 Interpersonal Communication</td>
</tr>
<tr>
<td>MATH 1350 Foundations of Mathematics I</td>
</tr>
</tbody>
</table>

**Third Semester**

<table>
<thead>
<tr>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>GOVT 2305 Federal Government</td>
</tr>
<tr>
<td>GOVT 2306 Texas Government</td>
</tr>
<tr>
<td>PHED 1164 Physical Fitness &amp; Sport</td>
</tr>
</tbody>
</table>

**SECOND YEAR**

**First Semester**

<table>
<thead>
<tr>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 1406 Biology I for Science Majors</td>
</tr>
<tr>
<td>CHEM 1411 General Chemistry I</td>
</tr>
<tr>
<td>MATH 1314 College Algebra</td>
</tr>
<tr>
<td>PHED 1164 Physical Fitness &amp; Sport</td>
</tr>
</tbody>
</table>

**Second Semester**

<table>
<thead>
<tr>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Natural Science (w/lab)</td>
</tr>
<tr>
<td>HIST 1302 United States History Since 1877</td>
</tr>
<tr>
<td>EDUC 2301 Introduction - Special Populations</td>
</tr>
<tr>
<td>MATH 1351 Foundations of Mathematics II</td>
</tr>
</tbody>
</table>

**Associate of Science in Biology**

(AAS_BIOL Associate of Science degree offered at LSC-CyFair, Kingwood, Montgomery, North Harris, Tomball, and University Park)

**FIRST YEAR**

<table>
<thead>
<tr>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 1406 Biology I for Science Majors</td>
</tr>
<tr>
<td>CHEM 1411 General Chemistry I</td>
</tr>
<tr>
<td>MATH 1314 College Algebra</td>
</tr>
<tr>
<td>PHED 1164 Physical Fitness &amp; Sport</td>
</tr>
</tbody>
</table>

**Second Semester**

<table>
<thead>
<tr>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 1407 Biology II for science majors</td>
</tr>
<tr>
<td>CHEM 1412 General Chemistry II</td>
</tr>
<tr>
<td>MATH 1316 Trigonometry</td>
</tr>
<tr>
<td>ENGL 1301 Composition &amp; Rhetoric I</td>
</tr>
</tbody>
</table>

**Third Semester**

<table>
<thead>
<tr>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 1302 Composition &amp; Rhetoric II</td>
</tr>
</tbody>
</table>

**Texas Tuning Agreements**

The following Associate of Science Degrees in Biology and Mechanical Engineering adhere to the Texas Tuning Agreements that are designed to facilitate transfer for students attending community college with the intent of completing a bachelor’s degree in specific disciplines in Texas. The agreements create a shared understanding of the subject-specific knowledge and transferable skills that students must demonstrate upon completion of a degree program. The “Fine Tuning” (or course alignment) process involves identifying a set of lower-division courses for a given discipline area and aligning the learning outcomes across institutions in the state to provide a basis for voluntary transfer compacts and articulation agreements.
### ACADEMIC DEGREE OPTIONS

#### GOVT 2305 Federal Government
OR

#### GOVT 2306 Texas Government

#### SECOND YEAR

**First Semester**
- CHEM 2423 Organic Chemistry I 4
- MATH 2412 Precalculus 4
- PHYS 1401 General Physics I 4
- GOVT 2305 Federal Government
OR
- GOVT 2306 Texas Government

**Second Semester**
- CHEM 2425 Organic Chemistry II 4
- PHYS 1402 General Physics II 4
- MATH 2413 Calculus I 4

**TOTAL Credit Hours for Associate of Science in Biology degree 60**

### BIOMEDICAL ENGINEERING

**Associate of Science degree**

(offerd at LSC-CyFair, LSC-Kingwood, LSC-Montgomery, LSC-North Harris, LSC-Tomball and LSC-University Park)

#### FIRST YEAR

**First Semester**
- MATH 2413 Calculus 4
- CHEM 1411 General Chemistry I 4
- ENGR 1201 Introduction to Engineering 2
- ENGL 1301 Composition & Rhetoric I 3
- HIST 1301 United States History to 1877 3

**Second Semester**
- MATH 2414 Calculus II 4
- PHYS 2425 Mechanics & Heat 4
- BIOL 1406 Biology I for Science Majors 4
- HIST 1302 United States History Since 1877 3

#### SECOND YEAR

**First Semester**
- MATH 2415 Calculus III 4
- CHEM 1412 General Chemistry II 4
- PHYS 2426 Electricity, Magnetism, and Light 4
- ENGR 2304 Programming for Engineers 3
- GOVT 2305 Federal Government 3

**Second Semester**
- MATH 2320 Differential Equations 3
- ENGR 2405 Electrical Circuits I 4
- ENGR 2302 Engineering Mechanics: Dynamics 3
- GOVT 2306 Texas Government 3

**TOTAL Credits for Civil Engineering Associate of Science (AS) degree 60**

### ELECTRICAL ENGINEERING

**Associate of Science degree**

(offerd at LSC-CyFair, LSC-Kingwood, LSC-Montgomery, LSC-North Harris, LSC-Tomball and LSC-University Park)

#### FIRST YEAR

**First Semester**
- MATH 2413 Calculus 4
- CHEM 1411 General Chemistry I 4
- ENGR 1201 Introduction to Engineering 2
- ENGL 1301 Composition & Rhetoric I 3
- HIST 1301 United States History to 1877 3
- GOVT 2305 Federal Government 3

**Second Semester**
- MATH 2414 Calculus II 4
- PHYS 2426 Electricity, Magnetism, and Light 4
- ENGR 2406 Introduction to Digital Systems 4
- ENGR 2304 Programming for Engineers 3

**TOTAL Credits for Electrical Engineering Associate of Science (AS) degree 60**

### CIVIL ENGINEERING

**Associate of Science degree**

(offerd at LSC-CyFair, LSC-Kingwood, LSC-Montgomery, LSC-North Harris, LSC-Tomball and LSC-University Park)

#### FIRST YEAR

**First Semester**
- MATH 2413 Calculus 4
- CHEM 1411 General Chemistry I 4
- ENGR 1201 Introduction to Engineering 2
- ENGL 1301 Composition & Rhetoric I 3
- HIST 1301 United States History to 1877 3

**Second Semester**
- MATH 2414 Calculus II 4
- PHYS 2426 Electricity, Magnetism, and Light 4
- ENGR 2406 Introduction to Digital Systems 4
- ENGR 2304 Programming for Engineers 3

**TOTAL Credits for Electrical Engineering Associate of Science (AS) degree 60**

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Text on this page has been revised since publication of the printed catalog. Please see addendum for details.
<table>
<thead>
<tr>
<th>Field of Study</th>
<th>Degree Option</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ACADEMIC DEGREE OPTIONS</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MATH 2318 Linear Algebra</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Any PHED activity course</td>
<td>1</td>
<td></td>
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<tr>
<td>GOVT 2306 Texas Government</td>
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<tr>
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<td><strong>INDUSTRIAL ENGINEERING</strong></td>
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<tr>
<td>Associate of Science degree</td>
<td>(offered at LSC-CyFair, LSC-Kingwood, LSC-Montgomery, LSC-North Harris, LSC-Tomball and LSC-University Park)</td>
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<tr>
<td><strong>FIRST YEAR</strong></td>
<td></td>
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</tr>
<tr>
<td><strong>First Semester</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MATH 2413 Calculus</td>
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<tr>
<td>CHEM 1411 General Chemistry I</td>
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<tr>
<td>ENGR 1201 Introduction to Engineering</td>
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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</td>
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<tr>
<td>MATH 2414 Calculus II</td>
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<td>PHYS 2425 Mechanics &amp; Heat</td>
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<tr>
<td>ENGR 1304 Engineering Graphics I</td>
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<td>HIST 1302 United States History Since 1877</td>
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<tr>
<td><strong>First Semester</strong></td>
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<td>MATH 2415 Calculus III</td>
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<td>PHYS 2426 Electricity, Magnetism, and Light</td>
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<td>ENGR 2301 Engineering Mechanics: Statics</td>
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<td>ENGR 2304 Programming for Engineers</td>
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<td>MATH 2320 Differential Equations</td>
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<td>ENGR 2302 Engineering Mechanics: Dynamics</td>
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<tr>
<td><strong>TOTAL Credits for Industrial Engineering</strong></td>
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**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 that institution’s lower division requirements for the degree program in the field of study into which the student transfers. Check with the transfer institution for general education and degree program requirements.

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 that have been approved are: Business, Computer
Science, Criminal Justice, Music and Speech Communication.

**Business Field of Study**

Leading to the Bachelor of Business Administration degree at the awarding institution.

**Academic Degree Options**

**Business Field of Study**

Leading to the Bachelor of Business Administration degree at the awarding institution.

**Associate of Arts Degree with Field of Study**

*Transfer Curriculum for Business*  
(AA_FMGT degree offered at LSC-CyFair, Kingwood, Montgomery, North Harris, Tomball, and University Park)

**FIRST YEAR**

<table>
<thead>
<tr>
<th>Semester</th>
<th>First Semester</th>
<th>Second Semester</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>ENGL 1301 Composition &amp; Rhetoric I</td>
<td>HIST Elective¹</td>
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<td></td>
<td>BCIS 1305 Business Computer Applications</td>
<td>ACCT 2401 Principles of Financial Accounting ¹</td>
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<td>HIST Elective¹</td>
<td>MATH 2412 Precalculus</td>
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<td>SPCH Elective²</td>
<td>MATH 1314 College Algebra</td>
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<tr>
<td></td>
<td>Creative Arts Elective³</td>
<td>MATH 1316 Trigonometry</td>
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**SECOND YEAR**

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<tbody>
<tr>
<td></td>
<td>ENGL 1302 Composition &amp; Rhetoric II</td>
<td>MATH 1314 College Algebra</td>
</tr>
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</table>

**TOTAL Credit Hours for Business Field of Study**  
Associate of Arts degree 65

1 HIST Electives - Choose 2 from HIST 1301, 1302, 2301  
2 SPCH Electives - Choose from: SPCH 1311, 1315 or 1321  
3 Choose from core requirements  
4 BUSI 1301, 1307, 2301, 2304 or 2372 (according to preference of college transfer)  
5 ENGL 2322, 2323, 2327, 2328, 2332, 2333

**Computer Science Field of Study**

Leading to the Bachelor of Science degree in Computer Science or Computer Management Information System. Check with the transfer institution for core curriculum and degree program requirements.

**Associate of Arts with Field of Study**

*Transfer Curriculum for Computer Science*  
(AA_FCSC degree offered at LSC-CyFair, Kingwood, Montgomery, and Tomball)

**Prerequisite Semester**

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<td>MATH 1314 College Algebra</td>
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<td>MATH 1316 Trigonometry</td>
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**FIRST YEAR**

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<th>Second Semester</th>
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<tr>
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<td>COSC 1436 Programming Fundamentals I</td>
<td>HIST 1301 United States History to 1877</td>
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<td>ENGL 1301 Composition &amp; Rhetoric I</td>
<td>PHED 1164 Introduction to Physical Fitness &amp; Sport</td>
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<tr>
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<td>MATH 2412 Precalculus</td>
<td>MATH 2414 Calculus II</td>
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**SECOND YEAR**

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<th>Second Semester</th>
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</thead>
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<tr>
<td></td>
<td>COSC 2425 Computer and Machine Language</td>
<td>MATH 2306 Texas Government</td>
</tr>
<tr>
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<td>MATH 1325 Elements Calculus w Applications</td>
<td>PHYS 2425 Mechanics &amp; Heat</td>
</tr>
<tr>
<td></td>
<td>Business Elective⁴</td>
<td>GOVT 2305 Federal Government</td>
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<td>Natural Sciences Elective</td>
<td>PHYS 2426 Electricity, Magnetism and Light</td>
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<td>ENGL Literature Elective⁵</td>
<td>GOVT 2306 Texas Government</td>
</tr>
<tr>
<td></td>
<td>PHED 1164 Introduction to Physical Fitness &amp; Sport</td>
<td></td>
</tr>
</tbody>
</table>

**TOTAL Computer Science Field of Study**  
Associate of Arts degree 67

1 Choose from core requirements

**Criminal Justice Field of Study**

Leading to the Bachelor of Criminal Justice degree.

**Associate of Arts with Field of Study**

*Transfer Curriculum for Criminal Justice*  
(AA_FCRJ degree offered at LSC-CyFair, Kingwood, Montgomery, North Harris, Tomball, and University Park)

**FIRST YEAR**

<table>
<thead>
<tr>
<th>Semester</th>
<th>First Semester</th>
<th>Second Semester</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>CRJ 1301 Intro To Criminal Justice</td>
<td>GOVT 2305 Federal Government</td>
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<td>ENGL 1301 Composition &amp; Rhetoric I</td>
<td>HIST 1301 United States History to 1877</td>
</tr>
<tr>
<td></td>
<td>HIST Elective⁶</td>
<td>GOVT 2306 Texas Government</td>
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</table>

**LSCS Catalog 2014/2015**
Music Field of Study

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. Check with the transfer institution for core curriculum and degree program requirements. Students take the same MUAP course twice at the 1000 level the freshman year, then take the 2000 level course twice the sophomore year.

Associate of Arts with Field of Study Transfer Curriculum for Music

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

<table>
<thead>
<tr>
<th>First Year</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Semester</td>
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</tbody>
</table>

TOTAL Credit Hours for Music Field of Study Associate of Arts degree 65

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 Choose from Language, Philosophy & Culture

Speech Communication Field of Study

Leading to the Bachelor of Arts degree with a Speech Communication major.

Associate of Arts with Field of Study Transfer Curriculum for Speech Communication

(AA_FCOM degree offered at LSC-CyFair, Kingwood, Montgomery, North Harris, Tomball,
### ACADEMIC DEGREE OPTIONS

(And University Park)

#### FIRST YEAR

<table>
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<tr>
<th>Semester</th>
<th>Courses</th>
<th>Credit</th>
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</thead>
<tbody>
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<td>ENGL 1301 Composition &amp; Rhetoric I</td>
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<tr>
<td></td>
<td>HIST 1301 United States History to 1877</td>
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<tr>
<td></td>
<td>SPCH 1311 Introduction To Communication</td>
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<tr>
<td></td>
<td>COSC 1301 Introduction to Computers</td>
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<td></td>
<td>PHED 1164 Introduction to Physical Fitness &amp; Sport</td>
<td>1</td>
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<tr>
<td><strong>Second Semester</strong></td>
<td>ENGL 1302 Composition &amp; Rhetoric II</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>HIST 1302 United States History Since 1877</td>
<td>3</td>
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<tr>
<td></td>
<td>SPCH 1318 Interpersonal Communication</td>
<td>3</td>
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<tr>
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<td>Science Elective(^1)</td>
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<tr>
<td><strong>Third Semester</strong></td>
<td>GOVT 2305 Federal Government</td>
<td>3</td>
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<tr>
<td></td>
<td>MATH 1314 College Algebra</td>
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#### SECOND YEAR

<table>
<thead>
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<th>Semester</th>
<th>Courses</th>
<th>Credit</th>
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</thead>
<tbody>
<tr>
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<td>English Literature Elective(^1)</td>
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<td>Science Elective(^1)</td>
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<tr>
<td></td>
<td>SPCH 1315 Public Speaking</td>
<td>3</td>
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<td></td>
<td>Social/Behavioral Science Elective(^1)</td>
<td>3</td>
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<tr>
<td><strong>Second Semester</strong></td>
<td>GOVT 2306 Texas Government</td>
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<tr>
<td></td>
<td>Creative Arts Elective(^1)</td>
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<td></td>
<td>Language, Philosophy, Culture Elective(^1)</td>
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<tr>
<td></td>
<td>PSYC 2301 General Psychology</td>
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<tr>
<td></td>
<td>SPCH 1321 Business and Professional Communication (OR)</td>
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<td></td>
<td>SPCH 1342 Voice and Diction (OR)</td>
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<td></td>
<td>SPCH 2341 Oral Interpretation (OR)</td>
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<td></td>
<td>SPCH 2333 Discuss Small Group Communication</td>
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</table>

**TOTAL Credit Hours for Speech Communication Field of Study Associate of Arts degree** 60

\(^1\) Choose from core requirements

### INTERNATIONAL STUDIES

#### Area of Concentration (AOC)

Associate of Arts with Area of Concentration in International Studies
(AA_FIBU offered at LSC-CyFair, Kingwood, Montgomery, North Harris, and Tomball)

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 Foreign Language                  | 6-8 |
| GEG 1303 World Geography                  | 3   |
| Elective Foreign Language or International Studies | 6-8 |

**TOTAL Credit Hours for International Studies Area of Concentration Associate of Arts degree** 15-19
Credit Programs of Study

LSC Credit Programs of Study are organized according to nationally recognized career clusters. Each career cluster represents a broad industry and group of occupations that require common knowledge and skills, followed by the LSC Programs of Study offered in each cluster. Each LSC Program of Study degree plan details a recommended sequence of coursework based on a student’s interest and career goal. Specific Credit Program of Study degree plans are available at LoneStar.edu/programs-classes. Credit Programs of Study are designed for students that want to join the workforce and also provide transfer credits to four-year universities for students planning to continue their education to obtain a bachelor’s degree.

<table>
<thead>
<tr>
<th>CREDIT DEGREES AND CERTIFICATES</th>
<th>CF</th>
<th>K</th>
<th>M</th>
<th>NH</th>
<th>T</th>
<th>UP</th>
<th>OL</th>
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<td>Associate of Arts in Teaching</td>
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<td>General Education Core Certificate</td>
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<td><strong>Do you plan to directly enter the workforce?</strong> Associate of Applied Science (AAS) Degrees and Workforce Certificates</td>
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<td>Solar Photovoltaic System Electrician Marketable Skills Award</td>
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<tr>
<td>Wind Turbine System Electrician Marketable Skills Award</td>
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</tbody>
</table>

**Engineering Design Graphics Technology**

- Architectural Engineering Technology AAS Degree ★ ★ ★ ★
- Mechanical Engineering Technology AAS Degree ★ ★ ★ ★
- Pre-Engineered Metal Building Drafting & Design AAS Degree ★ ★ ★ ★

**CF:** LSC-CyFair  
**K:** LSC-Kingwood  
**M:** LSC-Montgomery  
**NH:** LSC-North Harris  
**T:** LSC-Tomball  
**UP:** LSC-University Park  
**OL:** LSC-Online Learning
## Credit Programs of Study

### (As of 5.16.14)

#### CREDIT DEGREES AND CERTIFICATES

<table>
<thead>
<tr>
<th>Programs of Study</th>
<th>CF</th>
<th>K</th>
<th>M</th>
<th>NH</th>
<th>T</th>
<th>UP</th>
<th>OL</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Heating, Ventilation, Air Conditioning (HVAC) &amp; Refrigeration</strong></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>HVAC &amp; Refrigeration AAS Degree</td>
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<tr>
<td>HVAC &amp; Refrigeration Residential Servicing Certificate</td>
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★ Total Academic Transfer Certification or Degree Offered  ★ Some Courses Offered
## Credit Programs of Study

### PROGRAMS OF STUDY

### CREDIT PROGRAMS OF STUDY

**As of 5.16.14**

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**M:** LSC-Montgomery  
**NH:** LSC-North Harris  
**T:** LSC-Tomball  
**UP:** LSC-University Park  
**OL:** LSC-Online Learning
## Credit Programs of Study

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★ Total Academic Transfer Certification or Degree Offered    ☆ Some Courses Offered

Text on this page has been revised since publication of the printed catalog. Please see addendum for details.
## Credit Programs of Study

### Health Science Cluster

**Dental Hygiene**
- Dental Hygiene AAS Degree

**Diagnostic Medical Sonography**
- Diagnostic Medical Sonography AAS Degree
- Sonography Advanced Technical Certificate
- Sonography Non-Invasive Vascular Technology Enhanced Skills Certificate

**Echocardiography AAS Degree**

**Emergency Medical Services Professionals**
- Emergency Medical Services Professions AAS Degree
- Emergency Medical Services Professions Paramedic Certificate
- Emergency Medical Services Professions Intermediate Certificate

**Health Information Technology**
- Health Information Technology AAS Degree
- Hospital-Based Coding Certificate
- Physician Office-Based Coding Certificate

**Massage Therapy**
- Massage Therapy Certificate

**Medical Assisting**
- Medical Assisting Certificate

**Medical Radiologic Technology**
- Medical Radiologic Technology AAS Degree
- Magnetic Resonance Imaging Advanced Technical Certificate
- Computed Tomography Advanced Technical Certificate (effective Spring 2014)

**Nursing**
- Nursing AAS Degree (Block Curriculum)
- Nursing AAS Degree (Integrated Curriculum)
- Transition to Professional Nursing For Articulating Students AAS Degree (Integrated Curriculum)
- Vocational Nursing ADN to VN Certificate
- Vocational Nursing Certificate
- Nursing Assistant Certificate

**Occupational Therapy**
- Occupational Therapy Assistant AAS Degree

**Pharmacy Technology**
- Pharmacy Technology AAS Degree
- Pharmacy Technology Certificate

**Physical Therapy**
- Physical Therapist Assistant AAS Degree

**Polysomnography**

### CREDIT DEGREES AND CERTIFICATES

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(As of 5.16.14)
# Credit Programs of Study

(As of 5.16.14)

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★ Total Academic Transfer Certification or Degree Offered  ★ Some Courses Offered
# Credit Programs of Study

(As of 5.16.14)

## CREDIT DEGREES AND CERTIFICATES

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## Credit Programs of Study

(As of 5.16.14)

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### Engineering Design Graphics Technology

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### Transportation, Distribution & Logistics Cluster

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★ Total Academic Transfer Certification or Degree Offered   ☆ Some Courses Offered
Non-Credit Programs of Study

(As of 5.16.14)

LSC Non-Credit Programs of Study are organized according to nationally recognized career clusters. Each career cluster represents a broad industry and group of occupations that require common knowledge and skills, followed by the LSC Programs of Study offered in each cluster. Each LSC Program of Study certification plan details a recommended sequence of coursework based on a student’s interest and career goal. Specific Non-Credit Program of Study degree plans are available at LoneStar.edu/programs-classes. Non-credit programs of study are designed for students that want to obtain career training for immediate employment and generally do not include transferable college credits.

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## Non-Credit Programs of Study

(As of 5.16.14)

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★ Total Academic Transfer Certification or Degree Offered  ★ Some Courses Offered
Non-Credit Programs of Study
(As of 5.16.14)

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<th>NON-CREDIT CERTIFICATIONS</th>
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<td>Automotive Technician</td>
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★ Total Academic Transfer Certification or Degree Offered
✩ Some Courses Offered
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<td>MATH/NATURAL SCIENCES</td>
<td>BIOL 1406 OR 1408; 1407 OR 1409; 1414, 2401, 2402, 2404, 2406, 2420, 2421; CHEM 1405, 1411, 1412, 2423, 2425; ENVIR 1401, 1402; GEOL 1403, 1404, 1405, 1445; MATH 1314, 1316, 1324, 1325, 1332, 1342, *1350, 2318, 2412, 2413; PHYS 1401, 1402, 1403, 1404, 1410, 2425, 2426</td>
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<td>SOCIAL/BEHAVIORAL SCIENCES</td>
<td>ANTH 2301, 2351; CRJ 1301, 1307; ECON 2301, 2302; GEOG 1301, 1303; GOVT 2305, 2306; HIST 1301, 1302, 2301, 2311, 2312, 2321, 2322; PSYC 2301; SOCI 1301, 1306</td>
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<td>HUMANITIES/FINE ARTS</td>
<td>ARTS 1301, 1303, 1304; DANC 2303; DRAM 1310, 2366; MUSI 1306, 1308, 1309, 1310; ENGL 2322, 2323, 2327, 2328, 2332, 2333, 2341, 2342, 2343, 2351; HUMA 1301, 1302; PHIL 1301, 1304, 2306, 2307, 2316, 2317, 2318, 2321; ARAB 2311, 2312; CHIN 2311, 2312; FREN 2311, 2312; GERM 2311, 2312; ITAL 2311, 2312; JAPN 2311, 2312; PORT 2311, 2312; SGNL 2301, 2302; SPAN 2311, 2312, 2313, 2315</td>
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<td>ELECTIVE</td>
<td>To meet LSCS core requirements (general education courses), see individual program degree plans for specific course.</td>
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<tr>
<td>SPECIFIC WORKFORCE OR SUPPORT PROGRAM COURSES</td>
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<td>45-57 hours</td>
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1 Students in AAS degrees must meet math, computer literacy and communication competencies per Texas Higher Education Coordinating Board guidelines. The general education requirement for all AAS degrees is 15 semester hours.
2 Specifically designed math course for elementary and middle school teachers.
Prefixes Assigned to Programs & Disciplines

Accounting ..........................................................ACCT, ACNT
Administrative Services ..........................ITSW, POFL, POFM, POFT
Agriculture ..........................................................AGRI
American Sign Language ....................... SGNL, ANTH
Anthropology .......................................................ANTH
Arabic ............................................................... ARAB
Art ................................................................. ARTS
Automotive Technology ..............................AUMT
Biography ............................................................BIOI
Biotechnology .....................................................BITC
Business Administration .................. BMGT, BUSG, BUSI, HRPO, IBUS, MRKG
Chemistry ............................................................CHEM
Chinese ..............................................................CHIN
Computer Information Technology ........ BCIS, COSC, INEW, ITCC, ITMT, ITNW, ITSC, ITSE, ITSY
Cosmetology .......................................................CSME
Criminal Justice ..................................................CRIJ
Dance ............................................................... DANC
Dental Hygiene ...................................................DHYG
Diagnostic Medical Sonography ..............DSVT, DSAE, DMSO
Drama .............................................................. DRAM
Economics ..........................................................ECON
Education .........................................................EDUC, BECA
Electrical Technology ............................. ELMT, ELPT, FCEL, IEIR, WIND
Emergency Medical Services Professions .......................... EMSP
Energy & Manufacturing Technology .......... INMT, OSHT, PTRT, RBTC
Engineering ....................................................... ENGR
Engineering Design Graphics Technology .... ARCE, CETT, CNBT, DFTG, ENTC, HART, IEIR, INMT, MCHN
Engineering Technology ........................... CETT, CPMT, DFTG, EECT, ELMT, IEIR, INMT, INTC, RBTC
English .............................................................. ENGL
Environmental Science ..................................... ENVR
Fire Science Technology .......................... FIRS, FIRT
French ............................................................... FREN
Game Design and Simulation ....................... GAME
Geographic Information Systems ....................... GISc
Geography .......................................................... GEOG
Geology ............................................................. GEOL
German ............................................................. GERM
Government ........................................................... GOVT
Health Information Technology ............... HIIT, HPRS, MRMT
Heating, Ventilation, Air Conditioning and Refrigeration ..................... ELPT, HART, IEIR, MAIR
History ............................................................... HIST
Humanities .......................................................... HUMA
Human Development ........................................ HUMD
Human Services ................................ CMSW, DAAC, GERS, SCWK
Industrial Diesel Technology ................... DEMR
Interior Design Technology ..............................INDS
Interpreter Training Technology ............... SGNL, SLNG
Italian ............................................................... ITAL
Japanese ............................................................. JAPN
Journalism .......................................................... COMM
Kinesiology ......................................................... KINE, PHED
Land Surveyor .................................................... SRVY
Live Entertainment Technology ................ AVTS, RTVB
Logistics Management ....................................... LMGT
Machining Technology ...................................... DFTG, INMT, MCHN
Mathematics ....................................................... MATH, TECM
Medical Assisting ................................................ MDCA, ECRD
Medical Radiologic Technology ............. CTMT, MRIT, RADR
Music ............................................................... MUAP, MUEN, MUSC, MUSI
Associate Degree Nursing .............................. RNSG
Occupational Therapy Assistant ....................... OTHA
Paralegal Studies ................................................ LGRA
Petroleum Data Technology .......................... PTRT
Pharmacy Technology ....................................... PHRA
Philosophy ........................................................ PHIL
Physical Therapist Assistant ...................... PTHA
Physics .............................................................. PHYS
Polysomnography .............................................. PSGT
Portuguese ......................................................... PORT
Respiratory Care ................................................ RSPT
Psychology ........................................................ PSYC
Sociology ............................................................. SOCI
Spanish ............................................................... SPAN
Speech .............................................................. SPCH
Surgical Technology .......................................... SRGT
Veterinary Technology ............................... VTHT
Visual Communication ................................... ARTC, ARTV, GRPH, ITSW, FLMC, IMED, PHTC, RTVB
Veterinary Technology ......................................... VNSG
Welding Technology ........................................... METL, NDTE, QCTC, WLDG

LSCS Catalog 2014/2015
Crosswalk of Courses

Visit our website at LoneStar.edu/course-crosswalk to see a crosswalk of course revisions. This crosswalk identifies the new course and the course it replaces due to course number, course prefix or title changes.

<table>
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<tbody>
<tr>
<td>AVTS 1373 Advanced Entertainment Technology</td>
<td>AVTS 1373 Video for Live Entertainment Technology</td>
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<tr>
<td>BCIS 1405 Business Computer Applications</td>
<td>BCIS 1305 Business Computer Applications</td>
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<td>COSC 1401 Introduction to Computers</td>
<td>COSC 1301 Introduction to Computers</td>
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<td>DRAM 1310 Introduction to Theatre</td>
<td>DRAM 1310 Theater Appreciation</td>
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<td>DRAM 2366 Development of the Motion Picture</td>
<td>DRAM 2366 Film Appreciation</td>
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<td>ELPT 1429 Residential Wiring</td>
<td>ELPT 1329 Residential Wiring</td>
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<td>ELPT 1445 Commercial Wiring</td>
<td>ELPT 1345 Commercial Wiring</td>
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<td>ENGL 0309 Advanced Developmental Reading and Writing</td>
<td>ENGL 0309 Integrated Reading and Writing II</td>
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<td>ENGR 1304 Engineering Graphics I</td>
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<td>ENGR 2301 Engineering Mechanics I</td>
<td>ENGR 2301 Engineering Mechanics Statics</td>
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<td>ENGR 2304 Numerical Methods and Programming</td>
<td>ENGR 2304 Programming for Engineers</td>
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<td>FIRT 1307 Fire Prevention Codes</td>
<td>FIRT 1307 Fire Prevention Codes and Inspections</td>
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<td>ITCC 1475 Introduction to Networks</td>
<td>ITCC 1375 Introduction to Networks</td>
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<td>ITCC 1476 Routing and Switching Essentials</td>
<td>ITCC 1376 Routing and Switching Essentials</td>
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<td>ITCC 2478 Scaling Networks</td>
<td>ITCC 2378 Scaling Networks</td>
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<td>ITCC 2479 Connecting Networks</td>
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<td>ITMT 1470 Windows 7 Client Configuration 70-680</td>
<td>ITMT 1370 Windows 7 Client Configuration 70-680</td>
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<td>ITMT 1471 Windows Server 2008</td>
<td>ITMT 1371 Windows Server 2008</td>
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<td>ITMT 1472 Windows Server 2009 Applications Infrastructure 70-643</td>
<td>ITMT 1372 Windows Server 2009 Applications Infrastructure 70-643</td>
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<td>ITMT 1473 Windows Server 2008 Network Infrastructure 70-642</td>
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<td>ITMT 2370 Windows Server 2008 Active Directory 70-630</td>
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<td>ITSE 1492 Special Topics in Computer Programming: Advanced C#</td>
<td>ITSE 2453 Advanced C# Programming</td>
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<td>KINE 1111 Fitness and Wellness I</td>
<td>PHED 1164 Introduction to Physical Fitness &amp; Sport</td>
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<td>MUSI 1306 Music Appreciation</td>
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<td>OTHA 1241 Occupational Performance from Birth Through Adolescence</td>
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<td>PHIL 2316 History of Classical &amp; Modern Philosophy I</td>
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<td>PHIL 2317 17th and 18th Century Philosophy</td>
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<td>RNSG 1417 Concepts of Professional Nursing Practice for Articulating Students</td>
<td>RNSG 1517 Concepts of Professional Nursing Practice for Articulating Students</td>
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Workforce 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, corporate accounting, or governmental and nonprofit 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 60–61 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.” Thirteen 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 qualify for the CPA exam. The individual should be enrolled to obtain 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, LSC-Montgomery, LSC-North Harris, LSC-Tomball or LSC-University Park for specific information, advising, and recommended sequencing of courses.

Taxation Certificate Marketable Skills Award: This certificate provides short-term workforce training for students interested in attaining advanced skills in taxation.

Accounting Certificate: Because an associate degree can typically take at least two years to complete, this certificate provides workforce training in accounting in a shorter period of time with fewer foundation classes.

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

TAXATION CERTIFICATE MARKETABLE SKILLS AWARD

(MSC_TAXC certificate offered at LSC-CyFair, LSC-Montgomery, LSC-North Harris, LSC-Tomball and LSC-University Park)

FIRST YEAR

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<td>Federal Income Tax: Individual</td>
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<td>ACCT 2401</td>
<td>Principles of Financial Accounting</td>
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<td>Second Semester</td>
<td>ACNT 1347</td>
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<td>ACNT 1393</td>
<td>Special Topics in Taxation</td>
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TOTAL Credits for Taxation Certificate Marketable Skills Award 13

Text on this page has been revised since publication of the printed catalog. Please see addendum for details.
# ACCOUNTING CERTIFICATE

(C1_ACC1 certificate offered at LSC-CyFair, LSC-Montgomery, LSC-North Harris, LSC-Tomball and LSC-University Park)

## FIRST YEAR

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**TOTAL Credits for Accounting Certificate** 29-30

1. Electives to be selected from ACNT 1340, 1347, 1393, 2330, 2332, 2333, 2337, 2380, 2381, BUSI 1301, 2301, 2304, ITSW 1404, 1304, 1407

Other electives may be chosen with accounting department approval.

2. Capstone course

---

# ACCOUNTING

Associate of Applied Science degree

(AAS_ACCS degree offered at LSC-CyFair, LSC-Montgomery, LSC-North Harris and LSC-Tomball and LSC-University Park)

## FIRST YEAR

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<td>Principles of Accounting I</td>
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<tr>
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<td>ACNT 1331</td>
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<td>Introduction to Physical Fitness &amp; Sport</td>
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</tbody>
</table>

**TOTAL Credits for Accounting Associate of Applied Science degree** 60

1. Choose from the AAS core
2. Electives to be selected from: ACNT 1391, 1393, 1340, 2330, 2332, 2333, 2337, 2380, 2381, BMGT 1331, BUSI 1301, 1307, 2304, HRPO 2301, IBUS 1305, ITSW 1404, ITSW 1407. Other electives may be chosen with accounting department approval.

3. Capstone course

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# ACCOUNTING ADVANCED TECHNICAL CERTIFICATE-CPA EXAM PREPARATION

(C4_ACC4 certificate offered at LSC-CyFair, LSC-Montgomery, LSC-North Harris and LSC-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

<table>
<thead>
<tr>
<th>Semester</th>
<th>Credit</th>
<th>Course</th>
<th>Title</th>
</tr>
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<tr>
<td><strong>First Semester</strong></td>
<td></td>
<td>ACNT 2309</td>
<td>Cost Accounting</td>
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<tr>
<td></td>
<td></td>
<td>ACNT 2330</td>
<td>Governmental and Not-For-Profit Accounting</td>
</tr>
<tr>
<td><strong>Second Semester</strong></td>
<td></td>
<td>ACNT 2304</td>
<td>Intermediate Accounting II</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ACNT 2331</td>
<td>Internal Control and Auditing</td>
</tr>
</tbody>
</table>

**TOTAL Credits for Accounting Associate of Applied Science degree** 60

1. Choose from the AAS core
2. Electives to be selected from: ACNT 1391, 1393, 1340, 2330, 2332, 2333, 2337, 2380, 2381, BMGT 1331, BUSI 1301, 1307, 2304, HRPO 2301, IBUS 1305, ITSW 1404, ITSW 1407. Other electives may be chosen with accounting department approval.

3. Capstone course

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Text on this page has been revised since publication of the printed catalog. Please see addendum for details.
WORKFORCE DEGREES AND CERTIFICATES

Accounting Elective 3
ACNT 1340 Accounting and Business Ethics 3
ACNT 2331 Internal Control and Auditinga 3
Business Elective 3

TOTAL Credits for Accounting Advanced Technical Certificate 48

1 Choose business electives from the following: BMGT 1331, 1327, BUSI 2372, HRPO 2307, IBUS 1305, 2341, MRKG 1311, 2348
2 Meets the TSBPA’s requirements for a discrete (stand-alone) course in accounting communications or business communications.
3 Meets the two hour requirement in accounting research and analysis for the state board.
4 Meets the TSBPA’s requirements for a discrete (stand-alone) course in accounting research and analysis.
5 Choose accounting electives from the following: ACNT 1391, 1393, 2332, 2337
6 Capstone course

ADMINISTRATIVE SERVICES

The Administrative Services Associate of Applied Science degree program provides students with the skills, knowledge, and attitudes needed for the current and future office environment. Skills include time management, human/customer relations, telephone techniques, administrative management, information management, oral and written communications, word processing, spreadsheets, database, presentation, document layout, and Internet research.

A wide variety of job opportunities are available to program graduates in many types of offices. Jobs include office assistant, 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 education, manufacturing, construction, financial services, employment services, health care and social assistance, legal services, local government, and energy production.

The Administrative Services Associate of Applied Science degrees are awarded for successful completion of 62–65 credit hours that include a common core of academic courses and a maximum selection of technical courses based upon specialization.

The program offers six degree specializations: administrative support, legal office, medical office, bookkeeping, communications specialist, and global office. All options offer certificates that build toward the degree.

Medical specialty only: Students will be required to pay liability insurance during the semesters involving off-campus 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 incurred by the student.

The general education core will transfer to a variety of colleges and universities, and the degree will transfer in whole to some universities. Through articulation, some students may have earned college credit while in high school. Contact a counselor, division advisor, or faculty member at any college for specific information about articulation and to obtain the recommended sequencing of courses.

BUSINESS OPERATIONS ASSISTANT
(C1_BOA1 certificate offered at LSC-Kingwood, LSC-North Harris, and LSC-Tomball)

FIRST YEAR

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>POFT 1329 Beginning Keyboarding</td>
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<tr>
<td>POFT 1301 Business English</td>
<td>3</td>
</tr>
<tr>
<td>POFT 1325 Business Math Using Technology</td>
<td>3</td>
</tr>
<tr>
<td>Second Semester</td>
<td></td>
</tr>
<tr>
<td>ITSC 1301 Introduction to Computers</td>
<td>3</td>
</tr>
<tr>
<td>ITSW 1404 Introduction to Spreadsheets</td>
<td>4</td>
</tr>
<tr>
<td>ITSW 1301 Introduction to Word Processing</td>
<td>3</td>
</tr>
</tbody>
</table>

TOTAL Credit Hours for Business Operations Assistant Certificate 19

1 Capstone course
**ADMINISTRATIVE SUPPORT CERTIFICATE**  
(certificate offered at LSC-Kingwood, LSC-North Harris, and LSC-Tomball)

<table>
<thead>
<tr>
<th>FIRST YEAR</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>First Semester</strong></td>
<td></td>
</tr>
<tr>
<td>POFT 1329 Beginning Keyboarding</td>
<td>3</td>
</tr>
<tr>
<td>POFT 1301 Business English</td>
<td>3</td>
</tr>
<tr>
<td>POFT 1325 Business Math Using Technology</td>
<td>3</td>
</tr>
<tr>
<td>ITSW 1301 Introduction to Word Processing</td>
<td>3</td>
</tr>
<tr>
<td><strong>Second Semester</strong></td>
<td></td>
</tr>
<tr>
<td>ITC 1301 Introduction to Computers</td>
<td>3</td>
</tr>
<tr>
<td>ITCW 1404 Introduction to Spreadsheets</td>
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<tr>
<td>Specialization track 1</td>
<td>3</td>
</tr>
<tr>
<td>Specialization track 1</td>
<td>3</td>
</tr>
<tr>
<td><strong>Third Semester</strong></td>
<td></td>
</tr>
<tr>
<td>Specialization track 1</td>
<td>3</td>
</tr>
<tr>
<td>Specialization track 1</td>
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<tr>
<td><strong>First Semester</strong></td>
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<tr>
<td>Specialization track 1</td>
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<tr>
<td>Specialization track 1</td>
<td>3</td>
</tr>
<tr>
<td>Specialization track 1</td>
<td>3–4</td>
</tr>
<tr>
<td>Specialization track 1</td>
<td>3–4</td>
</tr>
<tr>
<td>Choose capstone from specialization track 2</td>
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</tr>
</tbody>
</table>

**TOTAL Credit Hours for Administrative Support Certificate**: 43-46

1 Choose only one specialty track A, B, C, D, or E, and take courses below from that track only.

2 See Tracks below for specific capstone course.

**Track A**: Administrative Specialty C2_AAS2  
BMGT 1309, ACNT 1303, POFT 2331, POFT 1309, BMGT 1341, BUSI 1301; any business or computer course; choose either POFT 2380 or POFT 2386 as capstone course

**Track B**: Bookkeeping Specialty C2_ABSS2  
ACNT 1303, ACNT 1311, ACCT 2401, BUSI 1301, BMGT 1341, BMGT 1309; any 3-4 hr. business or computer course; ACNT 2380 - capstone course

**Track C**: Medical Specialty C2_AMSS2  
BIOL 2404 and POFM 1317, POFM 1302, HITT 1305, POFM 1300, POFM 1327, POFM 2310, POFM 2333, HPRS 2321; choose either POFM 2380 or POFM 2386 for capstone course

**Track D**: Global Office Support Specialty C2_AGOS2  
ITSW 1310, ITCW 1407, IBUS 1305, IBUS 2341, POFT 1309, GEOG 1303; foreign language elective; choose either POFT 2380 or POFT 2386 for capstone course

**Track E**: Office Communications Specialty C2_AOCS2  
ITSW 1407/IITC 331, ITCW 1301, ITSC 1310, POFT 2331, ARTC 1302, ARTC 1313; any business or computer course; Choose POFT 2380 or 2386 for capstone course

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**ADMINISTRATIVE SERVICES**  
(AAS degree offered at LSC-Kingwood and LSC-North Harris)

<table>
<thead>
<tr>
<th>FIRST YEAR</th>
<th>Credit</th>
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<tbody>
<tr>
<td><strong>First Semester</strong></td>
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</tr>
<tr>
<td>ITSC 1301 Introduction to Computers</td>
<td>3</td>
</tr>
<tr>
<td>ITCW 1301 Introduction to Word Processing</td>
<td>3</td>
</tr>
<tr>
<td>POFT 1301 Business English</td>
<td>3</td>
</tr>
<tr>
<td>POFT 1329 Beginning Keyboarding</td>
<td>3</td>
</tr>
<tr>
<td><strong>Second Semester</strong></td>
<td></td>
</tr>
<tr>
<td>ENGL 1301 Composition &amp; Rhetoric I</td>
<td>3</td>
</tr>
<tr>
<td>Humanities/Fine Arts Elective</td>
<td>3</td>
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<tr>
<td>ITCW 1404 Introduction to Spreadsheets</td>
<td>4</td>
</tr>
<tr>
<td>POFT 1325 Business Math Using Technology</td>
<td>3</td>
</tr>
<tr>
<td><strong>Third Semester</strong></td>
<td></td>
</tr>
<tr>
<td>PHED 1164 Introduction to Physical Fitness &amp; Sport 1 OR any one credit hour physical activity course Math/ Natural Science Elective</td>
<td>3–4</td>
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</table>

**SECOND YEAR**

| **First Semester** | |
| Social/Behavioral Science Elective | 3 |
| Speech Elective | 3 |
| Specialization track 2 | 3 |
| Specialization track 2 | 3 |
| Specialization track 2 | 3–4 |
| Specialization track 2 | 3–4 |
| **Second Semester** | |
| Specialization track 2 | 3 |
| Specialization track 2 | 3 |
| Specialization track 2 | 3 |
| Specialization track 2 | 3–4 |
| **Third Semester** | |
| Specialization track 3 | 3–4 |
| Capstone course – Specialization track 4 | 3 |

**TOTAL Credit Hours for Administrative Services AAS degree**: 62-65

1 Choose from AAS core.

2 Choose only one specialty track A, B, C, D, or E, and take courses below from that track only.

3 Students in the Medical Specialty - track C should take BIOL 2404. Students in all other tracks should choose from AAS requirements.

4 See Tracks below for specific capstone course.

**Track A**: Administrative Specialty AAS_AAS  
BMGT 1309, ACNT 1303, POFT 2331, POFT 1309, BMGT 1341, BUSI 1301, any business or computer course; Choose either POFT 2380 or POFT 2386 as capstone course

**Track B**: Bookkeeping Specialty AAS_ABSS  
ACNT 1303, ACNT 1311, ACCT 2401, BUSI 1301, BMGT 1341, BMGT 1309, any 3-4 hr. business or computer course; ACNT 2380 - capstone course

**Track C**: Medical Specialty AAS_AMSS  
POFM 1317, POFM 1302, HITT 1305, POFM 1300, POFM 1327, POFM 2310, POFM 2333, HPRS 2321;

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Text on this page has been revised since publication of the printed catalog. Please see addendum for details.

LSCS Catalog 2014/2015
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 prepares the individual for basic, entry-level employment in the automotive service industry. The program provides course work specializing in brakes, under car 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 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 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 of Applied Science 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

(C1_GST1 certificate offered at LSC-Montgomery and LSC-North Harris)

<table>
<thead>
<tr>
<th>FIRST YEAR</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>First Semester</strong></td>
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<tr>
<td>AUMT  1405 Intro to Automotive Technology</td>
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</tr>
<tr>
<td>AUMT  1407 Automotive Electrical Systems</td>
<td>4</td>
</tr>
<tr>
<td>AUMT  1410 Automotive Brake Systems</td>
<td>4</td>
</tr>
<tr>
<td><strong>Second Semester</strong></td>
<td></td>
</tr>
<tr>
<td>AUMT  2380 Auto Co-op Work Experience</td>
<td>1 Capstone course</td>
</tr>
<tr>
<td>OR</td>
<td>3</td>
</tr>
<tr>
<td>AUMT  2328 Automotive Service</td>
<td>1</td>
</tr>
<tr>
<td>AUMT  1416 Steering &amp; Suspension Systems</td>
<td>4</td>
</tr>
<tr>
<td><strong>TOTAL Credits for General Service Technician Certificate</strong></td>
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</table>

CHASSIS AND ELECTRICAL TECHNICIAN SPECIALIZATION CERTIFICATE

(C1_CET1 certificate offered at LSC-Montgomery, LSC-North Harris)

<table>
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<tr>
<th>FIRST YEAR</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>First Semester</strong></td>
<td></td>
</tr>
<tr>
<td>AUMT  1405 Intro to Automotive Technology</td>
<td>4</td>
</tr>
<tr>
<td>AUMT  1407 Automotive Electrical Systems</td>
<td>4</td>
</tr>
<tr>
<td>AUMT  1410 Automotive Brake Systems</td>
<td>4</td>
</tr>
<tr>
<td>AUMT  2425 Auto Transmission &amp; Transaxle</td>
<td>4</td>
</tr>
<tr>
<td><strong>Second Semester</strong></td>
<td></td>
</tr>
<tr>
<td>AUMT  Elective</td>
<td>4</td>
</tr>
</tbody>
</table>
AUMT 1416 Steering & Suspension Systems 4
AUMT 1445 Automotive Climate Control Systems 4
AUMT 2437 Automotive Electronics 4

TOTAL Credits 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

(C1_PTD1 certificate offered at LSC-Montgomery, LSC-North Harris)

FIRST YEAR Credit

First Semester
AUMT 1405 Intro to Automotive Technology 4
AUMT 1407 Automotive Electrical Systems 4

Second Semester
AUMT 2417 Automotive Engine Performance Analysis I 4
AUMT 2425 Auto Transmission & Transaxle 4
AUMT 1419 Automotive Engine Repair 4

Third Semester
AUMT 2434 Automotive Engine Performance Analysis II 4
AUMT 2437 Automotive Electronics 4
AUMT 2413 Automotive Drive Train & Axles 4

TOTAL Credits 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

(AAS_AUTO degree offered at LSC-North Harris)

FIRST YEAR Credit

First Semester
AUMT 1405 Intro to Automotive Technology 4
AUMT 1407 Automotive Electrical Systems 4
ENGL 1301 Composition & Rhetoric I 3
Elective Social/Behavioral Science1 3
ITSC 1301 Introduction to Computers 3

Second Semester
AUMT 1410 Automotive Brake Systems 4
AUMT 2410 Introduction to Auto Co-op Work Experience I 3
AUMT 2380 Auto Co-op Work Experience II OR 3
CHEM 1405 Introduction to Chemistry 4

TOTAL Credits for Automotive Technology AAS degree 69

1 See core requirements for AAS degree for options.

2 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.

BIOTECHNOLOGY

Biotechnology is a continually evolving field offering solutions to problems in fields such as forensics, environmental remediation, pharmaceuticals, medicine, alternative fuels, and agriculture. Lone Star College-Montgomery offers the training to prepare students with relevant skills necessary for entry-level work in biotechnology and related industries. The Biotechnology Associate of Applied Science (AAS) degree offers training in cell culture, laboratory methods, molecular biology, and laboratory instrumentation. Additionally, the program includes a sequence of biology, chemistry, and microbiology courses. Students are also able and encouraged to apply their skills and knowledge obtained in these formal courses by participating in independent research projects. In the final semester of the program,
students work as interns in area biotechnology companies, chemical technology companies, or research labs where they complete their training. The LSC-Montgomery biotechnology program is the first such program in Texas recognized as “Exemplary” by the Texas Higher Education Coordinating Board. In addition, the LSC-Montgomery biotechnology associate degree program is recognized by the Texas Skill Standards Board (TSSB) and has integrated the state’s biotechnology and biomedical skill standards into its program.

After completing the AAS degree, students typically choose to either seek employment with a local life sciences company or to transfer to a university and enroll in a program leading to a bachelor’s degree in biotechnology or related fields. In recent years, local companies hiring our graduates include Opexa Therapeutics, Novozymes, Glycos Biosciences, Biotechnology Solutions, Sigma Genosys, SkinMedica, Huntsman Corp., and many others. Transfer students have enrolled in a number of different bachelor-level science programs at universities such as the University of Houston (Central and Downtown), University of Texas-Medical Branch, Sam Houston State University, and the University of Texas M.D. Anderson Cancer Center School of Health Professions. These students have continued their educations in a wide variety of disciplines, including Biotechnology, Biology, Molecular Genetics Technology, Histotechnology, Cytogenetics Technology, and Engineering. Some students have continued their education even further by enrolling in graduate or medical school.

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. Some students have opted to earn an associate of science degree at LSC-Montgomery, including the required chemistry and biology courses, and earn the ATC shortly thereafter.

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 with appropriate prior industry or academic experience, for example, may take the Molecular Biology Techniques course (BITC 2441) to gain skills in that area.

The LSC Biotechnology Institute (LSCBI) 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 Institute 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 website at LoneStar.edu/biotechnology-dept-montgomery for more information about the LSC Biotechnology Institute.

**BIOTECHNOLOGY**

**Associate of Applied Science degree**

(AAS_BIOT degree offered at LSC-Montgomery)

<table>
<thead>
<tr>
<th>FIRST YEAR</th>
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<tbody>
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<td><strong>First Semester</strong></td>
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<td>BIOL 1406</td>
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<tr>
<td>BIOL 1414</td>
<td>4 OR</td>
</tr>
<tr>
<td>BITC 1411</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 1405</td>
<td>4 OR</td>
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<tr>
<td>CHEM 1411</td>
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<tr>
<td>PHED 1164</td>
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<tr>
<td>MATH 1314</td>
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<tr>
<td><strong>Second Semester</strong></td>
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<tr>
<td>BIOL 2420</td>
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<td>BIOL 2421</td>
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<td>BITC 1402</td>
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<td>CHEM 1412</td>
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<td>ENGL 1301</td>
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<tr>
<td>BIOL 1407</td>
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<td>BIOL 2416</td>
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<tr>
<td>SPCH 1311</td>
<td>3 OR</td>
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<tr>
<td>SPCH 1315</td>
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</table>

LSCS Catalog 2014/2015
SPCH 1321 Business and Professional Communication

Second Semester
BITC 1191 Special Topics in Biotechnology 1
BITC 2431 Cell Culture Techniques 4
BITC 2441 Molecular Biology Techniques 4
PHIL 2306 Introduction to Ethics 3
SOCI 1301 Principles of Sociology 3

Third Semester
BITC 2486 Biotechnology Internship¹ 4

TOTAL Credits for Biotechnology Associate of Applied Science degree 69
¹ Capstone course

BIOTECHNOLOGY ADVANCED TECHNICAL CERTIFICATE
(C4_BIO4 certificate offered at LSC-Montgomery)

FIRST YEAR
Fall Semester
BITC 1191 Special Topics in Biotechnology 1
BITC 1402 Biotech Lab Methods & Techqs 4
BITC 2411 Biotech Lab Instrumentation 4
BIOL 2416 Genetics 4

Spring Semester
BITC 1191 Special Topics in Biotechnology 1
BITC 2431 Cell Culture Techniques 4
BITC 2441 Molecular Biology Techniques 4

Summer Semester
BITC 2486 Biotechnology Internship¹ 4

TOTAL Credits for Biotechnology Advanced Technical Certificate 26
¹ Capstone course

BUSINESS ADMINISTRATION

The business administration program prepares a diverse group of students to succeed as the future managers and leaders within our local communities. The program supports students’ needs to acquire skills that will allow them to establish a career and/or become more productive in their current organizations. We are particularly committed to helping students become professionals who are capable of thinking critically, working in teams, utilizing technology, performing research, making decisions, and communicating ideas effectively in a global economy.

An Associate of Applied Science (AAS) in Business Administration with varying specialty areas can be obtained at any of the LSCS campuses. Students interested in course work related to business management, human resources, or marketing, can simultaneously earn two valuable certificates while meeting the requirements for their AAS in Business Administration.

The program is focused on management and operational skills that are crucial to running a business. It is designed to develop adaptability and competence in areas including: leadership, management, marketing, human resources, interpersonal communications, eCommerce, eMarketing, finance, project management, and sales.

The program emphasizes developing varied skills for a range of jobs, from entry-level work in business to movement into management. With a business administration background students can apply to almost any industry. Every organization needs people with management skills so the types of careers a student can pursue are virtually unlimited.

The AAS in Business Administration is awarded for successful completion of a common core of academic courses and a preset selection of business courses based upon your chosen specialty area.

The AAS in Business Administration will transfer to several four-year universities into most commonly a Bachelor of Applied Science degree. Contact a business faculty member at any of the LSCS colleges to obtain specific information.

BUSINESS OPERATIONS CERTIFICATE
(C1_BSM1 certificate offered at LSC-CyFair, LSC-Kingwood, LSC-Montgomery, LSC-North Harris, LSC-Tomball and LSC-University Park)
WORKFORCE DEGREES AND CERTIFICATES

FIRST YEAR Credit
<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUSI 1301</td>
<td>Business Principles</td>
<td>3</td>
</tr>
<tr>
<td>BMGT 1327</td>
<td>Principles of Management</td>
<td>3</td>
</tr>
<tr>
<td>BMGT 1309</td>
<td>Information and Project Mgmt</td>
<td>3</td>
</tr>
<tr>
<td>BMGT 2303</td>
<td>Problem Solving &amp; Decision Making¹</td>
<td>3</td>
</tr>
<tr>
<td>HRPO 1311</td>
<td>Human Relations</td>
<td>3</td>
</tr>
<tr>
<td>BCIS 1305</td>
<td>Business Computer Applications</td>
<td>3</td>
</tr>
</tbody>
</table>

TOTAL Credit Hours for Business Operations Certificate 45 18

¹ Capstone course

BUSINESS ADMINISTRATION CERTIFICATE

(certificate offered at LSC-CyFair, LSC-Kingwood, LSC-Montgomery, LSC-North Harris, LSC-Tomball and LSC-University Park)

FIRST YEAR Credit

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
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<tbody>
<tr>
<td>First</td>
<td>BUSI 1301</td>
<td>Business Principles</td>
<td>3</td>
</tr>
<tr>
<td>First</td>
<td>BMGT 1327</td>
<td>Principles of Management</td>
<td>3</td>
</tr>
<tr>
<td>First</td>
<td>BMGT 1309</td>
<td>Information and Project Mgmt</td>
<td>3</td>
</tr>
<tr>
<td>First</td>
<td>BMGT 2303</td>
<td>Problem Solving &amp; Decision Making¹</td>
<td>3</td>
</tr>
<tr>
<td>Second</td>
<td>HRPO 1311</td>
<td>Human Relations</td>
<td>3</td>
</tr>
<tr>
<td>Second</td>
<td>BCIS 1305</td>
<td>Business Computer Applications</td>
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<tr>
<td>Second</td>
<td>SPCH 1321</td>
<td>Business and Professional Communication</td>
<td>3</td>
</tr>
<tr>
<td>Third</td>
<td>Specialization area¹</td>
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<tr>
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<td>Specialization area¹</td>
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SECOND YEAR

<table>
<thead>
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<th>Title</th>
<th>Hours</th>
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<tr>
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TOTAL Credit Hours for Business Administration Certificate 45

¹ Choose one specialization area below. Take all courses from that one specialization area to satisfy 24 semester credit hours.
² Capstone course

BUSINESS ADMINISTRATION Associate of Applied Science degree

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

FIRST YEAR Credit

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>First</td>
<td>BUSI 1301</td>
<td>Business Principles</td>
<td>3</td>
</tr>
<tr>
<td>First</td>
<td>BMGT 1327</td>
<td>Principles of Management</td>
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<tr>
<td>First</td>
<td>BMGT 1309</td>
<td>Information and Project Mgmt</td>
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<tr>
<td>First</td>
<td>BMGT 2303</td>
<td>Problem Solving &amp; Decision Making¹</td>
<td>3</td>
</tr>
<tr>
<td>Second</td>
<td>HRPO 1311</td>
<td>Human Relations</td>
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<td>Second</td>
<td>BCIS 1305</td>
<td>Business Computer Applications</td>
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<tr>
<td>Second</td>
<td>SPCH 1321</td>
<td>Business and Professional Communication</td>
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SECOND YEAR

<table>
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<th>Course</th>
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<tr>
<td>First</td>
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<td>Elective Math²</td>
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<tr>
<td>Second</td>
<td>Humanities/Fine Arts Elective²</td>
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<td>Second</td>
<td>ENGL 1301</td>
<td>Composition &amp; Rhetoric I</td>
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<td>Second</td>
<td>ECON 2302</td>
<td>Microeconomics</td>
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TOTAL Credit Hours for Business Administration AAS degree 60

¹ Choose one specialization area below. Take all courses from that one specialization area to satisfy 24 semester credit hours and one capstone course.
² Suggested math elective, Math 1314 College Algebra.
³ See AAS degree requirements for course options.
⁴ Capstone course

BUSINESS ADMINISTRATION

BUSINESS ADMINISTRATION Specialization Area (AAS_BADM)

BUSG 1341, HRPO 2301, BUSI 2301, ACNT 1303, BMGT 1301, BMGT 1341, MRKG 1311, BMGT 2382² or BMGT 2388²

HUMAN RESOURCE SPECIALIZATION AREA (AAS_BAMR)

HRPO 1302, HRPO 2301, HRPO 2303, HRPO 2304, HRPO 2305, HRPO 2306, HRPO 2307, BMGT 2382² or BMGT 2388²

MARKETING SPECIALIZATION AREA (AAS_BAMR)

MRKG 1311, MRKG 1302, MRKG 1301, MRKG 2333, MRKG 2312, MRKG 2348, MRKG 2349, MRKG 2380² or MRKG 2388²

Text on this page has been revised since publication of the printed catalog. Please see addendum for details.
COMPUTER INFORMATION TECHNOLOGY

The computer information technology (CIT) 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 CIT program is suitable for:

- First time computer users
- High school graduates with some computer training
- Professionals seeking cross-training or updated/new skills

The Information Technology Core certificate and degrees are designed for students with no experience as well as students with industry experience and/or prior degrees.

The specialty certificates designed for those who want advanced skills include:

- PC Support
- Microsoft Networking
- Cisco Internetworking
- Programming

Some of the job market titles addressed by these certificates are:

- PC Desktop Support Technician
- Network Technician
- Network Administrator
- Network Engineer/Designer
- Network Security Specialist
- Programmer

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, CompTIA and Oracle.

Some courses may transfer to other institutions. Students should contact the transferring institution for details.

Students transferring to a bachelor’s program in computer science should consider completing the Associate of Arts degree with a Field of Study in Computer Science. See the academic transfer section of the catalog for details.

INFORMATION TECHNOLOGY CORE

(C1_CIT1 certificate offered at LSC-CyFair, LSC-Kingwood, LSC-Montgomery, LSC-North Harris, Tomball and LSC-University Park)

FIRST YEAR

Credit

First Semester
ITSC 1301 Introduction to Computers OR
COSC 1301 Microcomputer Applications
ITSC 1305 Introduction to PC Operating Systems
ITNW 1325 Fundamentals of Networking Technologies OR
ITCC 1401 Cisco Exploration 1 - Network Fundamentals

Second Semester
POFT 1301 Business English
ITSC 1325 Personal Computer Hardware
COSC 1309 Logic Design OR
ITSE 1402 Computer Programming
ITSC 1315 Project Management Software1

TOTAL Credits for Information Technology Core Certificate 21-23

M1 Capstone course

MICROSOFT OFFICE SPECIALIST CERTIFICATE

(C1_MSO1 certificate offered at LSC-CyFair, LSC-Kingwood, LSC-Montgomery, LSC-North Harris and LSC-Tomball)

FIRST YEAR

Credit

First Semester
ITSC 1301 Introduction to Computers OR
COSC 1301 Introduction to Computers
ITSC 1301 Introduction to Word Processing
### WORKFORCE DEGREES AND CERTIFICATES

**POFT** 1301 Business English 3

**Second Semester**

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
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<td>ITSC 2331</td>
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<td>ITSC 2380</td>
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<tr>
<td>ITSW 1404</td>
<td>4</td>
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<tr>
<td>ITSW 1407</td>
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**TOTAL Credits for Microsoft Office Specialist Certificate** 20

1. Capstone course

### INTEGRATED TECHNOLOGY BASIC-CERTIFICATE

(C1_ITB1 certificate offered at LSC-North Harris)

**Prerequisite Semester**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
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<tbody>
<tr>
<td>ITSC 1201</td>
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<tr>
<td>COSC 1201</td>
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**FIRST YEAR**

**First Semester**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
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<tbody>
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<tr>
<td>ITSC 1325</td>
<td>3</td>
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<tr>
<td>ENGL 1301</td>
<td>3</td>
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**Second Semester**

<table>
<thead>
<tr>
<th>Course</th>
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<tr>
<td>ITCC 1401</td>
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<tr>
<td>ITCC 1404</td>
<td>4</td>
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<tr>
<td>SPCH 1321</td>
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</table>

**TOTAL Credits for Integrated Technology Basic Certificate** 23

### INTEGRATED TECHNOLOGY ADVANCED NETWORK AND COMPUTER SYSTEM ADMINISTRATOR CERTIFICATE

(C2_ITA2 certificate offered at LSC-CyFair, LSC-Kingwood, LSC-Montgomery, LSC-North Harris and LSC-Tomball)

**Prerequisite Semester**

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
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<tr>
<td>COSC 1301</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>ITSC 1305</td>
<td>3</td>
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<tr>
<td>ITSC 1325</td>
<td>3</td>
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<tr>
<td>Cisco or Microsoft Block Course1</td>
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**Second Semester**

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
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**Third Semester**

<table>
<thead>
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<tbody>
<tr>
<td>ENGL 1301</td>
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<td>ITSC 1316</td>
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**SECOND YEAR**

**First Semester**

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<td>ITSC 1316</td>
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<tr>
<td>MATH 1314</td>
<td>3</td>
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<tr>
<td>Cisco or Microsoft Block Course1</td>
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**Second Semester**

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
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<td>Cisco or Microsoft Block Course1</td>
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<tr>
<td>SOCI 1301</td>
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<tr>
<td>SPCH 1321</td>
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**Third Semester**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
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<tbody>
<tr>
<td>HUMA 1301</td>
<td>3</td>
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<tr>
<td>ITSC 1315</td>
<td>3</td>
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</tbody>
</table>

**TOTAL Network and Computer System Administrator Associate of Applied Science degree** 60

1. Students should choose either the 12 hour block of Cisco

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Text on this page has been revised since publication of the printed catalog. Please see addendum for details.
courses or the 12 hour block of Microsoft courses the first year. In the 2nd year, students should take the block not previously completed: ITCC 1375, 1376, 2378, 2379, ITMT 1370, 1371, 1372 or 1373, 2370

Cisco Track (AAS_CNIC): ITCC 1375, 1376, 2378, 2379
Microsoft Track (AAS_CNMS): ITMT 1370, 1371, 1372 or 1373, 2370

CONVERGED TECHNOLOGY ADVANCED TECHNICAL CERTIFICATE
(C4_CNV4 certificate offered at LSC-University Park)

This Advanced Technical Certificate (ATC) is for students who have already completed a degree in the Computer Information Technology field and who seek additional training in advanced networking concepts, hardware, operating systems, virtualization and storage. Students should speak with the department chair for more information and to determine eligibility.

FIRST YEAR

First Semester
ITSC 1316 Linux Installation and Configuration 3
ITSC 1491 Information Storage and Management 4
ITSE 1402 Computer Programming 4

Second Semester
ITSC 2325 Advanced Linux 3
ITSE 2433 Impl Database on MS SQL Server 4
ITNW 2454 Internet/Intranet Server 4

Third Semester
ITNW 1391 ST: Backup Recovery Systems and Architecture 3
ITNW 1392 Cloud Infrastructure and Services 3
ITSC 2386 Internship - Computer and Information Sciences, General1

TOTAL Credits for Converged Technology Advanced Technical Certificate 31

1 Capstone course

NETWORK ADMINISTRATOR CERTIFICATE - MS LEVEL 1/CCNA
(certificate offered at LSC-CyFair, LSC-Kingwood, LSC-North Harris and LSC-Tomball)

Prerequisite Semester
ITNW 1325 Fundamentals of Networking Technologies1 3
ITSC 1301 Introduction to Computers OR 3
COSC 1301 Introduction to Computers

FIRST YEAR

First Semester
Tech. Track Technical Networking (1st 8 weeks) 3–4
Tech. Track Technical Networking (2nd 8 weeks) 3–4

SECOND YEAR

First Semester
Tech. Track Technical Networking (1st 8 weeks) 3–4
Tech. Track Technical Networking (2nd 8 weeks) 3–4

Total Credits for Network Administrator MS Level 1/CCNA Certificate 18–22

1 ITNW 1325 Fundamentals of Networking Technologies is required for Microsoft track only.
2 All technical networking courses must be chosen from the same track:
Microsoft Track (C1_MCSA): ITMT 1370, ITMT 1371, ITMT 1372 or ITMT 1373, ITMT 2370
Cisco Track (C1_CCNA): ITCC 1375, 1376, 2378, 2379

NETWORK ENGINEER CERTIFICATE-MS LEVEL II/CCNP
(certificate offered at LSC-CyFair, LSC-Kingwood, LSC-North Harris and LSC-Tomball)

Prerequisite Semester
ITNW 1325 Fundamentals of Networking Technologies1 3
ITSC 1301 Introduction to Computers OR 3
COSC 1301 Introduction to Computers

FIRST YEAR

First Semester
Tech. Track Technical Networking (1st 8 weeks) 3–4
Tech. Track Technical Networking (2nd 8 weeks) 3–4

SECOND YEAR

First Semester
Tech. Track Technical Networking (1st 8 weeks) 3–4
Tech. Track Technical Networking (2nd 8 weeks) 3–4

Technical Networking Elective2 3–4

TOTAL Credits for Network Engineer MS Level II/CCNP Certificate 30–41

1 ITNW 1325 Fundamentals of Networking Technologies is required for Microsoft track only.
2 Select Technical Networking Elective from ITNW, ITMT, ITSC, ITCC

All Technical Networking courses must be chosen from the same track:
Microsoft Track (C1_MCSA MCSE): ITMT 1370, ITMT 1371, ITMT 1372 or ITMT 1373, ITMT 2370, ITMT
### COMPUTER NETWORKING SPECIALIZATION

**Associate of Applied Science degree**

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

<table>
<thead>
<tr>
<th>Pre requisite Semester</th>
<th>Credit</th>
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<tbody>
<tr>
<td>ITSC 1301 Introduction to Computers OR COSC 1301 Introduction to Computers OR CPMT 1403 Introduction to Computer Technology</td>
<td>3–4</td>
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**FIRST YEAR**

<table>
<thead>
<tr>
<th>First Semester</th>
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<tbody>
<tr>
<td>ITSC 1305 Introduction to PC Operating Systems</td>
<td>3</td>
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<tr>
<td>ITNW 1325 Fundamentals of Networking</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 1301 Composition &amp; Rhetoric I</td>
<td>3</td>
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<tr>
<td>ITSC 1315 Project Management Software</td>
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<thead>
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<tr>
<td>Tech. Track Technical Networking Core</td>
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<tr>
<td>Tech. Track Technical Networking Core</td>
<td>3–4</td>
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<tr>
<td>PHED 1164 Introduction to Physical Fitness &amp; Sport OR any one credit hour physical activity course</td>
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<tr>
<td>POFT 1301 Business English OR BUSI 2304 Business Writing and Correspondence*</td>
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<table>
<thead>
<tr>
<th>Third Semester</th>
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<tbody>
<tr>
<td>Elective Social/Behavioral Science*</td>
<td>3</td>
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<tr>
<td>Elective Humanities/Fine Arts*</td>
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**SECOND YEAR**

<table>
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<tbody>
<tr>
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<td>Elective Technical 1</td>
<td>3</td>
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<tr>
<td>ITSC 1305 Introduction to PC Operating Systems</td>
<td>3</td>
</tr>
<tr>
<td>ITSC 1325 Personal Computer Hardware</td>
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<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Elective General Education*</td>
<td>3</td>
</tr>
<tr>
<td>Elective Technical Elective 4</td>
<td>3–4</td>
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<tr>
<td>Elective Technical Elective 4</td>
<td>3–4</td>
</tr>
<tr>
<td>ITSC 2439 Personal Computer Help Desk* OR ITSC 2380 Cooperative Education - Computer and Information Sciences*</td>
<td>3–4</td>
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</tbody>
</table>

**TOTAL Credits for Computer Networking Specialization - Associate of Applied Science degree** | 60–64

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1. Choose Technical Elective from ITCC, ITSC, ITSW, ITNW
2. Choose from the AAS core
3. Capstone Course

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### COMPUTER NETWORKING SPECIALIZATION - CISCO

**Associate of Applied Science degree**

(AAS_CNCI offered at LSC-CyFair, LSC-Kingwood, LSC-Montgomery, LSC-North Harris and LSC-Tomball, LSC_University Park)

<table>
<thead>
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<tbody>
<tr>
<td>First Semester</td>
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<tr>
<td>ITSC 1301 Introduction to Computers OR COSC 1301 Introduction to Computers</td>
<td>3</td>
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<tr>
<td>Elective Technical 1</td>
<td>3</td>
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<tr>
<td>Elective Technical 1</td>
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<tr>
<td>ENGL 1301 Composition &amp; Rhetoric I</td>
<td>3</td>
</tr>
<tr>
<td>SPCH 1321 Business &amp; Professional Communication</td>
<td>3</td>
</tr>
<tr>
<td>Second Semester</td>
<td></td>
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<tr>
<td>ITCC 1375 Introduction to Networks</td>
<td>3</td>
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<tr>
<td>ITCC 1376 Routing and Switching Essentials</td>
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<td>POFT 1301 Business English</td>
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<td>Elective General Education 2</td>
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<td>Elective Humanities/Fine Arts 2</td>
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**SECOND YEAR**

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<tr>
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<td>Elective Technical 1</td>
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<td>ITSC 1305 Introduction to PC Operating Systems</td>
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<td>ITSC 1325 Personal Computer Hardware</td>
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<table>
<thead>
<tr>
<th>Second Semester</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Elective General Education*</td>
<td>3</td>
</tr>
<tr>
<td>Elective Technical Elective 4</td>
<td>3–4</td>
</tr>
<tr>
<td>Elective Technical Elective 4</td>
<td>3–4</td>
</tr>
<tr>
<td>ITSC 2439 Personal Computer Help Desk* OR ITSC 2380 Cooperative Education - Computer and Information Sciences*</td>
<td>3–4</td>
</tr>
</tbody>
</table>

**TOTAL Credits for Computer Networking Specialization - Cisco Associate of Applied Science degree** | 60

---

1. Choose Technical Elective from ITCC, ITSC, ITSW, ITNW
2. Choose from the AAS core
3. Capstone Course

---

### COMPUTER NETWORKING SPECIALIZATION - MICROSOFT

**Associate of Applied Science degree**

(AAS_CNMS offered at...
FIRST YEAR

First Semester
ITNW 1325 Fundamentals of Networking Technologies OR
COSC 1301 Introduction to Computers OR
ENGL 1301 Composition & Rhetoric I OR
ITSC 1325 Personal Computer Hardware OR
ITSC 1305 Introduction to PC Operating Systems OR

Second Semester
ITMT 1370 Windows 7 Client Configuration 70-680 OR
ITMT 1371 Windows Server 2008 Infrastructure 70-642 OR
POFT 1301 Business English OR
SPCH 1321 Business & Professional Communication OR

Third Semester
Elective Social/Behavioral Science OR
Elective Humanities/Fine Arts OR

SECOND YEAR

First Semester
Elective Math OR
Elective Technical OR
ITMT 1372 Windows Server 2008 Applications Infrastructure 70-643 OR
ITMT 1373 Windows Servers 2008 Network Infrastructure 70-642 OR
ITMT 2370 Windows Server 2008 Archive Directory 70-630 OR

Second Semester
ITSC 1315 Project Management Software OR
Elective Technical OR
Elective Technical OR
Elective Technical OR
ITSC 2372 Technical Skills Portfolio OR
ITSC 2380 Cooperative Education - Computer and Information Sciences OR

TOTAL Credits for Computer Networking Specialization - Microsoft Associate of Applied Science degree 60

1 Choose from the AAS core
2 Must select from ITCC, ITSC, ITMT, DTSW 1304 or 1307 or 2xxx, ITNW
3 Capstone Course

PC SUPPORT SPECIALIST CERTIFICATE

( C2_PCSS certificate offered at LSC-CyFair, LSC-Kingwood, LSC-Montgomery, LSC-North Harris and LSC-Tomball)

FIRST YEAR

First Semester
ITSC 1301 Introduction to Computers OR
COSC 1301 Introduction to Computers

Second Semester
ITSC 1315 Project Management Software

TOTAL Credits for PC Support Specialist Certificate 44–47

Note: Students must meet TSI requirements. See LoneStar.edu/TSI for details.

1 Select from: ITCC, ITSC, ITSE, ITSW, ITNW, ITMT, IMED, GRPH or CPMT
2 Capstone course

PROGRAMMING SPECIALIST CERTIFICATE

(C1_CPS1 certificate offered at LSC-CyFair, LSC-Kingwood, LSC-Montgomery, LSC-North Harris and LSC-Tomball)

FIRST YEAR

First Semester
ITSC 1301 Introduction to Computers OR
COSC 1301 Introduction to Computers OR
ITSE 1302 Computer Programming OR
COSC 1309 Logic Design OR
SPCH 1321 Business and Professional Communication OR

Second Semester
Elective - Programming Language OR
Elective - Programming Language OR
ITNW 1325 Fundamentals of Networking Technologies OR
ITCC 1375 Introduction to Networks

Third Semester
ITSC 1305 Introduction to PC Operating Systems

SECOND YEAR

First Semester
Elective - Programming Language
## WORKFORCE DEGREES AND CERTIFICATES

### WORKFORCE DEGREES AND CERTIFICATES

**Elective Social/Behavioral Science**
- 3

**ITNW 1325** Fundamentals of Networking Technologies
- 3

**ITCC 1401** Cisco Exploration 1 - Network Fundamentals
- 3

**ITSE 1350** Systems Analysis and Design
- 3

**ITSE 1315** Project Management Software
- 3

**Elective Humanities/Fine Arts**
- 3

**ITSE 2359** Advanced Computer Programming
- 3

**OR**

**ITSE 2380** Cooperative Education: Computer Programming
- 3

**TOTAL Credits for Programming Specialist Certificate**
- 37–39

1. First Year Electives: ITSE 1356, ITSE 1432, ITSE 1407, ITSE 1410, ITSC 1301, COSC 1301, ITSE 1302, COSC 1309, MATH Elective
2. Second Year Electives: ITSE 2449, 2349, ITSE 2331, INEW 2438, 2338, ITSE 2455, 2353

### PROGRAMMING SPECIALIST SPECIALIZATION

Associate of Applied Science degree

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

### FIRST YEAR

#### Credit

**First Semester**
- ENGL 1301 Composition & Rhetoric I
- 3
- ITSC 1301 Introduction to Computers OR
- 3
- COSC 1301 Introduction to Computers
- 3
- ITSE 1302 Computer Programming OR
- 3
- COSC 1309 Logic Design
- 3
- MATH Elective
- 3

**Second Semester**
- Elective Programming Language
- 3
- Elective Programming Language
- 3
- ITSC 1305 Introduction to PC Operating Systems
- 3
- Elective Social/Behavioral Science
- 3
- ACNT 1303 Introduction to Accounting
- 3

**Third Semester**
- Elective General Education
- 3
- ACNT 1303 Introduction to Accounting OR
- 3
- ACCT 2401 Principles Of Financial Accounting
- 4
- SPCH 1321 Business and Professional Communication
- 3

### SECOND YEAR

#### Credit

**First Semester**
- Elective Programming Language (sequence course)
- 3
- Elective Programming Language (sequence course)
- 3
- ITNW 1325 Fundamentals of Networking Technologies OR
- 3
- ITCC 1375 Introduction to Networks
- 3
- Technical Elective
- 3
- Elective Humanities/Fine Arts
- 3
- PHED 1164 Introduction to Physical Fitness & Sport OR any one credit hour physical activity course
- 3
- SPCH 1318 Interpersonal Communication
- 3

**Second Semester**
- Elective Technical
- 3

### C++ PROGRAMMING ENHANCED SKILLS CERTIFICATE

(C3_CCP3 certificate offered at LSC-CyFair, LSC-Kingwood, LSC-North Harris and LSC-Tomball)

### FIRST YEAR

#### Credit

**First Semester**
- ITSE 1407 Introduction to C++ Programming
- 4

**Second Semester**
- ITSE 2431 Advanced C++ Programming
- 4
- ITSE 2459 Advanced Computer Programming
- 4

**TOTAL for C++ Programming Enhanced Skills Certificate**
- 12

### GRAND TOTAL for AAS degree with C++ Programming Enhanced Skills Certificate
- 72–78

1. Courses used to meet requirements in AAS cannot be used toward requirements in enhanced skills certificate.

### VISUAL BASIC ENHANCED SKILLS CERTIFICATE

(C3_CVB3 certificate offered at LSC-CyFair, LSC-Kingwood, LSC-North Harris and LSC-Tomball)

### FIRST YEAR

#### Credit

**First Semester**
- ITSE 1432 Introduction to Visual Basic.Net Programming
- 4

**Second Semester**
- SPCH 1318 Interpersonal Communication
ITSE 2449 Advanced Visual Basic Programming 1 4
ITSE 2459 Advanced Computer Programming 1 4

TOTAL Credits for Visual Basic Enhanced Skills Certificate 12

GRAND TOTAL for AAS Degree with Enhanced Skills Certificate 72–78

1 Courses used to meet AAS requirements cannot be used to meet requirements in enhanced skills certificate.

WORKFORCE DEGREES AND CERTIFICATES

COSMETOLOGY

The program offers certificates for the facial specialist, instructor license and operator license. The certificate program is a full-time, 12-month program for Cosmetology Operator certificate and full-time, 8-month program for Facial Specialist certificate and Cosmetology Instructor certificate. All three certificate programs are approved by the Texas Department of Licensing and Regulations. Upon successful completion of the program requirements, graduates are eligible to take the state exam. Upon passing the state exam, program graduates become licensed to practice in the State of Texas.

Graduates of the cosmetology certificate programs have many employment opportunities including becoming a hair dresser, skin care specialist, and make-up artist. 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.

Three associate of applied science degrees are available in this 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.

The LSC-North Harris cosmetology program is held at the CHI LSC-North Harris School of Cosmetology, a unique partnership which includes the world-renowned methods and products of Farouk Systems, Inc.

Admission criteria for Facial Specialist and Operator Certificate, Cosmetology Facial AAS degree, and Cosmetology AAS degree

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.

Admission criteria for Cosmetology Instructor Certificate and Cosmetology Instructor AAS degree

In addition to the system admission requirements the following are requirements for admission to the cosmetology instructor certificate.

Text on this page has been revised since publication of the printed catalog. Please see addendum for details.
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 of 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.

Progression Requirements
Once admitted to the cosmetology program, a student must attain a grade of “C” or better in each cosmetology course as well as satisfactory attendance record (refer to Cosmetology Student Handbook) in order to progress in the program.

Readmission Policy
A student who withdraws from the cosmetology program may be re-admitted only once with the recommendation of the department faculty.

Cosmetology programs are available at LSC-Kingwood LoneStar.edu/cosmetology-dept and CHI© Lone Star College-North Harris School of Cosmetology LoneStar.edu/CHISchool.

COSMETOLOGY INSTRUCTOR CERTIFICATE
(C1_CIN1 certificate offered at LSC-Kingwood and LSC-North Harris)

<table>
<thead>
<tr>
<th>Prerequisite Semester</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 1301 Composition &amp; Rhetoric I</td>
<td>3</td>
</tr>
<tr>
<td>Math/Natural Science Elective</td>
<td>3 – 4</td>
</tr>
<tr>
<td>SPCH 1315 Public Speaking OR SPCH 1318 Interpersonal Communication</td>
<td>3</td>
</tr>
</tbody>
</table>

FIRST YEAR
First Semester
- CSME 1434 Cosmetology Instructor 4
- CSME 1435 Orientation to the Instruction of Cosmetology 4
- CSME 2414 Cosmetology Instructor II 4

Second Semester
- CSME 2415 Cosmetology Instructor III 4
- CSME 2444 Cosmetology Instructor IV 4
- CSME 2445 Instruction Theory & Clinic Operation 4

TOTAL Credits for Cosmetology Instructor Certificate 36 - 37

* Choose from the AAS core
Note: Capstone experience is completed by taking a departmental exam.

COSMETOLOGY OPERATOR CERTIFICATE
(C1_COP1 certificate offered at LSC-Kingwood and LSC-North Harris)

FIRST YEAR
First Semester
- CSME 1254 Artistry of Hair Design I 2
- CSME 1310 Intro Haircutting & Related Theory 3
- CSME 1501 Introduction to Cosmetology I 5
- CSME 1505 Fundamentals of Cosmetology 5

Second Semester
- CSME 1553 Chemical Reformation & Theory 5
- CSME 2310 Inter Haircutting & Related Theory 3
- CSME 2337 Advanced Cosmetology Techniques 3
- CSME 2501 Hair Coloring & Related Theory 5

Third Semester
- CSME 2539 Advanced Hair Design 5
- CSME 2541 Preparation for State Licensing Examination 5

TOTAL Credits for Cosmetology Operator Certificate 41

Note: Capstone experience is completed by taking a departmental exam.

FACIAL SPECIALIST CERTIFICATE
(C1_FCL1 certificate offered at LSC-Kingwood and LSC-North Harris)

FIRST YEAR
First Semester
- CSME 1420 Orientation to Facial Specialist 4
- CSME 1421 Principles of Facial and Skin Care Technology I 4
- CSME 1248 Principles of Skin Care 2

Second Semester
- CSME 1447 Skin Care and Facial Theory Prin. 4
- CSME 1445 Principles of Facial and Skin Care Technology II 4
- CSME 2431 Principles of Facials and Skin Care Technology III 4

TOTAL Credits for Facial Specialist Certificate 22

Note: Capstone experience is completed by taking a departmental exam.

COSMETOLOGY INSTRUCTOR
WORKFORCE DEGREES AND CERTIFICATES

### WORKFORCE DEGREES AND CERTIFICATES

**Associate of Applied Science degree**

(AAS_COSI degree offered at LSC-Kingwood and LSC-North Harris)

**FIRST YEAR**

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPCH 1315 Public Speaking OR SPCH 1318 Interpersonal Communication PSYC 2301 General Psychology KINE 1304 Personal Health</td>
<td>3</td>
</tr>
<tr>
<td>Elective Math or Natural Science¹</td>
<td>3–4</td>
</tr>
</tbody>
</table>

**Second Semester**

| CSME 1434 Cosmetology Instructor | 4 |
| CSME 1435 Orientation to the Instruction of Cosmetology | 4 |
| CSME 2414 Cosmetology Instructor II | 4 |
| ITSC 1301 Introduction to Computers OR COSC 1301 Introduction to Computers | 3 |

**Third Semester**

| ENGL 1301 Composition & Rhetoric I | 3 |
| Elective Humanities/Fine Arts¹ | 3 |

**SECOND YEAR**

**First Semester**

| CSME 1445 Principles of Facial and Skin Care Technology II | 4 |
| CSME 1447 Skin Care and Facial Theory Prin. | 4 |
| CSME 2431 Principles of Facials and Skin Care Technology III | 3 |
| GOVT 2305 Federal Government OR GOVT 2306 Texas Government | 3 |

**Second Semester**

| CSME 2342 Cosmetology Small Business Management | 3 |
| HRPO 1311 Human Relations | 3 |
| ENGL 1302 Composition & Rhetoric II | 3 |
| MRKG 2333 Principles of Selling OR Business Elective² | 3 |
| PHED 1164 Introduction to Physical Fitness & Sport OR any one credit hour physical activity course | 1 |

**TOTAL Credits for Cosmetology Instructor Associate of Applied Science degree** 61–62

¹ Choose from the AAS core

² Choose one course from MRKG, BUSG, or HRPO with departmental approval.

Note: Capstone experience is completed by taking a departmental exam.

### COSMETOLOGY Facial

**Associate of Applied Science degree**

(AAS_COSF degree offered at LSC-Kingwood and LSC-North Harris)

**FIRST YEAR**

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Credit</th>
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</thead>
<tbody>
<tr>
<td>SPCH 1315 Public Speaking OR SPCH 1318 Interpersonal Communication PSYC 2301 General Psychology KINE 1304 Personal Health</td>
<td>3</td>
</tr>
<tr>
<td>Elective Math/Natural Sciences¹</td>
<td>4</td>
</tr>
</tbody>
</table>

**SECOND YEAR**

**First Semester**

| CSME 1445 Principles of Facial and Skin Care Technology II | 4 |
| CSME 1447 Skin Care and Facial Theory Prin. | 4 |
| CSME 2431 Principles of Facials and Skin Care Technology III | 3 |
| GOVT 2305 Federal Government OR GOVT 2306 Texas Government | 3 |

**Second Semester**

| CSME 2342 Cosmetology Small Business Management | 3 |
| HRPO 1311 Human Relations | 3 |
| ENGL 1302 Composition & Rhetoric II | 3 |
| MRKG 2333 Principles of Selling OR Business Elective² | 3 |
| PHED 1164 Introduction to Physical Fitness & Sport OR any one credit hour physical activity course | 1 |

**TOTAL Credits for Cosmetology Facial Associate of Applied Science degree** 60

¹ Choose from the AAS core

² Choose one course from MRKG, BUSG, or HRPO with departmental approval.

Note: Capstone experience is completed by taking a departmental exam.

LSCS Catalog 2014/2015 139
### DENTAL HYGIENE

The Lone Star College System (LSCS) offers an Associate of Applied Science in Dental Hygiene at LSC-Kingwood. This program is designed for those interested in becoming a registered dental hygienist. 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 curriculum for experiences outside of the school setting. 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 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 LoneStar.edu/dental-hygiene-requirements for information about admission requirements, selection criteria and application process for the program.

Students are required to successfully pass a background check. 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

<table>
<thead>
<tr>
<th>Associate of Applied Science degree</th>
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</table>

<table>
<thead>
<tr>
<th>Prerequisite Semester</th>
<th>Credit</th>
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<tbody>
<tr>
<td>CHEM 1405 Introduction to Chemistry</td>
<td>4</td>
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<tr>
<td>ENGL 1301 Composition &amp; Rhetoric I</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 2401 Human Anatomy &amp; Physiology I</td>
<td>4</td>
</tr>
<tr>
<td>SOCI 1301 Principles of Sociology</td>
<td>3</td>
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**FIRST YEAR**

<table>
<thead>
<tr>
<th>First Semester</th>
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<tbody>
<tr>
<td>BIOL 2402 Human Anatomy &amp; Physiology II</td>
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<tr>
<td>DHYG 1301 Orofacial Anatomy Histology Embry</td>
</tr>
<tr>
<td>DHYG 1431 Preclinical Dental Hygiene</td>
</tr>
<tr>
<td>DHYG 1203 Preventive Dental Hygiene I</td>
</tr>
<tr>
<td>DHYG 1304 Dental Radiology</td>
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<tr>
<th>Second Semester</th>
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<tbody>
<tr>
<td>BIOL 2420 Medical Microbiology</td>
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<tr>
<td>BIOL 2305 Pathophysiology</td>
</tr>
<tr>
<td>DHYG 1260 Clinic Dental Hygiene/Hygienist I</td>
</tr>
<tr>
<td>DHYG 1211 Periodontology</td>
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<tr>
<td>DHYG 1207 General and Dental Nutrition</td>
</tr>
<tr>
<td>DHYG 2201 Contemporary Dental Hygiene Care I</td>
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<tr>
<td>PSYC 2301 General Psychology</td>
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**SECOND YEAR**

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<tr>
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<tbody>
<tr>
<td>SPCH 1318 Interpersonal Communication</td>
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<tr>
<td>DHYG 1235 Pharmacology for Dental Hygienist</td>
</tr>
<tr>
<td>DHYG 2231 Contemporary Dental Hygiene Care II</td>
</tr>
<tr>
<td>DHYG 2362 Clinical - Dental Hygienist III</td>
</tr>
<tr>
<td>DHYG 1239 General and Oral Pathology</td>
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<table>
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<th>Second Semester</th>
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<tbody>
<tr>
<td>PHIL 2306 Introduction to Ethics</td>
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<tr>
<td>DHYG 1215 Community Dentistry</td>
</tr>
<tr>
<td>DHYG 2153 Dental Hygiene Practice</td>
</tr>
<tr>
<td>DHYG 2363 Clinical Dental Hygienist IV</td>
</tr>
</tbody>
</table>

**TOTAL Credits for Dental Hygiene Associate of Applied Science degree**

72

1 Capstone course

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### 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 profes-
sion. Students who currently hold an AAS in Sonography/Echocardiography are eligible for admission to the Non-Invasive Vascular Technology Enhanced Skills certificate.

Students must complete all appropriate developmental coursework or retake the section of Texas Success Initiative Assessment test and score high enough to place into college-level courses. Students must complete ENGL 1301, MATH 1314, PHYS 1401 or 1410, BIOL 2401 and 2402 prior to the first DMSO/DSAE course in the AAS degree. RADR 1313 and RADR 2305 may be substituted for the PHYS course requirement. Interested students should visit the website, cyfair.LoneStar.edu/sonography for information regarding technical standards for the profession, applications, and admission criteria for the program.

Students who currently hold a two-year degree in a patient care health program and have met program requirements are eligible for admission to the Sonography/Echocardiography certificate program. Students who do not hold a two-year degree in a patient care health program should apply for the AAS in DMS or Echocardiography.

**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 Diagnostic Medical Sonography AAS programs.

1. College entry-level ability in mathematics and English (reading/writing) as defined by LSCS. For further information, contact any of the student development offices.

2. Completion of Anatomy and Physiology I and II (BIOL 2401 & BIOL 2402) with a “C” or better within the previous five years and prior to submission of an application for the diagnostic medical sonography programs. Refresher anatomy & physiology 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 score sheet calculation where applicable.

3. Complete the following courses with a “C” or better: ENGL 1301, MATH 1314 (or other approved MATH courses), PHYS 1401 or 1410.

4. A cumulative grade point average (GPA) of at least 2.0 in college.

5. Students must register for and take the PSB Health Occupations Aptitude Test.

6. Must complete Hepatitis B immunization series and all required immunizations prior to the first clinical course (this may take 3 to 6 months to complete). Applicants must provide written documentation of all immunizations or titers received and a satisfactory physical exam on a college-approved form found on the website. Students must complete the healthcare provider CPR training prior to attending clinicals.

7. Prospective students are required to attend an information session and obtain an information session certificate.

8. Based on the Sonography/Echocardiography score sheet subtotal, some but not all applicants will be awarded an interview.

9. Final acceptance into the program is contingent upon a satisfactory background check (as required by clinical facilities) that is completed by a college approved agency at the student’s expense. Clinical facilities may also require completion of satisfactory drug screening and verification of medical insurance.

**Readmission Guidelines**

Applicants who have withdrawn from any LSCS sonography 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 and follow current readmission guidelines. 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 three letters of their standing from the prior sonography program. One letter should be a “report of status” from the former program director. Readmission into the sonography program must occur within one year of non-completion. A student may be readmitted into the sonography one time only.

Transfer Guidelines

An individual’s request to transfer into any LSCS sonography program will be reviewed on an individual basis by the program director, and only after meeting Lone Star College entrance requirements. Transfer students must meet all admission requirements of the Diagnostic Medical Sonography Program. It is recommended to allow a minimum of three months for processing. Class placement is based on previous achievement and space availability. Admission is considered only if prior program enrollment has been within one (1) year and the candidate is in good standing in a program or in previous program. All of the following steps must be completed for consideration.

1. Completion of official transfer application.
2. Written statement from the student describing his/her reasons for originally leaving the program.
3. Submit current official transcripts from any colleges or universities that the student has attended.
4. Submit three letters of his/her standing from the prior sonography program. One letter should be a “report of status” from the former program director.

**DIAGNOSTIC MEDICAL SONOGRAPHY**

**Associate of Applied Science degree**

(AAS_SONO degree offered at LSC-CyFair)

<table>
<thead>
<tr>
<th>Prerequisite Semester</th>
<th>Credit</th>
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<tbody>
<tr>
<td>BIOL 2401 Human Anatomy &amp; Physiology I</td>
<td>4</td>
</tr>
<tr>
<td>MATH 1314 College Algebra</td>
<td>3</td>
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**Second Prerequisite Semester**

<table>
<thead>
<tr>
<th>Subject</th>
<th>Course</th>
<th>Credit</th>
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<tbody>
<tr>
<td>BIOL 2402 Human Anatomy &amp; Physiology II</td>
<td>4</td>
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<tr>
<td>ENGL 1301 Composition &amp; Rhetoric I</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>PHYS 1401 General Physics I OR 1410 Elementary Physics</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>DMSO 1210 Introduction to Sonography</td>
<td>2</td>
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<tr>
<td>DMSO 1302 Basic Ultrasound Physics</td>
<td>3</td>
</tr>
<tr>
<td>DMSO 1351 Sonographic Crosssectional Anatomy</td>
<td>3</td>
</tr>
<tr>
<td>DMSO 1360 Clinical - Diagnostic Medical Sonography Technician</td>
<td>3</td>
</tr>
<tr>
<td>DMSO 1405 Sonography - Abdominopelvic Cavity</td>
<td>4</td>
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**Second Semester**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
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<tbody>
<tr>
<td>DMSO 1356 Practicum I</td>
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<tr>
<td>DMSO 2253 Sonography of Superficial Structures</td>
<td>2</td>
</tr>
<tr>
<td>DMSO 2405 Sonography of Obstetrics/Gynecology</td>
<td>4</td>
</tr>
<tr>
<td>DMSO 1342 Intermediate Ultrasound Physics</td>
<td>3</td>
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</table>

**Third Semester**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
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<tbody>
<tr>
<td>DMSO 1267 Practicum II</td>
<td>2</td>
</tr>
<tr>
<td>DMSO 2342 Sonography of High Risk Obstetrics</td>
<td>3</td>
</tr>
<tr>
<td>DMSO 2351 Doppler Physics</td>
<td>3</td>
</tr>
<tr>
<td>ITSC 1301 Introduction to Computers OR COSC 1301 Introduction to Computers</td>
<td>3</td>
</tr>
</tbody>
</table>

**TOTAL Credits for Diagnostic Medical Sonography Associate of Applied Science degree** 71

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**ECHOCARDIOGRAPHY**

**Associate of Applied Science degree**

(AAS_ECHO degree offered at LSC-CyFair)

<table>
<thead>
<tr>
<th>Prerequisite Semester</th>
<th>Credit</th>
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<tbody>
<tr>
<td>BIOL 2401 Human Anatomy &amp; Physiology I</td>
<td>4</td>
</tr>
<tr>
<td>COSC 1301 Introduction to Computers OR</td>
<td>3</td>
</tr>
<tr>
<td>ITSC 1301 Introduction to Computers</td>
<td>3</td>
</tr>
<tr>
<td>MATH 1314 College Algebra</td>
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**Second Prerequisite Semester**

**FIRST YEAR**

**First Semester**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
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</thead>
<tbody>
<tr>
<td>DSVT 2200 Vascular Technology Applications</td>
<td>2</td>
</tr>
<tr>
<td>DMSO 2130 Advanced Ultrasound Review</td>
<td>1</td>
</tr>
<tr>
<td>DMSO 2245 Advanced Sonography</td>
<td>2</td>
</tr>
<tr>
<td>Elective Humanities/Fine Arts</td>
<td>3</td>
</tr>
<tr>
<td>DMSO 2366 Practicum III</td>
<td>3</td>
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**SECOND YEAR**

**First Semester**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
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<tbody>
<tr>
<td>DSVT 2200 Vascular Technology Applications</td>
<td>2</td>
</tr>
<tr>
<td>DMSO 2130 Advanced Ultrasound Review</td>
<td>1</td>
</tr>
<tr>
<td>DMSO 2245 Advanced Sonography</td>
<td>2</td>
</tr>
<tr>
<td>Elective Humanities/Fine Arts</td>
<td>3</td>
</tr>
<tr>
<td>DMSO 2366 Practicum III</td>
<td>3</td>
</tr>
</tbody>
</table>

**TOTAL Credits for Diagnostic Medical Sonography Associate of Applied Science degree** 71

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1. RADR 1313 AND RADR 2305 may be substituted for the PHYS course requirement.
2. Meets communication competency
3. Choose from the AAS core
4. Capstone course

Students must pass 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.
WORKFORCE DEGREES AND CERTIFICATES

FIRST YEAR

First Semester
- DMSO 1210 Introduction to Sonography 2
- DMSO 1302 Basic Ultrasound Physics 3
- DSAE 1360 Clinical I 3
- DSAE 1415 Principals of Adult Echocardiography 4

Second Semester
- DSAE 1364 Practicum I 3
- DSAE 2403 Cardiovascular Concepts 4
- DSAE 2404 Echocardiographic Evaluation of Pathology I 4
- DMSO 1342 Intermediate Ultrasound Physics 3

TOTAL Credits for Echocardiography Associate of Applied Science degree 71

SECOND YEAR

First Semester
- DSAE 2235 Advanced Echocardiography 3
- DSAE 2365 Practicum III 3
- DSVT 2200 Vascular Technology Applications 2
- Elective Humanities/Fine Arts 3
- DMSO 2130 Advanced Ultrasound Review 1

TOTAL Credits for Sonography Advanced Technical Certificate 44

SECOND YEAR

First Semester
- DMSO 1267 Practicum II 2
- DMSO 2342 Sonography of High Risk Obstetrics 3
- DMSO 2351 Doppler Physics 3

TOTAL Credits for Sonography Advanced Technical Certificate 44

SONOGRAPHY ADVANCED TECHNICAL CERTIFICATE

FIRST YEAR

Credit

First Semester
- DMSO 1210 Introduction to Sonography 2
- DMSO 1302 Basic Ultrasound Physics 3
- DMSO 1351 Sonographic Crosssectional Anatomy 3
- DMSO 1360 Clinical - Diagnostic Medical Sonography Technician 3
- DMSO 1405 Sonography - Abdominopelvic Cavity 4

Second Semester
- DMSO 1366 Practicum I 3
- DMSO 2253 Sonography of Superficial Structures 2
- DMSO 2405 Sonography of Obstetrics/Gynecology 4

TOTAL Credits for Sonography Advanced Technical Certificate 44

SONOGRAPHY NON-INVASIVE VASCULAR TECHNOLOGY ENHANCED SKILLS CERTIFICATE

FIRST YEAR

Credit

First Semester
- DSVT 1364 Practicum I-Diagnostic Medical Sonography & Ultrasound Tech 3
- DSVT 2330 Advanced Non-Invasive Vascular Technology 3

TOTAL Credits for Sonography Non-Invasive Vascular Technology Enhanced Skills Certificate 15

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.

**SOLAR PHOTOVOLTAIC SYSTEM ELECTRICIAN MARKETABLE SKILLS AWARD**
(MSC_SPSE award offered at LSC-Tomball)

**FIRST YEAR**

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Semester</td>
<td>ELPT 1325</td>
<td>National Electrical Code I</td>
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</tr>
<tr>
<td></td>
<td>DFTG 2307</td>
<td>Electrical Drafting</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>ELPT 1329</td>
<td>Residential Wiring</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>ELPT 1345</td>
<td>Commercial Wiring</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>ELMT 1302</td>
<td>Solar Photovoltaic Systems</td>
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</tr>
</tbody>
</table>

**TOTAL Credits for Solar Photovoltaic System Electrician Marketable Skills Award** 12

**FUEL CELL SYSTEMS ELECTRICIAN MARKETABLE SKILLS AWARD**
(MSC_FCSE award offered at LSC-Tomball)

**FIRST YEAR**

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Semester</td>
<td>ELPT 1325</td>
<td>National Electrical Code I</td>
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<td></td>
<td>FCEL 1302</td>
<td>Introduction to Fuel Cell Technology</td>
<td>3</td>
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<tr>
<td>Second Semester</td>
<td>FCEL 2330</td>
<td>Fuel Cell Installation, Start-Up, and Maintenance</td>
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<tr>
<td></td>
<td>ELPT 1329</td>
<td>Residential Wiring</td>
<td>3</td>
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<td></td>
<td>ELPT 1345</td>
<td>Commercial Wiring</td>
<td>3</td>
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</table>

**TOTAL Credits for Fuel Cell Systems Electrician Marketable Skills Award** 12

**WIND TURBINE SYSTEM ELECTRICIAN MARKETABLE SKILLS AWARD**
(MSC_WTSE award offered at LSC-Tomball)

**FIRST YEAR**

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>First Semester</td>
<td>ELPT 1325</td>
<td>National Electrical Code I</td>
<td>3</td>
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<tr>
<td></td>
<td>WIND 1300</td>
<td>Introduction to Wind Energy</td>
<td>3</td>
</tr>
<tr>
<td>Second Semester</td>
<td>WIND 2359</td>
<td>Wind Power Delivery System</td>
<td>3</td>
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<tr>
<td></td>
<td>ELPT 1329</td>
<td>Residential Wiring</td>
<td>3</td>
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<tr>
<td></td>
<td>ELPT 1345</td>
<td>Commercial Wiring</td>
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</tbody>
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**TOTAL Credits for Wind Turbine System Electrician Marketable Skills Award** 12

**ELECTRICAL TECHNOLOGY LEVEL 1 CERTIFICATE**
(C1_REC1 certificate offered at LSC-Tomball)

**FIRST YEAR**

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>First Semester</td>
<td>ELPT 1311</td>
<td>Basic Electrical Theory</td>
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<tr>
<td></td>
<td>ELPT 1315</td>
<td>Electrical Calculations I</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>ELPT 1321</td>
<td>Introduction to Electrical Safety and Tools</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>ELPT 1325</td>
<td>National Electrical Code I</td>
<td>3</td>
</tr>
<tr>
<td>Second Semester</td>
<td>ELPT 2325</td>
<td>National Electrical Code II</td>
<td>3</td>
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<tr>
<td></td>
<td>DFTG 2307</td>
<td>Electrical Drafting</td>
<td>3</td>
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<tr>
<td></td>
<td>ELPT 1329</td>
<td>Residential Wiring</td>
<td>3</td>
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<tr>
<td></td>
<td>ELPT 1345</td>
<td>Commercial Wiring</td>
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**TOTAL Credits for Electrical Technology Level 1 Certificate** 24

1 Capstone course
## ELECTRICAL TECHNOLOGY LEVEL 2 CERTIFICATE
(C2_ELT2 certificate offered at LSC-Tomball)

<table>
<thead>
<tr>
<th>FIRST YEAR</th>
<th>Credit</th>
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<tbody>
<tr>
<td><strong>First Semester</strong></td>
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<tr>
<td>ELPT 1311 Basic Electrical Theory</td>
<td>3</td>
</tr>
<tr>
<td>ELPT 1315 Electrical Calculations I</td>
<td>3</td>
</tr>
<tr>
<td>ELPT 1321 Intro to Electrical Safety and Tools</td>
<td>3</td>
</tr>
<tr>
<td>ELPT 1325 National Electrical Code I</td>
<td>3</td>
</tr>
<tr>
<td>ELPT 1351 Electrical Machines</td>
<td>3</td>
</tr>
<tr>
<td><strong>Second Semester</strong></td>
<td></td>
</tr>
<tr>
<td>IEIR 1312 Distribution Systems</td>
<td>3</td>
</tr>
<tr>
<td>DFTG 2307 Electrical Drafting</td>
<td>3</td>
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<td>ELPT 2325 National Electrical Code II</td>
<td>3</td>
</tr>
<tr>
<td>ELPT 1329 Residential Wiring</td>
<td>3</td>
</tr>
<tr>
<td>ELPT 1345 Commercial Wiring</td>
<td>3</td>
</tr>
<tr>
<td><strong>Third Semester</strong></td>
<td></td>
</tr>
<tr>
<td>ELPT 1357 Industrial Wiring</td>
<td>3</td>
</tr>
<tr>
<td>ELPT 1341 Motor Control</td>
<td>3</td>
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<tr>
<td><strong>SECOND YEAR</strong></td>
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<tr>
<td><strong>First Semester</strong></td>
<td></td>
</tr>
<tr>
<td>ELPT 2347 Electrical Testing and Maintenance</td>
<td>3</td>
</tr>
<tr>
<td>ELPT 2343 Electrical Systems Design</td>
<td>3</td>
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<tr>
<td>ELPT 2337 Electrical Planning and Estimating¹</td>
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<tr>
<td><strong>TOTAL Credits for Electrical Technology Level 2 Certificate</strong></td>
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</table>

¹ Capstone course

## ELECTRICAL TECHNOLOGY AAS DEGREE
(AAS_ELEC degree offered at LSC-Tomball)

<table>
<thead>
<tr>
<th>FIRST YEAR</th>
<th>Credit</th>
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<tbody>
<tr>
<td><strong>First Semester</strong></td>
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<tr>
<td>ELPT 1311 Basic Electrical Theory</td>
<td>3</td>
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<tr>
<td>ELPT 1315 Electrical Calculations I</td>
<td>3</td>
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<tr>
<td>ELPT 1321 Intro to Electrical Safety and Tools</td>
<td>3</td>
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<tr>
<td>ELPT 1325 National Electrical Code I</td>
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<tr>
<td>ELPT 1351 Electrical Machines</td>
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<tr>
<td><strong>Second Semester</strong></td>
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<tr>
<td>IEIR 1312 Distribution Systems</td>
<td>3</td>
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<tr>
<td>DFTG 2307 Electrical Drafting</td>
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<td>ELPT 2325 National Electrical Code II</td>
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<td>ELPT 1329 Residential Wiring</td>
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<tr>
<td><strong>Third Semester</strong></td>
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<tr>
<td>ENGL 1301 Composition &amp; Rhetoric I</td>
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<tr>
<td>MATH 1314 College Algebra</td>
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<td><strong>SECOND YEAR</strong></td>
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<tr>
<td><strong>First Semester</strong></td>
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<tr>
<td>ELPT 2347 Electrical Testing and Maintenance</td>
<td>3</td>
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<tr>
<td>ELPT 1357 Industrial Wiring</td>
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</tr>
<tr>
<td>ELPT 1341 Motor Control</td>
<td>3</td>
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<tr>
<td>Elective Social Behavioral Sciences¹</td>
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<tr>
<td><strong>Second Semester</strong></td>
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<td>SPCH 1315 Public Speaking</td>
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<tr>
<td><strong>TOTAL Credits for Electrical Technology Associate of Applied Science degree</strong></td>
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¹ Choose ECON 2301, 2302 or SOCI 1301, 1306.

## 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.

### Selection Criteria for all Programs

There are different admission deadlines for the EMS programs at each campus. Please contact the program director for campus specific admission deadlines. 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.

Programs Offered

EMT is offered at LSC-CyFair, LSC-Montgomery, LSC-North Harris and LSC-Kingwood. The EMSP Intermediate Certificate is offered at LSC-CyFair, LSC-Montgomery, and LSC-North Harris. The EMSP Paramedic Certificate is offered at LSC-CyFair over three semesters and at LSC-North Harris over five semesters. The EMSP AAS degree is offered at LSC-CyFair and LSC-North Harris.

General Admission Criteria

1. Students must meet the basic requirements for admission to the Lone Star College System (LSCS) and apply to LSCS.
2. Admission to LSCS does not constitute automatic acceptance into the EMSP program.
3. Admission to the EMSP program does not guarantee eligibility for the National Registry of Emergency Medical Technicians or certification by Texas Department of State Health Services.
   - Criminal background checks are part of the screening process conducted by the Texas Department of State Health Services. As a result, some candidates may be ineligible for certification.
   - Candidates with concerns about their background check should contact the Texas Department of State Health Services in Austin with their specific concerns. LSCS personnel are unable to make any determinations as to a potential candidate’s eligibility for certification.
4. Clinical facilities require students to successfully pass a background check, a drug screen, and possibly provide proof of additional immunizations including but not limited to:
   a. Annual seasonal flu vaccination
   b. Pneumococcal (“pneumonia”) vaccine
   c. H1N1 influenza vaccine
   - Applicants may also be required to show proof of medical insurance as required by clinical agencies. Student medical insurance is available through LSCS.
   - Background checks are done through LSCS approved background check vendors.
   - Applicants must cover the costs of the background check, drug screen, medical insurance and immunizations.
   - Additional program costs to be assumed by the student include uniforms, malpractice insurance, and skills examination fees.
5. 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.

EMT (EMSP 1501/1160) Admission Requirements

1. Apply for and be admitted to LSCS.
2. Present proof of successful completion of the American Heart Association’s Basic Life Support for Health Care Providers and remain current throughout program enrollment.
3. Document immunization or laboratory report of immune serum antibody titer against tetanus, diphtheria, pertussis, mumps, measles, rubella, varicella and Hepatitis B.
4. Completed Physical Examination/Medical History form.
5. Document negative results from a yearly tuberculosis test (Mantoux). If the test is positive a chest x-ray is required and performed within the time limit established by the facility. Submit the radiology report with the immunization form. Gold Test results will be accepted.
6. Enrollment into the EMT clinical course is contingent upon a satisfactory background check and drug screen (as required by clinical facilities) that is completed by a college approved vendor at the student’s expense. Clinicals may also require proof of personal medical insurance and additional
immunizations.

**EMSP Intermediate Certificate, EMSP Paramedic Certificate, and AAS Requirements**

1. Apply for and be admitted to LSCS.

2. Students must make formal application to the EMSP department to pursue coursework beyond EMSP 1501/1160.

3. Applicants who are currently certified at the EMT or EMT-Intermediate level or have completed EMSP 1501 (EMT) and EMSP 1160 (EMT Clinical) but who do not hold EMT certification may be provisionally accepted.

4. Students are only accepted for advance coursework at LSC-CyFair, LSC-Montgomery, and LSC-North Harris. Students should contact the program director for start dates. LSC-CyFair has an accelerated one year paramedic program that begins in the fall.

5. An application portfolio must be submitted according to the deadlines established by the EMSP department of each college program. The following should be included in the portfolio.
   - A completed application for admission.
   - Documentation of high school graduation or a GED.
   - Copies of all relevant academic transcripts: high school, college or university, military service schools, and other proprietary schools.
   - Documentation of EMT certification. Students who are currently enrolled in an EMT course or who have completed EMT coursework and are engaged in the credentialing process should provide a statement to this effect.
   - Verification of immunization against Tdap, MMR, Varicella, and Hepatitis B.
   - Negative results from a tuberculosis skin test (Mantoux or Gold) or chest x-ray performed within the last 12 months.
   - Present proof of successful completion of the American Heart Association’s Basic Life Support for Health Care Providers and remain current throughout program enrollment.
   - A completed the physical examination/medical history form.
   - Copy of background check results from a LSCS approved vendor.
   - Copy of Texas Driver’s License or official state ID.

6. Final acceptance into the program is contingent upon a satisfactory background check and drug screen (as required by clinical facilities) that is completed by a college approved agency at the student’s expense. Clinical facilities may also require proof of personal medical insurance, and additional immunizations.

7. Completion of the following prerequisites is required for admission into the AAS track program. ENGL 0304 or ENGL 0364 AND ENGL 0306 or 0374, OR higher level course (ENGL 1301) OR placement by testing. Completion of MATH 0306 OR placement by testing.

8. Letters regarding admission status will be mailed at the conclusion of the application process.

Please visit the website at LoneStar.edu/ems-dept-NorthHarris for additional information, including a downloadable application for the LSC-North Harris program. The LSC-North Harris EMS Professions Program is accredited by the Commission on Accreditation of Allied Health Education Programs (www.caahep.org) upon the recommendation of the Committee on Accreditation of Educational Programs for the Emergency Medical Services Professions (CoAEMSP).

LSC-CyFair offers a one year paramedic academy. Please visit the website at LoneStar.edu/ems-dept-CyFair for additional information concerning the LSC-CyFair EMS program including a downloadable application. The LSC-CyFair EMSP Program is accredited by the Commission on Accreditation of Allied Health Education Programs (caahep.org) upon
WORKFORCE DEGREES AND CERTIFICATES

the recommendation of the Committee on Accreditation of Educational Programs for the Emergency Medical Services Professions (CoAEMSP).

EMERGENCY MEDICAL SERVICES PROFESSIONS INTERMEDIATE CERTIFICATE

(C1_EMI1 certificate offered at LSC-CyFair, LSC-Montgomery and LSC-North Harris)

LSC-CyFair offers this certificate in an accelerated schedule. Contact the faculty for more information. LSC-Montgomery offers a two semester webinar-based advanced certification program, and a fast track webinar-based advanced certification program. For more information, visit the department website at LoneStar.edu/ems-dept-Montgomery.

Prerequisite Semester Credit
EMSP 1160 Clinical-EMT 1
EMSP 1501 Emergency Medical Technician 5

FIRST YEAR

First Semester
EMSP 1161 Clinical-Emergency Medical Services Paramedic I 1
EMSP 1338 Introduction to Advanced Practice 3
EMSP 1356 Patient Assessment and Airway Management 3
EMSP 2348 Emergency Pharmacology 3

Second Semester
EMSP 1162 Paramedic Clinical II 1
EMSP 1355 Trauma Management 3
EMSP 2338 EMS Operations 3

TOTAL Credits for Emergency Medical Services Professions Intermediate Certificate 23

Note: It is recommended that students complete BIOL 2401 prior to beginning paramedic coursework.

EMERGENCY MEDICAL SERVICES PROFESSIONS PARAMEDIC CERTIFICATE

(C1_EMP1 certificate offered at LSC-CyFair and LSC-North Harris)

LSC-CyFair offers this certificate in an accelerated schedule. Contact the faculty for more information.

Prerequisite Semester Credit
EMSP 1160 Clinical-EMT 1
EMSP 1501 Emergency Medical Technician 5

FIRST YEAR

First Semester
EMSP 1161 Clinical-Emergency Medical Services Paramedic I 1
EMSP 1338 Introduction to Advanced Practice 3
EMSP 1356 Patient Assessment and Airway Management 3
EMSP 2348 Emergency Pharmacology 3

Second Semester
EMSP 1162 Paramedic Clinical II 1
EMSP 1355 Trauma Management 3
EMSP 2338 EMS Operations 3

Third Semester
EMSP 2444 Cardiology 4

SECOND YEAR

First Semester
EMSP 2160 Clinical-Paramedic III 1
EMSP 2330 Special Populations 3
EMSP 2434 Medical Emergencies 4

Second Semester
EMSP 2143 Assessment Based Management 1 1
EMSP 2361 Clinical-EMS 3

TOTAL Credits for Emergency Medical Services Professions Paramedic Certificate 39

Note: It is recommended that students complete BIOL 2401 prior to beginning paramedic coursework.

EMERGENCY MEDICAL SERVICES PROFESSIONS

Associate of Applied Science degree

(AAS_EMST degree offered at LSC-CyFair and LSC-North Harris)

LSC-CyFair offers the Associate of Applied Science degree in an accelerated schedule. Contact the faculty for more information.

Prerequisite Semester Credit
EMSP 1160 Clinical-EMT 1
EMSP 1501 Emergency Medical Technician 5

FIRST YEAR

First Semester
BIOL 2401 Human Anatomy & Physiology I 4
EMSP 1161 Clinical-Emergency Medical Services Paramedic I 1
EMSP 1338 Introduction to Advanced Practice 3
EMSP 1356 Patient Assessment and Airway Management 3
EMSP 2348 Emergency Pharmacology 3
PHED 1164 Introduction to Physical Fitness & Sport 1
OR any one credit hour physical activity course

Second Semester
BIOL 2402 Human Anatomy & Physiology II 4
EMSP 1162 Paramedic Clinical II 1
EMSP 1355 Trauma Management 3
EMSP 2338 EMS Operations 3
EMSP 2305 EMS Operations 3
ENGL 1301 Composition & Rhetoric I 3
Any one credit hour physical activity course 1

Third Semester
EMSP 2444 Cardiology 4
EMSP Elective 3
Elective Humanities/Fine Arts 3

SECOND YEAR
First Semester
EMSP 2444 Cardiology 4
EMSP 2300 Methods of Teaching EMS OR
EMSP 2352 EMS Research OR
EMSP 2359 EMS Supervision/Mangement 3
Elective Humanities/Fine Arts 1
EMSP 2160 Clinical Paramedic III 1
EMSP 2330 Special Populations 3
EMSP 2434 Medical Emergencies 4
PSYC 2301 General Psychology OR 3

Second Semester
EMSP 2160 Clinical Paramedic III 1
EMSP 2330 Special Populations 3
EMSP 2434 Medical Emergencies 4
PSYC 2301 General Psychology OR 3
SOCI 1301 Principles of Sociology 3
EMSP 2143 Assessment Based Management 3
EMSP 2361 Clinical EMS 3
GOVT 2305 Federal Government OR 3
GOVT 2306 Texas Government OR 3
SOCI 1301 Principles of Sociology OR 3
PSYC 2301 General Psychology 3

Third Semester
EMSP 2143 Assessment Based Management 2 1
EMSP 2361 Clinical EMS 3

TOTAL Credits for Emergency Medical Services Professions Associate of Applied Science degree 67

ENERGY AND MANUFACTURING TECHNOLOGY

Men and women working as Field Service, Petroleum Field Service and Automated Manufacturing Technicians complete highly technical tasks that require advanced training and knowledge. Due to the advancements in electro-mechanical systems, interdisciplinary fields are rapidly developing to address the design, operation and maintenance of products and systems that require a working knowledge of both mechanical and electronic components.

A field service technician installs and maintains oil field service equipment, instrumentation, controls, and electro-mechanical systems. After completing the Field Service technician certificate, a student can choose to enter one of two certificate/degree tracks. The Petroleum Field Service Technician certificate and degree prepares a student for entry into the Upstream Development side of the Oil and Gas industry with an emphasis in drilling and the supporting systems needed for the completion of Oil and Gas wells. The Automated Manufacturing Technician Certificate and degree prepares a student to enter the industrial automation industry with an emphasis in robotics, programmable logic controls and automatic electro-mechanical systems. A fast track program is also available with the Oil Field Service Technician MSA ( Marketable Skills Award) that allows students to enter the workforce in as little as one semester. It provides training in Hydraulics/Pneumatics, DC/AC Circuits and Petroleum Instrumentation. This certificate prepares a student to enter the industry as a technician in support of electro-mechanical, petroleum and manufacturing technologies.

FIELD SERVICE TECHNICIAN - MARKETABLE SKILLS AWARD

[MSC_OFST award offered at LSC-CyFair, LSC-North Harris, and LSC-University Park]

FIRST YEAR

Credit
CETT 1402 Electricity Principles OR 4
CETT 1409 DC/AC Circuits
HYDR 1345 Hydraulics and Pneumatics 3
IEIR 1310 Motor Controls 3
RBTC 1401 Programmable Controllers 4

TOTAL Credits for Field Service Technician Marketable Skills Award 14

FIELD SERVICE TECHNICIAN

[C1_ETA1 certificate offered at LSC-CyFair, LSC-North Harris, and LSC-University Park]
## PETROLEUM FIELD SERVICE TECHNICIAN CERTIFICATE
(C2_PFT2 certificate offered at LSC-University Park)

### FIRST YEAR

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>CETT 1402 Electricity Principles OR CETT 1409 DC-AC Circuits</td>
<td>4</td>
</tr>
<tr>
<td>TECM 1303 Technical Calculations OR MCHN 1343 Machine Shop Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>HYDR 1345 Hydraulics and Pneumatics PTRT 1191 Special Topics in Petroleum Technology/Technician</td>
<td>3</td>
</tr>
<tr>
<td>MCHN 1302 Print Reading for Machine Trades</td>
<td>3</td>
</tr>
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</table>

### SECOND SEMESTER

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>IEIR 1310 Motor Controls</td>
<td>3</td>
</tr>
<tr>
<td>RBTC 1401 Programmable Controllers</td>
<td>4</td>
</tr>
<tr>
<td>OSHT 1316 Material Handling</td>
<td>3</td>
</tr>
<tr>
<td>ITSC 1301 Introduction to Computers</td>
<td>3</td>
</tr>
<tr>
<td>INMT 2303 Pumps, Compressors &amp; Mechanical Drives</td>
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<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>INTC 1341 Principles of Automatic Control</td>
<td>3</td>
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<td>ITSC 1301 Introduction to Computers</td>
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<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>PHED 1164 Introduction to Physical Fitness &amp; Sport OR any one credit hour physical activity course</td>
<td>1</td>
</tr>
<tr>
<td>PTRT 1301 Introduction to Petroleum Industry</td>
<td>3</td>
</tr>
<tr>
<td>PTRT 1391 Special Topics in Petroleum Technology/Technician</td>
<td>3</td>
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</tbody>
</table>

### TOTAL Credits for Petroleum Field Service Technician Certificate
50

1 Capstone course

## AUTOMATED MANUFACTURING TECHNICIAN ASSOCIATE OF APPLIED SCIENCE DEGREE
(AAS_ETMT degree offered at LSC-University Park)

### FIRST YEAR

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</tbody>
</table>

### TOTAL Credits for Automated Manufacturing Technician ASSOCIATE OF APPLIED SCIENCE DEGREE
50

1 Capstone course

## AUTOMATED MANUFACTURING TECHNICIAN CERTIFICATE
(C2_AMT2 certificate offered at LSC-University Park)

### FIRST YEAR

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
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### TOTAL Credits for Automated Manufacturing Technician ASSOCIATE OF APPLIED SCIENCE DEGREE
50

1 Capstone course

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Text on this page has been revised since publication of the printed catalog. Please see addendum for details.
TECM 1303 Technical Calculations OR 3
MCHN 1343 Machine Shop Mathematics 3
DFTG 1325 Blueprint Reading and Sketching 3
MCHN 1302 Print Reading for Machine Trades 3
HYDR 1345 Hydraulics and Pneumatics 3
PTRT 1191 Special Topics in Petroleum Technology/Technician 1

Second Semester
IEIR 1310 Motor Controls 3
INMT 2303 Pumps, Compressors & Mechanical Drives 3
RBTC 1401 Programmable Controllers 4
ITSC 1301 Introduction to Computers 3
OSHT 1316 Material Handling 3

Third Semester
INTC 1341 Principles of Automatic Control 3
PHED 1164 Introduction to Physical Fitness & Sport 1
OR any one credit hour physical activity course
MCHN 1319 Manufacturing Materials and Processes 3

SECOND YEAR
First Semester
ELMT 2433 Industrial Electronics 4
INMT 1417 Industrial Automation 4
RBTC 1305 Robotic Fundamentals 3
SPCH 1311 Introduction To Communication 3

Second Semester
MATH 1314 College Algebra 3
SOCI 1301 Principles of Sociology 3
Humanities or Fine Arts Elective 3
ENGL 1301 Composition & Rhetoric I 3
INMT 2388 Internship Manufacturing/Technology 1 3

TOTAL Credits for Automated Manufacturing Technician Associate of Applied Science degree 66
1 Capstone course

PETROLEUM FIELD SERVICE TECHNICIAN ASSOCIATE OF APPLIED SCIENCE DEGREE
(AAS_ETPT degree offered at LSC-University Park)

FIRST YEAR
Credit
First Semester
DEMR 1301 Shop Safety and Procedures 3
DEMR 1305 Basic Electrical Systems 3
DEMR 1306 Diesel Engine I 3
DEMR 1310 Diesel Engine Testing and Repair I 3
DEMR 1313 Fuel Systems 3
DEMR 1229 Preventative Maintenance 2

TOTAL Credits for Industrial Diesel Technology Certificate 15
1 Capstone course
WORKFORCE DEGREES AND CERTIFICATES

DEMR 1317 Basic Brake Systems 3
DEMR 1349 Diesel Engine II 3
DEMR 2332 Electronic Controls 3

SECOND YEAR
First Semester
DEMR 1321 Power Train I 3
DEMR 1323 Heating, Ventilation, and Air Conditioning Troubleshooting and Repair 3
DEMR 2312 Diesel Engine Testing and Repair II 3
DEMR 2334 Advanced Diesel Tune-up and Troubleshooting 3

TOTAL Credits for Industrial Diesel Technology Certificate 41

1 Capstone course

INDUSTRIAL DIESEL TECHNOLOGY
ASSOCIATE OF APPLIED SCIENCE DEGREE
(AAS_IDTE degree offered at LSC-North Harris)

FIRST YEAR
Credit
First Semester
DEMR 1301 Shop Safety and Procedures 3
DEMR 1305 Basic Electrical Systems 3
DEMR 1306 Diesel Engine I 3
DEMR 1310 Diesel Engine Testing and Repair I 3
DEMR 1313 Fuel Systems 3

Second Semester
DEMR 1229 Preventative Maintenance 2
DEMR 1316 Basic Hydraulics 3
DEMR 1349 Diesel Engine II 3
DEMR 2332 Electronic Controls 3

Third Semester
Natural Science/Math1 3
SPCH 1321 Business and Professional Communication 3

SECOND YEAR
First Semester
DEMR 1317 Basic Brake Systems 3
DEMR 1323 Heating, Ventilation, and Air Conditioning Troubleshooting and Repair 3
DEMR 2334 Advanced Diesel Tune-up and Troubleshooting 3
ENGL 1301 Composition & Rhetoric I 3
PHED 1164 Physical Fitness & Sport 1
OR any one credit hour physical activity course 1

Second Semester
Humanities/Fine Arts1 3
Social Behavioral Science1 3
DEMR 1321 Power Train I 3
DEMR 2312 Diesel Engine Testing and Repair II 3

TOTAL Credits for Petroleum Data Technology Certificate 32

1 Capstone course

PETROLEUM DATA TECHNOLOGY
ASSOCIATE OF APPLIED SCIENCE DEGREE
(AAS_PTRL degree offered at LSC-CyFair)

FIRST YEAR
Credit
First Semester
ITSC 1301 Introduction to Computers OR 3
COSC 1301 Introduction to Computers 3
PTRT 1370 Petroleum Geology 3
PTRT 1371 Petroleum Data Management I - Exploration 3

Second Semester
TECM 1303 Technical Calculations 3
ITSW 1404 Introduction to Spreadsheets 4
PTRT 1372 Petroleum Data Management II - Drilling and Production 3
ITSW 1407 Introduction to Databases 4

Third Semester
PTRT 1373 Exploration and Production I 3
PTRT 2380 Cooperative Education - Petroleum Technology/Technician 3
PTRT 2370 Petroleum Data Management III - Facilities & Performance 3

TOTAL Credits for Petroleum Data Technology Certificate 60

1 Choose from the AAS core
2 Capstone course

Text on this page has been revised since publication of the printed catalog. Please see addendum for details.
Social/Behavioral Science Elective\(^1\) \hspace{2cm} 3 
PTR T 1373 Exploration and Production I \hspace{2cm} 3 

SECOND YEAR

First Semester
PTR T 1374 Exploration and Production II \hspace{2cm} 3 
Humanities/Fine Arts Elective\(^1\) \hspace{2cm} 3 
ITSW 2434 Advanced Spreadsheets \hspace{2cm} 4 
SPCH 1321 Business and Professional Communication \hspace{2cm} 3 

Second Semester
MATH 1314 College Algebra \hspace{2cm} 3 
PTR T 2370 Petroleum Data Management III - Facilities & Performance \hspace{2cm} 3 
ENGL 1301 Composition & Rhetoric I \hspace{2cm} 3 
PTR T 2331 Well Completions \hspace{2cm} 3 

Third Semester
PTR T 2371 Internship - Petroleum Technology\(^2\) \hspace{2cm} 3 

TOTAL Credits for Petroleum Data Technology Associate of Applied Science degree \hspace{2cm} 60 

\(^1\) Choose from the AAS core  
\(^2\) Capstone course

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 degree plans. 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.

COMPUTER-AIDED DESIGN OPERATOR/ DRAFTING CERTIFICATE
(C1_EDD1 certificate offered at LSC-CyFair and LSC-North Harris)

FIRST YEAR

First Semester
DFTG 1305 Technical Drafting \hspace{2cm} 3 
DFTG 1309 Basic Computer-aided Drafting \hspace{2cm} 3 
Elective Discipline Track\(^1\) \hspace{2cm} 3 
TECM 1303 Technical Calculations OR MATH 1314 College Algebra\(^2\) \hspace{2cm} 3 

Second Semester 
Elective Discipline Track\(^1\) \hspace{2cm} 3 
Elective Discipline Track\(^1\) \hspace{2cm} 3 
DFTG 2319 Intermediate Computer-Aided Dftg \hspace{2cm} 3 
DFTG 2340 Solid Modeling & Design \hspace{2cm} 3 

Third Semester 
Elective Discipline Track\(^1\) \hspace{2cm} 3 
Elective Discipline Track\(^1\) \hspace{2cm} 3 

TOTAL Credits for Computer-Aided Design Operator/Drafting Certificate \hspace{2cm} 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 (select five courses) - CNBT 1311, DFTG 2331, DFTG 1317, ARCE 1352, DFTG 2328, DFTG 1391 

Track 2: Mechanical, Manufacturing, Product Design (select five courses) - MCHN 1319, DFTG 2302, DFTG 2323, METL 1301, INMT 1311, DFTG 2335, CETT 1409, DFTG 1391
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**

**(AAS_EDAE specialization offered at LSC-CyFair and LSC-North Harris)**

<table>
<thead>
<tr>
<th>Prerequisite Semester</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 1301 Composition &amp; Rhetoric I</td>
<td>3</td>
</tr>
<tr>
<td>MATH 1314 College Algebra</td>
<td>3</td>
</tr>
</tbody>
</table>

**FIRST YEAR**

**First Semester**

- CNBT 1311 Construction Methods & Materials | 3 |
- DFTG 1305 Technical Drafting | 3 |
- DFTG 1309 Basic Computer-aided Drafting | 3 |
- MATH 1316 Trigonometry | 3 |

**Second Semester**

- CNBT 1342 Building Codes & Inspections | 3 |
- DFTG 2331 Advanced Architectural Design | 3 |
- ENGL 1302 Composition & Rhetoric II OR | 3 |
- ENGL 2311 Technical Communications | 3 |
- PHYS 1401 General Physics I | 4 |

**Third Semester**

- ARCE 1352 Structural Drafting | 3 |
- DFTG 2319 Intermediate Computer-Aided Drafting | 3 |
- PHED 1164 Introduction to Physical Fitness & Sport | 3 |

**SECOND YEAR**

**First Semester**

- DFTG 1317 Architectural Draft - Residential | 3 |
- DFTG 2328 Architectural Drafting Commercial | 3 |
- ARCE 1315 Structural Steel Detailing | 3 |
- ENTC 1343 Statics | 3 |

**Second Semester**

- ARTS 1304 Art History: Renaissance to Modern | 3 |
- DFTG 1371 Metal Building Systems I | 3 |
- ENTC 1423 Strength of Materials | 4 |
- Speech Elective^4 | 3 |

**Third Semester**

- Elective Social/Behavioral Science^2 | 3 |
- DFTG 1391 Special topics in Drafting and Design Technology^2 OR | 3 |
- DFTG 2338 Final Project - Advanced Drafting^4 OR | 3 |
- ENTC 2380 Co-op Engineering Tech Technician^4 | 3 |

**TOTAL Credits for Architectural Engineering Technology Specialization Associate of Applied Science degree** | 69 |

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1 Meets computer competency.
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)**

**(AAS_EDME specialization offered at LSC-CyFair and LSC-North Harris)**

<table>
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<tbody>
<tr>
<td>ENGL 1301 Composition &amp; Rhetoric I</td>
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<tr>
<td>MATH 1314 College Algebra</td>
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</table>

**FIRST YEAR**

**First Semester**

- DFTG 1305 Technical Drafting | 3 |
- DFTG 1309 Basic Computer-aided Drafting | 3 |
- PHED 1164 Introduction to Physical Fitness & Sport OR any one credit hour physical activity course | 3 |
- MCHN 1319 Manufacturing Materials and Processes | 3 |
- METL 1301 Introduction to Metallurgy | 3 |

**Second Semester**

- DFTG 2302 Machine Drafting | 3 |
- DFTG 2319 Intermediate Computer-Aided Drafting | 3 |
- DFTG 2340 Solid Modeling & Design | 3 |
- MATH 1316 Trigonometry | 3 |

**Third Semester**

- CETT 1409 DC-AC Circuits | 4 |
- ENGL 2311 Technical Communications OR | 3 |
- ENGL 1302 Composition & Rhetoric II | 3 |

**SECOND YEAR**

**First Semester**

- ENTC 1343 Statics | 3 |
- Humanities/Fine Arts Electives^1 | 3 |
- IEIR 1310 Motor Controls^2 OR | 3 |
- QCTC 1303 Quality Control^3 | 3 |
- PHYS 1401 General Physics I | 4 |

**Second Semester**

- DFTG 2335 Advanced Tech Mechanical Design | 3 |
- Elective Social/Behavioral Science^1 | 3 |
- ENTC 1423 Strength of Materials | 4 |
- Speech Elective^4 | 3 |

**Third Semester**

- Elective^2 | 3 |
- DFTG 2338 Final Project - Advanced Drafting^4 OR | 3 |
- ENTC 2380 Co-op Engineering Tech Technician^4 OR | 3 |
- DFTG 1391 Special Topics in Drafting & Design Technology^4 | 3 |

**TOTAL Credits for Mechanical Engineering Technology Specialization Associate of Applied Science degree** | 70 |

1 Choose from the AAS core
2 IEIR 1310 and DFTG 2336 are intended for students wanting to focus on being mechanical designers, but may or may not be within a production manufacturing
3 QCTC 1303 and INMT 1311 are intended for students wanting to focus their employment within a production and manufacturing environment.

4 Choose from SPCH 1311, 1315, 1321

5 DFTG 2336 or INMT 1311 or DFTG 2323

6 Capstone course

**PRE-ENGINEERED METAL BUILDING DRAFTING & DESIGN SPECIALIZATION**

*Associate of Applied Science degree*

(AAS_EDMB specialization offered at LSC-CyFair and LSC-North Harris)

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**First Semester**

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<td>SPCH 1318 Interpersonal Communication</td>
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**Second Semester**

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<tbody>
<tr>
<td>DFTG 1371 Metal Building Systems I</td>
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<tr>
<td>DFTG 2319 Intermediate Computer-Aided Drafting</td>
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<td>ENGL 1302 Composition &amp; Rhetoric II OR</td>
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<tr>
<td>ENGL 2311 Technical Communications</td>
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<td>MATH 1316 Trigonometry</td>
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**Third Semester**

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<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>ARCE 1352 Structural Drafting</td>
<td>3</td>
</tr>
<tr>
<td>DFTG 2331 Advanced Architectural Design</td>
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**SECOND YEAR**

**First Semester**

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>ARCE 1315 Structural Steel Detailing</td>
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<tr>
<td>DFTG 2328 Architectural Drafting Commercial</td>
<td>3</td>
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<tr>
<td>Elective Humanities/Fine Arts2</td>
<td>3</td>
</tr>
<tr>
<td>ENTC 1343 Statics</td>
<td>3</td>
</tr>
<tr>
<td>PHED 1164 Introduction to Physical Fitness &amp; Sport 1</td>
<td>3</td>
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<tr>
<td>OR any one credit hour physical activity course</td>
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**Second Semester**

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<tr>
<th>Course</th>
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<tbody>
<tr>
<td>DFTG 2371 Metal Building Systems II</td>
<td>3</td>
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<tr>
<td>ENTC 1423 Strength of Materials</td>
<td>4</td>
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<tr>
<td>Elective Social/Behavioral Science2</td>
<td>3</td>
</tr>
<tr>
<td>DFTG 2338 Final Project - Advanced Drafting1 OR</td>
<td>3</td>
</tr>
<tr>
<td>ENTC 2380 Co-op Engineering Tech Technician3</td>
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</table>

**TOTAL Credits for Pre-Engineered Metal Building Drafting & Design Specialization Associate of Applied Science degree** 62

1 Meets computer competency

2 Choose from the AAS core

3 Capstone course

**COMPUTER ENGINEERING TECHNOLOGY**

If you are interested in an exciting and rewarding career where people and technology come together, computer engineering technology may be for you. Specialized courses in computer engineering technology emphasize application and the program provides classroom studies with hands-on, high-tech laboratories. The student will use the tools of mathematics and science, including the calculator, computer, telecommunication networks and other laboratory equipment.

Computer engineering technologists fill entry-level positions in industry such as 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
- Engineering Assistant/Associate Engineer

The core courses will transfer to a variety of colleges and universities. Contact a counselor or faculty advisor for specific information.
WORKFORCE DEGREES AND CERTIFICATES

COMPUTER ENGINEERING TECHNOLOGY SPECIALIZATION
Associate of Applied Science degree
(AAS_CETS specialization offered at LSC-CyFair)

Prerequisite Semester Credit
ITSC 1301 Introduction to Computers OR 3–4
COSC 1301 Introduction to Computers OR
CPMT 1403 Introduction to Computer Technology

FIRST YEAR
First Semester
Elective Humanities/Fine Arts1  3
Elective Social/Behavioral Sciences¹  3
ITSE 1402 Computer Programming  4
MATH 1314 College Algebra  3

Second Semester
CETT 1425 Digital Fundamentals  4
ENGL 1301 Composition & Rhetoric I  3
SPCH 1318 Interpersonal Communication  3
Technical Elective²  4

Third Semester
CETT 1409 DC-AC Circuits  4

SECOND YEAR
First Semester
CETT 1429 Solid State Devices  4
CETT 1445 Microprocessor  4
CPMT 1445 Computer Systems Maintenance  4
MATH 1316 Trigonometry  3

Second Semester
CETT 2433 Computer Integration  4
ITSY 1442 Information Technology Security  4
PHED 1164 Introduction to Physical Fitness & Sport  1
  OR any one credit hour physical activity course

Capstone Course³  3–4

TOTAL Credits for Computer Engineering Technology Specialization Associate of Applied Science degree 61-63

¹ Choose from the AAS core
² Select from CPMT 1449, EECT 2439, or ELMT 2433, or department approval
³ Capstone Course. Choose one from CETT 2449, EECT 2380, or ELMT 2433

FIRE SCIENCE TECHNOLOGY
The Basic Structural Firefighter 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.

BASIC STRUCTURAL FIREFIGHTER CERTIFICATE
(C1_BFF1 certificate offered at LSC-CyFair, LSC-Kingwood and LSC-Montgomery)

FIRST YEAR
Credit
First Semester
FIRS 1301 Firefighter Certification I  3
FIRS 1407 Firefighter Certification II  4
FIRS 1313 Firefighter Certification III  3
FIRS 1319 Firefighter Certification IV  3
FIRT 1171 Firefighter Agility & Fitness Prep  1

Second Semester
FIRT/FIRS Elective  3
FIRT 2171 Firefighter Agility & Fitness II  1
FIRS 1423 Firefighter Certification V  4
FIRS 1329 Firefighter Certification VI  3
FIRS 1433 Firefighter Certification VII¹  4

TOTAL Credits for Basic Structural Firefighter Certificate 29

¹ Capstone course

FIRE SCIENCE TECHNOLOGY
Associate of Applied Science degree
(AAS_FSCT degree offered at LSC-CyFair and LSC-Montgomery)

Prerequisite Semester Credit
ENGL 1301 Composition & Rhetoric I  3
MATH 1314 College Algebra  3

FIRST YEAR
Credit
First Semester
FIRS 1301 Firefighter Certification I  3
FIRS 1407 Firefighter Certification II  4
FIRS 1313 Firefighter Certification III  3
FIRS 1319 Firefighter Certification IV  3
FIRT 1171 Firefighter Agility & Fitness Prep  1

Second Semester
FIRS 1423 Firefighter Certification V  4
FIRS 1329 Firefighter Certification VI  3
FIRS 1433 Firefighter Certification VII  4
FIRT 2171 Firefighter Agility & Fitness II  1
FIRT/FIRS elective  3

Third Semester
EMSP 1501 Emergency Medical Technician³ OR  5
FIRT Elective
EMSP 1160 Clinical-EMT³ OR  1
FIRT Elective

SECOND YEAR
Credit
First Semester
Core Elective²  3
COSC 1301 Introduction to Computers  3
FIRT 1315 Hazardous Materials I  3

³ Choose from the AAS core
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 working on 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

(C2_GDA2 certificate offered at LSC-Kingwood and LSC-Tomball)

FIRST YEAR

Credit
First Semester
ENGL 1301 Composition & Rhetoric I 3
GAME 1303 Intro Game Design & Development 3
ARTV 1303 Basic Animation 3
ARTC 1302 Digital Imaging I 3
Second Semester
ARTV 1345 3-D Modeling and Rendering I 3
Humanities/Fine Arts Elective\(^1\) 3
GAME 1335 Interactive Writing I 3
IMED 1345 Interactive Digital Media I 3
Third Semester
COSC 1301 Introduction to Computers OR 3
ITSC 1301 Introduction to Computers
SECOND YEAR

First Semester
ARTV 1341 3-D Animation I 3
GAME 1304 Level Design 3
IMED 2345 Interactive Digital Media II 3
Second Semester
GAME 2332 Project Development I\(^2\) OR 3
GAME 2386 Internship\(^2\) 3
GAME 2338 Game Testing 3
TOTAL Credits for Game Design and Simulation Designer (Artist) Certificate 42

1 Choose from the AAS core
2 Capstone course

GAME DESIGN AND SIMULATION DEVELOPER (PROGRAMMING) CERTIFICATE

(C2_GDP2 certificate offered at LSC-Kingwood and LSC-Tomball)

Text on this page has been revised since publication of the printed catalog. Please see addendum for details.
# Workforce Degrees and Certificates

## First Year

### Credit

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>First</td>
<td>COSC 1301 Introduction to Computers OR</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>ITSC 1301 Introduction to Computers</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ENGL 1301 Composition &amp; Rhetoric I</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>GAME 1303 Intro Game Design &amp; Development</td>
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<tr>
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<td>MATH 1314 College Algebra</td>
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<td>Second</td>
<td>ARTV 1303 Basic Animation</td>
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<td>Humanities/Fine Arts Elective</td>
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<tr>
<td></td>
<td>GAME 1335 Interactive Writing I</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>SOCI 1301 Principles of Sociology OR</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>SPCH 1318 Interpersonal Communication</td>
<td></td>
</tr>
<tr>
<td>Third</td>
<td>COSC 1309 Logic Design OR</td>
<td>3–4</td>
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<tr>
<td></td>
<td>ITSE 1402 Computer Programming</td>
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### Second Year

<table>
<thead>
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<th>Course</th>
<th>Credits</th>
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<tr>
<td>First</td>
<td>COSC 1420 C Language OR</td>
<td>4</td>
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<td></td>
<td>ITSE 1407 Introduction to C++ Programming</td>
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<tr>
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<td>GAME 1304 Level Design</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>GAME 2338 Game Testing</td>
<td>3</td>
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<tr>
<td></td>
<td>PHED 1164 Introduction to Physical Fitness &amp; Sport OR any one credit hour physical activity course</td>
<td></td>
</tr>
<tr>
<td>Second</td>
<td>GAME 2332 Project Development I OR</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>GAME 2386 Internship</td>
<td></td>
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</tbody>
</table>

**Total Credits for Game Design and Simulation Developer (Programming) Certificate**: 41-42

1. Choose from the AAS core
2. Capstone course

## Game Design and Simulation Designer (Artist) Specialization

### Associate of Applied Science Degree

(AAS_GDSA degree offered at LSC-Kingwood)

### First Year

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>First</td>
<td>ARTC 1302 Digital Imaging I</td>
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<tr>
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<td>ARTS 1316 Drawing I</td>
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<tr>
<td></td>
<td>ARTV 1345 3-D Modeling and Rendering I</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>COSC 1301 Introduction to Computers OR</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>ITSC 1301 Introduction to Computers</td>
<td></td>
</tr>
<tr>
<td></td>
<td>GAME 1303 Intro Game Design &amp; Development</td>
<td>3</td>
</tr>
<tr>
<td>Second</td>
<td>ARTC 1317 Design Communications I</td>
<td>3</td>
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<td></td>
<td>ARTV 1303 Basic Animation</td>
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<tr>
<td></td>
<td>ARTV 2345 3-D Modeling and Rendering II</td>
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<td>GAME 1304 Level Design</td>
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<tr>
<td></td>
<td>ENGL 1301 Composition &amp; Rhetoric I</td>
<td>3</td>
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<tr>
<td>Third</td>
<td>GAME 1334 Video Game Art I</td>
<td>3</td>
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<tr>
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<td>GAME 2338 Game Testing</td>
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### Second Year

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<td>First</td>
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<td>GAME 2341 Game Scripting</td>
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<td>GAME 2419 Game Engine</td>
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<td>ITSE 2431 Advanced C++ Programming</td>
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**Prerequisite Semester**

<table>
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<tr>
<td>ENGL 1301 Composition &amp; Rhetoric I</td>
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<tr>
<td>MATH 1314 College Algebra</td>
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## Game Design and Simulation Developer (Programming) Specialization

### Associate of Applied Science Degree

(AAS_GDSP degree offered at LSC-Kingwood)

### First Year

<table>
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<tr>
<th>Semester</th>
<th>Course</th>
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<tbody>
<tr>
<td></td>
<td>ITSC 1301 Introduction to Computers OR</td>
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<tr>
<td></td>
<td>COSC 1301 Introduction to Computers</td>
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<tr>
<td></td>
<td>COSC 1309 Logic Design</td>
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<td>GAME 1303 Intro Game Design &amp; Development</td>
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<td>Humanities/Fine Arts Elective</td>
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<td>PHED 1164 Introduction to Physical Fitness &amp; Sport OR any one credit hour physical activity course</td>
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### Second Year

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<th>Semester</th>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td></td>
<td>GAME 2332 Project Development I OR</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>GAME 2386 Internship</td>
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</table>

Total Credits for Game Design and Simulation Designer (Artist) Specialization Associate of Applied Science degree: 70

1. Choose from MATH 1314, 1332 or 1342
2. Choose from the AAS core
3. Capstone course

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LSCS Catalog 2014/2015
WORKFORCE DEGREES AND CERTIFICATES

SECOND SEMESTER
GAME 1359 Game & Simulation Programming II 3
GAME 1343 Game and Simulation Programming I 3
GAME 2303 Artificial Intelligence Programming I 3
SOCI 1301 Principles of Sociology 3
SPCH 1318 Interpersonal Communication 3

THIRD SEMESTER
GAME 2334 Project Development II OR 3
GAME 2386 Internship2

TOTAL Credits for Game Design and Simulation Developer (Programming) Specialization Associate of Applied Science degree 71

1 Choose from the AAS core
2 Capstone course

GEOREOGRAPHIC 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 Marketable Skills Award is awarded for completion of 12 credit hours of course work focusing on basic concepts of GIS software and data. The GIS Technician certificate is awarded for completion of 22 credit hours of course work focusing on proficiency in GIS software applications and data management. The GIS Analyst certificate is awarded for completion of 33-34 credit hours of course work and provides graduates additional skills to develop and analyze data and prepare projects for delivery to clients. The GIS Associate of Applied Science degree is awarded for the completion of 65-67 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.

GEOREOGRAPHIC INFORMATION SYSTEMS - MARKETABLE SKILLS AWARD
(MSC_GINS award offered at LSC-CyFair)

FIRST YEAR
Credit
First Semester
GISC 1411 Intro to Geographic Info Systems 4
GISC 1401 Cartography & Geography in Geographical Information Systems 4
GISC 1421 Introduction to Raster-Based GIS 4

TOTAL Credits for Geographic Information Systems Marketable Skills Award 12

GEOREOGRAPHIC INFORMATION SYSTEMS TECHNICIAN CERTIFICATE
(C1_GIT1 certificate offered at LSC-CyFair)

FIRST YEAR
Credit
First Semester
COSC 1301 Introduction to Computers OR ITSC 1301 Introduction to Computers 3
GISC 1411 Intro to Geographic Info Systems 4
MATH 1314 College Algebra 3

Second Semester
GISC 1401 Cartography & Geography in Geographical Information Systems 4
GISC 1421 Introduction to Raster-Based GIS 4
ITSE 1407 Introduction to Databases2 4

TOTAL Credits for Geographic Information Systems Technician Certificate 22

1 Capstone course
2 ITSE 1402 1302 or ITSE 1432 1332 may substitute for ITSW 1407 1307
GEOGRAPHIC INFORMATION SYSTEMS ANALYST CERTIFICATE  
(C1_GIA1 certificate offered at LSC-CyFair)

FIRST YEAR  

First Semester  
COSC  1301  Introduction to Computers OR 3  
ITSC  1301  Introduction to Computers  
GISC  1411  Intro to Geographic Info Systems 4  
MATH  1314  College Algebra 3  

Second Semester  
GISC  1401  Cartography & Geography in Geographical Information Systems 4  
GISC  1421  Introduction to Raster-Based GIS 4  
ITSW  1407  Introduction to Databases1 4  

Third Semester  
GISC  2380  Cooperative Education-Cartography2 3  
GISC  1491  Special Topics in Cartography2 4  
GISC  2401  Data Acquisition & Analysis GIS 4  
GISC  2411  Geographic Information Systems (GIS) Applications 4  

TOTAL Credits for Geographic Information Systems Analyst Certificate 33–34  

1 ITSE 1402 1302 or ITSE 1432 1332 may substitute for ITSW 1407 1307.  
2 Capstone course

GEOGRAPHIC INFORMATION SYSTEMS  
Associate of Applied Science degree  
(AAS_GINS degree offered at LSC-CyFair)

FIRST YEAR  

First Semester  
COSC  1301  Introduction to Computers OR 3  
ITSC  1301  Introduction to Computers  
GISC  1411  Intro to Geographic Info Systems 4  
MATH  1314  College Algebra 3  

Second Semester  
GISC  1401  Cartography & Geography in Geographical Information Systems 4  
GISC  1421  Introduction to Raster-Based GIS 4  
ITSW  1407  Introduction to Databases1 4  

Third Semester  
GISC  2380  Cooperative Education-Cartography2 3–4  
GISC  1491  Special Topics in Cartography3 4  
MATH  1316  Trigonometry 3  

SECOND YEAR  

First Semester  
DFTG  1305  Technical Drafting 3  
ENGL  1301  Composition & Rhetoric I 3  
GEOG  1301  Physical Geography 3  

GEOL  1403  Physical Geology 4  

Second Semester  
SPCH  1315  Public Speaking 3  
ENGL  2311  Technical Communications 3  
DFTG  1309  Basic Computer-aided Drafting 3  
Elective Humanities/Fine Arts2 3  
PHED  1164  Introduction to Physical Fitness & Sport 1  
OR any one credit hour physical activity course  

TOTAL Credits for Geographic Information Systems Associate of Applied Science degree 65–67  

1 ITSE 1402 1302 or ITSE 1432 1332 may substitute for ITSW 1407 1307.  
2 Choose from the AAS core  
3 Capstone course

HEALTH INFORMATION TECHNOLOGY

Program Description
The health information technology (HIT) 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 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.

Admission Criteria: AAS Degree
In order to be considered for admission to the HIT program, students must pass the Texas Success Initiative. Unless students are TSI exempt, they must take the TSI Assessment and receive college-level placement in reading, writing, and completion of MATH 0310 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 pick one up one up at Lone Star North Harris Winship 174 and bring the completed packet to the department. Applications are accepted from May 1st to 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 BIOL 2401 Human Anatomy and Physiology I or HITT 1305 Medical Terminology.

Applicants seeking admission into the health information technology AAS degree program and 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.

Website: LoneStar.edu/health-info-tech-aas

Coding Certificate Description
The coding certificate is currently approved by the Council on Certification of the American Health Information Management Association (AHIMA). In addition, program accreditation allows coding certificate graduates to apply for certification examination to become a Certified Coding Associate (CCA).

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.

Admission Criteria: Coding Certificate
Admission to the certificate program requires completion of an application found on the LSC-North Harris Web site. Applications are accepted March 1 to May 1st for fall entry. Applicants seeking admission into these programs must successfully pass a criminal background check. 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 requires the following:

1. College-level reading and writing readiness skill

2. Completion of ENGL 0305 or ENGL 0365 & ENGL 0307 or ENGL 0375 or higher

3. Completion of MATH 0310 or higher

The coding certificate 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 (CCA). The coding certificate program begins every fall semester. Students wishing to begin the certificate program at any other time besides the fall may take some of the core courses or prerequisites for the program.

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.

Website: LoneStar.edu/Hospital-Based-Coding-Certificate

**PHYSICIAN OFFICE-BASED CODING CERTIFICATE**

(C1_POB1 certificate offered at LSC-North Harris)

<table>
<thead>
<tr>
<th>Prerequisite Semester</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>HITT 1305 Medical Terminology I</td>
<td>3</td>
</tr>
<tr>
<td>COSC 1301 Introduction to Computers OR ITSC 1301 Introduction to Computers</td>
<td>3</td>
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**FIRST YEAR**

<table>
<thead>
<tr>
<th>First Semester</th>
</tr>
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<tbody>
<tr>
<td>BIOL 2404 Intro to Anatomy and Physiology</td>
</tr>
<tr>
<td>POFM 1217 Medical Administrative Support</td>
</tr>
<tr>
<td>HPRS 2301 Pathophysiology</td>
</tr>
<tr>
<td>HITT 1213 Insurance Coding</td>
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</table>

<table>
<thead>
<tr>
<th>Second Semester</th>
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</thead>
<tbody>
<tr>
<td>HITT 2340 Advanced Medical Billing &amp; Reimbursement</td>
</tr>
<tr>
<td>HPRS 2300 Pharmacology - Health Professions</td>
</tr>
<tr>
<td>HPRS 2321 Med Law &amp; Ethics Health Professions</td>
</tr>
<tr>
<td>HITT 1342 Ambulatory Coding</td>
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<table>
<thead>
<tr>
<th>Third Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>HITT 1280 Cooperative Education</td>
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</table>

**TOTAL Credits for Physician Office-Based Coding Certificate** 32

1 Capstone course

**HOSPITAL-BASED CODING CERTIFICATE**

(C2_HBC2 certificate offered at LSC-North Harris)

<table>
<thead>
<tr>
<th>Prerequisite Semester</th>
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<tbody>
<tr>
<td>BIOL 2401 Human Anatomy &amp; Physiology I</td>
<td>4</td>
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<tr>
<td>HITT 1305 Medical Terminology I</td>
<td>3</td>
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**FIRST YEAR**

<table>
<thead>
<tr>
<th>First Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>HITT 1301 Health Data Content &amp; Structure</td>
</tr>
<tr>
<td>HITT 1342 Ambulatory Coding</td>
</tr>
<tr>
<td>HITT 1341 Coding &amp; Classification Systems</td>
</tr>
<tr>
<td>BIOL 2402 Human Anatomy &amp; Physiology II</td>
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</table>

<table>
<thead>
<tr>
<th>Second Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>HITT 1345 Health Care Delivery Systems</td>
</tr>
<tr>
<td>HITT 2333 Coding and Reimbursement Methodologies</td>
</tr>
<tr>
<td>HITT 1211 Health Information Systems</td>
</tr>
<tr>
<td>HITT 2346 Advanced Medical Coding</td>
</tr>
<tr>
<td>HPRS 2301 Pathophysiology</td>
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<thead>
<tr>
<th>Third Semester</th>
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</thead>
<tbody>
<tr>
<td>HITT 1260 Clinical - Health Information/Medical Records Technology/Technician</td>
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**TOTAL Credits for Coding Certificate** 36

1 Capstone course
HEALTH INFORMATION TECHNOLOGY
Associate of Applied Science degree
(AAS_HINT degree offered at LSC-North Harris)

FIRST YEAR

<table>
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<tr>
<th>Semester</th>
<th>Course</th>
<th>Title</th>
<th>Credit</th>
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<td>BIOL 2401</td>
<td>Human Anatomy &amp; Physiology I</td>
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<tr>
<td></td>
<td>HITT 1305</td>
<td>Medical Terminology I</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>HITT 1301</td>
<td>Health Data Content &amp; Structure</td>
<td>3</td>
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<td></td>
<td>ENGL 1301</td>
<td>Composition &amp; Rhetoric</td>
<td>3</td>
</tr>
<tr>
<td>Second Semester</td>
<td>BIOL 2402</td>
<td>Human Anatomy &amp; Physiology II</td>
<td>4</td>
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<td></td>
<td>SPCH 1311</td>
<td>Introduction To Communication</td>
<td>3</td>
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<td>HITT 1345</td>
<td>Health Care Delivery Systems</td>
<td>3</td>
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<tr>
<td></td>
<td>HITT 1253</td>
<td>Legal and Ethical Aspects of Health Information</td>
<td>2</td>
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<tr>
<td></td>
<td>HITT 1255</td>
<td>Health Care Statistics</td>
<td>2</td>
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<tr>
<td>Third Semester</td>
<td>HITT 1260</td>
<td>Clinical - Health Information/Medical Records Technology/Technician</td>
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<tr>
<td></td>
<td>Elective/Humanities/Fine Arts</td>
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<tr>
<td></td>
<td>PSYC 2301</td>
<td>General Psychology OR SOCI 1301</td>
<td>Principles of Sociology</td>
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SECOND YEAR

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course</th>
<th>Title</th>
<th>Credit</th>
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<tbody>
<tr>
<td>First Semester</td>
<td>HPRS 2301</td>
<td>Pathophysiology</td>
<td>3</td>
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<tr>
<td></td>
<td>HITT 1341</td>
<td>Coding &amp; Classification Systems</td>
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<tr>
<td></td>
<td>HITT 1211</td>
<td>Health Information Systems</td>
<td>2</td>
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<tr>
<td></td>
<td>HITT 1342</td>
<td>Ambulatory Coding</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>HITT 2343</td>
<td>Quality Assessment &amp; Performance Improvement</td>
<td>3</td>
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<tr>
<td>Second Semester</td>
<td>HITT 2346</td>
<td>Advanced Medical Coding</td>
<td>3</td>
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<tr>
<td></td>
<td>HITT 2239</td>
<td>Health Information Organization &amp; Supervision</td>
<td>2</td>
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<tr>
<td></td>
<td>HITT 2335</td>
<td>Coding and Reimbursement Methodologies</td>
<td>3</td>
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<tr>
<td></td>
<td>HITT 2149</td>
<td>RHIT Competency Review</td>
<td>1</td>
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<tr>
<td></td>
<td>HITT 2260</td>
<td>Clinical - Medical Records Technology Technician</td>
<td>2</td>
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</tbody>
</table>

TOTAL Credits for Health Information Technology Associate of Applied Science degree 60

1 Choose from the AAS core

HEATING, VENTILATION, AIR CONDITIONING AND REFRIGERATION

The Heating, Ventilation, Air Conditioning and Refrigeration (HVAC&R) 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 program offers three levels of certification that build upon each other. The Occupational Entry Certificate is offered as a 16 week (single semester) fast track to prepare the student to enter the air conditioning service profession. This certification will focus on the basic knowledge and skills needed to gain entry level employment in the HVAC & R field. Upon completion of the Occupational Entry Certificate, the student is encouraged to progress into the Residential Servicing Certificate. This second level of certification will expose the student to a higher skill set, greater diversity of equipment applications and better prepare them for employment as a residential service technician. The Commercial Servicing Certification is a third level certification, achieved as a progression from the previous two levels of certification. The Commercial Servicing Certification adds those skills necessary to enter the profession of servicing larger and more complex processes of air conditioning and refrigeration equipment typically utilized in supermarkets, retail stores, restaurants, schools, hospitals and other commercial or industrial applications.

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

HEATING, VENTILATION AND AIR CONDITIONING OCCUPATIONAL ENTRY CERTIFICATE
(C1_HOC1 certificate offered at LSC-Montgomery and LSC-North Harris)

FIRST YEAR
Credit
First Semester
HART 1401 Basic Electricity for HVAC 4
HART 1407 Refrigeration Principles 4
Second Semester
HART 1445 Gas and Electric Heating 4
HART 1441 Residential Air Conditioning1 4
TOTAL Credits for Heating, Ventilation And Air Conditioning Occupational Entry Certificate 16

1 Capstone course

HEATING, VENTILATION, AIR CONDITIONING AND REFRIGERATION RESIDENTIAL SERVICING CERTIFICATE
(C1_AIR1 certificate offered at LSC-North Harris)

FIRST YEAR
Credit
First Semester
HART 1401 Basic Electricity for HVAC 4
HART 1407 Refrigeration Principles 4
HART 1445 Gas and Electric Heating 4
MAIR 1449 Refrigerators, Freezers, Window Air Conditioners
Second Semester
HART 1441 Residential Air Conditioning 4
HART 2436 Air Conditioning Troubleshooting 4
HART 2445 Residential Air Conditioning Systems 4
Design
HART 2449 Heat Pumps 4
Third Semester
HART 2431 Advanced Electricity 4
HART 2380 Cooperative Education-Heating, Air Conditioning & Refrigeration 3–4
OR HART 1491 Special Topics in Heating, Air Conditioning, and Refrigeration Technologies/Technician1
TOTAL Credits for Heating, Ventilation, Air Conditioning and Refrigeration Commercial Servicing Certificate 39-40

1 Capstone course

HEATING, VENTILATION, AIR CONDITIONING AND REFRIGERATION
ASSOCIATE OF APPLIED SCIENCE DEGREE
(AAS_AIRC degree offered at LSC-North Harris)

Prerequisite Semester
Credit
ENGL 1301 Composition & Rhetoric I 3
MATH 1314 College Algebra 3

FIRST YEAR
Credit
First Semester
HART 1401 Basic Electricity for HVAC 4
HART 1407 Refrigeration Principles 4
HUMA 1301 Humanities I Prehistory to Gothic 3
SPCH Elective1 3
Second Semester
HART 1441 Residential Air Conditioning 4
HART 1445 Gas and Electric Heating 4
ITSC 1301 Introduction to Computers 3
PHED 1164 Introduction to Physical Fitness & Sport 3
OR any one credit hour physical activity course
Third Semester
HART 2436 Air Conditioning Troubleshooting 4
HART 2445 Residential Air Conditioning Systems 4
Design

SECOND YEAR
WORKFORCE DEGREES AND CERTIFICATES

First Semester
- HART 2431 Advanced Electricity 4
- HART 2434 Advanced A/C Controls \(^2\) OR 4
- HART 2441 Commercial Air Conditioning \(^2\)
- HART 1491 Special Topics in Heating, Air Conditioning, and Refrigeration Technologies/Technician

Second Semester
- HART 2380 Cooperative Education-Heating, Air Conditioning & Refrigeration 3
- HART 2449 Heat Pumps 4
- MAIR 1449 Refrigerators, Freezers, Window Air Conditioners 4
- SOCI 1301 Principles of Sociology 3

Third Semester
- HART 2442 Commercial Refrigeration \(^4\) OR 4
- HART 2443 Industrial Air Conditioning
- SPCH Elective \(^1\) 3

TOTAL Credits for Heating, Ventilation, Air Conditioning And Refrigeration Associate of Applied Science degree 70

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HUMAN SERVICES

The human services program provides the skills and competencies required for a variety of positions in the helping professions field. Human service professionals work with those experiencing a wide range of issues, struggles or problems, including those with developmental disabilities, individuals with mental health problems or disorders, people with substance abuse problems, clients with work- or educational-related issues, or those needing assistance with basic life need issues such as housing, food, and clothing. Human service professionals work with children, adults, groups, families and the elderly.

Human service professionals are motivated by helping others. Effective professionals are patient, have empathy and compassion for others, and enjoy giving of themselves and working with others. Human service professionals should also be able to manage their time well and possess effective communication skills. Because of the nature of the work in this field, professionals should be mature, stable and dependable.

Students with a degree in human services often work in any number of capacities and jobs, including case managers or case workers, counselors, advocates, and prevention or education specialists. Many graduates work one-on-one with clients in direct care positions, while others work behind the scenes or in administrative or management positions. Human service professionals work in government- or state-funded agencies, in non-profit agencies, in residential treatment programs and hospitals, and in private offices or agencies.

All course work required for licensing as a chemical dependency counselor, as well as the supervised practicum training, is provided. Students can apply for temporary licensure and pursue employment (clinical internship) after completing the Basic Chemical Dependency Counselor Certificate, although completion of the Associate of Applied Science degree in Human Services is required for full licensure. Students pursuing the Human Services Associate of Applied Science degree may select from one of two concentrated areas of study: substance abuse counseling or general human services.

At some placement sites, students may be required to successfully pass a background check and drug screen.

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

(C1_HSC1 certificate offered at LSC-Montgomery)

FIRST YEAR

<table>
<thead>
<tr>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Select SPCH 1311, 1315, or 1321</td>
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</tbody>
</table>

Text on this page has been revised since publication of the printed catalog. Please see addendum for details.
### WORKFORCE DEGREES AND CERTIFICATES

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSYC 2301 General Psychology</td>
<td>3</td>
</tr>
<tr>
<td>CMSW 1353 Family Intervention Strategies</td>
<td>3</td>
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</tbody>
</table>

#### Second Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMSW 1341 Behavior Modification with Cognitive Disorder</td>
<td>3</td>
</tr>
<tr>
<td>DAAC 2354 Dynamics of Group Counseling</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 2308 Child Growth &amp; Development OR</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 2314 Life-span Growth &amp; Development</td>
<td>3</td>
</tr>
<tr>
<td>Technical Elective¹</td>
<td>3</td>
</tr>
<tr>
<td>DAAC 2360 Clinical - Alcohol/Drug Counseling² OR</td>
<td>3</td>
</tr>
<tr>
<td>SCWK 2386 Internship - Social Work²</td>
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</tbody>
</table>

**TOTAL Credits for Human Services Certificate** 30

¹ Elective to be chosen from CMSW, DAAC or GERS  
² Capstone course – Students may also take DAAC 2160 and DAAC 2260 to fulfill the field placement requirement, as long as a total of 3 credit hours are obtained in total.

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### HUMAN SERVICES - GENERAL HUMAN SERVICES CONCENTRATION  
Associate of Applied Science degree  
(AAS_HSGN degree offered at LSC-Montgomery)

#### FIRST YEAR

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<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 2354 Dynamics of Group Counseling</td>
<td>3</td>
</tr>
<tr>
<td>SCWK 1321 Orientation to Social Services</td>
<td>3</td>
</tr>
<tr>
<td>SCWK 2331 Abnormal Behavior</td>
<td>3</td>
</tr>
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</table>

**Second Semester**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMSW 1353 Family Intervention Strategies</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 1301 Composition &amp; Rhetoric I ¹</td>
<td>3</td>
</tr>
<tr>
<td>Humanities/Fine Arts Elective¹</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 2301 General Psychology</td>
<td>3</td>
</tr>
<tr>
<td>SOCI 1301 Principles of Sociology</td>
<td>3</td>
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**Third Semester**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHED 1164 Introduction to Physical Fitness &amp; Sport ¹ OR any one credit hour physical activity course Math/Natural Science Elective²</td>
<td>3–4</td>
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#### SECOND YEAR

**First Semester**

<table>
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<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>Technical Track Elective-(CMSW, DAAC, SCWK, GERS)</td>
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<tr>
<td>Technical Track Elective-(CMSW, DAAC, SCWK, GERS)</td>
<td>3</td>
</tr>
<tr>
<td>Technical Track Elective-(CMSW, DAAC, SCWK, GERS)</td>
<td>3</td>
</tr>
<tr>
<td>Technical Track Elective-(CMSW, DAAC, SCWK, GERS)</td>
<td>3</td>
</tr>
<tr>
<td>ITSC 1301 Introduction to Computers OR</td>
<td>3</td>
</tr>
<tr>
<td>COSC 1301 Introduction to Computers</td>
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**Second Semester**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>Academic Elective¹</td>
<td>3</td>
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<tr>
<td>GOVT 2305 Federal Government OR</td>
<td>3</td>
</tr>
<tr>
<td>GOVT 2306 Texas Government</td>
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<tr>
<td>SPCH Elective (SPCH 1311, 1315, 1318, 1321)²</td>
<td>3</td>
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<tr>
<td>DAAC 2360 Clinical - Alcohol/Drug Counseling² OR</td>
<td>3</td>
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### BASIC CHEMICAL DEPENDENCY COUNSELOR CERTIFICATE  
(C1_HBCD certificate offered at LSC-Montgomery)

#### FIRST YEAR  Credit

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<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 of Addiction</td>
<td>3</td>
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**Second Semester**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>DAAC 2354 Dynamics of Group Counseling</td>
<td>3</td>
</tr>
<tr>
<td>DAAC 2341 Counsel Alcohol &amp; Drug Addictions</td>
<td>3</td>
</tr>
<tr>
<td>DAAC 2360 Clinical - Alcohol/Drug Counseling¹</td>
<td>3</td>
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**TOTAL Credits for Basic Chemical Dependency Counselor Certificate** 21

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.  
² Note: Capstone experience is completed by a departmental exam.

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### HUMAN SERVICES - SUBSTANCE ABUSE COUNSELING CONCENTRATION  
Associate of Applied Science degree  
(AAS_HSSA degree offered at LSC-Montgomery)

#### FIRST YEAR  Credit

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<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 2341 Counsel Alcohol &amp; Drug Addictions</td>
<td>3</td>
</tr>
<tr>
<td>DAAC 2354 Dynamics of Group Counseling</td>
<td>3</td>
</tr>
<tr>
<td>SCWK 1321 Orientation to Social Services</td>
<td>3</td>
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**Second Semester**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>Technical Track Elective-(CMSW, DAAC, SCWK, GERS)</td>
<td>3</td>
</tr>
<tr>
<td>Technical Track Elective-(CMSW, DAAC, SCWK, GERS)</td>
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<tr>
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</tr>
<tr>
<td>Technical Track Elective-(CMSW, DAAC, SCWK, GERS)</td>
<td>3</td>
</tr>
<tr>
<td>ITSC 1301 Introduction to Computers OR</td>
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</tr>
<tr>
<td>COSC 1301 Introduction to Computers</td>
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**Second Semester**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>DAAC 1304 Pharmacology of Addiction</td>
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<tr>
<td>DAAC 1319 Intro to Alcohol &amp; Drug Addictions</td>
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<td>ENGL 1301 Composition &amp; Rhetoric I</td>
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<tr>
<td>PSYC 2301 General Psychology</td>
<td>3</td>
</tr>
<tr>
<td>SOCI 1301 Principles of Sociology</td>
<td>3</td>
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**Third Semester**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCWK 1321 Orientation to Social Services</td>
<td>3</td>
</tr>
</tbody>
</table>
PHED 1164 Introduction to Physical Fitness & Sport 1  
OR any one credit hour physical activity course  
Math/Natural Science Elective 1  3–4

SECOND YEAR
First Semester
DAAC 1309 Assessment Alcohol/Drug Addictions  3  
CMSW 1309 Problems of Children & Adolescents OR 3  
CMSW 1341 Behavior Modification with Cognitive Disorder OR  
CMSW 1353 Family Intervention Strategies  
ITSC 1301 Introduction to Computers OR 3  
COSC 1301 Introduction to Computers  
GOVT 2305 Federal Government OR 3  
GOVT 2306 Texas Government  
SCWK 2331 Abnormal Behavior 3  
Second Semester
Academic Elective 2  3  
Humanities/Fine Arts Elective 2  3  
SPCH Elective (SPCH 1311, 1315, 1318, 1321) OR 3  
DAAC 2360 Clinical - Alcohol/Drug Counseling OR 3

TOTAL Credits for Human Services - Substance Abuse Counseling Concentration Associate of Applied Science degree 61-62

1 Students should consult their prospective senior institution’s catalog for science, math, and speech requirements.  
2 Choose from the AAS core  
3 Capstone course

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.

The Interior Design Associate of Applied Science degree program includes 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, color plotter, and an up-to-date resource library with catalogues and samples for student use. 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, offering networking and educational opportunities with professional interior designers.

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.

DESIGN ESSENTIALS CERTIFICATE
(C1_DSE certificate offered at LSC-Kingwood)

FIRST YEAR Credit
First Semester
ARTS Elective - General Education 3  
INDS 1311 Fundamentals of Interior Design 3  
INDS 1319 Technical Drawing for Interior Designers  
INDS 1351 History of Interiors I 3  
INDS 2307 Textiles for Interior Design 3  
Second Semester
Elective General Education Core 3  
HRPO 1311 Human Relations OR 3  
PSYC 2301 General Psychology  
INDS 1315 Materials, Methods & Estimating 3  
INDS 1349 Fundamentals of Space Planning OR 3  
INDS 1352 History of Interiors II 3  
TOTAL Credit Hours for Design Essentials Certificate 30

1 Capstone course

INTERIOR DESIGN TECHNOLOGY
Associate of Applied Science degree
(AAS_IDES degree offered at LSC-Kingwood)

FIRST YEAR Credit
First Semester
ARTS 1316 Drawing I 3  
ENGL 1301 Composition & Rhetoric I 3  
INDS 1311 Fundamentals of Interior Design 3  
INDS 1319 Technical Drawing for Interior Designers 3  
INDS 2307 Textiles for Interior Design 3  
Second Semester
INDS 1349 Fundamentals of Space Planning 3  
INDS 2305 Interior Design Graphics1 3  
INDS 2321 Presentation Drawing 3  
MATH Elective - College level 2  3–4  
ARTS 1301 Art Appreciation 3  
Third Semester
PHED 1164 Introduction to Physical Fitness & Sport OR any one credit hour physical activity course 3  
SPCH 1315 Public Speaking OR 3
WORKFORCE DEGREES AND CERTIFICATES

SPCH 1321 Business and Professional Communication OR
SPCH 1311 Introduction To Communication
PSYC 2301 General Psychology 3

SECOND YEAR

First Semester
INDS 1351 History of Interiors I 3
INDS 2330 Interior Design Building Systems 3
INDS 2313 Residential Design I OR 3
INDS Interior Design Elective3
INDS 2315 Lighting for Interior Designers 3
INDS 2325 Professional Practices for Interior Designers 3

Second Semester
INDS 1315 Materials, Methods & Estimating 3
INDS 1345 Commercial Design I OR 3
INDS Interior Design Elective3
INDS 1352 History of Interiors II 3
INDS 2237 Portfolio Presentation4 2
INDS 2486 Internship-Interior Design 4

TOTAL Credit Hours for Interior Design Technology Associate of Applied Science degree 67-68

1 Meets computer literacy
2 Math electives to be selected from MATH 1314, 1316, 1324, 1325, 1332, 1342, 2412, 2413
3 For INDS elective, choose from INDS 1345, 1372, 2310, 2313
4 Capstone course

INTERPRETER TRAINING TECHNOLOGY

The Interpreter Training Technology Associate of Applied Science degree 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 requires the completion of 66–67 semester credit hours of coursework including 19–20 semester credit hours of general academic courses and 47 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.

ASL COMMUNICATIONS SKILLS CERTIFICATE
(C1_INT1 certificate offered at LSC-CyFair and LSC-North Harris)

FIRST YEAR Credit

First Semester
ENGL 1301 Composition & Rhetoric I 3
SGNL 1401 Begin American Sign Language I 4
SLNG 1215 Visual & Gestural Communications 2
SLNG 1317 Introduction To The Deaf Community 3

Second Semester
SGNL 1402 Begin American Sign Language II 4
SLNG 1211 Fingerspelling 2
SLNG 1347 Deaf Culture 3

TOTAL Credit Hours for ASL Communications Skills Certificate 21

1 Capstone course

INTERPRETER TRAINING TECHNOLOGY

Associate of Applied Science degree

(AAS_INTP degree offered at LSC-CyFair and LSC-North Harris)

FIRST YEAR Credit

First Semester
Elective Humanities/Fine Arts1 3
ENGL 1301 Composition & Rhetoric I 3
SGNL 1401 Begin American Sign Language I 4
SLNG 1215 Visual & Gestural Communications 2
SLNG 1317 Introduction To The Deaf Community 3

Second Semester
SGNL 1402 Begin American Sign Language II 4
SLNG 1211 Fingerspelling 2
SLNG 1321 Introduction to the Interpreting 3

1 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 degree 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 division counselor for specific information and to obtain the recommended sequencing of courses at 936.273.7320.

The following website has more information about this program: LoneStar.edu/land-surveying-technology-dept.

LAND SURVEYOR MARKETABLE SKILLS AWARD

(offers SRVY award offered at LSC-Montgomery)

<table>
<thead>
<tr>
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<th>Credit</th>
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<tr>
<td>First Semester</td>
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<tr>
<td>SRVY 1301 Introduction to Surveying</td>
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<td>SRVY 1413 Plane Surveying</td>
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<tr>
<td>SRVY 1441 Land Surveying</td>
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<td>TOTAL Credit Hours for Land Surveyor Marketable Skills Award</td>
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LAND SURVEYOR CERTIFICATE

(C1_SRV1 certificate offered at LSC-Montgomery)

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WORKFORCE DEGREES AND CERTIFICATES

WORKFORCE DEGREES AND CERTIFICATES

First Semester
SRVY 1301 Introduction to Surveying  3
DFTG 1309 Basic Computer-aided Drafting  3
SRVY 1413 Plane Surveying  4
SRVY 1441 Land Surveying  4
Second Semester
SRVY 2343 Surveying-Legal Principles I  3
SRVY 2313 Control Surveying  3
SRVY 1315 Surveying Calculations I  3
SRVY 1319 Introduction to Geographic Information Systems  3

SECOND SEMESTER

SRVY 2487 Internship Surveying Technology OR 1–4
SRVY 1171 Capstone Exam Prep  

TOTAL Credit Hours for Land Surveying and Mapping Technology Associate of Applied Science degree  61–64

1 Choose from the AAS core
2 Capstone course

LIVE ENTERTAINMENT TECHNOLOGY

Do you want to work on live productions such as a rock concert or a Broadway musical? The marketable skills award, level one certificate, level two certificate, and Associate of Applied Science degree in live entertainment technology are designed to train technologists to work in live sound and event productions. Learn the fundamental knowledge, skills and abilities to design, maintain, and operate live entertainment technology systems working in places such as entertainment and sporting venues, churches, auditoriums, theatres, hotels/conventions, trade shows or corporations. The program inherently provides career ladder options to its graduates.

LIVE ENTERTAINMENT TECHNOLOGY-MARKETABLE SKILLS AWARD

(MSA_LVET award offered at LSC-Montgomery)

FIRST YEAR

Credit

First Semester
AVTS 1371 Introduction to Live Entertainment Technology  3
IMED 1301 Introduction to Digital Media  3
DRAM 1220 Theatre Practicum: Lighting and Sound  2
DRAM 1330 Stagecraft OR 3
Second Semester
SRVY 1319 Surveying Calculations II  3
SRVY 2487 Internship Surveying Technology OR 1–4

TOTAL Credits for Live Entertainment Technology-Marketable Skills Award  11

1 Capstone course

LIVE ENTERTAINMENT TECHNOLOGY-CERTIFICATE I

(C1_ LET1 certificate offered at LSC-Montgomery)
WORKFORCE DEGREES AND CERTIFICATES

FIRST YEAR

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<th>Credit</th>
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<td>ELPT 1311</td>
<td>3</td>
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<tr>
<td>DFTG 1309</td>
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<td>IMED 1301</td>
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<td>DRAM 1220</td>
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<td>AVTS 2374</td>
<td>3</td>
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<td>AVTS 1373</td>
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<tr>
<td>AVTS 1374</td>
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<td><strong>TOTAL Credits for Live Entertainment Technology-Certificate I</strong></td>
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1 Capstone course

LIVE ENTERTAINMENT TECHNOLOGY-CERTIFICATE II

(C2_LET2 certificate offered at LSC-Montgomery)

FIRST YEAR

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<tr>
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<td>AVTS 2375</td>
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<td>DFTG 1309</td>
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<td><strong>Second Semester</strong></td>
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<tr>
<td>IMED 1301</td>
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<td>DRAM 1220</td>
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<td>DRAM 2331</td>
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<td>AVTS 1374</td>
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<td><strong>First Semester</strong></td>
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<tr>
<td>FLMC 1300</td>
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<tr>
<td>AVTS 2371</td>
<td>3</td>
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<td>AVTS 1372</td>
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<td>AVTS 2372</td>
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<tr>
<td><strong>TOTAL Credits for Live Entertainment Technology-Level 2 Certificate</strong></td>
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</tr>
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1 Capstone course

LIVE ENTERTAINMENT TECHNOLOGY VIDEO MARKETABLE SKILLS AWARD

(MSC_LETV certificate offered at LSC-Montgomery)

FIRST YEAR

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<td>RTVB 1321</td>
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<td>AVTS 1374</td>
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<td>RTVB 1429</td>
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<td>DRAM 1330</td>
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LIVE ENTERTAINMENT TECHNOLOGY - VIDEO CERTIFICATE I

(C1_LEV1 certificate offered at LSC-Montgomery)

FIRST YEAR

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<tr>
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<td>DRAM 1330</td>
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<td><strong>Second Semester</strong></td>
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<td>FLMC 1300</td>
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<td>IMED 1301</td>
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<td>FLMC 1304</td>
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<td><strong>TOTAL Credits for Live Entertainment Technology - Video Certificate I</strong></td>
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</table>

1 Capstone course

LIVE ENTERTAINMENT TECHNOLOGY-VIDEO CERTIFICATE II

(C2_LEV2 certificate offered at LSC-Montgomery)

FIRST YEAR

<table>
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<tr>
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<tbody>
<tr>
<td><strong>First Semester</strong></td>
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<tr>
<td>AVTS 1371</td>
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<tr>
<td>RTVB 1321</td>
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<tr>
<td>AVTS 1374</td>
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<tr>
<td><strong>TOTAL Credits for Live Entertainment Technology Video Certificate II</strong></td>
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Text on this page has been revised since publication of the printed catalog. Please see addendum for details.
WORKFORCE DEGREES AND CERTIFICATES

Technology  3
RTVB  1429 Scriptwriting  4

Second Semester
DRAM  1330 Stagecraft I  3
RTVB  2330 Film and Video Editing  3
FLMC  1300 Production Management  3
RTVB  2337 TV Production Workshop I  3
RTVB  2164 Practicum  1

Third Semester
IMED  1301 Introduction to Digital Media  3
DRAM  2331 Stagecraft II  3

SECOND YEAR

First Semester
FLMC  1304 Lighting for Film Or Video  3
DRAM  1220 Theatre Practicum: Lighting and Sound  2
FLMC  2330 Audio Post Production  3
AVTS  1372 Intermediate Live Entertainment Technology Cooperative Education\[1\]  3

TOTAL Credits for Live Entertainment Technology Video Level II Certificate  46

1 Capstone course

LIVE ENTERTAINMENT TECHNOLOGY
Associate of Applied Science degree
(AAS degree offered at LSC-Montgomery)

FIRST YEAR

Credit

First Semester
AVTS  1371 Introduction to Live Entertainment Technology  3
DRAM  1330 Stagecraft I  3
MATH  1314 College Algebra OR  3
MATH  1332 College Math for Liberal Arts  3
Specialty Track A or B  3
Specialty Track A or B  3

Second Semester
DRAM  1220 Theatre Practicum: Lighting and Sound  2
ENGL  1301 Composition & Rhetoric I  3
Specialty Track A or B  3
Specialty Track A or B  3
Specialty Track A or B  3

Third Semester
PHED  1164 Physical Fitness & Sport  1
OR any one credit hour physical activity course
SPCH  1318 Interpersonal Communication  3
Specialty Track A or B  3

SECOND YEAR

First Semester
SOCI  1301 Principles of Sociology  3
DRAM  2366 Film Appreciation  3
Specialty Track A or B  3
Specialty Track A or B  3

Second Semester
Specialty Track A or B  3

TOTAL Credits for Live Entertainment Technology-Video Level II Certificate  60

1 Capstone course

Students must choose either track A (General LET track) or track B (Video track) below. All courses must be taken from the same track.

Track A - General Live Entertainment Track (AAS_LVET)
AVTS 2375, 2374, ELPT 1311, IMED 1301, DRAM 2331, AVTS 1373, 2371, 1372, 2373, FLMC 1300, AVTS 1374, 2372\[1\]

Track B - Video Track (AAS_LEVD)
RTVB 1321, 1429, 2330, FLMC 1300, IMED 1301, RTVB 2337, FLMC 2444, RTVB 2164, FLMC 1304, AVTS 1372, FLMC 2330, AVTS 2373\[1\]

LOGISTICS MANAGEMENT

Logistics management is a 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. By focusing on efficiency, logistics managers reduce costs in many areas and add value to the bottom line.

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 Lone Star College-CyFair Logistics Management AAS degree has incorporated Texas Skill Standards into the curriculum and received the Texas Skills Standards Board (TSSB) recognition. The Texas Skills Standards enhance the logistics management curriculum and give students more marketable skills needed for the industry. LSC-CyFair offers the First Line Logistics Leader certificate as a one-semester program of five courses.

**FIRST LINE LOGISTICS LEADER CERTIFICATE**

(C1_LLL1 certificate offered at LSC-CyFair)

**FIRST YEAR**

<table>
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<td>LMGT 1319 Introduction to Business Logistics</td>
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<tr>
<td>LMGT 1321 Introduction to Materials Handling</td>
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<tr>
<td>LMGT 1425 Warehouse and Distribution Center Management</td>
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<td>BMGT 1301 Supervision</td>
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<td>BMGT 2303 Problem Solving &amp; Decision Making</td>
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<td><strong>Total Credit Hours for First Line Logistics Leader Certificate</strong></td>
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1 Capstone course

**LOGISTICS MANAGEMENT**

Associate of Applied Science degree

(AAS_LOMT degree offered at LSC-CyFair)

**FIRST YEAR**

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<tr>
<td><strong>First Semester</strong></td>
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<td>LMGT 1321 Introduction to Materials Handling</td>
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<td>LMGT 1425 Warehouse and Distribution Center Management</td>
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<td>BMGT 1301 Supervision</td>
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<td>BMGT 2303 Problem Solving &amp; Decision Making</td>
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**SECOND YEAR**

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<tr>
<td>First Semester</td>
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<tr>
<td>BMGT 1309 Information and Project Mgmt</td>
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<td>LMGT 1323 Domestic and International Transportation Management</td>
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<tr>
<td>LMGT 1393 ST: Logistics &amp; Materials Mgmt</td>
</tr>
<tr>
<td>LMGT 2434 Principles of Traffic Management</td>
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<tr>
<td><strong>Total Credit Hours for Logistics Management Associate of Applied Science degree</strong></td>
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</table>

1 See core requirements for AAS degree for options.
2 Speech electives: SPCH 1311, 1315, 1318, or 1321
3 Capstone course

**MACHINING TECHNOLOGY**

Men and women working as machinists, create precise metal parts and tools for engines and other automated products using power-operated machines. In addition to operating sophisticated equipment, machinists are also responsible for reviewing product blueprints and specifications, planning and troubleshooting the production process, and ensuring the accuracy of the finished product they create.

The Machine Technology operator/programmer certificate and degree programs are designed to prepare graduates for careers in the manufacturing industries. Topics within the programs include blueprint reading, computer-aided manufacturing (CAD CAM), machine shop math, extensive hands-on set up, and operating manual lathes and mills, as well as operating, and programming CNC
Machine Tool Technology is classified as an evolving occupation and the demand in careers for machinists is projected to remain steady and provide future employment growth and economic competitiveness within Texas.

**MACHINIST I CERTIFICATE**

(C1_MAC1 certificate offered at LSC-CyFair, LSC-Montgomery and LSC-North Harris)

**FIRST YEAR**

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<tr>
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<th>Course</th>
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<td>MCHN 1338 Basic Machine Shop I</td>
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<td>MCHN 1343 Machine Shop Mathematics</td>
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<td>MCHN 1352 Intermediate Machining I</td>
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<td>MCHN 2341 Advanced Machining I</td>
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<td>MCHN 1319 Manufacturing Materials and Processes</td>
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**TOTAL Credit Hours for Machinist I Certificate** 15

1 Capstone course

**COMPUTER NUMERIC CONTROL OPERATOR/PROGRAMMER I CERTIFICATE**

(C1_CNA1 certificate offered at LSC-CyFair and LSC-North Harris)

**FIRST YEAR**

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<th>Course</th>
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<td>MCHN 1338 Basic Machine Shop I</td>
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<td>MCHN 1343 Machine Shop Mathematics</td>
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<td>MCHN 1426 Introduction to Computer-Aided Manufacturing (CAM)</td>
<td>4</td>
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<td>MCHN 2334 Operation of CNC Machining Centers</td>
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<td>MCHN 2331 Operation of CNC Turning Centers</td>
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<td>MCHN 1352 Intermediate Machining I</td>
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<td>MCHN 2341 Advanced Machining I</td>
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**SECOND YEAR**

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<td>ENGL 1301 Composition &amp; Rhetoric I</td>
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<td>MCHN 2303 Fundamentals of Computer Numeric Controlled (CNC) Machine Controls</td>
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**TOTAL Credit Hours for Computer Numeric Control Operator/Programmer II Certificate** 44

1 Capstone course

**MACHINING TECHNOLOGY**

Associate of Applied Science degree

(AAS_MCHN degree offered at LSC-CyFair and LSC-North Harris)

**FIRST YEAR**

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<td>COSC 1301 Introduction to Computers</td>
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<td>MCHN 1319 Manufacturing Materials and Processes</td>
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**SECOND SEMESTER**

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<td>MCHN 1319 Manufacturing Materials and Processes</td>
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**TOTAL Credit Hours for Computer Numeric Control Operator/Programmer II Certificate** 44

1 Capstone course

Text on this page has been revised since publication of the printed catalog. Please see addendum for details.
WORKFORCE DEGREES AND CERTIFICATES

WORKFORCE DEGREES AND CERTIFICATES

MCHN 2334 Operation of CNC Machining Centers 3
MCHN 2331 Operation of CNC Turning Centers 3
MCHN 1426 Introduction to Computer-Aided Manufacturing (CAM) 4
MCHN 1352 Intermediate Machining I 3
MCHN 2341 Advanced Machining I 3

Third Semester
ENGL 1301 Composition & Rhetoric I 3
PHED 1164 Introduction to Physical Fitness & Sport 1

SECOND YEAR

First Semester
MCHN 2438 Advanced Computer-Aided Manufacturing (CAM) 4
MCHN 2303 Fundamentals of Computer Numeric Controlled (CNC) Machine Controls 3
MCHN 2335 Advanced CNC Machining 3
Speech Elective¹ 3

Second Semester
Humanities/Fine Arts Elective¹ 3
Social/Behavior Elective¹ 3
MATH 1314 College Algebra 3
MCHN 1391 Special Topics in Machine Technology² 3

TOTAL Credit Hours for Machining Technology Associate of Applied Science degree 60

¹ Choose from the AAS core
² Capstone course

MASSAGE THERAPY CERTIFICATE

Pending THECB Approval

(C1_MSSG certificate offered at LSC-North Harris)

The Massage Therapy Certificate prepare students to be skilled and responsible therapeutic massage providers. Students learn the practice of using touch to manipulate the soft-tissue muscles of the body. Massage therapy is performed for a variety of reasons, including pain treatment, decompressing tired and overworked muscles, reducing stress, rehabilitating sports injuries, and promoting general health. This program is accredited through the National Certification Board for Therapeutic Massage and Bodywork and is licensed through the Texas Department of State Health Services. Prepares students for Massage Therapy Licensing Exam.

Credit
MSSG 1109 Health & Hygiene 1
MSSG 1411 Massage Therapy Fundamentals I 4
MSSG 1413 Anatomy & Physiology for Massage 4
MSSG 1207 Business Practices & Professional Ethics 2

TOTAL Credit Hours for Massage Therapy Certificate 23

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. The program has the following goal defining minimum expectations: “To prepare
competent entry-level medical assistants in the
cognitive (knowledge), psychomotor (skills),
and affective (behavior) learning domains.”

The Lone Star College Medical Assistant Programs are accredited by the Commission on Accreditation of Allied Health Education Programs (www.caahep.org) upon the recommendation of the Medical Assistant Education Review Board (MAERB).

Commission on Accreditation of Allied Health Education Programs
1361 Park Street
Clearwater, FL 33756
727.210.2530
www.caahep.org

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 0365) AND writing (ENGL 0307 or ENGL 0375) 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 LSC-North Harris website.

5. Submit a completed application packet to the preferred college’s medical assisting program. Application deadlines are posted on the college website.

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
(C1_MED1 certificate offered at LSC-CyFair and LSC-North Harris)

FIRST YEAR

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<tr>
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<tr>
<td>First Semester</td>
<td>HPRS 1206 Essentials of Medical Terminology</td>
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<td>MDCA 1417 Procedures in a Clinical Setting</td>
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<tr>
<td></td>
<td>MDCA 1421 Administrative Procedures</td>
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<td>POFT 1325 Business Math Using Technology</td>
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<td>POFT 1301 Business English</td>
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<tr>
<td>Second Semester</td>
<td>MDCA 1409 Anatomy &amp; Physiology for Medical Assistants</td>
<td>4</td>
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<tr>
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<td>MDCA 1352 Medical Assistant Laboratory Procedures</td>
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<td>MDCA 1443 Medical Insurance</td>
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<td>MDCA 1210 Medical Assistant Interpersonal and Communication Skills</td>
<td>2</td>
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<tr>
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<td>MDCA 1348 Pharmacology and Administration of Medications</td>
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<td>Third Semester</td>
<td>ECRD 1211 Electrocardiography</td>
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<td>MDCA 1205 Medical Law and Ethics</td>
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<td>MDCA 1154 Medical Assisting Credentialing¹ Exam Review</td>
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<td>MDCA 1264 Medical Assistant Practicum</td>
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TOTAL Credit Hours for Medical Assisting Certificate 39

¹ Capstone Course

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 LSC-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, 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), pay for a complete background check, 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 are eligible to apply for the certification examination in radiologic technology given by the American Registry of Radiologic Technologists (ARRT); art.org. Graduates may also apply for Texas state certification through the Texas Department of State Health Services; dshs.state.tx.us/mrt.

Go to the American Society of Radiologic Technologists website at asrt.org for more information about a career in radiologic technology.

Admission Criteria
Clinical space is limited, so students are admitted on a competitive basis. In addition to the general admission requirements of Lone Star College System (LSCS), the following requirements must be met in order to apply for admission to the medical radiologic technology (MRT) AAS program. All required forms are available at the Medical Radiologic Technology website: LoneStar.edu/medical-radiology-tech-requirements.

Prior to submission of application:

1. If you have not taken classes at a LSC campus within the last year, you must apply to LSCS. If you need assistance with the application process, please contact student services at either the LSC-CyFair or LSC-Montgomery campus.

2. Submit an official transcript from each non-LSCS college or university you have attended to the admissions office at either LSC-CyFair or LSC-Montgomery.

3. A cumulative grade point average (GPA) of at least a 2.0 in high school and/or college. If you have completed more than 24 semester hours of college courses, only the college GPA will be considered.

4. Required evidence of passing all sections of (Reading, Writing, and Math) of either:
   - TASP/THEA
   - an alternative test (i.e. the ASSET or COMPASS),
   - or have met the complete TSI requirements

Consult an advisor to confirm your status.
5. Evidence that you are at college-level in math, reading, and writing (eligible to enroll in MATH 1314 and ENGL 1301 due to past college coursework or placement test scores).

6. Completion of pre-requisites BIOL 2404 OR BIOL 2401 AND BIOL 2402 with a “C” or better within the previous five years.
   • The courses must have been completed prior to submission of an application for the Radiologic Technology program (by the end of the summer semester for LSC-Montgomery or spring semester for LSC-CyFair, in the year you are applying).
   • If coursework is older than 5 years when applying to the program, students must take BIOL 2404.

7. For each of the following courses completed, points will be earned toward the admission score based on the grade received for the course. (A = 4 points, B=3 points, C=2 points, D=1 point)
   • MATH 1314 or higher level math
   • ENGL 1301 or ENGL 1302
   • PSYC 2301
   • SPCH (1311, 1315, 1318, OR 1321)
   • Approved electives in KINE/PHED
   • Approved Humanities/Fine Arts

8. For each of the following courses completed with a “C” or better, 1 point will be awarded to the admission score with a maximum of 5 points.
   • ITSC 1301 OR COSC 1301 OR BCIS 1305
   • EDUC 1300 Learning Framework: 1st Year Experience or HUMD 0330 College Success Course
   • HPRS 1001 Intro to Health Professions
   • HIIT 1305 Medical Terminology I
   • HPRS 2300 Pharmacology for Health Professions
   • HPRS 2301 Pathophysiology
   • HPRS 2321 Med. Law & Ethics for Health Professions

9. If you have work or volunteer experience in the healthcare industry, you may be given credit in the selection process. In the score chart for admission, you must choose ONE of the options detailed in this section.
   • Your previous or current employer is required to complete and return the volunteer/work experience verification form directly to the program. Please provide them with a stamped envelope for return.
   • If you intend to hand deliver this form to either LSC-Montgomery or LSC-CyFair, your previous or current employer must sign across the seal of the envelope to ensure authenticity.

10. ALL APPLICANTS must take the PSB Health Occupations Aptitude Test. Check exam ticket for testing dates and instructions. Further PSB exam information is available at: psbtests.com/site/products/hoae.

The Application Process

1. The application can be accessed at: http://twebapp1.LoneStar.edu/nash/default.aspx during the application period.

2. The score report will have the points earned for each of the different admission criteria required by the Medical Radiologic Technology program.

3. Be sure to print and sign both your application and score report. If there are any errors in the score report, it is your responsibility to address those concerns with the program director prior to submission of your application. Your score report will not be complete until you have taken the PSB and your scores have been entered by the program.

4. In order to complete your application file, the following materials MUST be submitted to the preferred campus Rad Tech office before the end of the application period:
   a. Printed and signed application (from
b. Printed and signed score report (from the online process).
c. Copy of program evaluation declaring a major in medical radiological technology. Credit Advising Transcript (available on myLoneStar).
d. Other documentation requested in application, if you are receiving points for any of these things (i.e. verification of volunteer/work experience, verification of completion of HPRS 1001 &/or current copy of licensure/certificate).

The Selection and Final Acceptance

1. The applicants will be ranked according to the criteria on the score sheet.
2. Students will be selected based on the highest cumulative scores based on the admission criteria.
3. The top candidates will go through a final selection process that includes a written assignment and a panel interview.
4. 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 medical insurance and completion of satisfactory drug screening.
5. Students accepted into the program are also required to submit proof of required immunizations, TB test, and proof of current CPR certification (2 year healthcare provider type). All expenses related to these items are the responsibility of each student.

LSCS MRT Readmission/Transfer Policy

Former students of the LSCS Medical Radiologic Technology Programs may be allowed readmission or transfer within the LSCS MRT programs on a “space available” basis, as well as decision to accept the student by the Readmissions Committee. “Space available” is dependent upon the authorized number of students established by the JRCERT. Readmission/transfer will be based upon the following:

1. Submission of a written request to the Program Director at least two months in advance of the semester that readmission/transfer is being sought.
2. Completion and submission of the program’s Petition for Readmission form.
3. Submission of a one page, typed personal statement that describes why the student has a desire to be readmitted into the LSC program and become a part of the radiology profession. The statement must also include information regarding any past or perceived future barriers to your success, plans on how to successfully complete this program, and goals for the future beyond this program.
4. Submission of official current college transcripts directly to LSCS for evaluation purposes.
5. Satisfy current college admission requirements and provide evidence of maintaining an overall “C” (2.0) GPA at any previous college(s) attended.
6. All readmission correspondence, including all official college transcripts, must be mailed directly to the appropriate Radiologic Technology Program Director. Copies of official transcripts must be mailed to both LSCS and the Program Director for evaluation.

The following readmission/transfer policies will also apply:

1. A readmitted or transferred student is required to fulfill the graduation requirements that are in effect at the time of readmission.
2. Any student who was required to exit the program due to academic reasons will only be granted one (1) readmission. Students who were asked to leave their original program for violation(s) of the college or program’s code of conduct,
ethical standards, academic dishonesty, civil rights or harassment policies may be ineligible for transfer.

3. Students gaining readmission to the program must retake academically deficient course(s) and may be required to audit course(s) that are offered in the same semester.

4. Students who have been out of the program for one (1) or more years will be required to reapply as a new student.

5. Transfer students may be required to take Course Review Tests in any or all previously completed courses. The transfer student must pass all Course Review Tests on the first and only attempt with a score of 75 or better. Any grade below 75 is failing and the student will be ineligible for transfer.

6. Final decision of accepting transfer student lies with the Admissions Committee.

**Transfer Students From Outside the LSCS MRT Programs**

All transfer students are admitted to the program on a “space available” basis, as well as decision to accept the student by the Admissions Committee. “Space available” is dependent upon the authorized number of students established by the JRCERT. Students who request a transfer into the LSCS MRT programs from another accredited Radiologic Technology program will only be considered upon the submission of the following:

1. A completed Petition for Transfer.
2. A signed Personal Statement from the student describing their reasons for leaving their original program.
3. Current official transcripts from any colleges, universities, or proprietary schools the student has attended.
4. Satisfy current college admission requirements.
5. A minimum of three letters of recommendation (one from the previous program director and two from previous faculty members) must be completed and mailed directly to the program director under separate cover. Emails are not accepted.

6. A comprehensive description of all radiologic technology courses completed.

Any student requesting a transfer into the Lone Star College-Montgomery or LSC-CyFair Radiologic Technology Program must have earned at least a “C” in all transfer courses. Scholastic requirements for all other academic courses are outlined in the Lone Star College System (LSCS) catalog and will also govern the eligibility of the applicant for admission. Transfer students are required to meet for an advisement meeting with a division counselor, prior to final decision by the Admissions Committee.

Students who were required to exit their original program for academic reasons must repeat all academically deficient courses and may be required to audit other program courses offered in the same semester. Students who were asked to leave their original program for violation(s) of the college or program’s code of conduct, ethical standards, academic dishonesty, civil rights or harassment policies may be ineligible for transfer.

The following transfer student policies will also apply:

1. A prospective transfer student who was not actively enrolled in a radiography program for one year may be required to retake some or all previous radiography courses. Any prospective transfer student may also be asked to apply as a new student to the program.
2. Prospective transfer students may be required to take Course Review Tests in any or all previously completed courses. The prospective transfer student must pass all Course Review Tests, on the first and only attempt with a score of 75 or better. Any grade below 75 is failing and the student will be ineligible for transfer.
3. A prospective transfer student who fails to maintain satisfactory academic grades...
is not eligible for admission.
4. Transferability of previously completed coursework is at the discretion of the respective Lone Star College Radiologic Technology Program and division counselors.
5. Any student approved for transfer into the Lone Star College Radiologic Technology Program will be required to fulfill all graduation requirements that are in effect at the time of transfer.
6. Final decision of accepting prospective transfer student lies with the Admissions Committee.

Computed Tomography, Advanced Technical Certificate

Computed Tomography is an advanced radiographic imaging modality that utilizes highly collimated fan-shaped x-ray beam and array of radiation detectors to produce cross-sectional images of human body structures and organs needed by physicians for diagnostic purposes. Computed tomographic images can be reconstructed in various anatomical orientations to demonstrate image details that allow for better visualization of pathology, diagnostic analysis, and radiologic interpretations.

The LSC-Montgomery Computed Tomography program curriculum will consist of 6 courses totaling 18 credit hours, and these will be offered in two semesters (9 credit hours per semester). The didactic education courses (10 credit hours) will be offered at the LSC-Montgomery campus in the evenings while the clinical education courses (8 credit hours) will be provided at affiliated clinical sites. The curriculum is designed to enable students to acquire knowledge in computed tomography physics, equipment operation/methodology, cross-sectional anatomy, patient care, and develop CT imaging skills, which give Medical Radiologic Technology (MRT) graduates an employment edge and increased career mobility.

Prospective applicants seeking admission into the program must be graduates of a 2-year JRCERT accredited Radiography, Radiation Therapy, or Nuclear Medicine Programs and must hold current ARRT or equivalent certification.

The Computed Tomography Certificate program will be housed with the current AAS degree program in Medical Radiologic Technology in the Division of Natural Sciences and Health Profession (NASH). The program plans to admit two cohorts comprising of 15 students per cohort (30 students) on a rolling admission schedule.

Magnetic Resonance Imaging, Advanced Technical Certificate

The Magnetic Resonance Imaging (MRIT) program is a 12-month post-associate degree program that provides didactic and clinical instruction to currently certified American Registry of Radiologic Technologist (ARRT) or Nuclear Medicine Technology Certification Board (NMTCB) and state licensed (as applicable) Radiation Therapy Technologists.

Students currently enrolled in a JRCERT accredited school may apply; however at a minimum the associate degree must be awarded prior to admission and the ARRT primary certification registry examination must be passed within 6 weeks of enrollment or the student may be administratively withdrawn from the program. A student will not be eligible for clinical placement if the registry examination has not been passed. Applicants with a bachelor’s degree in a related science field may be considered for admission on a case by case basis subject to approval from the dean. Limited-MRTs, LVNs, LPNs, medical assistant and similar para-professional credentials are not eligible to apply for this program.

Magnetic resonance technologists use the resonant frequency properties of atoms within a magnetic field to image anatomic and/or physiologic conditions of the body to assist physicians in the diagnosis and treatment of disease. MRI is an imaging modality that produces exceptionally detailed images of the tissues and organs of the body in a variety of
imaging planes. This course of study focuses on the underlying scientific theory, sectional anatomy, pathology and clinical protocols. Emphasis is placed on patient care and safety, principles of magnetism and the physical and chemical interactions of living matter within magnetic fields.

This certification will prepare students to make an application to sit for the post-primary certification examination in Magnetic Resonance Imaging administered by the American Registry of Radiologic Technologist (ARRT) pending review and approval by ARRT.

The application opens on June 15 (or the first business day thereafter) and remains open until July 15 at 4 p.m., OR UNTIL ALL CLINICAL SLOTS HAVE BEEN FILLED. The program begins in the fall semester. There is no spring or summer admittance. Admission to the college does not guarantee admission to this program and enrollment is limited by the number of clinical slots available for placement.

Students must be able to commit to participate in a minimum of 16 hours [two eight hour shifts] of clinical training scheduled on two consecutive weekdays during the spring and summer semesters. Students are advised that clinical training is scheduled in the Greater Houston Service Area which may require driving as much as 1 ½ hours to the assigned clinical site. Clinical sites may be as far north as Conroe or College Station and as far south as Sugar Land or Galveston. Special arrangements for clinical placement in areas outside of the local Greater Houston Service Area may possibly be arranged and may entail additional fees to cover travel expenses for the supervising clinical instructor.

Application Process

1. Apply for admission to LSCS and submit official transcripts from all colleges and allied health programs previously attended.

2. Fill out, print and sign your application.

3. Submit the following materials to the LSC-CyFair campus Rad Tech office (HSC-204) before the end of the application period. The application packet will be dated and time stamped when received by the staff assistant:

   a. Printed and signed application copy of qualifying certification (ARRT, AART(T) or NMTCB) credentials.

   b. Copy of state license to practice as applicable. In states that do not have MRT licensure, ARRT certification is sufficient.

   c. Copy of program degree-plan declaring a major in Magnetic Resonance Imaging Technology (MRIT).

   d. Two professional letters of reference. One should be from a former Program Director, Clinical Coordinator or college educator, and one from a current or former employment supervisor.

The Joint Commission (JCAHO) requires verification of the competency of all individuals who have direct contact with patients or employees; this includes students doing clinical rotations in the facility. Competency extends beyond technical skills to an individual’s criminal history. Successful completion of a criminal background check is required after admission to the MRI program.

Thus, final acceptance is contingent upon a clear background check by an approved LSCS system vendor.

1. Applicants not admitted to the program must re-apply each year. Successful applicants will be notified by e-mail of acceptance to the program.

2. Students accepted into the program are required to submit proof of required immunizations, current TB test, seasonal flu shot and proof of current CPR certification “CPR for the Health Care Provider” (American Heart Association). All expenses related to these items are the responsibility of each student.

3. A mandatory orientation for admitted
students will be held in mid-July for all entering Allied Health Science and nursing students. Thirty days prior to placement in a clinical facility a drug screening may be required at the student’s expense depending upon the requirements of the clinical site. Clinical facilities may also require proof of medical insurance. Students accepted to the program may request a pre-enrollment ARRT review:

If an individual cannot present a clear background check, she/he may pursue a declaratory order process with the ARRT or appropriate credentialing board. If the ARRT approves the individual to take the credentialing exam, the individual may participate in the clinical rotation.

Disclaimers

1. Successful completion of a criminal background check does not ensure eligibility for licensure or future employment.

2. Clinical agencies can establish more stringent standards, if they so desire, to meet regulatory requirements for their facility.

3. Clinical agencies can conduct additional background checks and drug screening at their discretion.

4. If a student is found to be ineligible for clinical placement any time during the program, the student is unable to meet clinical learning objectives and will be administratively withdrawn.

5. 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.

Legal Information

Lone Star College System policy is consistent with Texas law as to requirements and admission of any resident or non-resident student. For admission and tuition purposes, residency is defined within Texas Education Code §54.052.

In addition, LSCS will notify students prior to, but not as a condition or requirement of admission, that health care facilities will require students to have a Social Security number or a Visa as a condition of being assigned to a clinical facility. Students who are unable to complete the LSCS health program clinical skills requirement will not be able to complete the program due to a lack of clinical placement. Additionally, LSCS will notify students that a Social Security number or a Visa may be required for a background check, and may also be required for taking the licensing examination upon completion of program requirements.

MEDICAL RADIOLOGIC TECHNOLOGY
Associate of Applied Science degree

(AAS_MRDR degree offered at LSC-CyFair and LSC-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.

Prerequisite Semester

| Credit | BIOL 2404 Intro to Anatomy and Physiology | 4 |

FIRST YEAR

<table>
<thead>
<tr>
<th>Semester</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>First</td>
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<tr>
<td>RADR 1313 Principles Radiographic Imaging I</td>
<td>3</td>
</tr>
<tr>
<td>RADR 1409 Introduction to Radiography and Patient Care</td>
<td>4</td>
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<tr>
<td>RADR 1411 Basic Radiographic Procedures</td>
<td>4</td>
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<td>PHED 1164 Introduction to Physical Fitness &amp; Sport</td>
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<td>OR any one credit hour physical activity course</td>
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</table>

| OR any one credit hour physical activity course | |

Second Semester

| Credit | MATH 1314 College Algebra | 3 |
| RADR 1260 Clinical | 2 |
| RADR 2271 Computers in the Imaging Sciences | 2 |
| RADR 2305 Principles Radiographic Imaging II | 3 |
| RADR 2401 Intermed Radiographic Procedures | 4 |

Third Semester

| Credit | ENGL 1301 Composition & Rhetoric I | 3 |
| RADR 1360 Clinical | 3 |
| RADR 2331 Advanced Radiographic Procedures | 3 |

SECOND YEAR

| Credit | RADR 1460 Clinical | 4 |
| RADR 2309 Radiographic Imaging Equipment | 3 |
| RADR 2313 Radiation Biology and Protection | 3 |
| Speech Elective | 1 |
| Second Semester | 3 |
Humanities/Fine Arts Elective\(^3\)  3
PSYC  2301 General Psychology  3
RADR  2217 Radiographic Pathology  2
RADR  2340 Sectional Anatomy for Medical Imaging  3
RADR  2360 Clinical Medical Radiologic Tech  3
Third Semester
RADR  2335 Radiologic Technology Seminar\(^4\)  3
RADR  2361 Clinical - Radiologic Technology/ Science - Radiographer  3

**TOTAL Credit Hours for Medical Radiologic Technology Associate of Applied Science degree**  72

\(^1\) Computer Competency
\(^2\) Choose from SPCH 1311, 1315, 1318, or 1321
\(^3\) Choose from the AAS core
\(^4\) Capstone course

**COMPUTED TOMOGRAPHY ADVANCED TECHNOLOGY CERTIFICATE**

*(C4_CTM4 certificate offered at LSC–Montgomery, admission requirements exist)*

**FIRST YEAR**

<table>
<thead>
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<th>Semester</th>
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<tr>
<td>First Semester</td>
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<tr>
<td>CTMT 2232</td>
<td>Principles of Computed Tomography  2</td>
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<tr>
<td>RADR 2340</td>
<td>Sectional Anatomy for Medical Imaging  3</td>
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<tr>
<td>CTMT 2460</td>
<td>Clinical - Radiologic Technology/ Science - Radiographer  4</td>
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<tr>
<td>Second Semester</td>
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<tr>
<td>CTMT 2294 1391</td>
<td>Special Topics in Computed Tomography Technology/ Technician (Registry Preparation Seminar)  2 3</td>
</tr>
<tr>
<td>CTMT 2336 2236</td>
<td>Computed Tomography Equipment and Methodology  3 2</td>
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<tr>
<td>CTMT 2461</td>
<td>Clinical - Radiologic Technology/ Science - Radiographer  4</td>
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<tr>
<td>TOTAL Credit Hours for Computed Tomography Advanced Technology Certificate</td>
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</tr>
</tbody>
</table>

**MAGNETIC RESONANCE IMAGING ADVANCED TECHNICAL CERTIFICATE**

*(C4_MRI4 certificate offered at LSC-CyFair)*

The magnetic resonance imaging program is a 12-month, three-semester program that provides didactic and clinical instruction to currently certified and licensed medical radiologic technologists while preparing them to be eligible to apply to take the post-primary certification examination in Magnetic Resonance Imaging administered by the American Registry of Radiologic Technologists (ARRT).

**FIRST YEAR**

<table>
<thead>
<tr>
<th>Semester</th>
<th>Credit</th>
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<tr>
<td>First Semester</td>
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<tr>
<td>RADR 2340</td>
<td>Sectional Anatomy for Medical Imaging  3</td>
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<tr>
<td>MRIT 2330</td>
<td>Principles of Magnetic Resonance Imaging  3</td>
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<td>MRIT 2360</td>
<td>Clinical Magnetic Resonance Tech  3</td>
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<td>MRIT 2355</td>
<td>Magnetic Resonance Imaging Physics  3</td>
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<td>Magnetic Resonance Equipment and Methodology  3</td>
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<td>MRIT 2361</td>
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<tr>
<td>TOTAL Credit Hours for Magnetic Resonance Imaging Advanced Technical Certificate</td>
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**NURSING**

The Lone Star College System offers a variety of nursing programs and curricula at its college campuses. Additional information about the nursing program may be found at the nursing website: LoneStar.edu/nursing-requirements.

The Associate Degree Nursing (ADN) integrated program of study is offered by LSC-Kingwood, LSC-Montgomery, LSC-North Harris, and LSC-Tomball. With an integrated nursing curriculum, classroom, laboratory, and clinical content are organized around a series of concepts that progress from simple to complex. The Associate Degree Nursing (ADN) block program is offered by LSC-CyFair. In a block nursing curriculum, learning experiences are divided by content area such as care of children and families and adult health. Additionally, LSC-Kingwood offers the QUEST Online LVN/Paramedic Transition Program and Online Second Degree Program. These two programs are designed for students who need a flexible schedule and those willing to be self-directed during completion of the nursing program. There are three aspects to the program: didactic, lab skills, and clinical coursework. The didactic or classroom portion of the coursework is online with the student able to complete weekly modules and exams.
online. The lab skills courses include an online component plus weekly scheduled practice times on campus. The clinical courses are scheduled weekly with a faculty member at a clinical facility. The Online Second Degree program is for basic track students with a prior college degree. This program is traditionally scheduled over two years, but the Quest program can be completed in a shorter time period. Students will complete this program in four (4) consecutive semesters. There are four sets of courses in the basic track program with completion expected in four consecutive semesters. Students will need to participate in a one week orientation on campus during the first week of the program. All of these programs and curricula are designed for individuals interested in becoming a registered nurse (RN). All ADN programs in the LSCS are accredited by the Accreditation Commission for Education in Nursing (ACEN), 3343 Peachtree Road NE, Suite 850; Atlanta, GA 30326. Website: www.acenursing.org or telephone is 404.975.5000.

The Vocational Nursing certificate program is offered at LSC-CyFair, LSC-Kingwood, LSC-Montgomery and LSC-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 individuals interested in becoming a licensed vocational nurse.

The Transition to Professional Nursing (RN) program is offered at LSC-Kingwood, LSC-Montgomery, LSC-North Harris, and LSC-Tomball. Graduates of a vocational nursing or paramedic program who become licensed as a LVN or paramedic and complete the required prerequisite courses may be eligible to apply for the transition program. The Online LVN/Paramedic Transition Program is for LVNs and paramedics and is traditionally completed within one year. This will allow completion of three levels or sets of courses in three consecutive semesters. Students will need to participate in a one week orientation on campus during the first week of the program.

General Guidelines

Admission requirements, selection criteria and the application process for the nursing programs are presented in regularly scheduled information sessions on each LSC campus or online for LSC-Tomball. Upon conditional acceptance into any LSCS nursing program, students must submit an official record of current immunizations or titers (including a complete Hepatitis B Series as required by the Texas Department of State Health Services), report of a satisfactory physical examination documented on a college-approved form, Social Security number verification and a clear criminal background check completed through the Texas Board of Nursing (BON). Names of entering students and student identification will be submitted to the Texas BON for the purpose of scheduling and processing extensive FBI background screenings. 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 BON, at bon.texas.gov or 512.305.7400, prior to application to any LSCS nursing program. If a student is convicted of a felony or misdemeanor while enrolled in a LSCS nursing program, the student must inform the nursing director in writing and submit a declaratory order to the Texas BON. Criminal background checks are required by all clinical facilities.

Drug screens and verification of medical insurance may be required at some clinical sites during the student’s enrollment in a LSCS nursing program.

All accepted students into ADN and LVN programs must provide proof of English proficiency if they completed high school outside the USA. Proof of English proficiency can be achieved through either taking a proficiency exam or providing documentation of high school or college graduation from an English speaking country.
Please see nursing website for more details. All accepted students will also be asked to submit verification of Social Security number or a current student U.S. visa.

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 website; or (3) disparate treatment of a student that is not addressed by EEO processes. Review the nursing website for further details.

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 college website. Upon completion of the ADN degree requirements, nursing graduates may apply to take the licensure exam to become a registered nurse (RN). Completion of the nursing program, however, does not guarantee eligibility to take the state licensure exam. Eligibility to take the National Council Licensure Exam for Registered Nurses (NCLEX-RN) is determined solely by the Texas BON.

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 are also responsible for the costs of their physical examinations, CPR certifications, background checks, Social Security number verification, drug screens (if required), health care insurance (if required), and transportation to and from clinical agencies for day and evening learning experiences.

**Progression Requirements**

To remain in good standing and progress within the nursing curriculum, students must:

1. Maintain a cumulative grade point average 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, and
3. Successfully complete all concurrent nursing courses to advance to the next level.

**Testing Requirements**

Students applying to the nursing programs are required to complete a national, standardized nursing pre-entrance test and meet the minimum score requirement on all required components of the test. The cost of the exam is the responsibility of the student. Refer to the nursing website for more information. Students enrolled in the nursing program are required to take nationally-normed tests throughout the curriculum and to make satisfactory scores on each test. All costs for the exams and remediation are the student’s responsibility. Review the nursing website at LoneStar.edu/nursing-dept for further details.

**Students with Disabilities**

LSCS complies 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 & Pharmacology 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 and 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. If a pharmacology course (RNSG 1301) is submitted for program credit, it must have been completed no more than five (5) years prior to application for the nursing program.

**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 request readmission to a program might be invited to 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. Upon readmission, students who previously failed or withdrew from a nursing course must repeat all concurrent/corequisite nursing courses. A student may be readmitted into the nursing program one time only.

The readmission policy does not apply to first semester nursing students. Students who are unsuccessful in the first semester basic track or LVN program will have to reapply to the program. Articulating (transition) students who are unsuccessful in transition courses (RNSG 1417 or 1206) must reapply to the Basic track nursing program. Likewise, transfer students will not be admitted into the first semester of any nursing program.

Reapplication Guidelines
Any nursing student, who is not eligible for readmission, can re-apply to any of the nursing programs within the college system with the understanding that all nursing courses must be re-taken if accepted to a program. The student must also meet all current nursing application requirements. The applicants will also be required to submit a letter of their standing from the prior nursing program director if they were in a nursing program within the past 5 years.

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 Transfer/Readmissions 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. Transfer students must meet all admission requirements of the nursing program.

2. Students who have had two (2) unsuccessful attempts in any nursing courses are not eligible for transfer into the nursing programs at LSCS.

3. Transfer applicants will be required to submit a letter of their standing from the prior nursing program director.

4. See college websites for additional information regarding the nursing program transfer guidelines.

NURSING – Associate of Applied Science degree
There are three (3) programs of study offered in associate degree nursing: the basic track (integrated and block programs), the transition track for articulating students, and the second-degree track. The associate degree nursing programs of the Lone Star College System are accredited by the Accreditation Commission for Education in Nursing (ACEN). Accreditation information is available through ACEN, 3343 Peachtree Road NE, Suite 850, Atlanta, GA 30326, phone 404.975.5000, www.acenursing.org, and approval information is available from the Texas Board of Nursing, 333 Guadalupe #3-460, Austin, TX 78701, bon.texas.gov or 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 application process is highly competitive, with students being accepted into the programs based on scores determined by: grade point averages
of prerequisite courses; total number of general education courses taken; and the scores from the national, standardized nursing pre-entrance test. Refer to the nursing website for a sample score sheet. The applicant must:

1. Complete college-level reading, writing, and math prerequisites or Texas Success Initiative (TSI) requirements. All associate degrees in nursing require completion of MATH 0310 or higher. To determine TSI status, see a college advisor. All applicants must have completed MATH 0310 with a minimum grade of "C" or achieve placement into college level math through an assessment test (THEA, Compass, ASSET, or equivalent) or complete a college level math course with a grade of "C" or higher.

2. Complete the following prerequisite 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 for application purposes).

3. In addition to completing the prerequisite courses, complete the following courses with a minimum grade point average of 2.5 or higher to be competitive in the application process: BIOL 2402; BIOL 2420; PSYC 2314; SOCI 1301; SPCH 1311 or SPCH 1318; a humanities course; and PHED 1164 (Intro. to Physical Fitness). Check catalog AAS Requirements to see eligible humanities courses.

4. Biology and pharmacology courses submitted for program credit must be completed no more than five (5) years prior to application to the nursing program.

5. Obtain a grade of a "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.

6. 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 be taken one (1) time every sixty (60) days. Only the most recent test score will be used for the admission process. If repeated in less than sixty (60) days, only the first score will be used.

7. Submit official transcripts from colleges attended other than LSCS.

8. Submit a completed application to the preferred college’s nursing program. Application deadlines are posted on the colleges’ websites. Separate applications to the college nursing programs are only required if the submission deadline dates differ.

9. Complete the Hepatitis B immunization series prior to classes beginning. Applicants must provide official documentation of all immunizations or titers received and a satisfactory physical exam on a college-approved form once selected. Go to the nursing website for the form.

10. Complete the American Heart Association Basic Life Support for Health Care Providers Certification.

11. Final acceptance into the program is contingent upon a satisfactory FBI background check (completed through the BON) and Social Security number verification. Clinical facilities may also require verification of medical insurance, drug testing, additional immunizations, and other medical requirements.

Admission Criteria – Online Second degree program (LSC-Kingwood only)

Prerequisite courses and admission requirements are the same as for the traditional program. In addition, applicants to the online program must have experience with online courses and have the ability to function independently. Students who have no online course experience or have been unsuccessful in a traditional nursing program will not be eligible for the online program. International students have limitations on taking online
courses and may be ineligible depending on immigration status.

Application ranking points will be used in selection of students.

Applications will be available online at LoneStar.edu/nursing-requirements.

Admission Criteria – Transition to Professional Nursing for 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. The application process is highly competitive, with students being accepted into the programs based on scores determined by: grade point averages; total number of prerequisite and general education courses taken; and the scores from the national, standardized nursing pre-entrance test. Refer to nursing website for a sample score sheet.

1. Complete college-level reading, writing, and math pre-requisites or Texas Success Initiative (TSI) requirements. All associate degrees in nursing require completion of MATH 0310 or higher. All applicants must have completed MATH 0310 with a minimum grade of “C” or achieve placement into college level math through an assessment test (TSIA, TAKS, STAAR, ACT, SAT, COMPASS, or ACCUPLACER) or complete a college level math course with a grade of “C” or higher.

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.

3. Complete the following courses with a minimum grade point average of 2.5 or higher to be competitive in the application process: BIOL 2420; SOCI 1301; SPCH 1311 or SPCH 1318; a humanities course; and PHED 1164 (Intro. to Physical Fitness). Check catalog AAS Requirements to see eligible humanities courses.

4. Biology and pharmacology courses submitted for program credit must be completed no more than five (5) years prior to application to the nursing program.

5. 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 the time of application.

6. 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.

7. 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 be taken one (1) time every sixty (60) days. Only the most recent test score will be used for the admission process. If repeated in less than sixty (60) days, only the first score will be used.

8. Submit official transcripts from colleges attended other than LSCS.

9. Submit a completed application to the preferred college’s nursing program. Application deadlines are posted on the colleges’ websites. Separate applications to the college nursing programs are only required if the submission deadline dates differ.

10. Complete the Hepatitis B immunization series. Applicants must provide written documentation of all immunizations or titers received and a satisfactory physical exam on a college-approved form found on the nursing website.

11. Complete the American Heart Association Basic Life Support for Healthcare Providers Certification.
12. Final acceptance into the program is contingent upon a satisfactory FBI background check (completed through the Texas BON) and Social Security number verification. Clinical facilities may also require verification of medical insurance, drug testing, additional immunizations, and other medical requirements.

**Admission Criteria – Online Transition to Professional Nursing for Articulating Students (LSC-Kingwood only)**

Prerequisite courses and admission requirements are the same as for the traditional program. In addition, applicants to the online program must have experience with online courses and have the ability to function independently. Transition students must be currently employed in a healthcare facility. Students who have no online course experience or have been unsuccessful in a traditional nursing program will not be eligible for the online program. International students have limitations on taking online courses and may be ineligible depending on immigration status.

Application ranking points will be used in selection of students. In addition, top candidates will be invited for an interview. Applications will be available online at [LoneStar.edu/nursing-requirements](http://LoneStar.edu/nursing-requirements).

**VOCATIONAL NURSING CERTIFICATE**

The vocational nursing program is a three-semester, one year, full-time 48-credit hour certificate program. The program is approved by the Texas Board of Nursing, 333 Guadalupe #3-460, Austin, TX 78701, [bon.texas.gov](http://bon.texas.gov) or telephone 512.305.7400. 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.

**Admission Criteria – Vocational Nursing**

In addition to the system admission requirements, the following are required for the vocational nursing program. The application process is competitive, with students being accepted into the program based on scores determined by: grade point averages; and the scores from the national, standardized nursing pre-entrance test. Refer to the website for a sample score sheet.

1. Complete college-level reading, writing, and math pre-requisites or Texas Student Success Initiative (TSI) requirements. All VN programs require completion of MATH 0309 or 0310 or higher. All applicants must have completed the required math course with a minimum grade of “C” or achieve placement into college level math through an assessment test (TSIA, TAKS, STAAR, ACT, SAT, COMPASS, or ACCUPLACER) or complete a college level math course with a grade of “C” or higher.

2. Complete BIOL 2404 with a grade of “C” or higher (Completion of both 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 average 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 be taken one (1) time every sixty (60) days. Only the most recent test score will be used for the admission process. If repeated in less than sixty (60) days, only the first score will be used.

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 nursing website. Separate applications to the college nursing programs are only required if the submission deadline differs.

7. Complete Hepatitis B immunization series prior to classes beginning. Applicants
must provide written documentation of all immunizations received and a satisfactory physical exam on a college-approved form once selected. Go to the nursing website for the form.

8. Complete the American Heart Association Basic Life Support for Healthcare Providers Certification.

9. Final acceptance into the program is contingent upon a satisfactory FBI background check (completed through the Texas BON) and Social Security number verification. Clinical facilities may also require verification of medical insurance, drug testing, additional immunizations, and other medical requirements.

NURSING ASSISTANT CERTIFICATE
(C1_ANA1 certificate offered at LSC-Kingwood, LSC-Montgomery, LSC-North Harris and LSC-Tomball)

Must be enrolled in ADN program. Students apply for a CNA certificate after completing the first year of the ADN program.

FIRST YEAR

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<tr>
<th>Credit</th>
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<tbody>
<tr>
<td>Semester</td>
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<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>PHED 1164 Introduction to Physical Fitness &amp; Sport I</td>
</tr>
<tr>
<td>OR any one credit hour physical activity course</td>
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<tr>
<td>PSYC 2301 General Psychology</td>
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| Second Semester |
| BIOL 2402 Human Anatomy & Physiology II | 4 |
| PSYC 2314 Life-span Growth & Development | 3 |
| RNSG 1105 Nursing Skills I | 1 |
| RNSG 1361 Clinical: Nursing I | 3 |
| RNSG 1523 Intro to Professional Nursing for Integrated Programs | 5 |

TOTAL Credit Hours for Nursing Assistant Certificate: 28 29

VOCATIONAL NURSING ADN TO VN CERTIFICATE
(C2_AVN2 certificate offered at LSC-North Harris)

Must be enrolled in ADN Program. This program offers the opportunity for ADN students who completed their first year of the ADN program to be eligible to obtain a vocational nurse license through the MEEP (Multiple Entry Exit Portals) program.

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<td>BIOL 2401 Human Anatomy &amp; Physiology I</td>
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<tr>
<td>ENGL 1301 Composition &amp; Rhetoric I</td>
<td>3</td>
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<td>PSYC 2301 General Psychology</td>
<td>3</td>
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FIRST YEAR

| Semester | First Semester | 
| SOCI 1301 Principles of Sociology | 3 |
| PHED 1164 Introduction to Physical Fitness & Sport I | 1 |
| OR any one credit hour physical activity course |
| BIOL 2402 Human Anatomy & Physiology II | 4 |
| RNSG 1301 Pharmacology | 3 |
| RNSG 1172 Preparation for Basic Care | 1 |

| Second Semester |
| RNSG 1119 Integrated Skills I | 1 |
| BIOL 2420 Medical Microbiology | 4 |
| RNSG 1361 Clinical: Nursing I | 3 |
| RNSG 1523 Intro to Professional Nursing for Integrated Programs | 5 |

| Third Semester |
| PSYC 2314 Life-span Growth & Development | 3 |
| RNSG 1229 Integrated Nursing Skills II | 2 |
| RNSG 1362 Clinical: Nursing II | 3 |
| RNSG 2504 Integrated Care of the Patient with Common Health Care Needs | 5 |

TOTAL Credit Hours for Vocational Nursing ADN to VN Certificate: 55 56

VOCATIONAL NURSING CERTIFICATE
(C2_PRN2 certificate offered at LSC-CyFair, LSC-Kingwood, LSC-Montgomery and LSC-Tomball)

This program is a 3 semester, one year full-time program that prepares students interested in becoming a licensed vocational nurse (LVN). The program teaches students to provide nursing care in a variety of health care settings.

<table>
<thead>
<tr>
<th>Prerequisite Semester</th>
<th>Credit</th>
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<tbody>
<tr>
<td>BIOL 2404 Intro to Anatomy and Physiology</td>
<td>1</td>
</tr>
</tbody>
</table>

FIRST YEAR

| Semester | First Semester | 
| VNSG 1122 Vocational Nursing Concepts | 1 |
| VNSG 2362 Clinical: Practical Nurse I | 3 |
| VNSG 2363 Clinical: Practical Nurse II | 3 |

TOTAL Credit Hours for Vocational Nursing Certificate: 55 56

1 Capstone course
WORKFORCE DEGREES AND CERTIFICATES

VNSG 1304 Foundations of Nursing 3
VNSG 1400 Nursing in Health and Illness I 4
Second Semester
VNSG 1238 Mental Illness 2
VNSG 1163 Pediatric Clinical 1
VNSG 1331 Pharmacology 3
VNSG 1262 Clinical II 2
VNSG 1334 Pediatrics 3
VNSG 1409 Nursing in Health and Illness II 4
Third Semester
VNSG 1119 Leadership and Professional Development 1
VNSG 1226 Gerontology 2
VNSG 1330 Maternal-Neonatal Nursing 3
VNSG 2161 Maternal/Newborn Clinical 1
VNSG 2361 Clinical: Vocational Nurse III 3
VNSG 1410 Nursing in Health and Illness III 4

TOTAL Credit Hours for Vocational Nursing Certificate 48

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 1216 - Nutrition, if student has taken it already and course may be taken during any semester as scheduled by college.
3. Course may be taken during any semester as scheduled by college.
4. RNSG 1301 - Pharmacology can be substituted for VNSG 1331 if taken within the last five years.
5. Capstone course

NURSING SPECIALIZATION (INTEGRATED CURRICULUM)
Associate of Applied Science degree

(As AAS_AADN specialization offered at LSC-Kingwood, LSC-Montgomery, LSC-North Harris and LSC-Tomball)

This program is designed for students interested in becoming a registered nurse (RN). The curriculum is organized around a series of concepts organized from simple to complex.

Prerequisite Semester
BIOL 2401 Human Anatomy & Physiology I 4
ENGL 1301 Composition & Rhetoric I 3
PSYC 2301 General Psychology 3

FIRST YEAR
First Semester
RNSG 1105 Nursing Skills I 1
SOCI 1301 Principles of Sociology 3
BIOL 2402 Human Anatomy & Physiology II 4
RNSG 1301 Pharmacology 3
PHED 1164 Introduction to Physical Fitness & Sport 1

Second Semester
BIOL 2420 Medical Microbiology 4
RNSG 1219 Integrated Skills I 2
RNSG 1361 Clinical: Nursing I 3

RNSG 1523 Intro to Professional Nursing for Integrated Programs 5

Third Semester
RNSG 1229 Integrated Nursing Skills II 2
RNSG 1362 Clinical: Nursing II 3
RNSG 2504 Integrated Care of the Patient with Common Health Care Needs 5
PSYC 2314 Life-span Growth & Development 3

SECOND YEAR
First Semester
RNSG 2361 Clinical: Nursing III 3
RNSG 2514 Integrated Care of the Patient with Complex Health Care Needs 5
SPCH 1318 Interpersonal Communication OR 3
SPCH 1311 Introduction To Communication

Second Semester
Humanities/Fine Arts Elective 3
RNSG 2207 Adaptation to Role of Professional Nurse 2
RNSG 2362 Clinical - Nursing IV 3
RNSG 2535 Integrated Patient Care Management 1 5

TOTAL Credit Hours for Nursing Specialization (Integrated Curriculum) Associate of Applied Science degree 72-73

1. Capstone course

TRANSITION TO PROFESSIONAL NURSING FOR ARTICULATING STUDENTS

(As AAS_PRNR specialization offered at LSC-Kingwood, LSC-Montgomery, LSC-North Harris and LSC-Tomball)

This program is designed for graduates of a LVN or paramedic program to become a registered nurse (RN).

FIRST YEAR

Prerequisite Semester
BIOL 2401 Human Anatomy & Physiology I 4
BIOL 2402 Human Anatomy & Physiology II 4
ENGL 1301 Composition & Rhetoric I 3
PSYC 2301 General Psychology 3
PSYC 2314 Life-span Growth & Development 3
RNSG 1301 Pharmacology 3

First Semester
BIOL 2420 Medical Microbiology 4
SOCI 1301 Principles of Sociology 3

Second Semester
RNSG 1360 Clinical: Nursing Articulating 3
RNSG 1517 Concepts of Professional Nursing Practice I for Articulating Students 5

SECOND YEAR
First Semester
WORKFORCE DEGREES AND CERTIFICATES

WORKFORCE DEGREES AND CERTIFICATES

RNSG 2201 Care of Children and Families 2
RNSG 2208 Maternal/Newborn Nursing and Women’s Health
RNSG 2213 Mental Health Nursing 2
RNSG 2260 Clinical Care of Children and Families 2
RNSG 2261 Clinical: Maternal/Newborn Nursing 2

Second Semester
OR any one credit hour physical activity course
RNSG 2207 Adaptation to Role of Professional Nurse
RNSG 2362 Clinical: Nursing IV 3
RNSG 2535 Integrated Patient Care Management2 5

TOTAL Credit Hours for Transition to Professional Nursing For Articulating Students (Integrated Curriculum) Associate of Applied Science degree 60

1 Choose from the AAS core
2 Capstone course

NURSING SPECIALIZATION
(BLOCK CURRICULUM)
Associate of Applied Science degree

(AAS_ADNB degree offered at LSC-CyFair)

This program is designed for students interested in becoming a registered nurse (RN). The curriculum is organized where the learning experience is divided by nursing content area.

Prerequisite Semester

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FIRST YEAR

First Semester

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<td>RNSG 1144</td>
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<td>RNSG 1309</td>
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Second Semester

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Third Semester

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SECOND YEAR

First Semester

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<td>SPCH 1311</td>
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<td>SPCH 1318</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 LSC-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, Suite 200, Bethesda, MD 20814-3449, 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. For additional specific program information please contact the OTA program department at either LSC-Kingwood or LSC-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 LSC-Tomball.

Program Admission Criteria
Apply for admission to the occupational therapy assistant department by submitting a formal application and all required official documents to the department.

- Top ranking candidates will be scheduled for a personal interview, a writing sample and completion of a health care admissions examination (paid for by applicant).
- 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 applicant’s expense. If an applicant is convicted of a felony or misdemeanor they must contact NBCOT and Executive Council of Physical Therapy and Occupational Therapy Examiners (ECPTOTE) to determine certification and licensure eligibility. 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.
- Applicants will be notified by mail or email of their admission status.

Minimum Academic Requirements
1. Submit COMPASS scores or other LSC approved test scores showing placement into ENGL 1301 and college level math. English and math placement may also be satisfied by successful completion of ENGL 0305 or ENGL 0365, ENGL 0307 or ENGL 0375 and MATH 0310.
2. Completion of a minimum of 10 hours of general education course credit with a minimum 2.5 GPA to include ENGL 1301, BIOL 2401 and 3 hours of a general education course required in the degree plan. The general education course required for LSC-Kingwood is PSYC 2301.

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 that is received over a 3 - 6 month period; and,
- Certificate of completion of CPR prior to Level I Fieldwork.

Incomplete applications will not receive a department review. Applicants are 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. 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 LSC-Tomball.

OCCUPATIONAL THERAPY ASSISTANT
Associate of Applied Science degree
(AAS_OCTA degree offered at LSC-Kingwood and LSC-Tomball)

Course sequence is for LSC-Tomball. Contact the LSC-Kingwood program director for details on its course sequence. In addition to BIOL 2401 and ENGL 1301 in the prerequisite semester, students must take a 3 hour general education course required in the degree plan. See program description for further details.

Prerequisite Semester
BIOL 2401 Human Anatomy & Physiology I  4
ENGL 1301 Composition & Rhetoric I  3
PSYC 2301 required for LSC-KC students or one  3
3-credit non-OTHA course in degree plan for LSC-TC students.

FIRST YEAR
First Semester
OTHA 1301 Intro to Occupational Therapy1  3
OTHA 1315 Therapeutic Use of Occupations or Activities I  3
PSYC 2301 General Psychology OR Humanities/Fine Arts Elective2  3

Second Semester
BIOL 2402 Human Anatomy & Physiology II  4
OTHA 1309 Human Structure and Function in Occupational Therapy  3
OTHA 2301 Pathophysiology for Occupational Therapy  3
OTHA 2331 Physical Function in Occupational Therapy  3
PSYC 2314 Life-span Growth & Development  3

Third Semester
OTHA 1319 Therapeutic Interventions I  3
OTHA 2302 Therapeutic Use of Occupations or Activities II  3
OTHA 2309 Mental Health in Occupational Therapy1  3

SECOND YEAR
First Semester
OTHA 1241 Occupational Performance from Birth to Adolescence  2
OTHA 1253 Occupational Performance for Elders  2
OTHA 2166 Practicum (or Field Experience) - Occupational Therapy Assistant  1
OTHA 2335 Health Care Management in Occupational Therapy  3

Second Semester
OTHA 2460 Clinical - Occupational Therapy  4

OTHA 2461 Clinical - Occupational Therapy Assistant2

TOTAL Credit Hours for Occupational Therapy Assistant Associate of Applied Science degree 60

1 OTHA 1301 and 2309 meet communication requirement.
2 Choose from the AAS core
3 Capstone course

PARALEGAL STUDIES

Degrees and certificates in paralegal studies are available for students wishing to pursue a professional career as a paralegal. 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 Paralegal Studies Advanced Technical Certificate. Only students already possessing either an associate 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 website.

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. Other LGLA courses may be taken online. The paralegal studies program at LSC-North Harris is American Bar Association (ABA) approved. Paralegals may not offer legal advice to or do legal work for the general public. Paralegals must work under the direct supervision of an attorney. Contact a counselor or paralegal studies faculty member at LSC-North Harris for more information. Go to the web at LoneStar.edu/paralegal for more information.

PARALEGAL STUDIES
ADVANCED TECHNICAL CERTIFICATE
(C4_PlG4 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

| Credit |
|---|---|
| BUSI 2301 Business Law | 3 |
| MATH 1332 College Math for Liberal Arts | 3 |
| ENGL 1301 Composition & Rhetoric I | 3 |
| LGLA 1307 Intro to Law & Legal Professions | 3 |

SECOND YEAR

| Credit |
|---|---|
| ACNT 1303 Introduction to Accounting I | 3 |
| General Education Elective | 3 |
| GOVT 2305 Federal Government | 3 |
| LGLA 1303 Legal Research | 3 |

TOTAL Credit Hours for Paralegal Studies Advanced 61

1 Choose from the AAS core
2 Choose from ENGL 2332, 2333, HUMA 1301, 1302, PHIL 1304, FREN 2311, 2312, GERM 2311, 2312, SPAN 2311, 2312
3 Choose from LGLA 1323, 1341, 1343, 1349, 1353, 1355, 2323, 2309, 2311, 2313, 2315, 2317
4 Capstone course
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 daytime 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 May. 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 11 months (mid-January through mid-December). Unlike the daytime certificate program, the evening certificate program is a three-semester cohort program.

The certificate program at both LSC-North Harris and LSC-Tomball is accredited by the American Society of Health-System Pharmacists (ASHP).

The Pharmacy Technology certificate prepares graduates to sit for the National Pharmacy Technician Certification Examination (PTCE), 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 passing this 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 trainee with a red certificate or a certified pharmacy technician with a green certificate. This includes students while they are doing “clinical” rotations in pharmacies. To register, the pharmacy technology student should visit TSBP’s link at tsbp.state.tx.us to complete an online application and pay the fee. 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. It is very important that a student must have a Social Security number in order to register for this process. 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 LSC-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 281.826.5397 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/
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 of Science degree in Pharmacy Technology emphasizes the technician’s advanced career opportunities in the field. Further emphasis is placed on ethics and state laws. The pharmacy courses for the AAS degree are offered only 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) green 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 degree program. Those who have not yet completed an accredited pharmacy technology program but have informal on-the-job training must contact the program director for 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 Texas Success Initiative (TSI) requirements.

PHARMACY TECHNOLOGY CERTIFICATE

(C1_PHR1 certificate offered at LSC-North Harris and LSC-Tomball)

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<th>Credit</th>
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<tr>
<td>PHRA 1102 Pharmacy Law</td>
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<tr>
<td>PHRA 1305 Drug Classification</td>
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<tr>
<td>PHRA 1309 Pharmaceutical Mathematics I</td>
<td>3</td>
</tr>
<tr>
<td>PHRA 1361 Clinical - Community Pharmacy</td>
<td>3</td>
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<tr>
<td>PHRA 1413 Community Pharmacy Practice</td>
<td>4</td>
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<tr>
<td><strong>Second Semester</strong></td>
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<td>PHRA 1143 Pharmacy Technician Certificate</td>
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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 cohort is accepted into the program each year. The curriculum plan for the program begins in the fall semester and consists of five consecutive semesters. Besides the PTA courses, our program includes general education and science courses necessary for earning an Associate in Applied Science degree. Successful completion of the program satisfies the academic requirement for applying for the state licensure as a PTA and satisfies the requirement for graduates to take the NBPTE, the national licensing exam.

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. Clinical facilities will require students to successfully pass a certified background check, a negative screening for drug usage, a seasonal influenza vaccination, Hep B series, MMR series, Chicken pox series, Tetanus, and PPD to screen for TB, and a current CPR card which is AHA BLS for HC providers. Prior to the start of the program, students are required to provide proof of immunizations. This list of requirements is available on the program department website.

Graduates are prepared for employment as PTAs in acute care hospitals, rehabilitation centers, outpatient clinics, school systems, home health agencies and other places where physical therapy is licensed to practice. Upon completion of the program, graduates must pass the NBPTE national licensing exam to receive a license in Texas.
WORKFORCE DEGREES AND CERTIFICATES

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, a college advisor 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. Complete all developmental courses in math and English prior to application (if required based on testing). All associate degrees require completion of MATH 0310 or higher or placement at college-level on an approved exam.
2. Have a grade point average (GPA) of at least 2.0 in high school and/or college.
3. Complete at least 40 hours of observation in the field under the direction of a licensed physical therapist or licensed physical therapist assistant.
4. Complete an application test administered at the Lone Star College-Montgomery Campus.

Applications for admission will be received during the spring semester. 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 which may include but not limited to, the following:

1. Completion of the general education core courses in the degree plan,
2. High grades in these courses,
3. Scores on a standardized admission exam, writing sample and interview.

Note: It is highly recommended that students complete as many of the following courses prior to applying to the PTA program in order to submit the highest application score as possible:

- PTHA 1201 – (It is a requirement to pass this course with a C or higher.)
- BIOL 2401 – (It is a requirement to pass this course with a C or higher and within the last 7 years prior to admission into the program.)
- BIOL 2402 – (It is a requirement to pass this course with a C or higher.)
- ENGL 1301
- PSYC 2301
- PSYC 2314
- PHIL 2306

Final acceptance into the program is contingent upon other criteria as set by LSCS which may include background check and drug screening.

Admission Process

1. All applicants are highly encouraged to attend at least one information session prior to applying to the PTA program. The information sessions are held monthly on the LSC-Montgomery campus and the PowerPoint file is available on the departmental web page at LoneStar.edu/physical-therapist-assistant-dept-montgomery. Dates and times for the face to face sessions are located on the departmental web page.
2. An application packet for the PTA program must be completed and submitted to be considered for acceptance into the program. A link to the on-line application for the class starting in August will be available beginning in April of each year at LoneStar.edu/physical-therapist-assistant-dept-montgomery. The following material must be turned in prior to the deadline to the PTA department office B120 to be considered for admission:
   A. On-line application printed and signed by the student and turned in.
   B. On-line score sheet printed and signed by the student and turned in.
   C. Observation form to be completed after 40 hours of observation under a licensed PT or PTA and signed by the PT or PTA. The form is available under Application Forms at LoneStar.edu/physical-therapist-assistant-dept-montgomery.
WORKFORCE DEGREES AND CERTIFICATES

WORKFORCE DEGREES AND CERTIFICATES

First Semester
ENGL 1301 Composition & Rhetoric I 3
PTHA 1225 Communication in Health Care 2
PTHA 1305 Basic Patient Care Skills 3
PTHA 1413 Functional Anatomy 4
BIOL 2401 Human Anatomy & Physiology I 4
PTHA 1201 The Profession of Physical Therapy 2

Second Semester
BIOL 2402 Human Anatomy & Physiology II 4
PTHA 1431 Physical Agents 4
PTHA 2201 Essentials of Data Collection 2
PTHA 2435 Rehabilitation Techniques 4
PTHA 1260 Clinical Physical Therapist Assist 2

Third Semester
PSYC 2301 General Psychology 3
PTHA 1321 Pathophysiology for the PTA 3
PTHA 2409 Therapeutic Exercise 4

SECOND YEAR
First Semester
PHIL 2306 Introduction to Ethics 3
PTHA 2250 Current Concepts in Physical Therapy 2
PTHA 2461 Clinical-Physical Therapy Assistant 4
PTHA 2462 Clinical-Physical Therapy Assistant 4

Second Semester
PSYC 2314 Life-span Growth & Development 3
PTHA 2217 Issues in Health Care 2
PTHA 2563 Clinical-Physical Therapy Assistant 5

TOTAL Credit Hours for Physical Therapist Assistant Associate of Applied Science degree 67

1 Meets communication requirement
2 Capstone course

POLYSOMNOGRAPHY

General Guidelines

Polysomnography is a specialized diagnostic area in which patients are studied through electroencephalogram monitoring, oxygen saturation, electrooculography, electromyography, flow measurements, respiratory inductance and electrocardiogram monitoring. The field has evolved from hospital based locations to multi-center locations and is evolving into the home polysomnography study arena. Initially studies revolved around the obese elderly patient but have grown into geriatric, middle-age, teenage, pediatric and neonatal populations. The studies are recorded and scored by Polysomnographic Practitioners and Physicians. Polysomnographic Technologists are instrumental in the diagnosis, therapeutics, and monitoring of the polysomnographic patient. The field requires the ability to utilize

(Signed and sealed by the licensed professional and either mailed or delivered by hand to the PTA department office - B120).

D. PSB test results. The test ticket and directions on taking the test are available at LoneStar.edu/physical-therapist-assistant-dept-montgomery. IMPORTANT: PSB Test must be taken at least one week prior to the application deadline.

E. Any additional documentation requested during the on-line application.

3. Applicants may be invited for an interview and asked to submit a writing sample for review by the admissions committee.

4. All successful applicants admitted to the PTA program will be required to attend an orientation session in the summer before starting the program.

5. All successful applicants admitted to the PTA program will be required to submit documentation of their immunizations and background check at the orientation and no later than the first official day of class in the fall semester, per instructions of the faculty.

In order to practice as a 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 that is accredited by the Commission on Accreditation in Physical Therapy Education (CAPTE). The PTA program at LSC-Montgomery is accredited by CAPTE.

For more information, go to apta.org or contact the Commission on Accreditation in Physical Therapy Education, 1111 North Fairfax Street, Alexandria, VA 22314-1488, 703.684.2782

PHYSICAL THERAPIST ASSISTANT
Associate of Applied Science degree
(AAS_PHTA degree offered at LSC-Montgomery)

FIRST YEAR Credit

LSCS Catalog 2014/2015
technology and critical thinking in the administration of positive pressure and evaluation and analysis of multi-channel diagnostic parameters. The field is quickly growing due to the growth in patient base. The general education core will transfer to a variety of colleges and universities.

According to the Bureau of Labor Statistics, there is an expected increase in employment in the field. The projected employment is expected to be higher than the national average for all occupations. The average salary for Polysomnographic Technologists in the Houston area is $38,079 with an expected starting salary of $31,359 and with experience you can expect around $44,799.

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 polysomnography program does not guarantee eligibility to take the RPSGT exam administered by the Board of Registered Polysomnographic Technologists (BRPT). The BRPT will consider individuals with histories of conviction; mental illness and/or chemical dependency on an individual basis after submitted applications are reviewed and determine if the applicant meets required qualifications.

Admissions Criteria
The polysomnography program is planning to begin the program with the first cohort in the spring of 2015. Prerequisite courses must be completed one semester prior to the semester in which the student wishes to begin the program. In addition to the system admissions requirements, the following are requirements for the polysomnography program:

Program Application Instructions
1. Minimum age of 18.
2. Graduation from high school verified with high school transcript or GED certificate verified by a copy of the certificate.
3. Complete TSI requirements: complete ENGL 0305 AND 0307 OR ENGL 0309 AND MATH 0309 or 0310 with eligibility to enter ENGL 1301 and college-level MATH. To determine your status, see a college advisor.
4. College placement exam results.
5. Complete fourteen (14) semester hours of college level course work including: ENGL 1301, BIOL 2401 and 2402, and PSYC 2301 with a minimum grade point average of 2.5 or higher.
6. Submit official transcripts from all colleges attended other than LSCS. Submit these documents directly to the polysomnography department at LSC-Kingwood.
7. Complete Health Sciences Reasoning Test (HSRT).
8. Complete and submit an application to the polysomnography program.
9. Submit an advising profile directly to the polysomnography department at LSC-Kingwood.
10. Application and all required documents must be submitted before the specified application deadlines. College eligibility information may be obtained from the counseling office 281.312.1604.

Student Selection
1. Admission is limited to fifteen (15) students.
2. Students are ranked and selected by the admissions committee using the following criteria:
   A. Scoring of all academic courses applying to the degree plan using a numeric scale
   B. Completion of previous degrees
   C. HSRT score
   D. Points are deducted for retakes of academic courses.

Pre-Admission
1. A physical examination report with laboratory tests and immunization records
signed by a licensed healthcare provider within six weeks of the first class day is required. This form will be provided upon acceptance into the program.

2. Hepatitis B vaccination is required for all admissions to the polysomnography program. The enrolling student must complete the series of three vaccinations prior to entering the clinical practicum in the hospital/outpatient setting.

3. All students must complete background checks prior to entering the polysomnography program. Drug testing will also be completed prior to entering clinical affiliates which require mandatory drug testing. Contact the department for information.

4. Attendance at a mandatory orientation session, after student selection is complete, will be scheduled prior to the first class meeting.

**POLYSOMNOGRAPHIC TECHNOLOGIST CERTIFICATE**

(C2_POLY2 offered at LSC-Kingwood)

<table>
<thead>
<tr>
<th>Prerequisite Semester</th>
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<tr>
<td>ENGL 1301 Composition &amp; Rhetoric I</td>
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<tr>
<td>BIOL 2401 Human Anatomy &amp; Physiology I</td>
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<td>4</td>
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<tr>
<td>PSYC 2301 General Psychology</td>
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**FIRST YEAR**

First Semester

<table>
<thead>
<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>PSGT 1115</td>
<td>Introduction to Polysomnography</td>
</tr>
<tr>
<td>PSGT 1305</td>
<td>Neurophysiology of Sleep</td>
</tr>
<tr>
<td>PSGT 1400</td>
<td>Polysomnography I</td>
</tr>
<tr>
<td>PSGT 1340</td>
<td>Sleep Disorders</td>
</tr>
<tr>
<td>PHED 1164</td>
<td>Introduction to Physical Fitness &amp; Sport</td>
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Second Semester

<table>
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<tr>
<td>PSGT 1260</td>
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<tr>
<td>PSGT 2205</td>
<td>Sleep Scoring &amp; Staging</td>
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<td>RSPT 1310</td>
<td>Respiratory Care Procedures I</td>
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Third Semester

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**SECOND YEAR**

First Semester

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<tr>
<td>PSGT 1291</td>
<td>Special Topics - Polysomnography</td>
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TOTAL Credit Hours for Polysomnographic Technologist Certificate 53

1 Capstone course

**POLYSOMNOGRAPHY**

Associate of Applied Science degree

(AAS_PSGT degree offered at LSC-Kingwood)

<table>
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<td>PSYC 2301 General Psychology</td>
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**FIRST YEAR**

First Semester

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<tbody>
<tr>
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<td>Neuroanatomy &amp; Physiology</td>
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<tr>
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<td>Introduction to Physical Fitness &amp; Sport</td>
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Second Semester

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<td>PSGT 1260</td>
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<td>Sleep Disorders</td>
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TOTAL Credit Hours for Polysomnography Associate of Applied Science degree 60

1 Capstone course

**POLYSOMNOGRAPHIC ADVANCED TECHNICAL CERTIFICATE**

(C4_PLY4 offered at LSC-Kingwood)

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<td>PSYC 2301 General Psychology</td>
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**FIRST YEAR**

First Semester

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<tr>
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<tr>
<td>PSGT 1305</td>
<td>Neurophysiology of Sleep</td>
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<tr>
<td>PSGT 1400</td>
<td>Polysomnography I</td>
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Second Semester

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<tr>
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<tr>
<td>PSGT 1305</td>
<td>Neurophysiology of Sleep</td>
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<tr>
<td>PSGT 1400</td>
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<tr>
<td>PSGT 1310</td>
<td>Neuroanatomy &amp; Physiology</td>
</tr>
<tr>
<td>PSGT 1340</td>
<td>Sleep Disorders</td>
</tr>
<tr>
<td>PHED 1164</td>
<td>Introduction to Physical Fitness &amp; Sport</td>
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</table>

TOTAL Credit Hours for Polysomnography Associate of Applied Science degree 60

1 Capstone course
WORKFORCE DEGREES AND CERTIFICATES

PSGT  1310  Neuroanatomy & Physiology  3
PSGT  1340  Sleep Disorders  3
Second Semester
PSGT  1260  Polysomnography Clinical I  2
PSGT  2205  Sleep Scoring & Staging  2
PSGT  2411  Polysomnography II  4
RSPT  1310  Respiratory Care Procedures I  3
Third Semester
RSPT  2139  Advanced Cardiac Life Support  1
PSGT  1360  Polysomnography Clinical II  3
PSGT  2250  Infant Pediatric Polysomnography  2
SECOND YEAR
First Semester
PSGT  2661  Polysomnography Clinical III  6
PSGT  1291  Special Topics - Polysomnography  2
TOTAL Credit Hours for Polysomnographic Advanced Technical Certificate 39

1 Capstone course

RESPIRATORY CARE

The course of study for a respiratory therapist is a 67 credit hour (six semesters) Associate of Applied Science degree. The respiratory care program prepares graduates for the credentialing examinations from the NBRC (National Board for Respiratory Care). The program is fully accredited by CoARC (Commission on Accreditation for Respiratory Care) 1248 Harwood Road; Bedford, Texas 76021-4244; Phone 817.283.2835; website coarc.com. 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. See LoneStar.edu/respiratory-care-requirements for additional program information.

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 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 accepts new students in the spring and summer of every year at LSC-Kingwood. Prerequisite courses must be completed one semester prior to the semester in which the student wishes to begin the program. In addition to the system admissions requirements, the following are requirements for the respiratory therapist program:

Program Application Instructions

1. Minimum age of 18.
2. Graduation from high school verified with high school transcript or GED certificate verified by a copy of the certificate.
3. Complete TSI requirements: complete MATH 0309 or MATH 0310. To determine your status, see college advisor.
4. College placement exam results.
5. Complete nine (9) semester hours of college level course work including: ENGL 1301 and BIOL 2401 with a minimum grade point average of 2.5 or higher.
6. Submit official transcripts from all colleges attended other than LSCS. Submit these documents directly to the respiratory care department at LSC-Kingwood.

7. Complete Health Sciences Reasoning Test (HSRT).

8. Complete and submit an application to the respiratory care program.

9. Submit an essay written on why the individual wishes to enter the field of respiratory care.

10. Submit an advising profile directly to the respiratory care department at LSC-Kingwood.

11. Application and all required documents must be submitted before the specified application deadlines.

College eligibility information may be obtained from the counseling office 281.312.1604.

**Student Selection**

1. Admission is limited to twenty (20) students.

2. Students are ranked and selected by the admissions committee using the following criteria:
   A. Scoring of all academic courses applying to the degree plan using a numeric scale
   B. Completion of previous degrees
   C. HSRT scores
   D. Essay
   E. Points are deducted for retakes of academic courses.

**Pre-Admission**

1. A physical examination report with laboratory tests and immunization records signed by a licensed healthcare provider within six weeks of the first class day is required. This form will be provided upon acceptance into the program.

2. Hepatitis B vaccination is required for all admissions to the respiratory care program. The enrolling student must complete the series of three vaccinations prior to entering the clinical practicum in the hospital setting.

3. All students must complete background checks prior to entering the respiratory care program. Drug testing will also be completed prior to entering clinical affiliates which require mandatory drug testing. Contact the department for information at 281.312.1708.

4. Attendance at an orientation session, after student selection is complete, will be scheduled prior to the first class meeting.

**RESPIRATORY CARE THERAPIST**

Associate of Applied Science degree *(AAS_RESC degree offered at LSC-Kingwood)*

<table>
<thead>
<tr>
<th>FIRST YEAR</th>
<th>Credit</th>
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<tbody>
<tr>
<td><strong>First Semester</strong></td>
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<tr>
<td>RSPT 1207 Cardiopulmonary Anatomy and Physiology</td>
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<tr>
<td>RSPT 1166 Practicum Respiratory Care Therapy/Therapist</td>
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<tr>
<td>RSPT 1201 Introduction to Respiratory Care</td>
<td>2</td>
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<tr>
<td>RSPT 1325 Respiratory Care Sciences</td>
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<tr>
<td>RSPT 1429 Respiratory Care Fundamentals I</td>
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<td><strong>Second Semester</strong></td>
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<tr>
<td>RSPT 1213 Basic Respiratory Care Pharmacology</td>
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<tr>
<td>RSPT 1160 Clinical Respiratory Care Therapy/Therapist</td>
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<td>RSPT 1431 Respiratory Care Fundamentals II</td>
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<td><strong>Third Semester</strong></td>
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<tr>
<td>RSPT 1167 Practicum Respiratory Care Therapy/Therapist</td>
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<td>RSPT 2210 Cardiopulmonary Disease</td>
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<td>RSPT 2414 Mechanical Ventilation</td>
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<td>RSPT 1241 Respiratory Home Care/Rehabilitation</td>
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<td>BIOL 2420 Medical Microbiology <strong>OR</strong></td>
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<td>CHEM 1405 Introduction to Chemistry</td>
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<td>RSPT 2166 Practicum Respiratory Care Therapy/Therapist</td>
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<tr>
<td>RSPT 2325 Cardiopulmonary Diagnostics</td>
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<td>RSPT 2353 Neonatal/Pediatric Cardiopulmonary Care</td>
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<tr>
<td><strong>Second Semester</strong></td>
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<tr>
<td>PHED 1164 Introduction to Physical Fitness &amp; Sport <strong>OR</strong></td>
<td>1</td>
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<tr>
<td>any one credit hour physical activity course</td>
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<tr>
<td>RSPT 2260 Clinical Respiratory Care Therapy/Therapist</td>
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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. Surgical technologists are allied health professionals who work in the sterile environment with surgeons, anesthesia personnel, and nurses in delivering surgical patient care. Scrub surgical technologists prepare the surgical environment by selecting and assembling sterile supplies and equipment, preparing and maintaining the sterile field throughout surgery, and anticipating the needs of the surgical team by passing instruments and sterile items. Surgical technologists are employed in hospital-based operating room settings, outpatient surgical centers, maternity units, emergency rooms, central sterile reprocessing units, and in the medical sales field. 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 utilizing the three domains of learning. They are the affective, cognitive and psychomotor domains.

Most surgical technologists are employed in hospital surgery departments, obstetric departments, and ambulatory care centers. Because of the broad educational background 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 its products, military service, technical writing, illustration, and photography. The U.S. Department of Labor and Statistics had identified surgical technology as “growing much faster than expected.” More information can be found by clicking on the website [bls.gov/ooh/Healthcare/Surgical-technologists.htm](http://bls.gov/ooh/Healthcare/Surgical-technologists.htm).

The surgical technology program at LSC-Tomball is a three semester, 42 credit hour (1,344 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). Our program is accredited by the Commission on Accreditation of Allied Health Education Programs ([caahep.org](http://caahep.org)), 1361 Park Street, Clearwater, FL, 33756, Phone 727.210.2350, Fax 727.210.2354 upon the recommendation of the Accreditation Review Council on Education in Surgical Technology and Surgical Assisting ([arcsta.org](http://arcsta.org)), 6 West Dry Creek Circle, Suite 110, Littleton, CO 80112, Phone 303.694.9262, Fax 303.741.3655.

**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 Texas Success Initiative (TSI) requirements. To determine your TSI status, see a college advisor.

3. Maintain a cumulative grade point average of 2.0 in college level courses.

4. Applicants must return a completed application packet to LSC-Tomball. The complete packet includes the following items:
   - Completed application must be signed by a LSC-Tomball advisor.
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. The job market for veterinary technology graduates continues to grow. The U.S. Bureau of Labor Statistics predicts that 25,000 veterinary technology jobs will be added in the U.S. between 2012 and 2022, representing a 30 percent industry growth – well above the norm of 11 percent. And for LSC-Tomball students, scholarships are available to those who qualify.

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.

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**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 percent passing 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 185 plus programs accredited by the American Veterinary Medical Association.
Admission Procedure

In addition to the admission requirements of the LSCS, one of the following must be met for admission into the Veterinary Technology Associate of Applied Science degree:

- ACT scores of: Math 24+, Writing 19+, Reading 19+, College Math TSI met (if within 5 years)
- 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 College Algebra 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 a LSC-Tomball advisor during the student’s visit in the admissions department. Go to LoneStar.edu/veterinary-technology-dept-Tomball for the veterinary technology admissions application.

Biology 1406 (biology with biochemistry) and Math 1314 - College Algebra, if transferring the grade must be a C or better.

If transferring these two courses the course must have been taken within the last five years.

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, e-mail or phone. 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 a.m. and 8:50 a.m. Monday through Friday. This time is reserved for all animal clinical 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. Important information on rules and program requirements will be covered in detail by the program faculty and staff, and questions will be welcomed.

Students receiving admission to the program should be aware that books and other supplies are required for every class along with special clothing for all clinical 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, VTHT 1345, VTHT 2323, VTHT 2431, VTHT 1441, VTHT 1140 and VTHT 2360 should be completed within one calendar year prior to graduation and VTHT 1413 Anatomy & Physiology must be successfully completed before any further VTHT courses can be taken except for Pharmaceutical Calculations. VTHT 1413 and 2360 are offered more than once yearly. All other VTHT courses are only offered in the semester indicated in the AAS outline.

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 coursework and have received their AAS degree in veterinary technology from LSC-Tomball.

Contact Joyce E. Brod, RVT at 281.357.3714 or
### WORKFORCE DEGREES AND CERTIFICATES

**WORKFORCE DEGREES AND CERTIFICATES**

**VTHT 1125 Pharmacological Calculations** 1  
**VTHT 1166 Practicum Veterinary/Animal Health Technology/Technician** 1  
**VTHT 2421 Veterinary Parasitology** 3  
**PSYC 2301 General Psychology** 3

#### SECOND YEAR

**First Semester**

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<td>VTHT 2201</td>
<td>Canine and Feline Clinical Management</td>
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<td>VTHT 2323</td>
<td>Veterinary Clinical Pathology I</td>
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<td>VTHT 2213</td>
<td>Lab Animal Clinical Management</td>
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<td>VTHT 1349</td>
<td>Veterinary Pharmacology</td>
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<td>VTHT 1140</td>
<td>Veterinary Jurisprudence and Ethics</td>
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<td>VTHT 2360</td>
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#### TOTAL Credit Hours for Veterinary Technology Associate of Applied Science degree **71**

1. Combination of courses meets communication competency  
2. 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 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, 3-D animation/interactive media, 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 of Applied Science degree is awarded for successful completion of 67–69 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, web design, and 3D animation. Both the graphic design and multimedia degree programs are recognized by the Texas Skill Standards Board (TSSB) as having curriculum that aligns with the national industry-defined and industry-recognized skills standards. Students completing the degree or certificate are prepared for entry-level positions. Certificates are available within specialization areas in graphic design, motion graphics, video and post-production, multimedia design, 3D animation, and web design as well as an Enhanced Skills Certificate in Digital Photography. 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.

**MOTION GRAPHICS CERTIFICATE**

(C1_MTG1 certificate offered at LSC-CyFair, LSC-Kingwood and LSC-North Harris)

**FIRST YEAR**

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit</th>
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<td>Introduction to Digital Media</td>
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<td>IMED 1316</td>
<td>Web Design I</td>
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<td>ITSC 1301</td>
<td>Introduction to Computers OR</td>
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<tr>
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<td>COSC 1301</td>
<td>Introduction to Computers</td>
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<td>Second Semester</td>
<td>IMED 1345</td>
<td>Interactive Digital Media I</td>
<td>3</td>
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<td>FLMC 1331</td>
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<td>RTVB 1321</td>
<td>TV Field Production OR</td>
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<td></td>
<td>RTVB 1325</td>
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<td>ARTC 1302</td>
<td>Digital Imaging I</td>
<td>3</td>
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<td>FLMC 2331</td>
<td>Video Graphics &amp; Visual Effects II</td>
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**TOTAL Credit Hours for Motion Graphics Certificate** 36

1 Capstone course

**MULTIMEDIA DESIGNER CERTIFICATE**

(C1_MDE1 certificate offered at LSC-CyFair, LSC-Kingwood and LSC-North Harris)

**FIRST YEAR**

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<th>Course Title</th>
<th>Credit</th>
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<td>Digital Imaging I</td>
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<td>ARTC 1353</td>
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<td>Interface Design</td>
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<td>IMED 2313</td>
<td>Project Analysis and Design</td>
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<td>Third Semester</td>
<td>ARTV 1351</td>
<td>Digital Video</td>
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<td>FLMC 1331</td>
<td>Video Graphics &amp; Visual Effects I</td>
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**TOTAL Credit Hours for Multimedia Designer Certificate** 36

1 Capstone course

**VIDEO AND POST PRODUCTION CERTIFICATE**

(C1_VPP1 certificate offered at LSC-CyFair, LSC-Kingwood and LSC-North Harris)

**FIRST YEAR**

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<th>Course Code</th>
<th>Course Title</th>
<th>Credit</th>
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<td>First Semester</td>
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<td>IMED 1301</td>
<td>Introduction to Digital Media</td>
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<td>FLMC 1304</td>
<td>Lighting for Film Or Video</td>
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<td>Second Semester</td>
<td>FLMC 1331</td>
<td>Video Graphics &amp; Visual Effects I</td>
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<td>ARTV 2341</td>
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<td>RTVB 1321</td>
<td>TV Field Production OR</td>
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<td>RTVB 1325</td>
<td>TV Studio Production</td>
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<td>ITSC 1301</td>
<td>Introduction to Computers OR</td>
<td>3</td>
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<td>COSC 1301</td>
<td>Introduction to Computers</td>
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<td>SECOND YEAR</td>
<td>IMED 1391</td>
<td>Special Topics: Education/Instructional Media Design</td>
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### WORKFORCE DEGREES AND CERTIFICATES

#### WORKFORCE DEGREES AND CERTIFICATES

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**TOTAL Credit Hours for 3D Animation Certificate**: 42

1. Capstone course

#### WEB DESIGN CERTIFICATE

(C1_MWD1 certificate offered at LSC-North Harris)

<table>
<thead>
<tr>
<th>Year</th>
<th>Semester</th>
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<th>Course Title</th>
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<td>Design Communications I</td>
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<td>IMED 1301</td>
<td>Introduction to Digital Media</td>
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<td>IMED 1316</td>
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**TOTAL Credit Hours for Web Design Certificate**: 40

1. Capstone course

#### 3D ANIMATION CERTIFICATE

(C2_ANI2 certificate offered at LSC-North Harris)

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<th>Year</th>
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<td>ARTS 1317</td>
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<td>ARTV 1341</td>
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**SECOND YEAR**

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**TOTAL Credit Hours for 3D Animation Certificate**: 42

1. Capstone course

#### DIGITAL PHOTOGRAPHY ENHANCED SKILLS CERTIFICATE

(C3_DPHT certificate offered at LSC-CyFair, LSC-Kingwood, and LSC-North Harris)

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<td>ARTV 1303</td>
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**TOTAL Credit Hours for Graphic Design Certificate**: 45

1. Capstone course
WORKFORCE DEGREES AND CERTIFICATES

SECOND YEAR

First Semester
Speech Elective
Tech. Track (A, B, C, D, or E)
Tech. Track (A, B, C, D, or E)
Tech. Track (A, B, C, D, or E)
Tech. Track (A, B, C, D, or E)

Second Semester
Tech. Track (A, B, C, D, or E)
Tech. Track (A, B, C, D, or E)
Tech. Track (A, B, C, D, or E)
Math/Natural Science Elective OR
Cooperative Education OR
Portfolio Development Capstone

TOTAL Credit Hours for Visual Communication
Associate of Applied Science degree 67-69

1 Speech course from SPCH 1311, 1315, 1318 or 1321
2 Choose from the AAS core.
3 See track details for appropriate course options.

Choose only one Technical Track A, B, C, D or E to follow from the corresponding tracks:

Track A-Graphic Design (AAS_VSCG) offered at LSC-CyFair, LSC-Kingwood and LSC-North Harris
ARTC 1313, ARTC 2313, ARTC 2305, ARTC 1353, ARTC 2348, ARTC 2347, ARTS 2311, IMED 1316, IMED 1345, ITSW 1310; For capstone, choose one of the following: ARTC 2380 or ARTC 2380

Track B-Multimedia (AAS_VSCM) offered at LSC-North Harris, LSC-CyFair ad LSC-Kingwood
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; For capstone, choose one of the following: IMED 2311 or IMED 2380

Track C-Video and Post-Production (AAS_VSCV) offered at LSC-CyFair, LSC-Kingwood and LSC-North Harris
ARTC 2305, ARTV 1351, ARTV 2341, IMED 1391, FLMC 1304, FLMC 1331, FLMC 2331, RTVB 2337, RTVB 1321 or RTVB 1325; Choose one additional course from ARTC, ARTV, IMED, FLMC or RTVB; For capstone, choose one of the following: RTVB 2381 or IMED 2311

Track D-Web Design (AAS_VSCW) offered at LSC-North Harris
ARTC 1353, IMED 1316, IMED 1341, IMED 2313, IMED 1345, IMED 2315, IMED 2309, IMED 2349, IMED 2345, ITSE 1402; For capstone, choose one of the following: IMED 2311 or IMED 2380

Track E- 3D Animation (AAS_VSC3) offered at LSC-North Harris
ARTV 2345, ARTV 1303, ARTV 1345, ARTV 2351, ARTS 1317, ARTS 1312, ARTV 1341, FLMC 1331, ARTV 1351, GAME 1303; For capstone, choose one of the following: IMED 2311 or IMED 2380

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.

**GAS METAL ARC WELDING CERTIFICATE (GMAW)**

| C1_WGM1 certificate offered at LSC-CyFair and LSC-North Harris |

<table>
<thead>
<tr>
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<tr>
<td>First Semester</td>
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<tr>
<td>WLDG 1413 Introduction to Blueprint Reading for Welders</td>
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<td>WLDG 1421 Intro To Welding Fundamentals</td>
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<td>WLDG 1430 Introduction to Gas Metal Arc Welding (GMAW)</td>
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<td>WLDG 2447 Advanced Gas Metal Arc Welding¹</td>
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¹ Capstone course

**SHIELDED METAL ARC CERTIFICATE (SMAW)**

| C1_WSM1 certificate offered at LSC-CyFair and LSC-North Harris |

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<tr>
<td>WLDG 1413 Introduction to Blueprint Reading for Welders</td>
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<td>WLDG 1421 Intro To Welding Fundamentals</td>
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</tr>
<tr>
<td>WLDG 1428 Introduction to Shielded Metal Arc Welding (SMAW)</td>
<td>4</td>
</tr>
<tr>
<td>WLDG 1457 Intermediate Shielded Metal Arc Welding (SMAW)¹</td>
<td>4</td>
</tr>
<tr>
<td><strong>TOTAL Credit Hours for Shielded Metal Arc Certificate (SMAW)</strong></td>
<td><strong>16</strong></td>
</tr>
</tbody>
</table>

¹ Capstone course

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.
## WORKFORCE DEGREES AND CERTIFICATES

1 Capstone course

### GAS TUNGSTEN ARC WELDING CERTIFICATE (GTAW)

(C1_WGT1 certificate offered at LSC-CyFair and LSC-North Harris)

<table>
<thead>
<tr>
<th>FIRST YEAR</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>First Semester</strong></td>
<td></td>
</tr>
<tr>
<td>WLDG 1413 Introduction to Blueprint Reading for Welders</td>
<td>4</td>
</tr>
<tr>
<td>WLDG 1421 Intro To Welding Fundamentals</td>
<td>4</td>
</tr>
<tr>
<td><strong>Second Semester</strong></td>
<td></td>
</tr>
<tr>
<td>WLDG 1434 Introduction to Gas Tungsten Arc Welding (TIG)</td>
<td>4</td>
</tr>
<tr>
<td>WLDG 2451 Advanced Gas Tungsten Arc Welding1</td>
<td>4</td>
</tr>
<tr>
<td><strong>TOTAL Credit Hours for Gas Tungsten Arc Welding Certificate (GTAW)</strong></td>
<td><strong>16</strong></td>
</tr>
</tbody>
</table>

1 Capstone course

### INSPECTION CERTIFICATE

(C1_INS1 certificate offered at LSC-North Harris)

<table>
<thead>
<tr>
<th>FIRST YEAR</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>First Semester</strong></td>
<td></td>
</tr>
<tr>
<td>METL 1405 Welding Metallurgy I</td>
<td>4</td>
</tr>
<tr>
<td>NDTE 1410 Liquid Penetrant/Magnetic Particle</td>
<td>4</td>
</tr>
<tr>
<td>NDTE 1454 Intermediate Ultrasonics</td>
<td>4</td>
</tr>
<tr>
<td>QCTC 1446 Testing and Inspection Systems</td>
<td>4</td>
</tr>
<tr>
<td><strong>Second Semester</strong></td>
<td></td>
</tr>
<tr>
<td>NDTE 1301 Film Interpretation of Weldments</td>
<td>3</td>
</tr>
<tr>
<td>NDTE 2311 Preparation for Certified Welding Inspector Exam</td>
<td>3</td>
</tr>
<tr>
<td>NDTE 2401 Advanced Ultrasonics</td>
<td>4</td>
</tr>
<tr>
<td>QCTC 2331 Standards</td>
<td>3</td>
</tr>
<tr>
<td>WLDG 2380 Cooperative Education- Welder/Welding1</td>
<td>3</td>
</tr>
<tr>
<td><strong>TOTAL Credit Hours for Inspection Certificate</strong></td>
<td><strong>32</strong></td>
</tr>
</tbody>
</table>

1 Capstone course

### LAYOUT AND FABRICATION WELDING CERTIFICATE

(C1_WLF1 certificate offered at LSC-CyFair and LSC-North Harris)

Students must complete the SMAW certificate prior to enrolling in this award.

<table>
<thead>
<tr>
<th>FIRST YEAR</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>First Semester</strong></td>
<td></td>
</tr>
<tr>
<td>WLDG 1413 Introduction to Blueprint Reading for Welders</td>
<td>4</td>
</tr>
<tr>
<td>WLDG 1421 Intro To Welding Fundamentals</td>
<td>4</td>
</tr>
<tr>
<td><strong>Second Semester</strong></td>
<td></td>
</tr>
<tr>
<td>WLDG 1453 Intermediate Layout and Fabrication</td>
<td>4</td>
</tr>
<tr>
<td>WLDG 2435 Advanced Layout and Fabrication1</td>
<td>4</td>
</tr>
<tr>
<td><strong>TOTAL Credit Hours for Layout and Fabrication Welding Certificate</strong></td>
<td><strong>20</strong></td>
</tr>
</tbody>
</table>

1 Capstone course

### PIPE WELDING CERTIFICATE

(C1_WPI1 certificate offered at LSC-CyFair and LSC-North Harris)

Students must complete the SMAW certificate prior to enrolling in this award.

<table>
<thead>
<tr>
<th>FIRST YEAR</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>First Semester</strong></td>
<td></td>
</tr>
<tr>
<td>WLDG 1413 Introduction to Blueprint Reading for Welders</td>
<td>4</td>
</tr>
<tr>
<td>WLDG 1421 Intro To Welding Fundamentals</td>
<td>4</td>
</tr>
<tr>
<td>WLDG 1435 Introduction To Pipe Welding</td>
<td>4</td>
</tr>
<tr>
<td>WLDG 2453 Advanced Pipe Welding1</td>
<td>4</td>
</tr>
<tr>
<td><strong>TOTAL Credit Hours for Pipe Welding Certificate</strong></td>
<td><strong>16</strong></td>
</tr>
</tbody>
</table>

1 Capstone course

### WELDING TECHNOLOGY SPECIALIZATION

Associate of Applied Science degree

(AAS_WELD degree offered at LSC-CyFair and LSC-North Harris)

<table>
<thead>
<tr>
<th>FIRST YEAR</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>First Semester</strong></td>
<td></td>
</tr>
<tr>
<td>CHEM 1405 Introduction to Chemistry</td>
<td>4</td>
</tr>
<tr>
<td>ENGL 1301 Composition &amp; Rhetoric I</td>
<td>3</td>
</tr>
<tr>
<td>TECM 1303 Technical Calculations</td>
<td>3</td>
</tr>
<tr>
<td>WLDG 1421 Intro To Welding Fundamentals</td>
<td>4</td>
</tr>
<tr>
<td>WLDG 1428 Introduction to Shielded Metal Arc Welding (SMAW)</td>
<td>4</td>
</tr>
<tr>
<td><strong>Second Semester</strong></td>
<td></td>
</tr>
<tr>
<td>ITSC 1301 Introduction to Computers</td>
<td>3</td>
</tr>
<tr>
<td>WLDG 1413 Introduction to Blueprint Reading for Welders1</td>
<td>4</td>
</tr>
<tr>
<td>WLDG 1430 Introduction to Gas Metal Arc Welding (GMAW) OR WLDG 1434 Introduction to Gas Tungsten Arc Welding (TIG)</td>
<td>4</td>
</tr>
<tr>
<td>WLDG 1457 Intermediate Shielded Metal Arc Welding (SMAW)</td>
<td>4</td>
</tr>
<tr>
<td><strong>Third Semester</strong></td>
<td></td>
</tr>
<tr>
<td>Social/Behavioral Science Elective2</td>
<td>3</td>
</tr>
</tbody>
</table>
| PHED 1164 Introduction to Physical Fitness & Sport | 1
SECOND YEAR

First Semester
- WLDG Elective\(^3\) \(3–4\)
- WLDG 1435 Introduction To Pipe Welding \(4\)
- WLDG 2447 Advanced Gas Metal Arc Welding OR \(4\)
- WLDG 2451 Advanced Gas Tungsten Arc Welding
- Speech Elective\(^2\) \(3\)

Second Semester
- METL 1405 Welding Metallurgy I \(4\)
- QCTC 1446 Testing and Inspection Systems \(4\)
- WLDG 2453 Advanced Pipe Welding \(4\)
- Humanities Elective\(^2\) \(3\)
- WLDG 2380 Cooperative Education- Welder/Welding\(^4\)

TOTAL Credit Hours for Welding Technology Specialization Associate of Applied Science degree \(69–70\)

1. Course only offered in spring semester
2. Choose from the AAS core
3. WLDG elective: WLDG 1417, NDTE 2311, QCTC 2331
4. A required capstone experience is completed by taking either WLDG 2380 or the AWS Entry-level Welder Certificate Exam.
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 online schedule of classes will list the specific offering of courses for each college each semester.

Abbreviations:
hrs. = hours
lec. = lecture
lab. = laboratory
ext. = external learning experience (cooperative, practicum, internship or clinical)

CREDIT COURSES

ACCT 2401 - PRINCIPLES OF ACCOUNTING I
PRINCIPLES OF FINANCIAL ACCOUNTING
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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing, ENGL 0309 or ENGL 0310 also meets prerequisite; MATH 0306. This course is an introduction to the fundamental concepts of financial accounting as prescribed by U.S. generally accepted accounting principles (GAAP) as applied to transactions and events that affect business organizations. Students will examine the procedures and systems to accumulate, analyze, measure, and record financial transactions. Students will use recorded financial information to prepare a balance sheet, income statement, statement of cash flows, and statement of shareholders’ equity results of operations and financial position to users of financial information who are external to the company. Students will study the nature of assets, liabilities, and owners’ equity while learning to use reported financial information for purposes of making decisions about the company. Students will be exposed to International Financial Reporting Standards (IFRS). (5203015104) Prerequisites: None

ACCT 2402 - PRINCIPLES OF ACCOUNTING II
PRINCIPLES OF MANAGERIAL ACCOUNTING
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) This course is an introduction to the fundamental concepts of managerial accounting appropriate for all organizations. Students will study information from the entity’s accounting system relevant to decisions made by internal managers, as distinguished from information relevant to users who are external to the company. The emphasis is on the identification and assignment of product costs, operational budgeting and planning, cost control, and management decision making. Topics include product costing methodologies cost behavior, operational, and capital budgeting, and performance evaluation. (5203015104) Prerequisite: ACCT 2401

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 0364 AND ENGL 0306 or ENGL 0374 OR ENGL 0302 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

Text on this page has been revised since publication of the printed catalog. Please see addendum for details.
with primary emphasis on a general ledger package. Students will use an application software to perform accounting tasks; maintain records and prepare and analyze reports for a business entity; complete a comprehensive project; and explain the components of general ledger software. Prerequisite: ACNT 1303

ACNT 1331 - FEDERAL INCOME TAX: INDIVIDUAL
3 Credits (3 hrs. lec.) A study of the federal tax law for preparation of individual income tax returns. Emphasis is placed on the determination of income, statutory deductions and federal income tax liability for individuals and sole proprietors. This course meets the qualifying educational credit required for the CPA examination and is part of the Accounting Advanced Technical Certificate (ATC). Prerequisites: None ENGL 0304 or ENGL 0364 AND ENGL 0306 or ENGL 0374 OR ENGL 0302 OR higher level course (ENGL 1301) OR placement by testing; MATH 0306

ACNT 1340 - ACCOUNTING AND BUSINESS ETHICS
3 Credits (3 hrs. lec.) Ethical standards and behaviors; codes of professional conduct, and the impact of unethical behavior on an individual, business, and society. 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). Prerequisites: None ACCT 2401.

ACNT 1347 - FEDERAL INCOME TAX: PARTNERSHIPS/CORPORATIONS
3 Credits (3 hrs. lec.) A study of federal tax laws for preparation of partnership and corporate returns. Emphasis is placed on the determination of taxable income, partnership 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). Prerequisites: ACCT 2401, ACNT 1331

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: completion of 15 credits in degree plan; approval of coordinator; ENGL 0304 or ENGL 0364 AND ENGL 0306 or ENGL 0374

ACNT 1391 - SPECIAL TOPICS IN FRAUD INVESTIGATION
3 Credits (3 hrs. lec.) A study of the identification, detection, investigation, and prevention of financial fraud. 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 meets the qualifying educational credit required for the CPA examination and is part of the Accounting Advanced Technical Certificate (ATC). Prerequisite: ACCT 2402

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 required for the CPA examination and is part of the Accounting Advanced Technical Certificate (ATC). Prerequisite: ACNT 1331

ACNT 2303 - INTERMEDIATE ACCOUNTING I
3 Credits (2 hrs. lec., 3 hrs. lab.) Analysis of generally accepted accounting principles, concepts, and theory underlying the preparation of financial statements. This course meets the qualifying educational credit required for the CPA examination and is part of the Accounting Advanced Technical Certificate (ATC). Prerequisite: ACCT 2401

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 flows. This course meets the qualifying educational credit required for the CPA examination and is part of the Accounting Advanced Technical Certificate (ATC). Prerequisite: ACNT 2303

ACNT 2309 - COST ACCOUNTING
3 Credits (3 hrs. lec.) Budgeting, cost analysis and cost control systems using traditional and contemporary costing methods and theories in decision making. This course meets the qualifying educational credit required for the CPA examination and is part of the Accounting Advanced Technical Certificate (ATC). Prerequisite: ACCT 2402
ACNT 2330 - GOVERNMENTAL AND NOT-FOR-PROFIT ACCOUNTING
3 Credits (3 hrs. lec.) A study of basic fund accounting and financial reporting concepts for governmental and not-for-profit entities. Students will understand the difference between not-for-profit and for-profit entity accounting; and apply accounting and financial reporting principles as they relate to governmental and not-for-profit entities. The student will prepare budgets and financial statements for government 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). Prerequisite: ACNT 2303

ACNT 2331 - INTERNAL CONTROL AND AUDITING
3 Credits (3 hrs. lec.) Internal controls, auditing standards and processes used by internal auditors, managers, and independent public accountants. This course meets the qualifying educational credit required for the CPA examination and is part of the Accounting Advanced Technical Certificate (ATC). Prerequisite: ACNT 2303

ACNT 2332 - ACCOUNTING INFORMATION SYSTEMS
3 Credits (3 hrs. lec.) A study of accounting information systems and related subsystems, including data collection, security, retrieval, manipulation, filtering and sorting of data. This course meets the qualifying educational credit required for the CPA examination and is part of the Accounting Advanced Technical Certificate (ATC). Prerequisite: ACCT 2401

ACNT 2333 - ADVANCED ACCOUNTING
3 Credits (3 hrs. lec.) Methods of measuring and communicating financial information with emphasis on consolidated statements and other complex business transactions. Students will prepare consolidated financial statements; apply concepts in the formation, operation, termination, and liquidation of partnerships; and analyze and record complex transactions affecting foreign currency transactions and remeasurements. This course meets the qualifying educational credit required for the CPA examination and is part of the Accounting Advanced Technical Certificate (ATC). Prerequisite: ACNT 2304

ACNT 2335 - FINANCIAL STATEMENT ANALYSIS
3 Credits (3 hrs. lec.) Financial statement analysis from a decision-maker’s perspective. This course may also be offered for qualifying education credit for CPA examinations by Texas community colleges that meet Texas State Board of Public Accountancy standards. Prerequisite: ACNT 2303

ACNT 2337 - INTERNATIONAL FINANCIAL REPORTING
3 Credits (3 hrs. lec.) An examination of the aspects of accounting which apply to multinational businesses. This course may also be offered for qualifying education credit for CPA examinations by Texas community colleges that meet Texas State Board of Public Accountancy standards. Prerequisite: ACNT 2303

ACNT 2345 - TECHNICAL WRITING FOR ACCOUNTANTS
3 Credits (3 hrs. lec.) Examination and application of effective written business and accounting communications. This course may also be offered for qualifying education credit for CPA examinations by Texas community colleges that meet Texas State Board of Public Accountancy standards. Prerequisite: ACNT 2303

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

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; completion of 22 credits in degree plan

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 the 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 (2 hrs. lec., 2 hrs. lab.) Explores the basic verbal and written communication skills and an operational understanding of the Air Force core values. Students will know the importance of managing diversity and the concepts and consequences of harassment. The basic concepts of Air Force leadership as well as the concept of effective team building will be developed. 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

AFSC 2271 - EVOLUTION OF UNITED STATES AIR
FORCE AIR AND SPACE POWER 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 the ROTC program, its purpose in the Air Force and its advantages for the student. Prerequisite: None

AFSC 2272 - EVOLUTION OF UNITED STATES AIR
FORCE AIR AND SPACE POWER II
2 Credits (1 hr. lec., 2 hrs. lab.) Overviews the key terms and definitions used to describe air and space power. Students will know the milestones and historical events, leaders, and technological advancements which surround the evolution and employment of USAF air and space power. Basic verbal and written communication skills along with an operational understanding of Air Force core values will be demonstrated. Prerequisite: None

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: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; 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: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; MATH 0308

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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; 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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; 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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; 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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; 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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; 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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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 or ENGL 0365 or ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite
ARAB 1411 - BEGINNING ARABIC 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. Prerequisites: ARAB 1411; ENGL 0375 or ENGL 0115 AND ENGL 0365 or ENGL 0115 AND ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

ARAB 1412 - BEGINNING ARABIC II
4 Credits (3 hrs. lec., 2 hrs. lab.) This course is a continuation of ARAB 1411 with increased emphasis on comprehension, speaking, reading and writing. Intensive drills to increase vocabulary and knowledge of structure. Prerequisites: ARAB 1411; ENGL 0375 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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. Prerequisites: ARAB 1412; ENGL 0375 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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. Prerequisites: ARAB 2311; ENGL 0375 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

ARCE 1315 - 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; MATH 1316; ENGL 0305 or ENGL 0375 or ENGL 0115 AND ENGL 0307 or ENGL 0365 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

ARCE 1352 - STRUCTURAL DRAFTING
3 Credits (2 hrs. lec., 4 hrs. lab.) A study of structural systems including concrete foundations and frames, wood framing and trusses, and structural steel framing systems. Includes detailing of concrete, wood, and steel to meet industry standards including the American Institute of Steel Construction and The American Concrete Institute. Prerequisites: DFTG 1305, DFTG 1309; CNBT 1311; Corequisite: DFTG 2319

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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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 elements, and developing computer skills in industry standard computer programs. Prerequisite: None

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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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
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 2313; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

ARTC 2380 - COOPERATIVE EDUCATION - COMMERCIAL AND ADVERTISING ART
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 requirement for final semester as determined by the visual communication department

ARTS 1301 - ART APPRECIATION
3 Credits (3 hrs. lec.) An introductory course that studies the visual arts (painting, architecture, sculpture, craft) 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) A general introduction to the visual arts designed to create an appreciation of the vocabulary, media, techniques, and purposes of the creative process. Students will critically interpret and evaluate works of art within formal, cultural, and historical contexts. (5007035126) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite College level readiness in reading and writing.

ARTS 1303 - ART HISTORY: PREHISTORY TO GOTHIC
3 Credits (3 hrs. lec.) A survey of painting, sculpture, architecture and the arts from prehistoric times to the fourteenth century. (5007035226) A chronological analysis of the historical and cultural contexts of the visual arts from the prehistoric times to the 14th century. (5007035226) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite College level readiness in reading and writing.

ARTS 1304 - ART HISTORY: RENAISSANCE TO MODERN
3 Credits (3 hrs. lec.) A survey of painting, sculpture, architecture and the arts from the fourteenth century to the present. (5007035226) A chronological analysis of the historical and cultural contexts of the visual arts from the 14th century to the present. (5007035226) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite College level readiness in reading and writing.

ARTS 1311 - DESIGN I - 2-D DESIGN I - 2-D
3 Credits (2 hrs. lec., 4 hrs. lab.) An introductory course with an emphasis on two dimensional design in art; includes the fundamentals of the elements of art: line, shape, space, texture, value, color, time/motion, and principles of design: balance, emphasis, proportion/scale, rhythm/repetition, and unity/variety/harmony in a composition. (5004015326) An introduction to the fundamental terminology, concepts, theory, and application of two-dimensional design. (5004015326) Corequisites: Course may be taken with ENGL 0305 or ENGL 0365 or ENGL 0375 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117; OR ENGL 0309 or ENGL 0310 Prerequisite: College level readiness in reading and writing.

ARTS 1312 - DESIGN II - 3-D
3 Credits (2 hrs. lec., 4 hrs. lab.) The construction of three-dimensional forms using a variety of composi-
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. A foundation studio course exploring drawing with emphasis on descriptive, expressive and conceptual approaches. Students will learn to see and interpret a variety of subjects while using diverse materials and techniques. Course work will facilitate a dialogue in which students will engage in critical analysis and begin to develop their understanding of drawing as a discipline. (5007055226) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite. ENGL level readiness in reading and writing.

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) A studio course exploring drawing with continued emphasis on descriptive, expressive and conceptual approaches. Students will further develop the ability to see and interpret a variety of subjects while using diverse materials and techniques. Course work will facilitate a dialogue in which students will employ critical analysis to broaden their understanding of drawing as a discipline. (5007055226) Prerequisites: ARTS 1316; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite. ENGL College level readiness in reading and writing.

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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

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 ARTS 1316, or departmental approval; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

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.
or ENGL 0365 or ENGL 0115 AND ENGL 0307 or
ENGL 0375 or ENGL 0117 OR higher level course
(ENGL 1301) OR placement by testing. ENGL 0309
or ENGL 0310 also meets prerequisite.

**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 1316 or departmental approval; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

**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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

**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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

**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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

**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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

**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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

**ARTS 2346 - CERAMICS I**
3 Credits (2 hrs. lec., 4 hrs. lab.) Exploration of ideas using basic ceramic processes. An introduction to ceramics that examines the historical and cultural significance of the ceramic arts through research and application of various construction methods and firing processes. (5007115126) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0307 or ENGL 0375 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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; MATH 0306.

**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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

**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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

**ARTS 2356 - PHOTOGRAPHY I**
3 Credits (2 hrs. lec., 4 hrs. lab.) A beginning course that introduces students to theoretical and applied aspects of photography, including cameras, lenses, photographic materials and techniques, black-and-white darkroom procedures and photographic composition. May include digital photography practices. (5006055126) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

**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. May include digital photography practices. (5006055226) Prerequisites: ARTS 2356; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

**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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

**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. (2401035212) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

**ARTV 1303 - BASIC ANIMATION**
3 Credits (2 hrs. lec., 4 hrs. lab.) Examination of animation concepts, principles, and storyboard for basic production. Emphasizes creating 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.) Intermediate level 3-D course introducing animation tools and techniques used to create movement. Emphasis on using principles of animation. Prerequisites: ARTV 1345, ARTV 1303

**ARTV 1343 - DIGITAL SOUND**
3 Credits (2 hrs. lec., 4 hrs. lab.) Digitizing sound and incorporating it into video games, multimedia or web projects for various delivery systems. Emphasizes compression issues, sampling, synchronizing, and resource management. Prerequisite: None

**ARTV 1345 - 3-D MODELING AND RENDERING I**
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. Corequisite: ARTC 1302

**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 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 and animation for film, video, and the Internet. Exploration of new and emerging compression and video streaming technologies. Prerequisites: ARTV 1351; ENGL 0304 or ENGL 0364 AND ENGL 0306 or ENGL 0374 OR ENGL 0302 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, modeling techniques, camera settings, lighting, and surfacing to develop detailed environments. 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 develop movement. Emphasis on advanced animation techniques. This is a studio course focused on advanced 3-D modeling and rendering techniques using industry standard software, modeling techniques,
camera settings, lighting, and surfacing to develop detailed environments. 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, professional responsibilities, and basic 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 charging and starting systems, and electrical accessories. Emphasis on electrical principles, schematic diagrams, and service manuals. May be taught manufacturer specific. Prerequisite: None

AUMT 1410 - AUTOMOTIVE BRAKE SYSTEMS
4 Credits (3 hrs. lec., 4 hrs. lab.) Operation and repair of drum/disc type brake systems. Topics include brake theory, diagnosis, and repair of power, manual, anti-lock brake systems, and parking brakes. May be taught with manufacturer specific instructions. Prerequisite: None

AUMT 1416 - SUSPENSION AND STEERING
4 Credits (3 hrs. lec., 4 hrs. lab.) Diagnosis and repair of automotive suspension and steering systems including electronically controlled systems. Includes component repair, alignment procedures and tire and wheel service. May be taught manufacturer specific. Prerequisite: None

AUMT 1419 - AUTOMOTIVE ENGINE REPAIR
4 Credits (3 hrs. lec., 4 hrs. lab.) Fundamentals of engine operation, diagnosis and repair. Emphasis on identification, inspection, measurements, disassembly, repair, and reassembly of the engine. May be taught manufacturer specific. Prerequisite: AUMT 1405

AUMT 1445 - AUTOMOTIVE CLIMATE CONTROL SYSTEMS
4 Credits (3 hrs. lec., 4 hrs. lab.) Diagnosis and repair of manual/electronic climate control systems; includes the refrigeration cycle and EPA guidelines for refrigerant handling. May be taught manufacturer specific. Prerequisite: AUMT 1407

AUMT 2328 - AUTOMOTIVE SERVICE
3 Credits (2 hrs. lec., 4 hrs. lab.) Mastery of automotive service including 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; completion of 25 hours in automotive courses AND departmental approval.

AUMT 2413 - AUTOMOTIVE DRIVE TRAIN AND AXLES
4 Credits (3 hrs. lec., 4 hrs. lab.) A study of automotive clutches, clutch operation devices, manual transmissions/transaxles, and differentials with emphasis on diagnosis and repair. May be taught with manufacturer specific instructions. Prerequisite: None

AUMT 2417 - AUTOMOTIVE ENGINE PERFORMANCE ANALYSIS I
4 Credits (3 hrs. lec., 4 hrs. lab.) Theory, operation, diagnosis of drivability concerns, and repair ignition and fuel delivery systems. Use of current engine performance diagnostic equipment. May be taught with manufacturer specific instructions. Prerequisite: AUMT 1407

AUMT 2425 - AUTOMATIC TRANSMISSION AND TRANSAXLE
4 Credits (3 hrs. lec., 4 hrs. lab.) A study of the operation, hydraulic circuits and electronic controls of modern automatic transmissions/transaxles. Diagnosis, disassembly, and assembly procedures with emphasis on the use of special tools and repair techniques. May be taught manufacturer specific. Prerequisite: None

AUMT 2434 - AUTOMOTIVE 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. Includes use of advanced engine performance diagnostic equipment. May be taught manufacturer specific. Prerequisite: AUMT 2417

AUMT 2437 - AUTOMOTIVE ELECTRONICS
4 Credits (3 hrs. lec., 4 hrs. lab.) Study of electronic principles applied to microcomputers and communication systems. Includes digital fundamentals, and use of electronic test equipment. May be taught manufacturer specific. 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. Includes a lecture component. Prerequisite: Departmental approval; Completion of 15 hours in the aviation management AAS program

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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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, safety and marketing. Prerequisites: AIRP 1313; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

AVIM 2337 - AVIATION LAW
3 Credits (3 hrs. lec.) A study of domestic and international aviation law. Prerequisites: AIRP 1313; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

AVIM 2371 - AVIATION COMMUNICATION
3 Credits (3 hrs. lec.) Basic theory and processes of communication skills necessary for management in an aviation environment. Explores the nature of communication including interpersonal communication. Emphasis on skills in building trust, listening, appropriate response styles, and giving feedback. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

AVTS 1371 - INTRODUCTION TO LIVE ENTERTAINMENT TECHNOLOGY
3 Credits (3 hrs. lec., 1 hr. lab.) An introduction to the live entertainment technology industry, including working methods, processes, equipment, and facilities for theatre, opera, dance, concert productions, theme parks, themed-retail, cruise ship venues, house of worship and corporate special events. Prerequisites: None ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

AVTS 1372 - LIVE ENTERTAINMENT TECHNOLOGY 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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

AVTS 1373 - VIDEO FOR LIVE ENTERTAINMENT TECHNOLOGY
3 Credits (1 hr. lec., 4 hrs. lab.) The course will introduce advanced topics in the Entertainment Technology industry. This will include industry standards, techniques, and resources that are available to entertainment technicians. Topics include digital audio mixing, advanced light programming including effects programming and the use of lighting consoles, math for entertainment systems, and use of video and projection in entertainment. Prerequisite: AVTS 1371

AVTS 1374 - DRAFTING FOR LIVE ENTERTAINMENT TECHNOLOGY
3 Credits (2 hrs. lec., 2 hrs. lab.) An introduction to computer assisted drafting using industry-standard applications. Emphasizes creating standard working drawings used in the entertainment industry. Prerequisite: None.
AVTS 2371 - LIVE ENTERTAINMENT TECHNOLOGY 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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

AVTS 2372 - LIVE ENTERTAINMENT TECHNOLOGY LIGHTING AND SOUND PROJECT
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 LIVE ENTERTAINMENT TECHNOLOGY 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.

AVTS 2374 - AUDIO FOR LIVE ENTERTAINMENT TECHNOLOGY
3 Credits (2 hrs. lec., 2 hrs. lab.) Basic principles of live sound reinforcement. Emphasis on signal flow, acoustic, sound reinforcement set-ups and installation, signal processing, microphone selections and placement. Includes setting up sound systems and mixing live music. Topics include microphones, control consoles, reproduction techniques, amplification, distribution, loudspeaker systems, frequency response, decibels, and dynamic range. Prerequisite: AVTS 1371.

AVTS 2375 - LIGHTING FOR LIVE ENTERTAINMENT TECHNOLOGY
3 Credits (2 hrs. lec., 2 hrs. lab.) Lighting for LET teaches the basic principles of lighting systems. Students will program and design with moving and conventional lighting fixtures for a variety of events such as concerts, corporate parties, trade shows, and houses of worship. Prerequisite: AVTS 1371.

BCIS 1305 - BUSINESS COMPUTER APPLICATIONS
3 Credits (2 hrs. lec., 3 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. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite. None.

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. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; MATH 0306.

BIOL 1406 - BIOLOGY I FOR SCIENCE MAJORS
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. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; MATH 0308.

BIOL 1407 - BIOLOGY II FOR SCIENCE MAJORS
4 Credits (3 hrs. lec., 3 hrs. lab.) This course is a continuation of introductory Biology I for majors. It includes a detailed survey of the major phylogenetic lineages. This includes a comparison of the systems of different organisms. Ecological roles and relationships, as well as behavior of organisms, will be integrated throughout. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; MATH 0308.
by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; MATH 0308

BIOL 1408 - BIOLOGY I FOR NON-SCIENCE 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: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course [ENGL 1301] OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; MATH 0306

BIOL 1409 - BIOLOGY II FOR NON-SCIENCE MAJORS
4 Credits (3 hrs. lec., 3 hrs. lab.) A continuation of introductory biology 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 1406 OR BIOL 1408; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course [ENGL 1301] OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

BIOL 1414 - INTRODUCTION TO BIOTECHNOLOGY
4 Credits (3 hrs. lec., 3 hrs. lab.) An introduction to biotechnology including career exploration, history and applications of DNA/RNA technology, molecular biology, bioethics, and laboratory safety practices. Prerequisites: MATH 0310 or placement by testing

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. (2607075103) Prerequisites: BIOL 2401 AND BIOL 2402; MATH 0308, ENGL 1301

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. Liability insurance through LSCS’s insurer (fee approximately $18) and one semester’s advance notice to faculty are required. (2601015203) Prerequisites: Eight credit 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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course [ENGL 1301] OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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 integumentary, skeletal, muscular, nervous and endocrine systems. Designed primarily for students entering health careers. (2607075103) Prerequisites: BIOL 1408 or BIOL 2404 strongly recommended; MATH 0308; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course [ENGL 1301] OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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, immune, respiratory, digestive, reproductive and urinary systems. Designed primarily for students entering health careers. (2607075103) Prerequisites: BIOL 2401; MATH 0308; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course [ENGL 1301] OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; MATH 0306

**BIOI 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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; MATH 0306

**BIOI 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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; MATH 0308

**BIOI 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. (2605035103) Prerequisites: BIOL 1406 or 2401; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; MATH 0308

**BIOI 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, CHEM 1405; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; 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 1411 and BITC 1402

**BITC 1402 - BIOTECHNOLOGY LABORATORY METHODS AND TECHNIQUES**
4 Credits (3 hrs. lec., 3 hrs. lab.) Laboratory operations, management, equipment, instrumentation, quality control techniques, and safety procedures. Includes laboratory practice in sampling and storage of bio-molecules using pH meters, mixing buffers, performing measurements, preparing solutions, and performing preparatory techniques. Prerequisites: BITC 1411; CHEM 1405, 1411, 1412, 1419, 2423, or 2425; MATH 1314 or higher level MATH course that has MATH 1314 as a prerequisite; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

**BITC 1411 - INTRODUCTION TO BIOTECHNOLOGY**
4 Credits (3 hrs. lec., 3 hrs. lab.) An introduction to biotechnology including career exploration, history and applications of DNA/RNA technology, molecular biology, bioethics, and laboratory safety practices. (2612015103) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; MATH 0310 or placement by testing

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BITC 2411 - BIOTECHNOLOGY LABORATORY INSTRUMENTATION
4 Credits (3 hrs. lec., 3 hrs. lab.) Theory, applications, and operation of various biotechnology-related analytical instruments. Addresses separation and identification techniques including electrophoresis, spectrophotometry, and chromatography. Prerequisites: BITC 1402; BIOL 1406; BIOL 2420 or BIOL 2421; CHEM 1405 or 1411; OR instructor's approval; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

BITC 2486 - INTERNSHIP - BIOLOGICAL TECHNOLOGY/TECHNICIAN
4 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: Completion of all BITC courses with a grade of “C” or better; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

BMGT 1301 - SUPERVISION
3 Credits (3 hrs. lec.) The role of the supervisor. Includes managerial functions as applied to leadership, counseling, motivation, and human relations skills. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

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, OSHA rules and regulations, management of maintenance supervisors, and hazardous materials awareness. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

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. Basic computer skills are needed to successfully complete this course. 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 AND OPERATIONS MANAGEMENT
3 Credits (3 hrs. lec.) Fundamentals of techniques used in the practice of production and operations management. Includes location, design, and resource allocation. Prerequisite: None.

BMGT 1341 - BUSINESS ETHICS
3 Credits (3 hrs. lec.) Discussion of ethical issues, the development of a moral frame of reference, and the need for an awareness of social responsibility in management practices and business activities. Includes ethical corporate responsibility. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

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 using managerial decision tools. 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.) Financial structure of a small business. Includes business financing, budgeting, record keeping, taxation, insurance, and banking. Students will prepare the financial part of a comprehensive business plan in this course. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; MATH 0306

**BUSG 2309 - SMALL BUSINESS MANAGEMENT/ENTREPRENEURSHIP**
3 Credits (3 hrs. lec.) Starting, operating, and growing a small business. Includes essential management skills, how to prepare a business plan, accounting, financial needs, staffing, marketing strategies, and legal issues. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; MATH 0306

**BUSG 2371 - ENTREPRENEURIAL MARKETING**
3 Credits (3 hrs. lec.) Principles of marketing for an entrepreneurial venture, utilizing innovative and financially responsible marketing strategies. Preparation of a marketing plan designed to launch the entrepreneurial venture as well as marketing strategies to implement during the first two years of business operation. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; MATH 0306

**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. This course provides a survey of economic systems, forms of business ownership, and considerations for running a business. Students will learn various aspects of business, management, and leadership functions; organizational considerations; and decision-making processes. Financial topics are introduced, including accounting, money and banking, and securities markets. Also included are discussions of business challenges in the legal and regulatory environment, business ethics, social responsibility, and international business. Emphasized is the dynamic role of business in everyday life. (5201015104) Prerequisites: None

**BUSI 1307 - PERSONAL FINANCE**
3 Credits (3 hrs. lec.) A study of the financial problems that 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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

**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. The course provides the student with foundational information about the U.S. legal system and dispute resolution, and their impact on business. The major content areas will include general principles of law, the relationship of business and the U.S. Constitution, state and federal legal systems, the relationship between law and ethics, contracts, sales, torts, agency law, intellectual property, and business law in the global context. (2201015124) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

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BUSI  2304 - BUSINESS WRITING AND CORRESPONDENCE
3 Credits (3 hrs. lec.) Theory and applications for technical reports and correspondence in business. (2313035212) Prerequisite: ENGL 1301

BUSI  2372 - BUSINESS ANALYSIS
3 Credits (3 hrs. lec.) This course is designed to introduce to students 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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

BUSI  2373 - DESIGN AND PRESENTATION OF BUSINESS PROJECTS
3 Credits (3 hrs. lec.) This course focuses on the design and presentation of business information using current technology to enhance communication. Theory and principles are studied as they apply to the development of competency in formal business speaking. (5201017104) Prerequisite: ENGL 1301

CETT  1402 - ELECTRICITY PRINCIPLES
4 Credits (3 hrs. lec., 2 hrs. lab.) Principles of electricity including proper use of test equipment, A/C and D/C circuits, and component theory and operation. Prerequisites: None

CETT  1403 - DC CIRCUITS
4 Credits (3 hrs. lec., 3 hrs. lab.) A study of the fundamentals of direct current including Ohm's law, Kirchhoff'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 0364 AND ENGL 0306 or ENGL 0374 OR ENGL 0302 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, Kirchhoff's laws, networks, transformers, resonance, phasors, capacitive and inductive and circuit analysis techniques. Prerequisite: None

CETT  1425 - DIGITAL FUNDAMENTALS
4 Credits (3 hrs. lec., 3 hrs. lab.) An entry level course in digital electronics to include numbering systems, logic gates, Boolean algebra, and combinational logic. Prerequisites: CETT 1403; ENGL 0304 or ENGL 0364 AND ENGL 0306 or ENGL 0374 OR ENGL 0302 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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; 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 0364 AND ENGL 0306 or ENGL 0374 OR ENGL 0302 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.) A study of characteristics, operations, stabilization, and testing of linear integrated circuits. Applications include instrumentation and active filtering. Prerequisites: CETT 1429; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; 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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course
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<th>Course Code</th>
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<th>Prerequisites/Description</th>
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<tr>
<td>ENGL 0365 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing.</td>
<td>ENGL 0309 or ENGL 0310 also meets prerequisite</td>
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<tr>
<td>CETT 2449 - RESEARCH AND PROJECT DESIGN</td>
<td>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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite</td>
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<tr>
<td>CHEM 1405 - INTRODUCTORY CHEMISTRY</td>
<td>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 placement by testing; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite</td>
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<tr>
<td>CHEM 1419 - INTRODUCTORY ORGANIC AND BIOCHEMISTRY</td>
<td>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; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite</td>
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<tr>
<td>CHEM 2389 - ACADEMIC COOPERATIVE</td>
<td>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. (400105303 4001015303) 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.</td>
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<tr>
<td>CHEM 2423 - ORGANIC CHEMISTRY I</td>
<td>4 Credits (3 hrs. lec., 4 hrs. lab.) This science major's 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; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite</td>
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<tr>
<td>CHEM 2425</td>
<td>ORGANIC CHEMISTRY II</td>
<td>4</td>
<td>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; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite</td>
<td>Description of Courses</td>
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<tr>
<td>CHIN 1411</td>
<td>BEGINNING CHINESE I</td>
<td>4</td>
<td>CHIN 1411 as 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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite</td>
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<tr>
<td>CHIN 1412</td>
<td>BEGINNING CHINESE II</td>
<td>4</td>
<td>CHIN 1412 as a continuation of CHIN 1411 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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite</td>
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<tr>
<td>CMSW 1309</td>
<td>PROBLEMS OF CHILDREN AND ADOLESCENTS</td>
<td>3</td>
<td>CMSW 1309 - PROBLEMS OF CHILDREN AND ADOLESCENTS 3 Credits (3 hrs. lec.) Examine common problems and evaluate effective intervention models of at-risk children and youth. Topics include: social, family, educational systems impact, juvenile delinquency, teen sexuality, and addictive behaviors. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite</td>
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<tr>
<td>CMSW 1323</td>
<td>THE EXCEPTIONAL PERSON</td>
<td>3</td>
<td>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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite</td>
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<tr>
<td>CMSW 1341</td>
<td>BEHAVIOR MODIFICATION WITH COGNITIVE DISORDER</td>
<td>3</td>
<td>CMSW 1341 - BEHAVIOR MODIFICATION WITH COGNITIVE DISORDER 3 Credits (3 hrs. lec.) In-depth study of the theories and principles of behavioral science and the methods of modifying and controlling behavior in clients with cognitive disorders. Prerequisites: None ENGL 0304 or ENGL 0364 AND ENGL 0306 or ENGL 0374 OR ENGL 0302 OR higher level course (ENGL 1301) OR placement by testing</td>
<td>Description of Courses</td>
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<tr>
<td>CMSW 1353</td>
<td>FAMILY INTERVENTION STRATEGIES</td>
<td>3</td>
<td>CMSW 1353 - FAMILY INTERVENTION STRATEGIES 3 Credits (3 hrs. lec.) Study of current family intervention strategies. Study of family dynamics and current intervention strategies. Prerequisites: None ENGL 0304 or ENGL 0364 AND ENGL 0306 or ENGL 0374 OR ENGL 0302 OR higher level course (ENGL 1301) OR placement by testing</td>
<td>Description of Courses</td>
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<tr>
<td>CNBT 1311</td>
<td>CONSTRUCTION MATERIALS AND METHODS I</td>
<td>3</td>
<td>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</td>
<td>Description of Courses</td>
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</tbody>
</table>
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) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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. (0901025106) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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 credits in journalism, or 2nd-year standing and departmental approval; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

COSC 1301 - INTRODUCTION TO COMPUTERS
3 Credits (2 hrs. lec., 3 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. (1101015107) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; Course may be taken as a corequisite

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COSC 1309 - LOGIC DESIGN
3 Credits (3-2 hrs. lec., 2-3 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 1301 is recommended prior to enrolling. (1102015107) [This course is recommended for four-year transfer students.] Prerequisites: ITSC 1301/COSC 1301; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing; ENGL 0309 or ENGL 0310 also meets prerequisite; MATH 0308 Prerequisites: ITSC 1301 or COSC 1301

COSC 1437 1337 - PROGRAMMING FUNDAMENTALS II
3 4 Credits (2 3 hrs. lec., 3 2 hrs. lab.) This course focuses on the object-oriented programming paradigm, emphasizing the definition and use of classes along with fundamentals of object-oriented design. The course includes basic analysis of algorithms, searching and sorting techniques, and an introduction to software engineering processes. Students will apply techniques for testing and debugging software. (This course is included in the Field of Study Curriculum for Computer Science.) 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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing; ENGL 0309 or ENGL 0310 also meets prerequisite

COSC 1420 - “C” LANGUAGE
4 Credits (3 hrs. lec., 2 hrs. lab.) Introduces the fundamental concepts of structured programming in the “C” language. Topics include data types; control structures; functions, structures, arrays, pointers, pointer arithmetic, unions, and files; the mechanics of running, testing, and debugging programs; introduction to programming; and introduction to the historical and social context of computing. This course is recommended for four-year transfer students. (1102015207) Prerequisites: COSC 1309; ENGL 0305 or ENGL 0365 or ENGL 0115 AND—ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing; ENGL 0309 or ENGL 0310 also meets prerequisite

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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing; ENGL 0309 or ENGL 0310 also meets prerequisite

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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing; ENGL 0309 or ENGL 0310 also meets prerequisite

COSC 2425 2325 - COMPUTER ORGANIZATION AND MACHINE LANGUAGE
3 4 Credits (2 3 hrs. lec., 3 2 hrs. lab.) The organization of computer systems is introduced using assembly language. Topics include basics concepts of computer architecture and organization, memory hierarchy, data types, computer arithmetic, control structures, interrupt handling, instruction sets, performance metrics, and the mechanics of testing and debugging computer systems. Embedded systems and device interfacing are introduced. Prerequisites: COSC 1436; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing; ENGL 0309 or ENGL 0310 also meets prerequisite

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 or ENGL 0365 or ENGL 0115 AND
ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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 and Windows) are provided. Prerequisites: CELT score of 60; ENGL 0304 or ENGL 0364 AND ENGL 0306 or ENGL 0374 OR ENGL 0302 OR higher level course (ENGL 1301) OR placement by testing; MATH 0306

CPMT 1445 - COMPUTER SYSTEMS TROUBLESHOOTING
4 Credits (3 hrs. lec., 3 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 1449; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; Corequisite: MATH 1314

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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

CRIJ 1301 - INTRODUCTION TO CRIMINAL JUSTICE
3 Credits (1 hr. lec., 4 hrs. lab.) A study of 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 1301

CPMT 2445 - COMPUTER SYSTEMS MAINTENANCE
4 Credits (3 hrs. lec., 2 hrs. lab.) A study of the components within a computer system. Development of testing and troubleshooting skills. Prerequisites: CPMT 1403 or ITSC 1301; ENGL 0304 or ENGL 0364 AND ENGL 0306 or ENGL 0374 OR ENGL 0302 OR higher level course (ENGL 1301) OR placement by testing; MATH 0306

CPMT 2433 - COMPUTER INTEGRATION
4 Credits (3 hrs. lec., 3 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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; Corequisite: MATH 1314

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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

CRIJ 1301 - INTRODUCTION TO CRIMINAL JUSTICE
3 Credits (3 hrs. lec., 3 hrs. lab.) 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. This course provides a historical and philosophical overview of the American criminal justice system, including the nature, extent, and impact of crime; criminal law; and justice agencies and processes. (4301045124) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course
This course is a survey of culpability. (2201015324) Prerequisites: ENGL 0305 and sources of law in American courts, using federal and Texas statutes and case law. (2201015424) Prerequisites: ENGL0305 or ENGL0365 or ENGL0115 AND ENGL0307 or ENGL0375 or ENGL0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

CRJ 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 or ENGL0365 or ENGL0115 AND ENGL0307 or ENGL0375 or ENGL0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

CRJ 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. This course is the study of criminal law including application of definitions, statutory elements, defenses and penalties using Texas statutes, the Model Penal Code, and case law. The course also analyzes the philosophical and historical development of criminal law and criminal culpability. (2201015324) Prerequisites: ENGL0305 or ENGL0365 or ENGL0115 AND ENGL0307 or ENGL0375 or ENGL0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

CRJ 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 or ENGL0365 or ENGL0115 AND ENGL0307 or ENGL0375 or ENGL0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

CRJ 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 or ENGL0365 or ENGL0115 AND ENGL0307 or ENGL0375 or ENGL0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

CRJ 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. This course is a survey of institutional and non-institutional corrections. Emphasis will be placed on the organization and operation of correctional systems; treatment and rehabilitation; populations served; Constitutional issues; and current and future issues. (4301045424) Prerequisites: ENGL0305 or ENGL0365 or ENGL0115 AND ENGL0307 or ENGL0375 or ENGL0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

CRJ 2314 - CRIMINAL INVESTIGATION
3 Credits (3 hrs. lec.) Study of investigative theory, the collection and preservation of evidence, sources of information, concepts of interviewing and interrogation, the use of forensic sciences, and trial preparation. (4301045524) Prerequisites: ENGL0305 or ENGL0365 or ENGL0115 AND ENGL0307 or ENGL0375 or ENGL0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

CRJ 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: ENGL0305 or ENGL0365 or ENGL0115 AND ENGL0307 or ENGL0375 or ENGL0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

CRJ 2328 - POLICE SYSTEMS AND PRACTICES
3 Credits (3 hrs. lec.) Exploration of the profession of
police officer. Topics include organization of law enforce-
ment systems, the police role, police discretion, ethics,
police-community interaction, and current and future
issues. This course examines the establishment, role and
function of police in a democratic society. It will focus
on types of police agencies and their organizational
structure, police-community interaction, police ethics,
and use of authority. (4301045724) Prerequisites: ENGL
0305 or ENGL 0365 or ENGL 0115 AND ENGL0307
or ENGL 0375 or ENGL 0117 OR higher level course
(ENGL 1301) OR placement by testing; ENGL 0309 or
ENGL 0310 also meets prerequisite.

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: ENGL 0304 or ENGL 0364
AND ENGL 0306 or ENGL 0374 OR ENGL 0302
OR higher level course (ENGL 1301) OR placement by
testing; Corequisites: 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: ENGL 0304 or ENGL 0364
AND ENGL 0306 or ENGL 0374 OR ENGL 0302
OR higher level course (ENGL 1301) OR placement by
testing; Corequisites: CSME 1310, 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
ENGL 0364 AND ENGL 0306 or ENGL 0374 OR ENGL 0302
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 0364 AND ENGL 0306 or ENGL 0374 OR
ENGL 0302 OR higher level course (ENGL 1301)
OR placement by testing; Corequisite: CSME 1248 and CSME 1421.

CSME 1421 - PRINCIPLES OF FACIAL AND SKIN
CARE TECHNOLOGY I
4 Credits (2 hrs. lec., 6 hrs. lab.) An introduction to the
principles of facial and skin care technology. Topics
include anatomy, physiology, theory, and related skills
of facial and skin care technology. Prerequisites: ENGL
0304 or ENGL 0364 AND ENGL 0306 or ENGL 0374
OR ENGL 0302 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. Requires LSCS
liability insurance. Prerequisite: ENGL 1301; Coreq-
quisite: 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 insur-
ance. Prerequisites: 3 years of field experience, Texas
operator's license and 12 credit hours of academic
work including ENGL 1301.

CSME 1445 - PRINCIPLES OF FACIAL AND SKIN
CARE TECHNOLOGY II
4 Credits (2 hrs. lec., 7 hrs. lab.) A continuation of the
concepts and principles in skin care and other related
technologies. Topics include advanced instruction in
anatomy, physiology, theory, and related skills of
facial and skin care technology. Prerequisite: CSME
1421 with a “C” or better; Corequisite: CSME 2431
and CSME 1447.

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; Corequisite:
CSME 1445 and CSME 2431.

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 cosme-
tology. Requires LSCS liability insurance. Prerequisites:
ENGL 0304 or ENGL 0364 AND ENGL 0306 or ENGL 0374 OR
ENGL 0302 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 safety
and sanitation, service preparation, manicure, facial,
chemical services, shampoo, haircut, wet styling, and
comb out. Requires LSCS liability insurance. Prerequi-
sites: ENGL 0304 or ENGL 0364 AND ENGL 0306 or ENGL 0374 OR
ENGL 0302 OR higher level course (ENGL 1301) OR placement by testing; Corequisites:
CSME 1254, 1310, and 1501.
CSME 1553 - CHEMICAL REFORMATION AND 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 0364 AND ENGL 0306 or ENGL 0374 OR ENGL 0302 OR higher level course (ENGL 1301) OR placement by testing; Corequisite: CSME 2501

CSME 2310 - INTERMEDIATE HAIRCUTTING AND 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 0364 AND ENGL 0306 or ENGL 0374 OR ENGL 0302 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 0364 AND ENGL 0306 or ENGL 0374 OR ENGL 0302 OR higher level course (ENGL 1301) OR placement by testing; Corequisite: CSME 2310

CSME 2342 - COSMETOLOGY SMALL BUSINESS MANAGEMENT
3 Credits (3 hr. lec.) A course designed for those in the cosmetology profession who want to manage a small business. Emphasis on management principles and their application to problems and issues associated with the operation of a salon. Prerequisites: None

CSME 2414 - COSMETOLOGY INSTRUCTOR II
4 Credits (2 hrs. lec., 6 hrs. lab.) A continuation of the fundamentals of instruction of cosmetology students. Corequisites: CSME 1434 and 1435

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 FACIALS AND SKIN CARE TECHNOLOGY III
4 Credits (2 hrs. lec., 6 hrs. lab.) Demonstrate concepts and principles of skin care and other related technol-
haviors, or professionalism in computed tomography. Prerequisite: Admitted to the Computed Tomography ATC program or Departmental approval.

CTMT 2232 - PRINCIPLES OF COMPUTED TOMOGRAPHY
2 Credits (2 hrs. lec.) In-depth coverage of computed tomography imaging techniques. Image quality assurance and radiation protection are emphasized. Prerequisites: Departmental approval and Admission to the Computed Tomography Advanced Technical Certificate program.

CTMT 2336 2236 - COMPUTED TOMOGRAPHY EQUIPMENT AND METHODOLOGY
3 Credits (3 hrs. lec.) 2 Credits (2 hrs. lec.) Skill development in the operation of computed tomographic equipment, focusing on routine protocols, image quality, quality assurance, and radiation protection. Prerequisite: CTMT 2232.

CTMT 2460 - CLINICAL - RADIOLOGIC TECHNOLOGY/SCIENCE - RADIOGRAPHER
4 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. Prerequisites: Departmental approval and Admission to the Computed Tomography Advanced Technical Certificate program.

CTMT 2461 CLINICAL - RADIOLOGIC TECHNOLOGY/SCIENCE - RADIOGRAPHER
4 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. Prerequisites: Admission to LSCS’s Computed Tomography Advanced Technical Certificate program.

DAAC 1304 - PHARMACOLOGY OF ADDICTION
3 Credits (3 hrs. lec.) Emphasizes pharmacological effects of addiction, tolerance, dependence, cross addiction, drug interaction, withdrawal, and recovery. Describes the psychological and physiological effects of substance use and behaviors. Prerequisites: None ENGL 0304 or ENGL 0364 AND ENGL 0306 or ENGL 0374 OR ENGL 0302 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: None ENGL 0304 or ENGL 0364 AND ENGL 0306 or ENGL 0374 OR ENGL 0302 OR higher level course (ENGL 1301) OR placement by testing

DAAC 1317 - BASIC COUNSELING SKILLS
3 Credits (3 hrs. lec.) An overview of basic counseling skills. Prerequisites: ENGL 0304 or ENGL 0364 AND ENGL 0306 or ENGL 0374 OR ENGL 0302 OR higher level course (ENGL 1301) OR placement by testing

DAAC 1319 - SUBSTANCE-RELATED AND ADDICTIVE DISORDERS INTRODUCTION TO ALCOHOL AND OTHER DRUG ADDICTIONS
3 Credits (3 hrs. lec.) An overview of causes and consequences of substance-related and addictive disorders, the major drug classifications, and the counselor’s code of ethics. Prerequisites: None An overview of causes and consequences of addiction, the major drug classifications, and the counselor’s code of ethics. Prerequisites: ENGL 0304 or ENGL 0364 AND ENGL 0306 or ENGL 0374 OR ENGL 0302 OR higher level course (ENGL 1301) OR placement by testing

DAAC 1417 - BASIC COUNSELING SKILLS
4 Credits (4 hrs. lec.) An overview of basic counseling skills. Prerequisites: None

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 1417, DAAC 2354 and SCWK 1321; ENGL 0304 or ENGL 0364 AND ENGL 0306 or ENGL 0374 OR ENGL 0302 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 1417, DAAC 2354 and SCWK 1321; ENGL 0304 or ENGL 0364 AND ENGL 0306 or ENGL 0374 OR ENGL 0302 OR higher level course
DAAC 2341 - COUNSELING ALCOHOL AND OTHER DRUG ADDICTIONS
3 Credits (3 hrs. lec.) Advanced examination of skills, confidentiality, and ethical guidelines applied in the counseling, treatment, and recovery of substance use disorders. Advanced examination of knowledge, skills, attitudes, techniques, confidentiality and ethical guidelines applied in the counseling, treatment, prevention, and recovery of substance use disorders.
Prerequisites: None ENGL 0304 or ENGL 0364 AND ENGL 0306 or ENGL 0374 OR ENGL 0302 OR higher level course (ENGL 1301) OR placement by testing

DAAC 2343 - CURRENT ISSUES
3 Credits (3 hrs. lec.) Examination of current issues in addiction. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

DAAC 2354 - DYNAMICS OF GROUP COUNSELING
3 Credits (3 hrs. lec.) Exploration of group counseling skills, techniques, and stages of group development, and confidentiality and ethics. Prerequisites: None ENGL 0304 or ENGL 0364 AND ENGL 0306 or ENGL 0374 OR ENGL 0302 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 1417, DAAC 2354 and SCWK 1321; ENGL 0304 or ENGL 0364 AND ENGL 0306 or ENGL 0374 OR ENGL 0302 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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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) Prerequisite: 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) Prerequisite: DANC 2151 or instructor approval; Corequisite: Enrollment in a 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 1242. 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 1242 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 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 2246 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 2246 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 2248 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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309
or ENGL 0310 also meets prerequisite

DEMR 1229 - PREVENTATIVE MAINTENANCE
2 Credits (2 hrs. lec.) An introductory course designed to provide the student with basic knowledge of proper servicing practices. Content includes record keeping and condition of major systems. Prerequisites: None

DEMR 1301 - SHOP SAFETY AND PROCEDURES
3 Credits (3 hrs. lec.) A study of shop safety, rules, basic shop tools, and test equipment. Prerequisites: None

DEMR 1305 - BASIC ELECTRICAL SYSTEMS
3 Credits (2 hrs. lec., 3 hrs. lab.) Basic principles of electrical systems of diesel powered equipment with emphasis on starters, alternators, and batteries. Prerequisites: None

DEMR 1306 - DIESEL ENGINE I
3 Credits (3 hrs. lec.) An introduction to the basic principles of diesel engines and systems. Prerequisites: None

DEMR 1310 - DIESEL ENGINE TESTING AND REPAIR I
3 Credits (2 hrs. lec., 3 hrs. lab.) An introduction to testing and repairing diesel engines including related systems and specialized tools. Prerequisites: None

DEMR 1313 - FUEL SYSTEMS
3 Credits (2 hrs. lec., 3 hrs. lab.) In-depth coverage of fuel injector pumps and injection systems. Prerequisites: None

DEMR 1316 - BASIC HYDRAULICS
3 Credits (2 hrs. lec., 3 hrs. lab.) Fundamentals of hydraulics including components and related systems. Prerequisites: None

DEMR 1317 - BASIC BRAKE SYSTEMS
3 Credits (3 hrs. lec.) Basic principles of brake systems of diesel powered equipment. Emphasis on maintenance, repairs, and troubleshooting. Prerequisites: None

DEMR 1321 - POWER TRAIN I
3 Credits (3 hrs. lec.) Fundamental repair and theory of power trains including clutches, transmissions, drive shafts, and differentials. Emphasis on inspection and repair. Prerequisites: None

DEMR 1323 - HEATING, VENTILATION, AND AIR CONDITIONING TROUBLESHOOTING AND REPAIR
3 Credits (2 hrs. lec., 3 hrs. lab.) Introduction to heating, ventilation, and air conditioning theory, testing, and repair. Emphasis on refrigerant reclamation, safety procedures, specialized tools, and repairs. Prerequisites: None

DEMR 1349 - DIESEL ENGINE II
3 Credits (2 hrs. lec., 3 hrs. lab.) An in-depth coverage of disassembly, repair, identification, evaluation, and reassembly of diesel engines. Prerequisite: DEMR 1306

DEMR 2312 - DIESEL ENGINE TESTING AND REPAIR II
3 Credits (2 hrs. lec., 3 hrs. lab.) Continuation of Diesel Engine Testing and Repair I. Coverage of testing and repairing diesel engines including related systems and specialized tools. Prerequisite: DEMR 1310

DEMR 2332 - ELECTRONIC CONTROLS
3 Credits (2 hrs. lec., 3 hrs. lab.) Advanced skills in diagnostic and programming techniques of electronic control systems. Prerequisites: None

DEMR 2334 - ADVANCED DIESEL TUNE-UP AND TROUBLESHOOTING
3 Credits (2 hrs. lec., 3 hrs. lab.) Advanced concepts and skills required for tune-up and troubleshooting procedures of diesel engines. Emphasis on the science of diagnostics with a common sense approach. Prerequisite: DEMR 1349

DEMR 2380 - COOPERATIVE EDUCATION - DIESEL MECHANICS TECH
3 Credits (1 hr. lec., 15 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: Department approval

DEMR 2381 - COOPERATIVE EDUCATION - DIESEL MECHANICS TECH
3 Credits (1 hr. lec., 15 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: Department approval

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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; 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 1391 - SPECIAL TOPICS IN DRAFTING AND DESIGN TECHNOLOGY
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. This course was designed to be repeated multiple times to improve student proficiency. Prerequisite: Departmental approval.

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 2307 - ELECTRICAL DRAFTING
3 Credits (2 hrs. lec., 2 hrs. lab.) A study of area lighting, control systems and power layouts, electrical and safety codes, load factors and distribution requirements. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; MATH 0310

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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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 and CNBT 1311 or DFTG 2319 and DFTG 2331

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 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 or ENGL 0365 or ENGL 0115 AND ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

**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.

**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 and MATH 1316.

**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 LSC-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 or ENGL 0365 or ENGL 0115 AND ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; Corequisites: DHYG 1215.

**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 or ENGL 0365 or ENGL 0115 AND ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; Corequisites: DHYG 1301, 1304 and 1431.

**DHYG 1207 - GENERAL AND DENTAL NUTRITION**
2 Credits (2 hrs. lec.) General nutrition and nutritional biochemistry emphasizing the effect nutrition has on oral health. Prerequisites: DHYG, 1203, 1301, 1304 and 1431; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; 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 preventive periodontics in a contemporary private practice setting. Requires LSCS liability insurance. Prerequisites: DHYG 1203, 1301, 1304 and 1431; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; 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, 1239, 2231 and 2362; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; Corequisites: BIOL 2305; DHYG 1207, 1260 and 2201.

**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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; Corequisite: DHYG 1160

DHYG 1235 - PHARMACOLOGY FOR THE DENTAL HYGIENIST
2 Credits (2 hrs. lec.) Classification of drugs and their uses, actions, interactions, side effects, contraindications, with emphasis on dental applications. Prerequisites: DHYG 1160 and 1219; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; Corequisites: DHYG 1235, 1239, 2231 and 2362

DHYG 1239 - GENERAL AND ORAL PATHOLOGY
2 Credits (2 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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; Corequisites: DHYG 1239, 2231 and 2362

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 1431; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; Corequisites: DHYG 1235, 1239, 2231 and 2362

DHYG 1301 - OROFACIAL ANATOMY, HISTOLOGY AND 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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; Corequisites: BIOL 2305; DHYG 1207, 1211 and 2201

DHYG 1431 - PRECLINICAL DENTAL HYGIENE
4 Credits (2 hrs. lec., 6 hrs. lab.) Foundational knowledge for performing clinical skills on patients with emphasis on procedures and rationale for performing dental hygiene care. Introduction to ethical principles as they apply to dental hygiene care. Requires LSCS liability insurance. Prerequisites: Acceptance into the dental hygiene program; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; Corequisites: DHYG 1203, 1301 and 1431

DHYG 2153 - DENTAL HYGIENE PRACTICE
1 Credit (1 hr. lec.) (0 hrs. lec., 3 hr. lab.) 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, 1239, 2231 and 2362; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; Corequisites: DHYG 1215 and 2363

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 includ-
ing supplemental instrumentation techniques. Requires LSCS liability insurance. Prerequisites: DHYG 1203, 1301, 1304 and 1431; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; 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. Requires LSCS liability insurance. Prerequisites: DHYG 1160 and 1219; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; Corequisites: DHYG 1235, 1239 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 hygiene clinic on the LSC-Kingwood campus as well as external clinical sites. Specific detailed learning objectives are developed for each course by the faculty. Onsite 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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; Corequisites: DHYG 1235, 1239 and 2362

**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 LSC-Kingwood campus as well as external clinical sites. Specific detailed learning objectives are developed for each course by the faculty. Onsite 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, 1239, 2231 and 2362; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; Corequisites: DHYG 2153 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; Corequisites: DMSO 1360, DMSO 1405, DMSO 1302 and DMSO 1351, OR DMSO 1302, DSAE 1415 and DSAE 1360

**DMSO 1367 1267 - PRACTICUM II**
3 Credits (16 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; Corequisites: DMSO 2342 and 2351

**DMSO 1302 - BASIC ULTRASOUND PHYSICS**
3 Credits (3 hrs. lec., 1 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; Corequisites: DMSO 1360, DMSO 1351, DMSO 1210 and DMSO 1405, or DMSO 1210, DSAE 1415 and DSAE 1360

**DMSO 1342 - INTERMEDIATE ULTRASOUND PHYSICS**
3 Credits (2 hrs. lec., 2 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 OR DSAE 1415 and 1360; Corequisites: DMSO 1366, 2253 and 2405, OR DSAE 2403 and 2404

**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;
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; 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; Corequisites: DMSO 1342, 2253 and 2405

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, 1267, 2342 and 2351 OR DSAE 2437 and DSAE 2364; Corequisites: DMSO 2245, 2366 and DSVT 2200, OR DSAE 2235, 2365 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., 1 hr. lab.) Maternal disease and fetal abnormalities. Includes scanning techniques, patient history and laboratory data, transducer selection, and scanning protocols. Prerequisites: Departmental approval; 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 or DSAE 1415, 1364 and 2404; Corequisites: DMSO 1367, 1267 and 2342, OR DSAE 2437 and 2364

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, and 2253

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 makeup), performance work, or other participation as designated by departmental faculty. It may be taken for four credit hours maximum. (5005065326) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

DRAM 1161, 1162 - MUSICAL THEATRE I AND II
1 Credit (5 hrs. lab.) This course provides practical experience in auditioning, rehearsing, and performing in a major musical. (5009036126) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

Text on this page has been revised since publication of the printed catalog. Please see addendum for details.
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 experience in designing and providing technical support for theatre productions and events. (5005065326) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

DRAM 1310 - THEATRE APPRECIATION
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. Survey of theater including its history, dramatic works, stage techniques, production procedures, and relation to other art forms. Participation in productions may be required. (5005015126) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

DRAM 1322 - STAGE MOVEMENT
3 Credits (3 hrs. lec.) Basic postural alignment and movement, emphasis on body awareness and rhythm. (5005065426) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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. Study and application of the methods and components of theatrical production which may include one or more of the following: theatre facilities, scenery construction, and painting, properties, lighting, costume, makeup, sound, and theatrical management. (5005025126) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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 or ENGL 0365 or ENGL 0115 and ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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) An introduction to the fundamental principles and tools of acting as used in auditions, rehearsals, and performances. This may include ensemble performing, character and script analysis, and basic theatre terminology. This exploration will emphasize the development of the actor’s instrument: voice, body and imagination. (5005025326) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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) Exploration and further training within the basic principles and tools of acting, including an emphasis on critical analysis of oneself and others. The tools include ensemble performing, character and script analysis, and basic theater terminology. This will continue the exploration of the development of the actor’s instrument: voice, body and imagination. (5005025326) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309
or ENGL 0310 also meets prerequisite

**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. Continued study and application of the methods and components of theatrical production which may include one of the following: theatre facilities, scenery construction and painting, properties, lighting, costume, makeup, sound and theatrical management. (5005025126) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

**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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

**DRAM 2361 - THEATRE HISTORY TO 1700**
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. Study of the history of the theater from primitive times through the Renaissance. (5005055126) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

**DRAM 2362 - THEATRE HISTORY FROM 1700**
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. Study of the history of the theater from the Renaissance through today. (5005055126) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

**DRAM 2363 - HISTORY OF MUSICAL THEATRE**
3 Credits (3 hrs. lec.) The history and development of music theatre excluding opera. (5005055126) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

**DRAM 2366 - FILM APPRECIATION**
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. Survey and analyze cinema including history, film techniques, production procedures, selected motion pictures and cinema’s impact on and reflection of society. (5006025126) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

**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. In conjunction with class seminars, the individual student will set specific goals and objectives in drama. (2401035212) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

**DSAE 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. Prerequisites: Admission to the program; Corequisites: DMSO 1210, DMSO 1302 and DSAE 1415

**DSAE 1364 - 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, DMSO 1302, DSAE 1360 and DSAE 1415; Corequisites: DMSO 1342, DSAE 2403 and DSAE 2404

**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: Admission to program; Corequisites: DMSO 1210, DMSO 1302, DSAE 1360

**DSAE 2235 - ADVANCED ECHOCARDIOGRAPHY**  
2 Credits (1 hr. lec., 3 hrs. lab.) Advanced echocardiographic procedures. Topics include stress echo, related diagnostic imaging, and related noninvasive cardiac testing. Prerequisites: DMSO 2351, DSAE 2437 and DSAE 2364; Corequisites: DSVT 2200, DMSO 2130 and DSAE 2365

**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 2403, DSAE 1415 and DMSO 1342; Corequisites: DMSO 2351 and DSAE 2437

**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: DSAE 2364, DSAE 1415, DMSO 1342; Corequisites: DMSO 2351 and DSAE 2365

**DSAE 2403 - CARDIOVASCULAR CONCEPTS**  
4 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: DMSO 1210, DMSO 1302, DSAE 1360, and DSAE 1415; Corequisites: DMSO 1342, DSAE 1364, and DSAE 2404

**DSAE 2404 - ECHOCARDIOGRAPHIC EVALUATION OF PATHOLOGY I**  
4 Credits (3 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 2437 - ECHOCARDIOGRAPHIC EVALUATION OF PATHOLOGY II**  
4 Credits (3 hrs. lec., 2 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 2404, and DMSO 1342; Corequisites: DMSO 2351 and DSAE 2364

**DSVT 1265 - PRACTICUM II - DIAGNOSTIC MEDICAL SONOGRAPHY AND 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 AND 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

**DSVT 2200 - VASCULAR TECHNOLOGY APPLICATIONS**  
2 Credits (1 hr. lec., 4 hrs. lab.) Non-invasive vascular technology. Includes 2-D imaging, Doppler, plethysmography, and segmental pressures. Emphasizes protocols for performing basic venous and arterial imaging and non-imaging exams. Prerequisites: DMSO 1367, 2342 and 2351; Corequisites: DMSO 2130, 2245 and 2366 OR DSAE 2235, 2365 and DMSO 2130

**DSVT 2330 - NON-INVASIVE CEREBRAL VASCULAR EVALUATION**  
3 Credits (2 hrs. lec., 2 hrs. lab.) Non-invasive technology for the evaluation and quantification of cerebrovascular disease. Modalities include carotid duplex, periorbital Doppler, and transcranial Doppler. Prerequisites: Associate of Applied Science-Diagnostic Medical Sonography and admission to the certificate program; Corequisites: DSVT 1364 and DSVT 2418

**DSVT 2335 - ADVANCED NON-INVASIVE VASCULAR TECHNOLOGY**  
3 Credits (2 hrs. lec., 2 hrs. lab.) Non-invasive vascular concepts. Includes harmonics, contrast, power Doppler, digital intraoperative, intravascular, abdominal vascular, graft surveillance, vascular interventions, and research. Emphasizes extensive review of case studies, technical reporting, preliminary interpretation, and registry review. Prerequisites: DSVT 1364, DSVT 2330 and DSVT 2418; Corequisite: DSVT 1265

**DSVT 2418 - NON-INVASIVE PERIPHERAL VASCULAR EVALUATION**
4 Credits (3 hrs. lec., 3 hrs. lab.) Application of peripheral non-invasive vascular technology for the evaluation and quantification of peripheral vascular diseases. Modalities include venous and arterial duplex and physiologic testing. Prerequisites: Associate of Applied Science-Diagnostic Medical Sonography and admission to the certificate program; Corequisites: DSVT 1364 and DSVT 2330

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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; 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: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; 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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

EDUC 1300 - LEARNING FRAMEWORK: 1ST YEAR EXPERIENCE
3 Credits (3 hrs. lec.) A study of the: research and theory in the psychology of learning, cognition, and motivation; factors that impact learning, and application of learning strategies. Theoretical models of strategic learning, cognition, and motivation serve as the conceptual basis for the introduction of college-level student academic strategies. Students use assessment instruments (e.g., learning inventories) to help them identify their own strengths and weaknesses as strategic learners. Students are ultimately expected to integrate and apply the learning skills discussed across their own academic programs and become effective and efficient learners. Students developing these skills should be able to continually draw from the theoretical models they have learned. (4227015125) Prerequisites: None

EDUC 1301 - INTRODUCTION TO THE TEACHING PROFESSION
3 Credits (3 hrs. lec., 1 hr. ext.) 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. (1301015109) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR ENGL 0309 or ENGL 1301 with a minimum grade of D 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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; MATH 0310

EDUC 2301 - INTRODUCTION TO SPECIAL POPULATIONS
3 Credits (3 hrs. lec., 1 hr. ext.) 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. (1310015109) Prerequisites: EDUC 1301 OR departmental approval; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

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 1301; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

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 1301 and 1425; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

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 1401; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

EECT 2440 - TELECOMMUNICATIONS CENTRAL OFFICE EQUIPMENT
4 Credits (3 hrs. lec., 2 hrs. lab.) Theory, operation and maintenance of central office telecommunications equipment. Prerequisites: CPMT 1445 or ITSC 1425 1325; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

* Text on this page has been revised since publication of the printed catalog (effective Fall 2014). Please see addendum for details.
ELMT 1302 - SOLAR PHOTOVOLTAIC SYSTEMS
3 Credits (2 hrs. lec., 2 hrs. lab.) Design and installation of solar photovoltaic systems and their applications. Prerequisite: None

ELMT 2341 - ELECTROMECHANICAL SYSTEMS
3 Credits (2 hrs. lec., 2 hrs. lab.) Application of electromechanical systems. Emphasizes programmable control devices and solid state systems. Prerequisites: None

ELMT 2433 - INDUSTRIAL ELECTRONICS
4 Credits (3 hrs. lec., 2 hrs. lab.) 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. Includes presentation of programming schemes. Prerequisites: RBTC 1401, CETT 1402 or CETT 1409; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

ELMT 2437 - ELECTRONIC TROUBLESHOOTING, SERVICE, AND REPAIR
4 Credits (3 hrs. lec., 2 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 use of test equipment. May be offered as a capstone course. Prerequisites: CETT 1403 and 1405

ELPT 1311 - BASIC ELECTRICAL THEORY
3 Credits (3 hrs. lec., 1 hr. lab) 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 (3 hrs. lec., 1 hr. lab.) 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: ELPT 1311

ELPT 1329 - RESIDENTIAL WIRING
3 Credits (2 hrs. lec., 3 hrs. lab.) Wiring methods for single and multi-family dwellings. Includes load calculation, service entrance sizing, proper grounding techniques, and associated safety procedures. Prerequisite: ELPT 1325

ELPT 1341 - MOTOR CONTROL
3 Credits (2 hrs. lec., 3 hrs. lab.) Operating principles of solid-state and conventional controls along with their practical applications. Includes braking, jogging, plugging, safety interlocks, wiring, and schematic diagram interpretations. Prerequisite: ELPT 1311

ELPT 1345 - COMMERCIAL WIRING
3 Credits (2 hrs. lec., 3 hrs. lab.) Commercial wiring methods. Includes overcurrent protection, raceway panel board installation, proper grounding techniques, and associated safety procedures. Prerequisite: ELPT 1325

ELPT 1351 - ELECTRICAL MACHINES
3 Credits (2 hrs. lec., 3 hrs. lab.) Direct current (DC) motors, single-phase and polyphase alternating current (AC) motors, generators, and alternators. Emphasis on construction, characteristics, efficiencies, starting, and speed control. Prerequisite: ELPT 1311

ELPT 1357 - INDUSTRIAL WIRING
3 Credits (2 hrs. lec., 3 hrs. lab.) Wiring methods used for industrial installations. Includes motor circuits, raceway and bus way installations, proper grounding techniques, and associated safety procedures. Prerequisite: ELPT 1325

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 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
ELPT 2337 - ELECTRICAL PLANNING AND ESTIMATING
3 Credits (2 hrs. lec., 3 hrs. lab.) Planning and estimating for residential, commercial, and industrial wiring systems. Includes a variety of electrical techniques. Prerequisite: DFTG 2307

ELPT 2343 - ELECTRICAL SYSTEMS DESIGN
3 Credits (2 hrs. lec., 3 hrs. lab.) Electrical design of commercial and/or industrial projects including building layout, types of equipment, placement, sizing of electrical equipment, and all electrical calculations according to the requirements of the National Electrical Code (NEC). Prerequisite: ELPT 1325

ELPT 2347 - ELECTRICAL TESTING AND MAINTENANCE
3 Credits (2 hrs. lec., 3 hrs. lab.) Proper and safe use of electrical power equipment test devices and the interpretation of test results. Includes protective relay testing and calibration, direct current (DC) testing, insulation power factor testing, and medium voltage switchgear. Prerequisite: ELPT 1311

EMSP 1160 - CLINICAL - 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 0364 AND ENGL 0306 or ENGL 0374 OR ENGL 0302 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 0364 AND ENGL 0306 or ENGL 0374 OR ENGL 0302 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 0364 AND ENGL 0306 or ENGL 0374 OR ENGL 0302 OR higher level course (ENGL 1301) OR placement by testing; MATH 0306; Corequisites: EMSP 1355

EMSP 1305 - EMERGENCY CARE ATTENDANT
3 Credits (2 hrs. lec., 2 hr. lab.) Preparation for certification as an Emergency Care Attendant (ECA)/Emergency Medical Responder (EMR). Prerequisites: ENGL 0304 or ENGL 0364 AND ENGL 0306 or ENGL 0374 OR ENGL 0302 OR higher level course (ENGL 1301) OR placement by testing; MATH 0306

EMSP 1338 - INTRODUCTION TO ADVANCED PRACTICE
3 Credits (3 hrs. lec., 1 hr. lab.) Fundamental elements associated with emergency medical services to include preparatory practices, pathophysiology, medication administration, and related topics. Prerequisites: EMSP 1160 AND 1501, OR current EMT certification; ENGL 0304 or ENGL 0364 AND ENGL 0306 or ENGL 0374 OR ENGL 0302 OR higher level course (ENGL 1301) OR placement by testing; MATH 0306

EMSP 1355 - TRAUMA MANAGEMENT
3 Credits (2 hrs. lec., 2 hrs. lab.) Knowledge and skills in the assessment and management of patients with traumatic injuries. Prerequisites: ENGL 0304 or ENGL 0364 AND ENGL 0306 or ENGL 0374 OR ENGL 0302 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.) Knowledge and skills required to perform patient assessment, airway management, and artificial ventilation. Prerequisites: EMSP 1160 AND 1501, OR current EMT certification; ENGL 0304 or ENGL 0364 AND ENGL 0306 or ENGL 0374 OR ENGL 0302 OR higher level course (ENGL 1301) OR placement by testing; MATH 0306; Corequisites: EMSP 1161 and 2348

EMSP 1501 - EMERGENCY MEDICAL TECHNICIAN
5 Credits (3 hrs. lec., 6 hrs. lab.) Preparation for certification as an Emergency Medical Technician (EMT). Prerequisites: ENGL 0304 or ENGL 0364 AND ENGL 0306 or ENGL 0374 OR ENGL 0302 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 experience covering comprehensive, assessment based patient care man-
agreement. Includes specific care when dealing with pediatric, adult, geriatric, and special-needs patients. Prerequisites: EMSP 2160; ENGL 0304 or ENGL 0364 AND ENGL 0306 or ENGL 0374 OR ENGL 0302 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; ENGL 0304 or ENGL 0364 AND ENGL 0306 or ENGL 0374 OR ENGL 0302 OR higher level course (ENGL 1301) OR placement by testing; MATH 0306; Corequisite: EMSP 2361

**EMSP 2200 - METHODS OF TEACHING - EMERGENCY MEDICAL SERVICE**
3 Credits (3 hrs. lec.) Focuses on instructional preparation, presentation and evaluation, and essential knowledge, skills, and practices required to provide quality EMS educational programs applicable to the adult learner. Prerequisites: EMSP 1160 and 1501; ENGL 0304 or ENGL 0364 AND ENGL 0306 or ENGL 0374 OR ENGL 0302 OR higher level course (ENGL 1301) OR placement by testing; MATH 0306; Corequisites: EMSP 2330 and 2434

**EMSP 2330 - SPECIAL POPULATIONS**
3 Credits (2 hrs. lec., 2 hrs. lab.) Knowledge and skills necessary to assess and manage ill or injured patients in diverse populations to include neonatology, pediatrics, geriatrics, and other related topics. Prerequisites: EMSP 1162; ENGL 0304 or ENGL 0364 AND ENGL 0306 or ENGL 0374 OR ENGL 0302 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.) Knowledge and skills to safely manage multi-casualty incidents and rescue situations; utilize air medical resources; identify hazardous materials and other specialized incidents. Prerequisites: EMSP 1161, ENGL 0304 or ENGL 0364 AND ENGL 0306 or ENGL 0374 OR ENGL 0302 OR higher level course (ENGL 1301) OR placement by testing; MATH 0306; Corequisites: EMSP 2160 and 2330

**EMSP 2348 - EMERGENCY PHARMACOLOGY**
3 Credits (2 hrs. lec., 3 hrs. lab.) Utilization of medications in treating emergency situations. Prerequisites: EMSP 1160, 1501, or current EMT certification; ENGL 0304 or ENGL 0364 AND ENGL 0306 or ENGL 0374 OR ENGL 0302 OR higher level course (ENGL 1301) OR placement by testing; MATH 0306; Corequisites: EMSP 1161 and 1356

**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 0364 AND ENGL 0306 or ENGL 0374 OR ENGL 0302 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 0364 AND ENGL 0306 or ENGL 0374 OR ENGL 0302 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 0364 AND ENGL 0306 or ENGL 0374 OR ENGL 0302 OR higher level course (ENGL 1301) OR placement by testing; MATH 0306

**EMSP 2364 - MEDICAL EMERGENCIES**
4 Credits (3 hrs. lec., 3 hrs. lab.) Knowledge and skills in the assessment and management of patients with medical emergencies, including medical overview, neurology, gastroenterology, immunology, pulmonology, urology, hematology, endocrinology, toxicology, and other related topics. Prerequisites: EMSP 1162; ENGL 0304 or ENGL 0364 AND ENGL 0306 or ENGL 0374 OR ENGL 0302 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 0364 AND ENGL 0306 or ENGL 0374 OR ENGL 0302 OR higher level course (ENGL 1301) OR placement by testing; MATH 0306

**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

**ENGL 0115 - NON-SEMESTER LENGTH COMPETENCY-BASED READING OPTION**
1 Credit (1 hr. lab.) Development of reading and higher order thinking skills necessary for college readiness. Prerequisite: A placement score below college level in reading but within a designated range.

**ENGL 0117 - NON-SEMESTER LENGTH COMPETENCY-BASED WRITING OPTION**
1 Credit (1 hr. lab.) Development of college-level writing focusing on idea generation, drafting, organization, revision, and utilization of standard English. Prerequisite: A placement score below college level in writing but within a designated range.

**ENGL 0119 - NON-SEMESTER LENGTH COMPETENCY-BASED ADVANCED READING/WRITING OPTION**
1 Credit (1 hr. lab.) Integration of critical reading and academic writing skills. Prerequisite: A placement score below college-level reading and/or college-level writing but within a designated range.

**ENGL 0302 - INTEGRATED READING AND WRITING I**
3 Credits (3 hrs. lec., 1 hr. lab.) This course is designed to prepare students for ENGL 0309, Integrated Reading & Writing II. Topics include applying active reading strategies and facilitating sentence and paragraph writing. This course integrates Developmental Reading I (ENGL 0304) and Developmental Writing I (ENGL 0306). This course carries institutional credit but will not transfer and will not be used to meet degree requirements. This course may be used to fulfill courses ENGL 0304 and/or ENGL 0306. 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. 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 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

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ENGL 0309 - INTEGRATED READING AND WRITING II
3 Credits (3 hrs. lec., 1 hr. lab.) This is a combined lecture/lab, performance-based course designed to develop students’ critical reading and academic writing skills. The focus of the course will be on applying critical reading skills for organizing, analyzing, and retaining material and developing written work appropriate to the audience, purpose, situation, and length of the assignment. The course integrates preparation in basic academic reading skills with basic skills in writing a variety of academic essays. This is a course with a required lab. The course fulfills TSI requirements for reading and writing. This course carries institutional credit but will not transfer and may not be used to meet degree requirements. This course may be used to fulfill three (3) course combinations: 1. ENGL 0305 and/or ENGL 0307 and pending department approval; 2. ENGL 0304 and ENGL 0307; and 3. ENGL 0306 and ENGL 0305. (3201086212) Prerequisites: ENGL 0302 or ENGL 0304 and ENGL 0306 or placement by testing.

ENGL 1301 - COMPOSITION AND RHETORIC I
3 Credits (3 hrs. lec.) Intensive study and practice in writing processes, from invention and researching to drafting, revising, and editing, both individually and collaboratively. Emphasis on effective rhetorical choices, including audience, purpose, arrangement, and style. Focus on writing the academic essay as a vehicle for learning, communicating, and critical analysis. (2313015112) Prerequisites: ENGL 0305 or ENGL 0306 or ENGL 0307 and ENGL 0308 and 3. ENGL 0310 also meets prerequisite.

ENGL 1302 - COMPOSITION AND RHETORIC II
3 Credits (3 hrs. lec.) Intensive study of and practice in the strategies and techniques for developing research-based expository and persuasive texts. Emphasis on effective and ethical rhetorical inquiry, including primary and secondary research methods; critical reading of verbal, visual, and multimedia texts; systematic evaluation, synthesis, and documentation of information sources; and critical thinking about evidence and conclusions. (2313015112) Prerequisite: ENGL 1301

ENGL 2307 - FUNDAMENTALS OF CREATIVE WRITING
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. (2313025112) Prerequisite: Six hours of English credit or departmental approval.

ENGL 2308 - CREATIVE WRITING AND PUBLISHING
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. (2313025112) Prerequisite: Six 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. (2313035112) Prerequisite: ENGL 1301

ENGL 2322 - SURVEY OF BRITISH LITERATURE - ANGLO-SAXON THROUGH THE 18TH CENTURY
3 Credits (3 hrs. lec.) A survey of the development of British literature from the Anglo-Saxon period to the Eighteenth Century. Students will study works of prose, poetry, drama, and fiction in relation to their historical, linguistic, and cultural contexts. Texts will be selected from a diverse group of authors and traditions. (2314045112) Prerequisites: ENGL 1301 and 1302

ENGL 2323 - SURVEY OF BRITISH LITERATURE - ROMANTIC THROUGH THE PRESENT
3 Credits (3 hrs. lec.) A survey of the development of British literature from the Romantic period to the present. Students will study works of prose, poetry, drama, and fiction in relation to their historical and cultural contexts. Texts will be selected from a diverse group of authors and traditions. (2314045112) Prerequisites: ENGL 1301 and 1302

ENGL 2327 - SURVEY OF AMERICAN LITERATURE - EXPLORATION THROUGH THE CIVIL WAR
3 Credits (3 hrs. lec.) A survey of American literature from the period of exploration and settlement through the Civil War. Students will study works of prose, poetry, drama, and fiction in relation to their historical and cultural contexts. Texts will be selected from among a diverse group of authors for what they reflect and reveal about the evolving American experience and character. (2314025112) Prerequisites: ENGL 1301 and 1302

ENGL 2328 - SURVEY OF AMERICAN LITERATURE - CIVIL WAR THROUGH THE PRESENT
3 Credits (3 hrs. lec.) A survey of American literature from the Civil War to the present. Students will study works of prose, poetry, drama, and fiction in relation...
to their historical and cultural contexts. Texts will be selected from among a diverse group of authors for what they reflect and reveal about the evolving American experience and character. (2314025112) Prerequisites: ENGL 1301 and 1302

ENGL 2332 - SURVEY OF WORLD LITERATURE - ANCIENT WORLD THROUGH THE 16TH CENTURY
3 Credits (3 hrs. lec.) A survey of world literature from the ancient world through the sixteenth century. Students will study works of prose, poetry, drama, and fiction in relation to their historical and cultural contexts. Texts will be selected from a diverse group of authors and traditions. (1601045213) Prerequisites: ENGL 1301 and 1302

ENGL 2333 - SURVEY OF WORLD LITERATURE - 17TH CENTURY THROUGH THE PRESENT
3 Credits (3 hrs. lec.) A survey of world literature from the seventeenth century to the present. Students will study works of prose, poetry, drama, and fiction in relation to their historical and cultural contexts. Texts will be selected from a diverse group of authors and traditions. (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 engineering profession with emphasis on technical communication and team-based engineering design. Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 or higher level course (ENGL 1301) or placement by testing and MATH 1314

ENGR 1304 - ENGINEERING GRAPHICS I
3 Credits (2 hrs. lec., 4 hrs. lab.) Introduction to computer-aided drafting using CAD software and sketching to generate two- and three-dimensional drawings based on the conventions of engineering graphical communication; topics include spatial relationships, multi-view projections and sectioning, dimensioning, graphical presentation of data, and fundamentals of computer graphics. Prerequisite: MATH 1314

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. (1513015212) Prerequisites: ENGR 1304 and MATH 2413

ENGR 2301 - ENGINEERING MECHANICS: STATICS
3 Credits (3 hrs. lec.) Basic theory of engineering mechanics, using calculus, involving the description of forces, moments, and couples acting on stationary engineering structures; equilibrium in two and three dimensions; free-body diagrams; friction; centroids; centers of gravity; and moments of inertia. Prerequisites: PHYS 2425 Corequisites: MATH 2414 unless course has already been taken.

ENGR 2302 - ENGINEERING MECHANICS: DYNAMICS
3 Credits (3 hrs. lec.) Basic theory of engineering mechanics, using calculus, involving the motion of particles, rigid bodies, and systems of particles; New-
ton’s Laws; work and energy relationships; principles of impulse and momentum; application of kinetics and kinematics to the solution of engineering problems. Prerequisite: ENGR 2301

ENGR 2304 - PROGRAMMING FOR ENGINEERS
3 Credits (2 hrs. lec., 4 hrs. lab.) Programming principles and techniques for matrix and array operations, equation solving, and numeric simulations applied to engineering problems and visualization of engineering information; platforms include spreadsheets, symbolic algebra packages, engineering analysis software, and laboratory control software. Prerequisites: ENGL 0305 and ENGL 0307 or ENGL 0356 or higher level course (ENGL 1301) or placement by testing. Corequisites: MATH 2413

ENGR 2308 - ENGINEERING ECONOMICS
3 Credits (3 hrs. lec.) Methods used for determining the comparative financial desirability of engineering alternatives. Provides the student with the basic tools required to analyze engineering alternatives in terms of their worth and cost, an essential element of engineering practice. The student is introduced to the concept of the time value of money and the methodology of basic engineering economy techniques. The course will address some aspects of sustainability and will provide the student with the background to enable them to pass the Engineering Economy portion of the Fundamentals of Engineering exam. (149999510) Prerequisites: MATH 2413

ENGR 2333 - ELEMENTARY CHEMICAL ENGINEERING
3 Credits (3 hrs. lec.) This course is the foundation for nearly all future chemical engineering courses and analysis. A strong foundation in mathematics, physics, and chemistry is required for application to the solution of problems in industrial chemistry. Students will receive an introduction to chemical engineering calculations, unit equations, process stoichiometry, material and energy balances, and states of matter, and will apply the laws of conservation of mass and energy to reacting and non-reacting, simple and complex chemical systems. Prerequisites: ENGR 1201 and CHEM 1412 and MATH 2414 and PHYS 2425

ENGR 2334 - CHEMICAL ENGINEERING
1. THERMODYNAMICS I
3 Credits (3 hrs. lec.) Fundamental concepts of energy and thermodynamics (e.g., temperature, thermodynamic equilibrium, and heat) will be introduced; the course emphasizes techniques in the application of the fundamentals of thermodynamics to various processes as they frequently occur in chemical and bimolecular engineering. Provides the basic skills and tools necessary in designing and analyzing real-life engineering systems. Serves as preparation for other advanced courses in thermodynamics, energy conversion, heat transfer, etc. (1407015210) Prerequisite: MATH 2415

ENGR 2405 - ELECTRICAL CIRCUITS I
3 Credits (3 hrs. lec., 3 hrs. lab) Principles of electrical circuits and systems. Basic circuit elements (resistance, inductance, mutual inductance, capacitance, independent and dependent controlled voltage, and current sources; Kirchhoff’s laws; node and mesh analysis; DC circuit analysis; operational amplifiers; transient and sinusoidal steady-state analysis; AC circuit analysis; first- and second-order circuits; Bode plots; and use of computer simulation software to solve circuit problems. Laboratory experiments supporting theoretical principles involving DC and AC circuit theory, network theorems, time, and frequency domain circuit analysis. Introduction to principles and operation of basic laboratory equipment; laboratory report preparation. (1410015110). Prerequisites: PHYS 2425 and MATH 2414 and MATH 2320. Corequisites: MATH 2320

ENGR 2406 - DIGITAL SYSTEMS
4 Credits (3 hrs. lec., 3 hrs. lab.) Introduction to the theory and design of digital logic, circuits, and systems. Number systems, operations and codes; logic gates; Boolean Algebra and logic simplification; Karnaugh maps; combinational logic; functions of combinational Logic; flip-flops and related devices; counters; shift registers; sequential logic; memory and storage. Basic laboratory experiments supporting theoretical principles presented in ENGR 2306 involving design, construction, and analysis of combinational and sequential digital circuits and systems, including logic gates, adders, multiplexers, encoders, decoders, arithmetic logic units, latches, flip-flops, registers, and counters; preparation of laboratory reports. Prerequisites: MATH 1314

ENTC 1343 - STATICS
3 Credits (2 hrs. lec., 4 hrs. lab.) Explanation of forces acting on structures to create equilibrium. 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.) Introduces 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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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. Lab required. (0301035201) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; 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. Lab required. (0301035201) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; MATH 0308

ESOL 0308 - LANGUAGE SKILLS WORKSHOP
3 Credits (3 hrs. lec., 1 hr. lab.) 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. (3201085312) Prerequisite: Placement by testing

ESOL 0310 - INTEGRATED READING AND WRITING FOR ESOL
3 Credits (3 hrs. lec., 1 hr. lab.) This is a lecture/lab-based course designed to prepare students for Composition and Rhetoric I. Topics include academic reading and writing skills. This course carries institutional credit but will not transfer and may not be used to meet degree requirements. Integration of critical reading and academic writing skills. The course fulfills TSI requirements for reading and/or writing. This course carries institutional credit but will not transfer and will not be used to meet degree requirements. (3201085412 3201085912) Prerequisite: ENGL 0364 and ENGL 0374 or instructor approval or placement by exam

ESOL 0361 - ESOL READING I
3 Credits (3 hrs. lec., 1 hr. lab.) In this course beginning English-language students develop basic reading and vocabulary skills. Materials are vocabulary-controlled and based on concrete topics. Students practice reading and comprehending simple short stories and articles, writing related sentences, and developing basic library skills. Focus is on literal comprehension and developing a personally relevant vocabulary base. Students who enroll in this course should have basic literacy skills in their native language and be familiar with Roman script. This course carries institutional credit but will not transfer and may not be used to meet degree requirements. (3201085212) Prerequisite: Placement by testing

ESOL 0362 - ESOL READING II
3 Credits (3 hrs. lec., 1 hr. lab.) In this course English-language students continue to develop the reading and vocabulary skills necessary for personal, academic, and professional purposes using materials based on high interest topics. The course includes practice in reading and comprehending multi-paragraph descriptive and narrative articles, stories, reports, and dictionary entries. Focus is on literal comprehension, word analysis, vocabulary expansion, dictionary skills, and the use of library resources. Writing is required to complement varied reading activities. This course carries institutional credit but will not transfer and may not be used to meet degree requirements. (3201085612) Prerequisite: ENGL 0361 or placement by testing

ESOL 0363 - ESOL READING III
3 Credits (3 hrs. lec., 1 hr. lab.) This course continues to develop English-language 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.

Text on this page has been revised since publication of the printed catalog. Please see addendum for details.
Focus is on interpretation of factual material, drawing inferences and conclusions, and paraphrasing and summarizing selected passages. Writing is required to complement reading activities. This course carries institutional credit but will not transfer and may not be used to meet degree requirements. (3201085212) Prerequisite: ENGL 0362 or placement by testing

**ENGL ESOL 0364 - ESOL READING IV**
3 Credits (3 hrs. lec., 1 hr. lab.) Development of reading and higher order thinking skills necessary for college readiness. This course carries institutional credit but will not transfer and will not be used to meet degree requirements. This course is designed to improve English-language students’ reading efficiency by developing and increasing their passive and active vocabulary, literal and inferential comprehension, and reading 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: ENGL 0363 or placement by testing

**ENGL ESOL 0365 - ESOL READING V**
3 Credits (3 hrs. lec., 1 hr. lab.) Develops English reading proficiency and vocabulary for academic, career, or personal purposes in speakers of languages other than English and prepares them to function in a multicultural, multilingual society. This course carries institutional credit but will not transfer and will not be used to meet degree requirements. This course continues the instruction and reinforcement of English-language students’ reading efficiency with a focus on higher-level 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 0364 or placement by testing

**ENGL ESOL 0371 - ESOL WRITING I**
3 Credits (3 hrs. lec., 1 hr. lab.) In this course beginning English-language students develop, practice and apply the basic structures of English 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. This course carries institutional credit but will not transfer and may not be used to meet degree requirements. (3201085412) Prerequisite: Placement by testing

**ENGL ESOL 0372 - ESOL WRITING II**
3 Credits (3 hrs. lec., 1 hr. lab.) In this course English-language students increase proficiency in the writing skills necessary for basic personal, academic, and professional communication. Students use process writing techniques to write simple paragraphs and gain mastery in the use of the basic structures of the language. This course carries institutional credit but will not transfer and may not be used to meet degree requirements. (3201085412) Prerequisite: ENGL 0371 or placement by testing

**ENGL ESOL 0373 - ESOL WRITING III**
3 Credits (3 hrs. lec., 1 hr. lab.) This course continues to develop English-language students’ writing skills for personal, academic and professional purposes. Students use more sophisticated grammar structures in writing well-developed paragraphs using process writing techniques. This course carries institutional credit but will not transfer and may not be used to meet degree requirements. (3201085312) Prerequisite: ENGL 0372 or placement by testing

**ENGL ESOL 0374 - ESOL WRITING IV**
3 Credits (3 hrs. lec., 1 hr. lab.) Development of college-level writing focusing on idea generation, drafting, organization, revision, and utilization of standard English. In this course English-language students incorporate increasingly sophisticated grammar and vocabulary into longer pieces of writing using process writing techniques appropriate for personal, academic, and professional written communication. This course carries institutional credit but will not transfer and may not be used to meet degree requirements. (3201085312) Prerequisite: ENGL 0373 or placement by testing

**ENGL ESOL 0375 - ESOL WRITING V**
3 Credits (3 hrs. lec., 1 hr. lab.) Focuses on strategies and techniques of writing and composition. Open only to non-native speakers. In this course English-language students use process writing techniques to write academic essays, selecting appropriate rhetorical modes, or a combination of modes, to defend and support a thesis or position. This course carries institutional credit but will not transfer and may not be used to meet degree requirements. (3201085412) Prerequisite: ENGL 0374 or placement by testing

**ENGL ESOL 0381 - ESOL ORAL COMMUNICATION I**
3 Credits (3 hrs. lec., 1 hr. lab.) In this course beginning English-language students learn the key vocabulary and structures necessary for adequate basic oral communication. Students refine listening and speaking skills and increase control of the English sound system to minimize miscommunication due to pronunciation. Students who enroll in this course should have basic literacy skills in their native language and be familiar with Roman script. This course carries institutional credit but will not transfer and may not be used to meet degree requirements. (3201085512) Prerequisite:
ENGL ESOL  0382 - ESOL ORAL COMMUNICATION II
3 Credits (3 hrs. lec., 1 hr. lab.) In this course English-language students increase proficiency in the spoken language necessary for basic personal, academic, and professional communication. Students communicate with a growing degree of fluency, using newly acquired vocabulary with some degree of accuracy, and master basic language functions. Students acquire and practice strategies for comprehending statements and short spoken passages. This course carries institutional credit but will not transfer and may not be used to meet degree requirements. (3201085512) Prerequisite: ENGL 0381 or placement by testing

ENGL ESOL  0383 - ESOL ORAL COMMUNICATION III
3 Credits (3 hrs. lec., 1 hr. lab.) This course continues to provide dynamic communicative practice for English-language students. Students increase their degree of fluency, accuracy, and comprehension in listening and speaking skills necessary for personal, academic, and professional communication. They develop skills at using functional language in a variety of relevant contexts. This course carries institutional credit but will not transfer and may not be used to meet degree requirements. (3201085512) Prerequisite: ENGL 0382 or placement by testing

ENGL ESOL  0384 - ESOL ORAL COMMUNICATION IV
3 Credits (3 hrs. lec., 1 hr. lab.) Develops listening and speaking skills in speakers of languages other than English and prepares them to function in educational, vocational and/or personal English-speaking contexts. In this course English-language students use sophisticated grammar structures and precise vocabulary in speaking and are able to comprehend short lectures or presentations on a variety of academic, business, or social topics. This course carries institutional credit but will not transfer and may not be used to meet degree requirements. (3201085512) Prerequisite: ENGL 0383 or placement by testing

ESOL  0391 - ESOL GRAMMAR I
3 Credits (3 hrs. lec., 1 hr. lab.) This course is designed to help students with very little English proficiency to understand and use basic English grammar correctly in both written and spoken communication. Students develop control of fundamental structures including basic tenses, parts of speech and simple sentences. This course carries institutional credit but will not transfer and will not be used to meet degree requirements. Placement by exam. (3201085912) Prerequisite: ESOL 0392 or Placement by testing.

ESOL  0392 - ESOL GRAMMAR II
3 Credits (3 hrs. lec., 1 hr. lab.) This course continues to develop the existing knowledge of grammatical structures and helps students to acquire new ones. Emphasis is placed on the complex verb tenses, passive voice, and compound sentences. This course will help students apply grammatical accuracy to their writing and speaking. This course carries institutional credit but will not transfer and will not be used to meet degree requirements. (3201085712) Prerequisite: ESOL 0391 or Placement by testing.

ESOL  0393 - ESOL GRAMMAR III
3 Credits (3 hrs. lec., 1 hr. lab.) This course is designed to help students with very little English proficiency to understand and use basic English grammar correctly in both written and spoken communication. Students develop control of fundamental structures including basic tenses, parts of speech and simple sentences. This course carries institutional credit but will not transfer and will not be used to meet degree requirements. Placement by exam. (3201085912) Prerequisite: ESOL 0392 or Placement by testing.

ESOL  0394 - ESOL GRAMMAR I
3 Credits (3 hrs. lec., 1 hr. lab.) Students continue the study of grammatical structures required for quality oral and written academic communication. They develop skills in understanding form, meaning and usage of complex grammatical structures including gerunds and infinitives, conditionals and complex sentences with noun, adjective and adverb clauses. This course carries institutional credit but will not transfer and will not be used to meet degree requirements. (3201085912) Prerequisite: ESOL 0393 or Placement by testing.

ESOL  0395 - ESOL GRAMMAR V
3 Credits (3 hrs. lec., 1 hr. lab.) Focuses on Standard English grammar usage for academic purposes. Open only to non-native speakers. This course carries institutional credit but will not transfer and will not be used to meet degree requirements. (3201085712) Prerequisite: ESOL 0394 or Placement by testing.

FCEL  1302 - INTRODUCTION TO FUEL CELL TECHNOLOGY
3 Credits (2 hrs. lec., 2 hrs. lab.) Types of fuel cells and other alternative energy fields. Includes professional requirements of fuel cell technicians. Prerequisite: none

FCEL  2330 - FUEL CELL INSTALLATION, START-UP, AND MAINTENANCE
3 Credits (2 hrs. lec., 2 hrs. lab.) Fuel cell system pre-start check, functional test, customer acceptance test, startup procedures, and shut-down procedures. Prerequisites: FCEL 1302 with a grade of "C" or better; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; MATH 0306

FIRS 1301 - FIREFIGHTER CERTIFICATION I
3 Credits (2 hrs. lec., 3 hrs. lab.) One in a series of courses in basic preparation for a new firefighter. Should be taken in conjunction with Firefighter Certification II, III, IV, V, VI, and VII to satisfy the Texas Commission on Fire Protection (TCFP) curriculum for Basic Structural Fire Suppression, Course #100. Prerequisites: Admission to the fire science technology program; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

FIRS 1313 - FIREFIGHTER CERTIFICATION III
3 Credits (2 hrs. lec., 3 hrs. lab.) One in a series of courses in basic preparation for a new firefighter. Should be taken in conjunction with Firefighter Certification I, II, IV, V, VI, and VII to satisfy the Texas Commission on Fire Protection (TCFP) curriculum for Basic Structural Fire Suppression, Course #100. Prerequisites: None ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

FIRS 1319 - FIREFIGHTER CERTIFICATION IV
3 Credits (2 hrs. lec., 3 hrs. lab.) One in a series of courses in basic preparation for a new firefighter. Should be taken in conjunction with Firefighter Certification I, II, III, V, VI, and VII to satisfy the Texas Commission on Fire Protection (TCFP) curriculum for Basic Structural Fire Suppression, Course #100. Prerequisites: None ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

FIRS 1329 - FIREFIGHTER CERTIFICATION VI
3 Credits (2 hrs. lec., 3 hrs. lab.) One in a series of courses in basic preparation for a new firefighter. Should be taken in conjunction with Firefighter Certification I, II, III, IV, V, and VII to satisfy the Texas Commission on Fire Protection (TCFP) curriculum for Basic Structural Fire Suppression, Course #100. Prerequisites: None ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

FIRS 1407 - FIREFIGHTER CERTIFICATION II
4 Credits (3 hrs. lec., 3 hrs. lab.) One in a series of courses in basic preparation for a new firefighter. Should be taken in conjunction with Firefighter Certification I, III, IV, V, VI, and VII to satisfy the Texas Commission on Fire Protection (TCFP) curriculum for Basic Structural Fire Suppression, Course #100. Prerequisites: None ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

FIRS 1423 - FIREFIGHTER CERTIFICATION V
4 Credits (3 hrs. lec., 3 hrs. lab.) One in a series of courses in basic preparation for a new firefighter. Should be taken in conjunction with Firefighter Certification I, II, III, IV, VI, and VII to satisfy the Texas Commission on Fire Protection (TCFP) curriculum for Basic Structural Fire Suppression, Course #100. Prerequisites: None ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

FIRS 1433 - FIREFIGHTER CERTIFICATION VII
4 Credits (3 hrs. lec., 3 hrs. lab.) One in a series of courses in basic preparation for a new firefighter. Should be taken in conjunction with Firefighter Certification I, II, III, IV, V, and VI to satisfy the Texas Commission on Fire Protection (TCFP) curriculum for Basic Structural Fire Suppression, Course #100. Prerequisites: None ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

FIRS 2344 - DRIVER/OPERATOR-PUMPER
3 Credits (2 hrs. lec., 3 hrs. lab.) Meets curriculum requirements of the Texas Commission on Fire Protection (TCFP) for Driver/Operator-Pumper. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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. This course includes circuit training, sports conditioning, body toning, interval training, and the study of physical agility testing methods. Prerequisites: None ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite. Corequisites: FIRS 1301, FIRS 1407, FIRS 1313 and FIRS 1319

FIRT 1291 - ST FIRE PROTECTION SAFETY TECHNOLOGY (FIRE ARSON INVESTIGATION III)
2 Credit (2 hrs. 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. Continuation of Fire and Arson Investigation II. Topics include determination of the origin and cause of a fire. Prerequisites: FIRT 1303 and FIRT 2333

FIRT 1302 - PLANS EXAMINER I
3 Credits (3 hrs. lec.) One in a series of three courses required for Fire Inspector certification. Meets the curriculum requirements of the Texas Commission on Fire Protection (TCFP) for Plan Examiner I. The Plans Examiner analyzes building construction, hazardous processes and architectural drawings or plans to ensure compliance with building and fire codes. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

FIRT 1307 - FIRE CODES AND INSPECTIONS
3 Credits (3 hrs. lec.) Local building and fire prevention codes. Fire prevention inspections, practices, and procedures. This course meets Fire and Emergency Services Higher Education (FESHE) Model Curriculum core requirements. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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. Student will be able to do the following after this course: recognize the presence of the hazardous materials/weapons of mass destruction (WMD), protect themselves, call for trained personnel and secure the scene. Meets curriculum requirements of the Texas Commission on Fire Protection for Hazardous Materials Awareness Level. Prerequisites: Completion of TCFP Basic Firefighter Certificate; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

FIRT 1319 - FIRE FIGHTER HEALTH AND SAFETY
3 Credits (3 hrs. lec.) Firefighter occupational safety and health in emergency and non-emergency situations. This course meets Fire and Emergency Services Higher Education (FESHE) Model Curriculum core requirements. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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. This course meets Fire and Emergency Services Higher Education (FESHE) Model Curriculum core requirements. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

FIRT 1342 - FIRE OFFICER I
3 Credits (3 hrs. lec.) Meets the curriculum requirements of the Texas Commission on Fire Protection (TCFP) for Fire Officer I certification. Prerequisite: FIRT 2305

FIRT 1343 - FIRE OFFICER II
3 Credits (3 hrs. lec.) Meets the curriculum requirements of the Texas Commission on Fire Protection (TCFP) for Fire Officer II certification. Prerequisite: ENGL 0305 and FIRT 1342.

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. Study and prepare those who respond to hazardous materials/weapons of mass destruction (WMD) incidents for the purpose of implementing or supporting actions to protect nearby persons, the environment, or property from the effects of the release. Response options for operations level responders are generally limited to nonintervention or defensive actions. Meets curriculum requirements of the Texas Commission on Fire Protection for Hazardous Materials Operations Level. Prerequisites: Completion of TCFP Basic Firefighter certificate; FIRT 1315

FIRT 1391 - SPECIAL TOPICS: BASIC WILDLAND FIREFIGHTING
3 Credits (3 hrs. lec.) Terminology and techniques used in wildland firefighting. Includes wildfire suppression, fire behaviors, mop-up techniques and benefits. Prerequisite: None.

FIRT 1408 - FIRE INSPECTOR I
4 Credits (3 hrs. lec., 3 hrs. lab.) One in a series of three courses required for Fire Inspector certification. Meets the curriculum requirements of the Texas Commission on Fire Protection (TCFP) for Fire Inspector I. The Fire Inspector I conducts basic fire inspections and applies codes and standards. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

FIRT 1440 - FIRE INSPECTOR II
4 Credits (4 hrs. lec.) One in a series of three courses required for Fire Inspector certification. Meets the curriculum requirements of the Texas Commission on Fire Protection (TCFP) for Fire Inspector II. The Fire Inspector II conducts most types of inspections and interprets applicable codes and standards. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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. Prerequisites: FIRT 1171; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

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 curriculum requirements of the Texas Commission on Fire Protection (TCFP) for Fire Instructor I certification. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

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 the curriculum requirements of the Texas Commission on Fire Protection (TCFP) for Fire Instructor II certification. Prerequisite: 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 staffing and equipment to mitigate the emergency. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301)
Flmc 1300 - Production Management

3 Credits (2 hrs. lec., 2 hrs. lab.) An introduction to managing above- and below-the-line film or video production costs. Emphasizes analysis of scripts and treatments to determine production costs, crewing requirements, location needs, equipment rentals, and associated production costs. Prerequisite: None.

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. Prerequisite: Firt 1303

Firt 2345 - Hazardous Materials III

3 Credits (2 hrs. lec., 3 hrs. lab.) Mitigation, preparedness, response, and recovery to hazardous materials incidents. Hazardous Materials Technician Level Personnel are those who respond to hazardous materials/weapons of mass destruction (WMD) incidents and use a risk based response process to analyze a problem involving hazardous materials/weapons of mass destruction (WMD), select and implement applicable decontamination procedures, control a release, use specialized protective clothing, and use specialized control equipment. Meets curriculum requirements of the Texas Commission on Fire Protection for Hazardous Materials Technician Level. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

Firt 2359 - Fire Instructor III

3 Credits (2 hrs. lec., 2 hrs. lab.) Meets the curriculum requirements of the Texas Commission on Fire Protection (TCFP) for Fire Instructor III certification. This course may be offered only by institutions certified as a training facility by the Texas Commission on Fire Protection. Prerequisite: Firt 2307

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 or ENGL 0365 or ENGL 0115 AND ENGL 0207 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

Flmc 1304 - Lighting for Film or Video

3 Credits (2 hrs. lec., 4 hrs. lab.) Fundamentals of lighting techniques for film or video production employing filters, in-camera effects, and mood setting techniques. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

Flmc 1331 - Video Graphics and Visual Effects I

3 Credits (2 hrs. lec., 4 hrs. lab.) A course in the applications of computers for video 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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

Flmc 2330 - Audio Post Production

3 Credits (2 hrs. lec., 2 hrs. lab.) Skill development utilizing the technology, creative application and requirements for producing audio soundtracks for film and video. Prerequisite: None.

Flmc 2331 - Video Graphics and Visual Effects II

3 Credits (2 hrs. lec., 4 hrs. lab.) Advanced concepts of 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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

Flmc 2444 - Advanced Film and Video Editing

4 Credits (3 hrs. lec., 2 hrs. lab.) Exploration of the creative possibilities of non-linear film and video editing. Includes editing aesthetics, titles, graphic design, compositing, and special effects. Prerequisite: RTVB 2330.

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.
DESCRIPTION OF COURSES

(1609015413) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 and ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

FREN 1310 - FRENCH CONVERSATION II
3 Credits (3 hrs. lec.) This is a continuation of Conversational French I. It includes extensive comprehension, oral practice, use of multimedia materials. It is intended to develop communications 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: FREN 1300; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

FREN 2311 - 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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

FREN 2312 - INTERMEDIATE FRENCH II
3 Credits (3 hrs. lec.) Continuation of FREN 2311. (1609015213) Prerequisites: FREN 2311; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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

GAME 1334 - VIDEO GAME ART I
3 Credits (2 hrs. lec., 3 hrs. lab.) Explores the role of the artist in the gaming industry. Introduces tools and techniques used in the creation of assets for a game engine. Covers art pipeline, team integration and communication. Prerequisites: ARTV 1345, ARTC 1302, ARTC 1317

GAME 1335 - INTERACTIVE WRITING I
3 Credits (2 hrs. lec., 3 hrs. lab.) Instruction in writing plot, story, setting, and description for every game element and verbal communication based on game concept. Includes the study of traditional narrative practices and interactive fiction requiring creative writing. Prerequisites: GAME 1303; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

GAME 1343 - GAME AND SIMULATION PROGRAMMING I
3 Credits (2 hrs. lec., 3 hrs. lab.) Game and simulation programming using the C++ language. Topics will include advanced pointer manipulation techniques and pointer applications, points and vectors, sound, and graphics. Prerequisite: ITSE 1407 1307 or COSC 1420; Corequisite: ITSE 2431

GAME 1359 - GAME AND SIMULATION PROGRAMMING II

Text on this page has been revised since publication of the printed catalog. Please see addendum for details.
3 Credits (2 hrs. lec., 3 hrs. lab.) Design and development of game and simulation programs including user interface design, mathematical elements, image and file structure, and software development techniques. Prerequisite: GAME 1343

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 interference techniques, expert systems, pathfinding algorithms, and search techniques for problem solving. Prerequisite: GAME 1343

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 timelines; integration of sound, models, and animation; production of demos; and creation of original levels, characters, and content for a real-time multiplayer game. 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 significant 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 2341 - GAME SCRIPTING
3 Credits (2 hrs. lec., 3 hrs. lab.) Scripting languages with emphasis on game concepts and simulations. Prerequisites: MATH 1314; ITSE 1407 or COSC 1420

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

GAME 2419 - GAME ENGINE
4 Credits (2 hrs. lec., 4 hrs. lab.) Commercial and open source gaming engines. Includes discussions and recommendations for game engines to fit industry specifications. Prerequisites: MATH 1314; ITSC 1407 or COSC 1420

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. (4507015125) Prerequisites: College level reading, ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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. (4507015125) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

**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. Physical Geology is a basic science course that focuses on Earth, including its composition, processes of change, history and the tools and methods used to study it. (4006015403) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; College level readiness in reading AND writing; MATH 0308

**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) A comprehensive survey of the history of life and major events of the physical development of Earth as interpreted from rocks and fossils. Prerequisites: GEOL 1403 OR GEOL 1405 OR department approval; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; College level readiness in reading AND writing; MATH 0308

**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. A survey of the forces, including humans, that shape our physical environment, and how they affect life on Earth. Introduction to the science and policy of global and regional environmental issues, including pollution, climate change, and sustainability of land, water, and energy resources. (0301035301) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; College level readiness in reading AND writing; MATH 0308

**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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; College level readiness in reading AND writing; MATH 0308

**GEOL 2307 - GEOLOGY OF TEXAS**

INTRODUCTION TO FIELD GEOLOGY

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. Primarily a field-based experience in geology for visiting sites that serve as examples of a variety of geological phenomena. Field trip locations will include sites that display the processes that shape the landscape, that result in the deposition or formation of rock units and mineral re-sources, and that deform the Earth’s crust. (4006015503) Prerequisites: GEOL 1404 or department approval; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; College level readiness in reading
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 that includes cultural material. (1605015113)
Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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 testing; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

GERM 2312 - INTERMEDIATE GERMAN II
3 Credits (3 hrs. lec.) Continuation of GERM 2311. (1605015213)
Prerequisites: GERM 2311; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

GERS 1342 - AGING AND MENTAL HEALTH
3 Credits (3 hrs. lec.) Examination of current issues relating to mental health of older adults. Includes the theoretical and empirical foundations relevant to the psychological study of older adults. Prerequisites: None

GISC 1302 - UNDERSTANDING GEOGRAPHIC 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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

GISC 1401 - CARTOGRAPHY AND GEOGRAPHY IN GEOGRAPHICAL INFORMATION SYSTEMS (GIS)
4 Credits (3 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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; MATH 0308

GISC 1411 - INTRODUCTION TO GEOGRAPHIC INFORMATION SYSTEMS (GIS)
4 Credits (3 hrs. lec., 3 hrs. lab.) Introduction to basic concepts of 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: 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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

GISC 1412 - GEOPHYSICS AND CARTOGRAPHY IN GEOGRAPHICAL INFORMATION SYSTEMS (GIS)
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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; MATH 0308

GISC 1301 - INTRODUCTION TO GIS AND PROFESSIONAL RESOURCES
3 Credits (3 hrs. lec.) Introduction to GIS and Professional Resources. This course is designed to provide an overview of GIS and its applications in various fields such as environmental science, urban planning, and disaster management. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite
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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

**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 database, analysis and a final report defining the conclusions derived from the project. Prerequisites: GISC 1411 and departmental approval; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

**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 and the employer, 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 within their business/industry. Prerequisites: GISC 1411 and departmental approval; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

**GISC 2401 - DATA ACQUISITION AND 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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; 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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite 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, 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 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 2305 or 2306. (4510015225) Prerequisites: GOVT 2305 and GOVT2306 (or equivalent); ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

GOVT 2305 - FEDERAL GOVERNMENT
3 Credits (3 hrs. lec.) Origin and development of the U.S. Constitution, structure and powers of the national government including the legislative, executive, and judicial branches, federalism, political participation, the national election process, public policy, civil liberties and civil rights. (4510015225) Prerequisite: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

GOVT 2306 - TEXAS GOVERNMENT
3 Credits (3 hrs. lec.) Origin and development of the Texas constitution, structure and powers of state and local government, federalism and inter-governmental relations, political participation, the election process, public policy, and the political culture of Texas. (4510025125) Prerequisite: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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. (4501015225) Prerequisites: Departmental approval; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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

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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310
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 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

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. Prerequisites: HART 1401 and HART 1407

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. Prerequisite: Instructor approval

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. Prerequisite: Instructor approval

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 1441 and HART 1445

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 1441 and HART 1445

HART 2436 - AIR CONDITIONING TROUBLESHOOTING
4 Credits (3 hrs. lec., 3 hrs. lab.) An advanced course in application of troubleshooting principles and use of test instruments to diagnose air conditioning and refrigeration components and system problems including conducting performance tests. Prerequisites: HART 1441 and HART 1445

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 1441 and HART 1445

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 2434 and HART 2441

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: HART 2434 and HART 2441

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 1441 and HART 1445

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 2431 and 2445

HIST 1301 - UNITED STATES HISTORY TO 1877
3 Credits (3 hrs. lec.) A survey of U.S. history from Pre-Contact Societies through Reconstruction. Themes to be developed include westward expansion and globalization, slavery, Native Americans, and religious and social changes. An additional purpose of this course is to introduce students to the skills and practices of history.
HIST 2301 - TEXAS HISTORY
3 Credits (3 hrs. lec.) Survey of Texas history from the Spanish exploration to the present. (5401025225) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

HIST 2302 - UNITED STATES HISTORY SINCE 1877
3 Credits (3 hrs. lec.) A survey of U.S. history from 1877 to the present. Topics will include western expansion, industrialization, immigration, imperialism, economic, political and social developments, the wars of the 20th century and the changing status and conditions of women and minorities. Another purpose of this course is to introduce students to the skills and practices of history. (5401025125) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

HIST 2311 - WESTERN CIVILIZATION TO 1648
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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

HIST 2312 - WESTERN CIVILIZATION FROM 1648
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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

HIST 2321 - WORLD HISTORY TO 1492
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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

HIST 2322 - WORLD HISTORY FROM 1492
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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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 repeated for credit as topics vary. This is an elective course and will not satisfy degree requirements in history. (5401015625) Prerequisites: Six credits in history or instructor approval; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

Text on this page has been revised since publication of the printed catalog. Please see addendum for details.
HITT 1166 - PRACTICUM - HEALTH INFORMATION TECHNOLOGY/TECHNICIAN 1260 - CLINICAL HEALTH INFORMATION/MEDICAL RECORDS TECHNOLOGY/TECHNICIAN
+ 2 Credit (2 hrs. ext.) Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student. Requires LSCS liability insurance. 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: HITT 1401; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing; ENGL 0309 or ENGL 0310 also meets prerequisite; MATH 0306. ENGL 0305 or ENGL 0307 or ENGL 0365 or Higher level course (ENGL 1301) or placement by testing and HITT 1301; MATH 0306.

HITT 1211 - HEALTH INFORMATION SYSTEMS
2 Credits (1 hr. lec., 2 hrs. lab.) Introduction to health IT standards, health-related data structures, software applications and enterprise architecture in health care and public health. Prerequisites: HITT 1401 and COSC 1301; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; MATH 0306.

HITT 1213 - INSURANCE CODING
2 Credits (1 hr. lec., 2 hrs. lab.) An overview of skills and knowledge in ICD and CPT coding of insurance forms for reimbursement of medical services. Prerequisites: COSC 1301; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; 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 other 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 medical terms through word origin and structure. Introduction to abbreviations and symbols, surgical and diagnostic procedures, and medical specialties. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; MATH 0306.

HITT 1342 - AMBULATORY CODING
3 Credits (2 hrs. lec., 2 hrs. lab.) Fundamentals of ambulatory coding rules, conventions, and guidelines. Prerequisites: BIOL 2401 or BIOL 2404; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing; MATH 0306.

HITT 1345 - HEALTH CARE DELIVERY SYSTEMS
Credits (3 hrs. lec., 1 hr. lab.) Examination of delivery systems including organization, financing, accreditation, licensure, and regulatory agencies. Prerequisites: HITT 1401; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; MATH 0306.

HITT 1353 1253 - 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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; MATH 0306.

HITT 1355 1255 - HEALTH CARE STATISTICS
3 Credits (2 hrs. lec., 2 hrs. lab.) Principles of
health care statistics with emphasis in hospital statistics. Skill development in computation and calculation of health data. Prerequisites: HITT 1401; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; MATH 0306

HITT 1401 1301 - HEALTH DATA CONTENT AND STRUCTURE
3 Credits (2 hrs. lec., 2 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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; MATH 0306

HITT 1441 1341 - CODING AND CLASSIFICATION SYSTEMS
3 Credits (3 hrs. lec., 3 hrs. lab.) Fundamentals of coding rules, conventions, and guidelines using clinical classification systems. Prerequisites: BIOL 2401, HITT 1401; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; MATH 0306

HITT 2249 2149 - RHIT COMPETENCY REVIEW
1 Credit (2 hrs. lec.) Review Health Information Technology (HIT) competencies, skills, and knowledge. Prerequisites: Completion of all major courses on degree plan; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; MATH 0306

HITT 2339 2239 - HEALTH INFORMATION ORGANIZATION AND SUPERVISION
2 Credits (3 hrs. lec.) Principles of organization and supervision of human, financial, and physical resources. Prerequisites: HITT 1401; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; MATH 0306

HITT 2340 - ADVANCED MEDICAL BILLING AND REIMBURSEMENT
3 Credits (2 hrs. lec., 2 hrs. lab.) Skill development coding to prepare reimbursement forms in various health care settings for submission to payors. Prerequisites: COSC 1301 and HITT 1213; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; MATH 0306

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, and approaches to assessing patient safety issues and implementation of quality management and reporting through electronic systems. Prerequisites: HITT 1401 and 1345; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; MATH 0306

HITT 2346 - ADVANCED MEDICAL CODING
3 Credits (1 hr. lec., 5 hrs. lab.) ICD and CPT coding rules, conventions, and guidelines in complex case studies. Investigation of government regulations and changes in health care reporting. Prerequisites: Instructor approval; HITT 1441 with a C or better; HITT 1342 and 1345; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; MATH 0306

HITT 2435 2335 - CODING AND REIMBURSEMENT METHODOLOGIES
3 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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; MATH 0306

HITT 2460 2260 - CLINICAL - MEDICAL RECORDS TECHNOLOGY TECHNICIAN
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:
Completion of all major program courses; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; MATH 0306

**HMSY 1337 - INTRODUCTION TO HOMELAND SECURITY**
3 Credits (3 hrs. lec.) Overview of homeland security. Evaluation of the progression of homeland security issues throughout Texas and the United States. An examination of the roles undertaken and methods used by governmental agencies and individuals to respond to those issues. Prerequisite: None

**HMSY 1340 - HOMELAND SECURITY INTELLIGENCE OPERATIONS**
3 Credits (3 hrs. lec.) A study of the intelligence community. Includes the role of intelligence and law enforcement. Topics include collection methods, management of operations, classification, production and analysis, and assessment of threat vulnerability. Source development will be conducted. Prerequisite: HMSY 1337 with a minimum grade of C

**HMSY 1371 - TRANSPORTATION AND BORDER SECURITY**
3 Credits (3 hrs. lec.) This course provides an in-depth view of modern border and transportation security. Specific topics may include security for seaports, ships, aircrafts, trains, trucks, pipelines, buses, etc. The course will also focus on the technology needed to detect terrorists and their weapons as well as include discussions on legal, economic, political, and cultural aspects of the problem. Prerequisites: Departmental approval; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

**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 to diseases and injuries. Prerequisites: BIOL 2401 or BIOL 2404; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; 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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

**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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

**HPRS 2332 - HEALTH CARE COMMUNICATIONS**
3 Credits (3 hrs. lec.) Methods of communication with clients, client support groups, health care professionals, and external agencies. Prerequisites: ITSC 1301 or COSC 1301; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

**HRPO 1302 - HUMAN RESOURCE TRAINING AND DEVELOPMENT**
3 Credits (3 hrs. lec.) An overview of human resource training and development as related to organizational mission and goals. Prerequisite: None

**HRPO 1311 - HUMAN RELATIONS**

Text on this page has been revised since publication of the printed catalog. Please see addendum for details.
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 2303 - EMPLOYMENT PRACTICES
3 Credits (3 hrs. lec.) A study of employment issues including techniques for human resource forecasting, selection, and placement including interview techniques, pre-employment testing and other predictors. Topics include recruitment methods, the selection process, Equal Employment Opportunity (EEO), EEO record keeping, and Affirmative Action Plans. Prerequisite: None

HRPO 2304 - EMPLOYEE RELATIONS
3 Credits (3 hrs. lec.) An examination of policies, practices, and issues required to build strong employee relations. Topics include communications, employee conduct rules, performance appraisal methods, Title VII, Family Medical Leave Act, Fair Labor Standards Act, and Americans with Disabilities Act updates. Prerequisite: None

HRPO 2305 - HUMAN RESOURCE INFORMATION SYSTEMS
3 Credits (3 hrs. lec.) An introduction to Human Resource Information Systems (HRIS). Prerequisite: None

HRPO 2306 - BENEFITS AND COMPENSATION
3 Credits (3 hrs. lec.) An overview of employee compensation systems. Topics include compensation systems, direct and indirect compensation, internal and external determination of compensation, benefits administration, managing and evaluating for effectiveness, legal and regulatory issues, pay equity, job analysis affecting job compensation and competencies. 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 introduction to music, literature, the visual arts, history and philosophy. Focus is on gaining practical experience in inquiry, recognition and assessment. This stand-alone course is an interdisciplinary study interpreting human experience through introductions to the visual and performance arts, literature, history, philosophy, and comparative religions. The focus is on acquiring practical experience in inquiry, recognition, and assessment. (2401035112) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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. This stand-alone course is an interdisciplinary study interpreting human experience through introductions to the visual and performance arts, literature, history, philosophy, and comparative religions. The focus is on acquiring practical experience in inquiry, recognition, and assessment. (2401035112) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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. This interdisciplinary survey examines different cultural, artistic, economic, historical, political, and social aspects of the Mexican-American/Chicana/o communities. It also covers issues such as dispossession, immigration, transnationalism, and other topics that have shaped the Mexican-American experience. (0502035125) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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. (5007035426) An examination of Mexican-American/Chicana/o artistic
expression in the visual and performing arts (such as music, painting, drama, and dance) and the ways in which they exhibit values of Mexican-American/Chicana/o experience. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

**HUMA 2319 - AMERICAN MINORITY STUDIES**
3 Credits (3 hrs. lec.) Historical, economic, social and cultural development of minority groups in America. (4511015325) This interdisciplinary survey examines the diverse cultural, artistic, economic, historical, political, and social aspects of US-American minority communities. Topics may include race/ethnicity, gender, socioeconomic class, sexual orientation, national origin, age, disability, and religion. (2401015112) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

**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 have developed an individualized education plan. This course carries institutional credit but will not transfer nor be used to meet degree requirements. 1 Credit (1 hr. lec.) This course focuses on strategies that students need to develop realistic career goals. Topics emphasized include decision making and 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., 3 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 1345 - HYDRAULICS AND PNEUMATICS**
3 Credits (2 hrs. lec., 3 hrs. lab.) Discussion of the fundamentals of hydraulics and pneumatics, components of each system and the operations, maintenance, and analysis of each system. 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**

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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, ethnic, geographic distinctions, and antecedents that affect individual, group, and organizational behavior. May include sociocultural demographics, economics, technology, legal issues, negotiations, and processes of decision making in the international cultural environment. Prerequisite: None

IBUS 2345 - IMPORT CUSTOM REGULATIONS
3 Credits (3 hrs. lec.) Duties and responsibilities of the licensed customs broker such as 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 or CETT 1409 or CETT 1403 AND CETT 1405

IEIR 1312 - DISTRIBUTION SYSTEMS
3 Credits (2 hrs. lec., 3 hrs. lab.) Fundamentals of distribution systems including single phase and three phase systems, grounding, ground fault protection, and the National Electrical Safety Code. Prerequisite: ELPT 1311

IMED 1301 - INTRODUCTION TO DIGITAL MEDIA
3 Credits (2 hrs. lec., 4 hrs. lab.) A survey of the theories, elements, and hardware/software components of digital media. Emphasis on conceptualizing and producing digital media presentations. 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, websites, and browsers. Emphasis is on the use of hypertext markup languages (XHTML) to design functional and compelling web pages. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

IMED 1341 - INTERFACE DESIGN
3 Credits (2 hrs. lec., 4 hrs. lab.) Skill development in the interface design process including selecting interfaces relative to a project’s content and delivery system. Emphasis on aesthetic issues such as iconography, screen composition, colors, and typography. Prerequisites: ARTC 1302 and ARTC 1317

IMED 1345 - INTERACTIVE DIGITAL MEDIA I
3 Credits (2 hrs. lec., 4 hrs. lab.) Exploration of the use of graphics and sound to create interactive digital media applications and/or animations using industry standard authoring software. Prerequisite: ARTC 1317

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 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. Prerequisites: IMED 1316; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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 digital media projects. Emphasis on copyright and other legal issues, content design and production management. Practice in writing a proposal for a client and presenting it. Prerequisites: IMED 1301; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite
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 websites according to accessibility standards, cultural appearance, and legal issues. Prerequisites: IMED 1316; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

IMED    2345 - INTERACTIVE DIGITAL MEDIA II
3 Credits (2 hrs. lec., 4 hrs. lab.) Instruction in the use of scripting languages to create interactive digital media applications. Prerequisites: IMED 1345; ENGL 0304 or ENGL 0364 AND ENGL 0306 or ENGL 0374 OR ENGL 0302 OR higher level course (ENGL 1301) OR placement by testing

IMED    2349 - INTERNET SERVER MANAGEMENT
3 Credits (2 hrs. lec., 4 hrs. lab.) Web server software installation, configuration, and maintenance. Includes scripting, and website. Prerequisites: IMED 1316 and ITSE 1402; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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: Students must meet requirements for final semester; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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: IND 1349 and 2321; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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: IND 1311 and 1319; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; 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 0365 or ENGL 0375 OR ENGL 0115 AND ENGL 0307 OR ENGL 0375 OR ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; MATH 0306

**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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

**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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

**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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

**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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; 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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

**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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; 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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

**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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

**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, 1319, AND department approval; ARTS 1316; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

**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 or ENGL
INMT 1417 - INDUSTRIAL AUTOMATION
4 Credits (3 hrs. lec., 2 hrs. lab.) Applications of industrial automation systems including identification of system requirements, equipment integration, motors, controllers, and sensors. Coverage of setup, maintenance, and testing of the automated system. Prerequisites: RBTC 1401, CETT 1402 or CETT 1409

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 working drawings using computer-aided design/computer-aided manufacturing (CAD/CAM) software and related input and output devices translating into machine codes. 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: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

INMT 2303 - PUMPS, COMPRESSORS AND 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 ex-
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

ITAL 2311 - INTERMEDIATE ITALIAN 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. (1609025213) Prerequisites: ITAL 1412; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course [ENGL 1301] OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course [ENGL 1301] OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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 1375 - INTRODUCTION TO NETWORKS
3 Credits (2 hrs. lec., 3 hrs. lab.) Introduce the architecture, structure, functions, components, and models of the Internet and other computer networks. The principles and structure of IP addressing and the fundamentals of Ethernet concepts, media, and operations are introduced to provide a foundation for the curriculum. By the end of the course, students will be able to build simple LANs, perform basic configurations for routers and switches, and implement IP addressing schemes. Prerequisites: ITSC 1301 or COSC 1301

ITCC 1376 - ROUTING AND SWITCHING ESSENTIALS
3 Credits (2 hrs. lec., 3 hrs. lab.) This course describes the architecture, components, and operations of routers and switches in a small network. Students learn how to configure a router and a switch for basic functionality. By the end of this course, students will be able to configure...
ITCC 1401 - CISCO EXPLORATION 1 - 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 1301 or COSC 1301; ENGL 0305 or ENGL 0365 or ENGL 0375 or ENGL 0310 and ITCC 1375 or ITCC 1376.

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 1301; ENGL 0305 or ENGL 0365 or ENGL 0375 or ENGL 0310 or ENGL 0309 or ENGL 0310 also meets prerequisite.

ITCC 2378 - SCALING NETWORKS
3 Credits (2 hrs. lec., 3 hrs. lab.) This course describes the architecture, components, and operations of routers and switches in a larger and more complex network. Students learn how to configure routers and switches for advanced functionality. By the end of this course, students will be able to configure and troubleshoot routers and switches and resolve common issues with OSPF, EIGRP, STP, and VTP in both IPv4 and IPv6 networks. Students will also develop the knowledge and skills needed to implement DHCP and DNS operations in a network. Prerequisites: ITSC 1301 or COSC 1301 and ITCC 1375 and ITCC 1376.

ITCC 2379 - CONNECTING NETWORKS
3 Credits (2 hrs. lec., 3 hrs. lab.) This course discusses the WAN technologies and network services required by converged applications in a complex network. The course enables students to understand the selection criteria of network devices and WAN technologies to meet network requirements. Students learn how to configure and troubleshoot network devices and resolve common issues with data link protocols. Students will also develop the knowledge and skills needed to implement IPSec and virtual private network (VPN) operations in a complex network. Prerequisites: ITSC 1301 or COSC 1301 and ITCC 1375 and ITCC 1376 and ITCC 2378.

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 or ENGL 0365 or ENGL 0375 or ENGL 0310 or ENGL 0309 or ENGL 0310 also meets prerequisite.

ITCC 2410 - CISCO EXPLORATION 4 - ACCESSING THE WAN
4 Credits (3 hrs. lec., 2 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 2441 - CCNA SECURITY
4 Credits (3 hrs. lec., 2 hrs. lab.) Overall security processes with particular emphasis on hands-on skills in the following areas: security policy design and management; security technologies, products, and solutions; and secure router design, installation, configuration, and maintenance; AAA and VPN implementation using routers and firewalls. Prerequisites: ITCC 1401, ITCC 1404, ITCC 2408 and ITCC 2410 or Cisco CCNA Industry Certification.
ITCC 2454 - CCNP ROUTING - IMPLEMENTING IP ROUTING
4 Credits (3 hrs. lec., 3 hrs. lab.) How to implement, monitor, and maintain routing services in an enterprise network. How to plan, configure, and verify the implementation of complex enterprise LAN and WAN routing solutions using a range of routing protocols in IPv4 and IPv6 environments. Configuration of secure routing solutions to support branch offices and mobile workers. Prerequisites: ITCC 1401, ITCC 1404, ITCC 2408 and ITCC 2410 or Cisco CCNA Industry Certification; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

ITCC 2455 - CCNP SWITCH - IMPLEMENTING IP SWITCHING
4 Credits (3 hrs. lec., 3 hrs. lab.) How to implement, monitor, and maintain switching in converged enterprise campus networks. How to plan, configure, and verify the implementation of complex enterprise switching solutions. How to secure integration of VLANs, WLANs, voice and video into campus networks. Prerequisites: ITCC 1401, ITCC 1404, ITCC 2408 and ITCC 2410 or Cisco CCNA Industry Certification; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

ITCC 2456 - CCNP TSHOOT - MAINTAINING AND TROUBLESHOOTING IP NETWORKS
4 Credits (3 hrs. lec., 3 hrs. lab.) How to monitor and maintain complex, enterprise and switched IP networks. Skills learned include the planning and execution of regular network maintenance, as well as support and troubleshooting using technology-based processes and best practices based on systematic and industry recognized approaches. Prerequisites: ITCC 1401, ITCC 1404, ITCC 2408 and ITCC 2410 or Cisco CCNA Industry Certification; ITCC 2454 and ITCC 2455; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

ITCC 2459 - ADVANCED VOICE OVER INTERNET PROTOCOL (VOIP)
4 Credits (3 hrs. lec., 2 hrs. lab.) Voice Over Internet Protocol (VOIP) architecture, components, and functionality. Includes VOIP signaling, call control, voice dial plans, configuring voice interfaces, dial peers, and quality of service (QoS) technologies. Prerequisites: ITCC 1401, ITCC 1404, ITCC 2408 and ITCC 2410 or Cisco CCNA Industry Certification.

ITMT 1370 - WINDOWS 7 CLIENT CONFIGURATION 70-680
3 Credits (2 hrs. lec., 3 hrs. lab.) This course provides an in-depth understanding of the Microsoft Windows 7 operating system with a specific focus on implementation and desktop support needs for the clients in a variety of stand-alone and network operating system environments. Topics covered include installation, user and group accounts, security, networking, TCP/IP, built in applications, and advanced configuration and troubleshooting techniques. This course prepares Information Technology professionals to plan, install, configure, implement, secure, support and manage Microsoft Windows 7. Prerequisite: ITNW 1325.

ITMT 1371 - WINDOWS SERVER 2008 APPLICATIONS INFRASTRUCTURE 70-643
3 Credits (2 hrs. lec., 3 hrs. lab.) An in-depth course on Web, network, remote, and desktop applications administration and configuration on Microsoft Windows Server 2008. Topics covered include server deployment, virtualization, Terminal services configuration, Web application installation and configuration, and Web services installation, configuration and administration including Internet information service, File Transfer Protocol (FTP), and Simple Mail Transfer Protocol (SMTP). Prerequisite: ITMT 1370.

ITMT 1373 - WINDOWS SERVER 2008 NETWORK INFRASTRUCTURE 70-642
3 Credits (2 hrs. lec., 3 hrs. lab.) Covers planning, installation, configuration, administration, management, maintenance, monitoring, and troubleshooting of network infrastructure components. Prerequisite: ITMT 1371.

ITMT 1400 - IMPLEMENTING AND 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 or ENGL 0365 or ENGL 0115 and ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

**ITMT 1440 - MANAGING AND MAINTAINING A MICROSOFT WINDOWS SERVER 2003 ENVIRONMENT**

4 Credits (2 hrs. lec., 3 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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

**ITMT 1450 - IMPLEMENTING, MANAGING AND MAINTAINING A MICROSOFT WINDOWS SERVER 2003 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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

**ITMT 1455 - MCSE IV, 70-293, PLANNING, IMPLEMENTING, AND 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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

**ITMT 2370 - WINDOWS SERVER 2008 ACTIVE DIRECTORY 70-630**

3 Credits (2 hrs. lec., 3 hrs. lab.) An in-depth course on Windows Server 2008 Active Directory. Topics covered include forest and domain structure; Domain Name System (DNS); site topology and replication; organizational unit structure and delegation of administration; group policy; certificate services; and user, group, and computer account strategies. Prerequisite: ITMT 1371.

**ITMT 2400 - PLANNING, IMPLEMENTING, AND MAINTAINING A MICROSOFT WINDOWS SERVER 2003 ACTIVE DIRECTORY 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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

**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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

**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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

**ITMT 2446 - MCSE XI, 70-299, IMPLEMENTING AND ADMINISTERING SECURITY IN A MICROSOFT WINDOWS SERVER 2003 NETWORK**

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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.
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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

ITMT 2471 - WINDOWS SERVER 2008 SERVER ADMINISTRATOR 70-646
4 Credits (3 hrs. lec., 2 hrs. lab.) An in-depth course to prepare students to handle day-to-day management of the server operating system, file structure, and directory services; handle software distribution and updates; monitor servers; provide tier-2 troubleshooting support; support engineering and change-management projects; build and configure servers; implement auditing policy; perform scheduled vulnerability-assessment scans; and monitor logs for firewalls and intrusion-detection systems. Prerequisites: ITMT 1373, ITMT 2370

ITMT 2472 - WINDOWS 2008 ENTERPRISE ADMINISTRATION 70-647
4 Credits (3 hrs. lec., 2 hrs. lab.) Covers network infrastructure design, evaluation of technology solutions, development of policies and procedures, and analysis of network performance at an enterprise level. Prerequisites: ITMT 1373, ITMT 2370

ITNW 1313 - COMPUTER VIRTUALIZATION
3 Credits (2 hrs. lec., 3 hrs. lab.) Implement and support virtualization of clients of servers in a networked computing environment. This course explores installation, configuration, and management of computer virtualization workstation and servers. Prerequisites: ITNW 1325 and ITSC 1305 and ITSC 1325

ITNW 1325 - FUNDAMENTALS OF NETWORKING TECHNOLOGIES
3 Credits (2 hrs. lec., 3 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 1301; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

ITNW 1391 - BACKUP RECOVERY SYSTEMS AND ARCHITECTURE
3 Credits (2 hrs. lec., 3 hrs. lab.) This course will provide the student with an introduction to the technologies used to support traditional, virtualized, and cloud data center environments. Cloud deployment and service models, cloud infrastructure, and the key considerations in migrating to a cloud environment, are covered in this course. Backup/recovery, business continuity, security, and management of cloud environments are topics also covered in this course. Prerequisite: ITMT 1373 or instructor approval.

ITNW 1392 - CLOUD INFRASTRUCTURE & SERVICES
3 Credits (2 hrs. lec., 3 hrs. lab.) This course will provide the student with an introduction to the technologies used to support traditional, virtualized, and cloud data center environments. Cloud deployment and service models, cloud infrastructure, and the key considerations in migrating to a cloud environment, are covered in this course. Backup/recovery, business continuity, security, and management of cloud environments are topics also covered in this course. Prerequisite: ITNW 1325 or instructor approval.

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 1305 and ITNW 1325; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

ITNW 2413 - NETWORKING HARDWARE
4 Credits (3 hrs. lec., 2 hrs. lab.) Exploration of hardware devices including cables, servers, and workstations, network connectivity devices and uninterruptible. Prerequisites: ITSC 1305; ENGL 0305
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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; Corequisite: ITNW 2405

ITNW 2422 - 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

ITNW 2452 - 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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; MATH 0310

ITSC 1301 - INTRODUCTION TO COMPUTERS
3 Credits (2 hrs. lec., 3 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 1301. Prerequisites/Corequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; MATH 0310

ITSC 1305 - INTRODUCTION TO PC OPERATING SYSTEMS
3 Credits (2 hrs. lec., 3 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 1301; ENGL 0305 or ENGL 0365 or ENGL 0115 AND

ITSC 1315 - PROJECT MANAGEMENT SOFTWARE
3 Credits (2 hr. lec., 3 hrs. lab.) Use of project management software for developing a project plan including timelines, milestones, scheduling, life cycle phases, management frameworks, skills, processes, and tools. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

ITSC 1316 - LINUX INSTALLATION AND CONFIGURATION
3 Credits (2 hrs. lec., 3 hrs. lab.) Introduction to Linux operating system. Includes Linux installation, basic administration, utilities and commands, upgrading, networking, security, and application installation. Emphasizes hands-on setup, administration, and management of Linux. Prerequisites: none.

ITSC 1325 - PERSONAL COMPUTER HARDWARE
3 Credits (2 hrs. lec., 3 hrs. lab.) Current personal computer hardware including assembly, upgrading, setup, configuration, and troubleshooting. Prerequisite: ITSC 1301 or COSC 1301

ITSC 1407 - UNIX OPERATING SYSTEM I
4 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 1301 or COSC 1301 AND ITSC 1305; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

ITSC 1491 - INFORMATION STORAGE AND MANAGEMENT
4 Credits (3 hrs. lec., 2 hrs. lab.) The Information Storage and Management course teaches the skills required in designing Storage Systems using Storage Networking Technologies and Virtualization concepts, Business Continuity approaches, and Storage Security and Management strategies. Prerequisite: ITCC 2408 or instructor approval.

ITSC 2325 - ADVANCED LINUX
3 Credits (2 hrs. lec., 3 hrs. lab.) Provides instruction
in Advance Open-source Linux operating system. Develops LDAP directory services to all your clients, support users remotely, installing and configuring network services. Prerequisite: None

**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 1301 or COSC 1301; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing; ENGL 0309 or ENGL 0310 also meets prerequisite

**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; ITSE 1407 1307 or 1432 or 1445 or 2417; ITSC 1407

**ITSC 2372 - TECHNICAL SKILLS PORTFOLIO**
3 Credits (2 hrs. lec., 3 hrs. lab.) This course is designed to prepare students to enter the IT workforce. It will incorporate career related activities designed to support the student as they complete their degree. This course includes both a lecture and a lab component. Prerequisites: At least 15 credit hours of IT courses (ITSC, ITCC, ITMT, ITSE)

**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 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 1402 1302 - COMPUTER PROGRAMMING**
4 3 Credits (3 2 hrs. lec., 2 3 hrs. lab.) Introduction to computer programming including design, development, testing, implementation, and documentation. Prerequisites: ITSC/COSC 1301 or departmental approval; ENGL0305 or ENGL0365 or ENGL0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; MATH 0308

**ITSE 1407 1307 - INTRODUCTION TO C++ PROGRAMMING**
4 Credits (3 2 hrs. lec., 2 3 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 1302; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets
ITSE 1311 - BEGINNING WEB PROGRAMMING
3 Credits (2 hrs. lec., 3 hrs. lab.) Skills development in web programming including mark-up and scripting languages. Prerequisite: None

ITSE 1418 1318 - INTRODUCTION TO COBOL PROGRAMMING
3 4 Credits (2 3 hrs. lec., 3 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 1301 is recommended prior to enrolling. Prerequisites: ITSE 1402 1302; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; MATH 0310

ITSE 1430 1330 - INTRODUCTION TO C# PROGRAMMING
3 4 Credits (2 3 hrs. lec., 3 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 1301, ITSE 1402 1302; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; MATH 0310

ITSE 1432 1332 - INTRODUCTION TO VISUAL BASIC.NET PROGRAMMING
3 4 Credits (2 3 hrs. lec., 3 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 1302 or COSC 1309; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

ITSE 1450 1350 - SYSTEMS ANALYSIS AND DESIGN
3 4 Credits (2 3 hrs. lec., 3 2 hrs. lab.) Comprehensive introduction to the planning, design, and construction of computer information systems using systems development life cycle and other appropriate design tools. Prerequisites: ITSE 1402 1302 and one programming language; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; 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 1302

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 1302; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; 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. Further application of C# programming techniques including subjects such as file access, abstract data structures, class inheritance and other advanced techniques. Prerequisite: ITSE 1430 1330

ITSE 2417 2317 - JAVA PROGRAMMING
3 4 Credits (2 hrs. lec., 2 3 hrs. lab.) Introduction to object-oriented Java programming including the fundamental syntax and semantics of Java for applications and web applets. Prerequisites: ITSE 1402 1302; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; MATH 0310

ITSE 2431 2331 - ADVANCED C++ PROGRAMMING
3 4 Credits (2 3 hrs. lec., 3 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 1307; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL
0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; MATH 0310

ITSE 2449 2349 - ADVANCED VISUAL BASIC PROGRAMMING
3 4 Credits (2 3 hrs. lec., 3 2 hrs. lab.) Advanced Visual Basic programming including file access methods, data structures, modular programming, program testing and documentation. Prerequisites: ITSE 1432 1332; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; MATH 0310

ITSE 2453 2353 - ADVANCED C# PROGRAMMING
3 4 Credits (2 3 hrs. lec., 3 2 hrs. lab.) Continuation of C# programming using advanced features of the .NET Framework Class Library. Prerequisite: ITSE 1430 1302

ITSE 2459 2359 - ADVANCED COMPUTER PROGRAMMING
3 4 Credits (2 3 hrs. lec., 3 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 1302 or COSC 1309; one lower-level programming course; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; MATH 0308

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. 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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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 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: IISW 1407 1307 and ITSE 1402 1302

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. Prerequisites: ITSE 2429; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; MATH 0308

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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; 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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; 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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; MATH 0308

**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 1404 1304 - INTRODUCTION TO SPREADSHEETS**
3 4 Credits (2 3 hrs. lec., 3 2 hrs. lab.) Instruction in the concepts, procedures, and application of electronic spreadsheets. Prerequisites: ITSC or COSC 1301; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite None

**ITSW 1407 1307 - INTRODUCTION TO DATABASE**
3 4 Credits (2 3 hrs. lec., 3 2 hrs. lab.) Introduction to database theory and the practical applications of a database. Prerequisites: ITSC or COSC 1301; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite None

**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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

**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 1304; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

**ITSW 2437 - ADVANCED DATABASES**
4 Credits (3 hrs. lec., 2 hrs. lab.) Advanced concepts of database design and functionality. Prerequisites: ITSW 1407 1307 and ITSE 1402 1302; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

**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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

**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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

**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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

**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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

**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 implementing and modifying security measures. Prerequisites: ITSY 2400 and 2401; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

**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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

**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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

**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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

**JAPN 2311 - INTERMEDIATE JAPANESE II**
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 Japanese. Students with prior language experience should take a placement exam to advance to the next level and receive credit. (1603025213) Prerequisites: JAPN 1412 or instructor approval; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

**JAPN 2312 - INTERMEDIATE JAPANESE II**
3 Credits (3 hrs. lec.) This course is a continuation of JAPN 2311, with emphasis on works by Japanese-speaking authors. Continued reinforcement of grammatical principles and development of writing skills are stressed. (1603025213) Prerequisites: JAPN 2311 or instructor approval

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**LGLA 1171 - PREPARING FOR LEGAL EMPLOYMENT**
1 Credit (1 hr. lec.) This course prepares the paralegal student in the specific job-finding skills necessary for the legal environment. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; Corequisite: LGLA 2305

**LGLA 1219 - PARALEGAL ETHICS**
2 Credits (2 hrs. lec.) Presents ethical and legal responsibilities as well as rules of professional responsibility
a paralegal owes to the public, the court, clients, and colleagues. Includes a review of the canons and codes. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

LGLA 1303 - LEGAL RESEARCH
3 Credits (3 hrs. lec.) Presents legal research techniques emphasizing the paralegal’s role. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

LGLA 1307 - INTRODUCTION TO LAW AND LEGAL PROFESSIONS
3 Credits (3 hrs. lec.) Overview of the law and the legal professions including legal concepts, systems, and terminology; substantive areas of law and the federal and state judicial systems; ethical obligations and regulations; professional trends and issues with emphasis on the paralegal’s role. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

LGLA 1317 - LAW OFFICE TECHNOLOGY
3 Credits (3 hrs. lec.) Computer technology and software applications within the law office emphasizing the paralegal’s role in the use of law office technology. Prerequisites: LGLA 1307, LGLA 1345 and ITSC 1301

LGLA 1323 - EMPLOYMENT LAW
3 Credits (3 hrs. lec.) Presents the fundamental concepts of employment law, including employment contracts, at-will employment, governmental regulations, and discrimination issues, emphasizing the paralegal’s role in employment law. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

LGLA 1341 - ADMINISTRATIVE LAW
3 Credits (3 hrs. lec.) An introduction to fundamental concepts of administrative law and procedure including creation of governmental agencies, operation, rulemaking, and adjudication and emphasizes the paralegal’s role in the administrative process. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

LGLA 1343 - BANKRUPTCY LAW
3 Credits (3 hrs. lec.) Fundamental concepts of bankruptcy law and procedure are presented including individual and business liquidation and reorganization with emphasis on the paralegal’s role. Prerequisites ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

LGLA 1345 - CIVIL LITIGATION
3 Credits (3 hrs. lec.) Presents fundamental concepts and procedures of civil litigation including pretrial, trial, and post-trial phases of litigation and emphasizes the paralegal’s role in civil litigation. Prerequisites: LGLA 1307; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

LGLA 1349 - CONSTITUTIONAL LAW
3 Credits (3 hrs. lec.) An overview of the United States Constitution and its articles, amendments, and judicial interpretations. Includes separation of powers, checks and balances, governmental structures and process, and individual rights in relation to government. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

LGLA 1355 - FAMILY LAW
3 Credits (3 hrs. lec.) Fundamental concepts of family law including formal and informal marriages, divorce, annulment, marital property, and the parent-child relationship with emphasis on the paralegal’s role in family law. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

LGLA 1359 - IMMIGRATION LAW
3 Credits (3 hrs. lec.) Presents fundamental concepts of immigration law including substantive and procedural
law related to visa applications, deportation, naturalization, and citizenship emphasizing the paralegal’s role in immigration law. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

**LGLA 2303 - TORTS AND PERSONAL INJURY LAW**
3 Credits (3 hrs. lec.) Fundamental concepts of tort and personal injury law including intentional torts, negligence, and strict liability with emphasis on the paralegal’s role. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

**LGLA 2305 - INTERVIEWING AND INVESTIGATING**
3 Credits (3 hrs. lec.) A study of techniques used to locate, gather, document, and manage information with emphasis on developing interview and investigative skills and the paralegal’s role in interviewing and investigating legal matters. Prerequisites: LGLA 1307; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

**LGLA 2309 - REAL PROPERTY**
3 Credits (3 hrs. lec.) Presents fundamental concepts of real property law including 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 emphasizing the paralegal’s role in real property law. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

**LGLA 2311 - BUSINESS ORGANIZATIONS**
3 Credits (3 hrs. lec.) Basic concepts of business organizations including law of agency, sole proprietorships, partnerships, corporations, and other emerging business entities with emphasis on the paralegal’s role. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

**LGLA 2313 - CRIMINAL LAW AND PROCEDURE**
3 Credits (3 hrs. lec.) Fundamental concepts of criminal law and procedure from arrest to final disposition including principles of federal and state law emphasizing the role of the paralegal in the criminal justice system. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

**LGLA 2315 - OIL AND GAS LAW**
3 Credits (3 hrs. lec.) Presents fundamental concepts of oil and gas law, including relationships between landowners and oil and gas operators, government regulation, and documents used in the industry stressing the paralegal’s role in oil and gas law. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

**LGLA 2323 - INTELLECTUAL PROPERTY**
3 Credits (3 hrs. lec.) Presents the fundamentals of intellectual property law, including creation, procurement, preparation, and filing documents related to patents, copyrights, trademarks, and the processes of intellectual property litigation. Emphasizes the paralegal’s role in intellectual property law. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

**LGLA 2331 - ADVANCED LEGAL RESEARCH AND WRITING**
3 Credits (3 hrs. lec.) Builds on previous legal research and writing courses and covers standard and electronic research techniques and preparation of complex legal documents with emphasis on the paralegal’s role. Prerequisites: LGLA 1303 and completion of 12 LGLA credits; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

**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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

**LGLA 2388 - INTERNSHIP - PARALEGAL/LEGAL ASSISTANT**
DESCRIPTION OF COURSES

LMGT 1319 - INTRODUCTION TO BUSINESS LOGISTICS
3 Credits (3 hrs. lec.) A systems approach to managing activities associated with traffic, transportation, inventory management, warehousing, packaging, order processing, and materials handling. Prerequisite: None

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. Prerequisite: None

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; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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, and continuous replenishment. Prerequisite: None

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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

MAIR 1449 - REFRIGERATORS, FREEZERS, WINDOW AIR CONDITIONERS
4 Credits (3 hrs. lec., 3 hrs. lab.) Theory, sequence of operation, components and repair, electrical schematics, and troubleshooting electronic components in air conditioning and refrigeration. Emphasis on safety for the electrical, mechanical, and sealed systems. Prerequisites: HART 1441 and HART 1445

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 multiple course format options. Consult with advisor for proper placement.

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, solving linear equations and inequalities, laws of integer exponents, factoring, rational expressions, the Cartesian coordinate system, graphing lines, finding equations of lines and solving linear systems. 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

MATH 0309 - FOUNDATIONS OF MATHEMATICAL REASONING
3 Credits (3 hrs. lec., 1 hr. lab) This course surveys a variety of mathematical topics needed to prepare students for college level statistics or quantitative reasoning or for algebra-based courses. Topics include: numeracy with an emphasis on estimation and fluency with large numbers; evaluating expressions and formulas; rates, ratios, and proportions; percentages; solving equations; linear models; data interpretations including graphs and tables; verbal, algebraic and graphical representations of functions; exponential models. This course carries institutional credit but will not transfer and will not be used to meet degree requirements. (3201045219) Prerequisite: MATH 0306 or placement by testing. Corequisite: EDUC 1300

MATH 0310 - INTERMEDIATE ALGEBRA
3 Credits (3 hrs. lec., 1 hr. lab.) Topics for all formats include special products and factoring, rational expressions and equations, rational exponents, radicals, radical equations, quadratic equations, absolute value equations and inequalities, complex numbers, equations of lines, an introduction to the function concept, and graphing. This course carries institutional credit but will not transfer and will not be used to meet degree requirements. (3201045219) Prerequisite: MATH 0308 or placement by testing

MATH 0312 - DEVELOPMENTAL MODULAR BASED MATH
3 Credits (3 hrs. lec., 1 hr. lab.) Modular based course focused on pre-algebra, introductory algebra, and intermediate algebra competencies. Students will work on course competencies in MATH 0306, 0308 and 0310 based on placement data. The modular design will allow students to possibly complete more than one course level in a semester. Class meets face-to-face and attendance is required. This course carries institutional credit but will not transfer and will not be used to meet degree requirements. (3201045119) Prerequisite: Placement by testing, MATH 0306, 0308 or 0310.

MATH 0313 - DEVELOPMENTAL MODULAR BASED MATH
3 Credits (3 hrs. lec., 1 hr. lab.) Modular based course focused on pre-algebra, introductory algebra, and intermediate algebra competencies. Students will work on course competencies in MATH 0306, 0308 and 0310 based on placement data. The modular design will allow students to possibly complete more than one course level in a semester. Class meets face-to-face and attendance is required. This course carries institutional credit but will not transfer and will not be used to meet degree requirements. (3201045119) Prerequisite: Placement by testing

MATH 0314 - DEVELOPMENTAL MODULAR BASED MATH
3 Credits (3 hrs. lec., 1 hr. lab.) Modular based course focused on pre-algebra, introductory algebra, and intermediate algebra competencies. Students will work on course competencies in MATH 0306, 0308 and 0310 based on placement data. The modular design will allow students to possibly complete more than one course level in a semester. Class meets face-to-face and attendance is required. This course carries institutional credit but will not transfer and will not be used to meet degree requirements. (3201045119) Prerequisite: Placement by testing

MATH 1314 - COLLEGE ALGEBRA
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, graphs of the trigonometric functions, vectors and polar coordinates. (2701015319) Prerequisite: MATH 1314 OR placement by testing; ENGL 0305 or ENGL 0365 OR higher level course (ENGL 1301), OR placement by testing; Corequisite: ENGL 0307 or ENGL 0375

MATH 1324 - FINITE MATHEMATICS FOR BUSINESS & SOCIAL SCIENCE
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. Applications of common algebraic functions, including polynomial, exponential, logarithmic, and rational, to problems in business, economics, and the social sciences are addressed. The applications include mathematics of finance, including simple and compound interest and annuities; systems of linear equations; matrices; linear programming; and probability, including expected value. (2703015419) Prerequisites: MATH 0309 or 0310 OR placement by testing; ENGL 0305 or ENGL 0365 OR higher level course (ENGL 1301), OR placement by testing; Corequisite: ENGL 0307 or ENGL 0375

MATH 1325 - ELEMENTS OF CALCULUS WITH APPLICATIONS CALCULUS FOR BUSINESS & SOCIAL SCIENCES
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. This course is the basic study of limits and continuity, differentiation, optimization and graphs, and integration of elementary functions, with emphasis on applications in business, economics, and social sciences. This course is not a substitute for MATH 2413, Calculus I. (2703015319) Prerequisites: MATH 1314 or MATH 1324 or placement by testing; ENGL 0305 or ENGL 0365 OR higher level course (ENGL 1301), OR placement by testing; Corequisite: ENGL 0307

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 ENGL 0365 OR higher level course (ENGL 1301), OR placement by testing; Corequisite: ENGL 0307

MATH 1342 - STATISTICS
3 Credits (Offered as 3 hrs. lec. or 3 hrs. lec. 1 hr. lab options by college) Collection, analysis, presentation and interpretation of data, and probability. Analysis includes descriptive statistics, correlation and regression, confidence intervals and hypothesis testing. Use of appropriate technology is recommended. (2705015119) Prerequisites: MATH 0309 or 0310 OR placement by testing; ENGL 0305 or ENGL 0365 OR higher level course (ENGL 1301), OR placement by testing; Corequisite: ENGL 0307 or ENGL 0375

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, numbering systems, number theory, emphasis on problem solving and critical thinking. (2701015619) Prerequisite: MATH 1314 OR placement by testing; ENGL 0305 or ENGL 0365 OR higher level course (ENGL 1301), OR placement by testing; Corequisite: ENGL 0307

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. (2701015719) Prerequisites: MATH 1314 OR placement by testing; ENGL 0305 or ENGL 0365 OR higher level course (ENGL 1301), OR placement by testing; Corequisite: ENGL 0307

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 2701016319) Prerequisites: MATH 2414; ENGL 0305 or ENGL 0365 OR higher
MATH 2230 - 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. (2701015119 2701016419) Prerequisites: MATH 2414; ENGL 0305 or ENGL 0365 OR higher level course (ENGL 1301), OR placement by testing; Corequisite: ENGL 0307

MATH 2412 - PRECALCULUS
4 Credits (4 hrs. lec., 1 hr. lab.) An integrated treatment of the concepts necessary for calculus beginning with a review of algebraic and transcendental functions including trigonometric functions. Topics also include the binomial theorem, analytic geometry, vector algebra, polar and parametric equations, mathematical induction and sequences and series (2701015819) Prerequisites: MATH 1314 and MATH 1316 OR placement by testing; ENGL 0305 or ENGL 0365 OR higher level course (ENGL 1301), OR placement by testing; Corequisite: ENGL 0307

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.) Limits and continuity; the Fundamental Theorem of Calculus; definition of the derivative of a function and techniques of differentiation; applications of the derivative to maximizing or minimizing a function; the chain rule, mean value theorem, and rate of change problems; curve sketching; definite and indefinite integration of algebraic, trigonometric, and transcendental functions, with an application to calculation of areas. (2701015919) Prerequisites: MATH 2412 OR placement by testing; ENGL 0305 or ENGL 0365 OR higher level course (ENGL 1301), OR placement by testing; Corequisite: ENGL 0307

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 and L'Hopital's Rule, improper integrals, sequences and series. (2701016219 2701016019) Prerequisites: MATH 2413; ENGL 0305 or ENGL 0365 OR higher level course (ENGL 1301), OR placement by testing; Corequisite: ENGL 0307

MATH 2415 - CALCULUS III
4 Credits (3 hrs. lec., 3 hrs. lab. OR 4 hrs. lec., 1 hr. lab.) Advanced topic in calculus, including three dimensional coordinate systems, limits and continuity of multivariable functions, partial derivatives, directional derivatives, the gradient, extreme values, multiple integration, the calculus of vector valued functions and line and surface integrals. (2701015919 2701016119) Prerequisites: MATH 2414; ENGL 0305 or ENGL 0365 OR higher level course (ENGL 1301), OR placement by testing; Corequisite: ENGL 0307

MCHN 1302 - PRINT READING FOR MACHINE TRADES
3 Credits (2 hrs. lec., 2 hrs. lab.) A study of blueprints for machining trades with emphasis on machine drawings. Prerequisite: None

MCHN 1319 - MANUFACTURING MATERIALS AND PROCESSES
3 Credits (2 hrs. lec., 4 hrs. lab.) A basic study of various materials used in the manufacturing industry and the chemical, physical, and mechanical properties of various materials. Emphasis on manufacturing processes, including casting, forming, and machining. 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.) A course that introduces the student to machining fundamentals. The student begins by using basic machine tools including 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 1339 - 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: None

MCHN 1352 - INTERMEDIATE MACHINING I
3 Credits (2 hrs. lec., 2 hrs. lab.) Operation of drilling
machines, milling machines, lathes, and power saws. Select and use appropriate precision measuring tools. Prerequisites: MCHN 1302, MCHN 1338 Corequisite: MCHN 2341

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. Prerequisites: MCHN 2331 and MCHN 2334 OR Instructor 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. Prerequisites: MCHN 1302, 1338, 1426, 2331 and 2334.

MCHN 1426 - INTRODUCTION TO COMPUTER-AIDED MANUFACTURING (CAM)
3 Credits (2 hrs. lec., 6 hrs. lab.) A study of Computer-Aided Manufacturing (CAM) software which is used to develop applications for manufacturing. Emphasis on tool geometry, tool selection, and the tool library. Prerequisite: None

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. Prerequisites: CNC Operator I Certificate; Corequisite: MCHN 2335

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 study of CNC operations with an emphasis on turning centers. Prerequisites: MCHN 1302, 1338, and 1343; Corequisite: MCHN 2334

MCHN 2334 - OPERATION OF CNC MACHINING CENTERS
3 Credits (2 hrs. lec., 2 hrs. lab.) A study of CNC operations with an emphasis on vertical machining centers. Prerequisites: MCHN 1302, 1338, 1343; Corequisite: MCHN 2331.

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: CNC Operator I Certificate; Corequisite: MCHN 2303.

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. Corequisite: MCHN 1352

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: CNC Operator I Certificate and Department 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: MCHN 1426.

**MDCA 1154 - MEDICAL ASSISTING CREDENTIALING EXAM REVIEW**

1 Credit (1 hr. lec.) A preparation for the Certified Medical Assistant (American Association of Medical Assistants) or Registered Medical Assistant (American Medical Technologists) credentialing exam. Prerequisites: MDCA 1417; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

**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 in ambulatory care settings. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

**MDCA 1210 - MEDICAL ASSISTANT INTERPERSONAL AND COMMUNICATION SKILLS**

2 Credits (2 hrs. lec.) Emphasis on the application of basic psychological principles and the study of behavior as they apply to special populations. Topics include procedures for self-understanding and social adaptability in interpersonal communication with patients and co-workers in an ambulatory care setting. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

**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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

**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 assistant. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

**MDCA 1352 - MEDICAL ASSISTANT LABORATORY PROCEDURES**

3 Credits (2 hrs. lec., 2 hrs. lab.) Application of governmental health care guidelines. Includes specimen collection and handling, quality assurance, and quality control. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

**MDCA 1409 - ANATOMY AND 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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

**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 ambulatory care settings. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

**MDCA 1421 - ADMINISTRATIVE PROCEDURES**

4 Credits (4 hrs. lec., 1 hr. lab.) Medical office procedures including appointment scheduling, medical records creation and maintenance, interpersonal relationships, and concern for patient rights and confidentiality. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.
communications, coding, billing, collecting, third party reimbursement, credit arrangements, and computer use in the medical office. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

**MDCA 1443 - MEDICAL INSURANCE**
4 Credits (3 hrs. lec., 2 hrs. lab.) Emphasizes medical office coding for payment and reimbursement by patient or third party payers for ambulatory care settings. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

**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 study of refining mechanical 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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; 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.

**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.

**MRIT 2260 - CLINICAL-RADIOLOGIC TECHNOLOGY/SCIENCE**
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 profession. Requires LSCS liability insurance. Prerequisite: Departmental approval.

**MRIT 2330 - PRINCIPLES OF MAGNETIC RESONANCE IMAGING**
3 Credits (3 hrs. lec.) In-depth coverage of magnetic resonance imaging techniques. Image quality assurance and safety protocols are emphasized. Prerequisite: Departmental approval.

**MRIT 2334 - MAGNETIC RESONANCE EQUIPMENT AND METHODOLOGY**
3 Credits (3 hrs. lec.) Skill development in the operation of magnetic resonance imaging equipment, focusing on routine procedures and safety protocols, image quality, and quality assurance. Prerequisite: Departmental approval.

**MRIT 2355 - MAGNETIC RESONANCE IMAGING PHYSICS**
3 Credits (3 hrs. lec.) A study of Magnetic Resonance Imaging (MRI) physics which includes principles of electrodynamics, pulse sequences, sequence parameters, and spin echo and gradient echo techniques. Prerequisites: MRIT 2330 and departmental approval.
MRIT 2360 - CLINICAL - RADIOLOGIC TECHNOLOGY
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: Departmental approval

MRIT 2361 - CLINICAL - RADIOLOGIC TECHNOLOGY
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. Requires LSCS liability insurance. Prerequisites: Departmental approval; MRIT 2360

MRKG 1301 - CUSTOMER RELATIONSHIP MANAGEMENT
3 Credits (3 hrs. lec.) General principles of customer relationship management including skills, knowledge, attitudes, and behaviors. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

MRKG 1302 - PRINCIPLES OF RETAILING
3 Credits (3 hrs. lec.) Introduction to the retailing environment, types of retailers, current trends, the employment of retailing techniques, and factors that influence retailing. Prerequisite: None

MRKG 1311 - PRINCIPLES OF MARKETING
3 Credits (3 hrs. lec.) Introduction to the marketing mix functions and process. Includes identification of consumer and organizational needs and explanation of environmental issues. Prerequisite: None

MRKG 2312 - E-COMMERCE MARKETING
3 Credits (3 hrs. lec.) Explore electronic tools utilized in marketing; focus on marketing communications in developing customer relationships. 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.) Practical experiences in analyzing marketing studies using data-driven decision-making processes. Includes interrelationships among the components of the marketing mix. 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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

MSCI 1125 - ARMY PHYSICAL READINESS TRAINING
1 Credit (3 hrs. lab.) A cardio-respiratory physical
conditioning class designed to promote high levels of performance measured by the Army Physical Fitness Test (APFT) to improve the health/wellness, endurance, and strength of the body, and to educate on the principles of nutrition, diet and weight control. Utilizes Army physical fitness techniques; develops muscular strength, flexibility and endurance; develops self-confidence to plan, conduct and lead physical training for others through Army leadership training methods and physical activities. A variety of physical activities include standard warm-up and strength/endurance building exercises, timed/progressive repetitions, weight/strength training (cardiovascular), negative-resistance, running (up to two miles), cycling/spinning, and competitive individual/team activities. The course prepares each student for the APFT consisting of 2 minutes execution of push-ups and sit-ups, and a two-mile run. This class, conducted by the Military Science Instructors, uses Army techniques and guidelines during each session. This course satisfies the physical education requirement and may be repeated. Prerequisite: None

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

MSSG 1105 - HYDROTHERAPY/THERAPEUTIC MODALITIES
1 Credit (2 hrs. lab.) The use of accepted hydrotherapy and holistic healthcare modalities of external application of temperature for its reflexive effect. Meets the minimum 20-contact-hour requirement for licensure. Students must complete an application process including an online application. Prerequisites: None

MSSG 1109 - HEALTH & HYGIENE
1 Credit (1 hr. lec., 1 hr. lab.) The study of safety and sanitation practices including universal precautions. The importance of proper body mechanics, maintaining a healthy lifestyle, maintaining the massage environment, and the advantage of therapeutic relationships is also included. Meets the minimum 20-contact-hour requirement for licensure. Students must complete an application process including an online application. Prerequisites: None

MSSG 1207 - BUSINESS PRACTICES & PROFESSIONAL ETHICS
2 Credits (2 hrs. lec., 1 hr. lab.) The study of physical and financial office practices and marketing. Includes ethical practices for massage therapists as established by law or regulatory agency. Meets the minimum 45-contact-hour requirement for licensure. Students must complete an application process including an online application. Prerequisites: None

MSSG 1411 - MASSAGE THERAPY FUNDAMENTALS I
4 Credits (2 hrs. lec., 6 hrs. lab.) Introduction to the theory and the application of skills necessary to perform
basic massage skills and chair massage. This meets the minimum 125-contact-hour requirement for licensure. Students must complete an application process including an online application. Prerequisites: None

**MSSG 1413 - ANATOMY & PHYSIOLOGY FOR MASSAGE**

4 Credits (3 hrs. lec., 2 hrs. lab.) In-depth coverage of the structure and function of the human body. Includes cell structure and function, tissues, body organization, and the integumentary, skeletal, muscular, nervous, and endocrine systems. Emphasizes homeostasis/wellness care. Meets the minimum 75-contact-hour requirement for Anatomy and Physiology for licensure. Students must complete an application process including an online application. Prerequisites: None

**MSSG 2286 - INTERNSHIP - MASSAGE THERAPY**

2 Credits (8 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. Students must complete an application process including an online application. Prerequisites: None

**MSSG 2311 - MASSAGE THERAPY FUNDAMENTALS II**

3 Credits (2 hrs. lec., 4 hrs. lab.) A continuation of Massage Therapy Fundamentals I. Emphasizes specialized techniques and assessment of client needs to identify a specific plan of care. Completes the requirements for Massage Techniques for licensure. Students must complete an application process including an online application. Prerequisites: None

**MSSG 2313 - KINESIOLOGY FOR MASSAGE**

3 Credits (3 hrs. lec., 1 hrs. lab.) Applied study of human kinesiology. Muscle movements and dysfunctions will be discussed and palpated. Includes theory and practice of functional muscle testing. Meets the minimum 50-contact-hour requirement for licensure. Students must complete an application process including an online application. Prerequisites: None

**MSSG 2314 - PATHOLOGY FOR MASSAGE**

3 Credits (3 hrs. lec.) General discussion of pathologies as they relate to massage therapy. Includes universal precautions and their management in professional practice. Also covers etiology, signs, symptoms, and the physiological and psychological reactions to disease and injury. Meets the minimum 40-contact-hour requirement for licensure. Students must complete an application process including an online application. Prerequisites: 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 1187 - HARPISHCHORD**

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
DESCRIPTION OF COURSES

**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 1287 - HARPSICHORD**
2 Credits (Two ½ hour lessons per week; two credit hours per semester)

**MUAP 2101 - STRINGS**
1 Credit (Second year, one 1/2 hour lessons per week; one credit hour per semester)

**MUAP 2121 - WOODWINDS**
1 Credit (Second year, two 1/2 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 2165 - ORGAN**
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 2187 - HARPSICHORD**
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)

**MUAP 2287 - HARPSICHORD**
2 Credits (Second year, two 1/2 hour lesson 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/Corequisites: Course may be taken as a corequisite with ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117; ENGL 0309 or ENGL 0310 also meets prerequisite/corequisite.

**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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117; ENGL 0309 or ENGL 0310 also meets prerequisite/corequisite.
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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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) Prerequisite: 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/Corequisites: Course may be taken as a corequisite with ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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 or ENGL 0365 AND ENGL 0307 or ENGL 0375

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

MUSC 1191 - PROFESSIONAL DEVELOPMENT FOR MUSICIANS
3 Credits (1 hr. lec., 2 hrs. lab.) This course will assist students in developing the critical skills required to be successful musicians in the professional world. Students will learn how to write professional résumés, CVs, cover letters, and bios; effective audition, rehearsal, and performance technique; and the basics of music law and music business. Prerequisite: departmental approval and audition required.

MUSI 1157 - OPERA WORKSHOP I
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 1158 - OPERA WORKSHOP II
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 AND II
1 Credit (5 hrs. lab.) Practical experience in auditioning, rehearsing, and performing in a major musical. (5009036126) Prerequisite: None

MUSI 1160 - ITALIAN DICTION
1 Credit (2 hrs. lab.) Study of phonetic sounds in Italian. This course provides a framework for singing in Italian, including study of the International Phonetic Alphabet. While some grammatical rules will be taught, the course does not attempt to teach the language. (5009085326) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

MUSI 1161 - ENGLISH DICTION
1 Credit (2 hrs. lab.) Study of phonetic sounds in English. This course provides a framework for singing in English, including study of the International Phonetic Alphabet (IPA).
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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 017 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; Corequisites: MUSI 1212 and 1182

MUSI 1263 - JAZZ IMPROVISATION I 2 Credits (2 hr. lec., 1 hr. lab.) Materials and practices for improvisation or extemporaneous performance in the jazz idiom. (5009036506) Prerequisite: Departmental approval

MUSI 1264 - JAZZ IMPROVISATION II 2 Credits (2 hr. lec., 1 hr. lab.) Materials and practices for improvisation or extemporaneous performance in the jazz idiom. (5009036506) Prerequisite: Departmental approval

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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

MUSI 1306 - APPRECIATING MUSIC 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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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 or ENGL 0365 AND ENGL 0307 or ENGL 0375
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 or ENGL 0365 AND ENGL 0307 or ENGL 0375

MUSI 2160 - GERMAN DICTION
1 Credit (2 hrs. lab.) Study of Phonetic sounds in German. This course provides a framework for singing in German, including study of the International Phonetic Alphabet (IPA). While some grammatical rules will be taught, the course does not attempt to teach the language. (5009085326) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

MUSI 2161 - FRENCH DICTION
1 Credit (2 hrs. lab.) Study of phonetic sounds in French. This course provides a framework for singing in French, including the study of the International Phonetic Language (IPA). While some grammatical rules will be taught, the course does not attempt to teach the language. (5009085326) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; Corequisites: MUSI 2211 and 2181

MUSI 2212 - THEORY IV
2 Credits (3 hrs. lec.) A continuation of MUSI 2211. (5009045226) Prerequisites: MUSI 2211; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; Corequisites: MUSI 2211 and 2182

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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; Corequisites: MUSI 2211 and 2182

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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; 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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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. 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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

NDTE 1454 - INTERMEDIATE ULTRASONICS
4 Credits (2 hrs. lec., 4 hrs. lab.) Applications of the ultrasonic techniques of materials testing for flaw sizing and characterization. Prerequisite: None

NDTE 2311 - PREPARATION FOR CERTIFIED WELDING INSPECTOR EXAM
3 Credits (2 hrs. lec., 2 hrs. lab.) Welding fundamentals, welding inspection and code interpretation in preparation for the certified welding inspector examination. Prerequisite: None

NDTE 2401 - ADVANCED ULTRASONICS
4 Credits (2 hrs. lec., 4 hrs. lab.) Emphasis on examination of components and characterization of flaws using advanced techniques. Prerequisite: None

OSHT 1316 - MATERIAL HANDLING
3 Credits (3 hrs. lec.) Proper methods for material handling and storage including safety practices, proper equipment usage, engineering controls, and personal protective equipment. Prerequisite: None

OTHA 1241 - OCCUPATIONAL PERFORMANCE FROM BIRTH THROUGH ADOLESCENCE
2 Credits (1 hrs. lec., 4 hrs. lab.) Occupational performance of newborns through adolescents. Includes frames of reference, evaluation tools and techniques, and intervention strategies. Prerequisites: OTHA 1315 and PSYC 2314; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

OTHA 1253 - OCCUPATIONAL PERFORMANCE FOR ELDERS
2 Credits (1 hrs. lec., 4 hrs. lab.) Occupational performance of elders. Includes frames of reference, evaluation tools and techniques, and intervention strategies. Prerequisites: OTHA 2309 and 2331; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309

Text on this page has been revised since publication of the printed catalog. Please see addendum for details.
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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

KINE PHED 1111 See PHED 1164
KINE PHED 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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

**KINE PHED 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) Prerequisite: None

**KINE PHED 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, high/low impact, cardio-kickboxing, aerobic dance and interval training. (3601085123) Prerequisite: None

**KINE PHED 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) Prerequisite: None

**KINE PHED 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) Prerequisite: None

**KINE PHED 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) Prerequisite: None

**KINE PHED 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) Prerequisite: None

**KINE PHED 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) Prerequisite: None

**KINE PHED 1123 - GOLF I**
1 Credit (3 hrs. lab.) Golf I emphasizes basic golf skills, rules, scoring, etiquette, and terminology. (3601085123) Prerequisite: None

**KINE PHED 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) Prerequisite: None

**KINE PHED 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) Prerequisite: None

**KINE PHED 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) Prerequisite: None

**KINE PHED 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) Prerequisite: None

**KINE PHED 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) Prerequisite: None

**KINE PHED 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) Prerequisite: None

**KINE PHED 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) Prerequisite: None
KINE PHED 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) Prerequisite: None

KINE PHED 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) Prerequisite: None

KINE PHED 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) Prerequisite: None

KINE PHED 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) Prerequisite: None

KINE PHED 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) Prerequisite: None

KINE PHED 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) Prerequisite: None

KINE PHED 1146 - COUNTRY AND WESTERN DANCE I
1 Credit (3 hrs. lab.) Country and 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) Prerequisite: None

KINE PHED 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, merengue in the spring semester. (3601145123) Prerequisite: None

KINE PHED 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. (3601085423) Prerequisite: Ability to swim

KINE PHED 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, perfect buoyancy, search and recovery, limited visibility and night diving, and computer diving. (3601085423) Prerequisites: KINE 1151; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course [ENGL 1301] OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

KINE PHED 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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course [ENGL 1301] OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

KINE PHED 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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course [ENGL 1301] OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

PHED 1164 - INTRODUCTION TO PHYSICAL FITNESS & SPORT
1 Credits (2 1 hrs. lec., 2 hrs. lab.) Introduction to
Physical Fitness & Sport 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. Prerequisites: None; Corequisites: ENGL 0305, ENGL 0307 or Developmental ENGL equivalent or ESOL equivalent

**KINE PHED 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) Prerequisite: None

**KINE PHED 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) Prerequisite: None

**KINE PHED 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) Prerequisite: None

**KINE PHED 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) Prerequisite: None

**KINE PHED 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) Prerequisite: None

**KINE PHED 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) Prerequisite: None

**KINE PHED 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: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

**KINE PHED 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: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

**KINE PHED 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. (5115045316) Prerequisites/Corequisite: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

**KINE PHED 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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

**KINE PHED 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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

KINE PHED 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: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

KINE PHED 2111 - FITNESS AND WELLNESS II
1 Credit (1 hr. lec., 2 hrs. lab.) Continuation of KINE PHED 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 PHED 1111; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

KINE PHED 2112 - WEIGHT TRAINING II
1 Credit (3 hrs. lab.) Weight Training II is a continuation of KINE PHED 1112, in which students apply muscular strength, flexibility, endurance and wellness concepts learned in KINE PHED 1112. (3601085123) Prerequisites: KINE PHED 1112; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

KINE PHED 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) Prerequisite: None

KINE PHED 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) Prerequisite: KINE PHED 1114

KINE PHED 2116 - AQUA AEROBICS II
1 Credit (3 hrs. lab.) Aqua Aerobics II is a continuation of Aqua Aerobics I. (3601085123) Prerequisite: KINE PHED 1116

KINE PHED 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) Prerequisite: KINE PHED 1122

KINE PHED 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) Prerequisite: KINE PHED 1123

KINE PHED 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) Prerequisite: KINE PHED 1124

KINE PHED 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) Prerequisite: KINE PHED 1125

KINE PHED 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) Prerequisite: KINE PHED 1127

KINE PHED 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) Prerequisite: KINE PHED 1128 or instructor approval

KINE PHED 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) Prerequisite: KINE PHED 1130

KINE PHED 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) Prerequisite: KINE PHED 1131

KINE PHED 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) Prerequisite: KINE PHED 1132

KINE PHED 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) Prerequisite: KINE PHED 1133

KINE PHED 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) Prerequisite: KINE PHED 1134

KINE PHED 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) Prerequisite: KINE PHED 1135

KINE PHED 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 3601145123) Prerequisite: KINE PHED 1141 or instructor approval

KINE PHED 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. (3601145123) Prerequisite: KINE PHED 1143 or instructor approval

KINE PHED 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. (3601145123) Prerequisite: KINE PHED 1145 or instructor approval

KINE PHED 2146 - COUNTRY AND WESTERN DANCE II
1 Credit (3 hrs. lab.) Country and Western Dance II is a continuation of Country and Western Dance I, in which the student learns popular advanced steps. (3601145123) Prerequisite: KINE PHED 1146

KINE PHED 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. (3601085123 3601145123) Prerequisite: KINE PHED 1173

KINE PHED 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. (3601085123) Prerequisite: KINE PHED 1180

PHIL 1301 - INTRODUCTION TO PHILOSOPHY
3 Credits (3 hrs. lec.) A study of major issues in philosophy and/or the work of major philosophical figures in philosophy. Topics in philosophy may include theories of reality, theories of knowledge, theories of value, and their practical applications. (3801015112) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL0309 or ENGL 0310 also meets prerequisite.
PHIL 1304 - INTRODUCTION TO WORLD RELIGIONS
3 Credits (3 hrs. lec.) A comparative study of world religions, including but not limited to Hinduism, Buddhism, Judaism, Christianity, and Islam. (3802015212) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

PHIL 2303 - INTRODUCTION TO FORMAL LOGIC
3 Credits (3 hrs. lec.) The purpose of the course is to introduce the student to symbolic logic, including syllogisms, propositional and predicate logic, and logical proofs in a system of rules. (3801015212) Prerequisites: MATH 0310; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

PHIL 2306 - INTRODUCTION TO ETHICS
3 Credits (3 hrs. lec.) The systematic evaluation of classical and/or contemporary ethical theories concerning the good life, human conduct in society, morals, and standards of value. (3801015312) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

PHIL 2307 - INTRODUCTION TO SOCIAL AND POLITICAL PHILOSOPHY
3 Credits (3 hrs. lec.) A study of major issues in social and political theory and/or the work of major philosophical figures in this area. (3801015412) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

PHIL 2316 - CLASSICAL PHILOSOPHY
3 Credits (3 hrs. lec.) A study of major philosophers and philosophical themes from the ancient through the eighteenth centuries. (3801015512) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

PHIL 2318 - 19TH & 20TH CENTURY PHILOSOPHY
3 Credits (3 hrs. lec.) A study of major philosophers and philosophical themes from the nineteenth century to the present. (3801015512) Prerequisite: ENGL 1301 or instructor approval.

PHIL 2321 - PHILOSOPHY OF RELIGION
3 Credits (3 hrs. lec.) A study of the major issues in the philosophy of religion such as the existence and nature of God, the relationships between faith and reason, the nature of religious language, religious experience, and the problem of evil. (3802015312) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

PHRA 1102 - PHARMACY LAW
1 Credit (1 hr. lec.) Overview of federal and state laws governing the practice of pharmacy. The legal and ethical constraints governing pharmacy technician and pharmacist responsibilities in practice settings. Prerequisites: Admission to the program; ENGL 0305 or ENGL 0365 AND ENGL 0306 or ENGL 0374, OR higher level course (ENGL 1301), OR placement by testing; MATH 0308.

PHRA 1143 - PHARMACY TECHNICIAN CERTIFICATE REVIEW
1 Credit (1 hr. lec.) A review of major topics covered on the National Pharmacy Technician Certification examination. Prerequisites: PHRA 1361 or permission of program director; ENGL 0305 or ENGL 0365 AND ENGL 0306 or 0374, 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. Prerequisites: PHRA 1240; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; MATH 0308.

PHRA 1206 - COMPUTERIZED DRUG DELIVERY SYSTEMS I
2 Credits (1 hr. lec., 2 hrs. lab.) Fundamentals of
DESCRIPTION OF COURSES

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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; MATH 0308

PHRA 1240 - PHARMACY THIRD PARTY PAYMENT
2 Credits (2 hrs. lec., 1 hr. lab.) Overview of third party payment and its impact on health care. Includes the principles and practices of managed care pharmacy, Medicaid and Medicare, payment plans, reimbursement methods, and formularies. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; 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 or ENGL 0365 AND ENGL 0306 or 0374, OR higher level course (ENGL 1301), OR placement by testing; MATH 0308

PHRA 1305 - DRUG CLASSIFICATION
3 Credits (3 hrs. lec.) A study of disease processes, pharmaceutical drugs, abbreviations, classifications, dosages, actions in the body, and routes of administration. Prerequisites: Admission to the program; ENGL 0305 or ENGL 0365 AND ENGL 0306 or 0374, OR higher level course (ENGL 1301), OR placement by testing; MATH 0308

PHRA 1309 - PHARMACEUTICAL MATHEMATICS I
3 Credits (3 hrs. lec.) Pharmaceutical mathematics including reading, interpreting, and solving calculation problems encountered in the preparation and distribution of drugs. Prerequisites: Admission to the program; ENGL 0305 or ENGL 0365 AND ENGL 0306 or 0374, OR higher level course (ENGL 1301), OR placement by testing; MATH 0308

PHRA 1345 - COMPOUNDING STERILE PREPARATIONS AND ASEPTIC TECHNIQUE
3 Credits (2 hrs. lec., 3 hrs. lab.) The process of compounding sterile preparations and aseptic technique within legal and regulatory guidelines specified by USP standards. Prerequisites: PHRA 1361; ENGL 0305 or ENGL 0365 AND ENGL 0306 or 0374, OR higher level course (ENGL 1301), OR placement by testing; MATH 0308

PHRA 1347 - PHARMACEUTICAL MATHEMATICS II
3 Credits (3 hrs. lec.) Advanced concepts of Pharmaceutical Mathematics. Prerequisites: PHRA 1361; ENGL 0305 or ENGL 0365 AND ENGL 0306 or 0374, 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 or ENGL 0365 AND ENGL 0306 or 0374, OR higher level course (ENGL 1301), OR placement by testing; MATH 0308

PHRA 1413 - COMMUNITY PHARMACY PRACTICE
4 Credits (3 hrs. lec., 3 hrs. lab.) Introduction to the skills necessary to process, prepare, label, and maintain records of prescriptions in a community pharmacy to include customer service, count and pour techniques, prescription calculations, drug selection and preparation, over-the-counter drugs, inventory management and legal parameters. Prerequisites: Admission to the program; ENGL 0305 or ENGL 0365 AND ENGL 0306 or 0374, OR higher level course (ENGL 1301), OR placement by testing; MATH 0308

PHRA 1449 - INSTITUTIONAL PHARMACY PRACTICE
4 Credits (3 hrs. lec., 3 hrs. lab.) Fundamentals of the diverse roles and practice of pharmacy technicians in an institutional pharmacy setting. In-depth coverage of hospital pharmacy organization, work flow and personnel, medical and pharmaceutical terminology, safety techniques, data entry, packaging and labeling operations, pharmaceutical compounding, inpatient
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 ENGL 0365 AND ENGL 0306 or 0374, 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; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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 may 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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite
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; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

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. (4001015403) Prerequisites: MATH 2413; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing; ENGL 0309 or ENGL 0310 also meets prerequisite.

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. (4001015703) Prerequisites: PHYS 2425; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing; ENGL 0309 or ENGL 0310 also meets prerequisite.

PHYS 2427 - ELEMENTARY PHYSICS II
4 Credits (3 hrs. lec., 3 hrs. lab.) Fundamental administrative duties of the legal administrative assistant. Prerequisite: None

POFL 1305 - LEGAL TERMINOLOGY
3 Credits (2 hrs. lec., 3 hrs. lab.) This course presents an overview of legal terminology and how these terms are used in legal documents. Prerequisite: Keyboarding proficiency

POFL 1340 - LEGAL OFFICE PROCEDURES II
3 Credits (2 hrs. lec., 3 hrs. lab.) Advanced administrative duties of the legal administrative assistant. Prerequisites: POFL 1303; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

POFL 2301 - LEGAL DOCUMENT PROCESSING
3 Credits (1 hr. lec., 4 hrs. lab.) Develop 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.) Research techniques relating to legal issues for legal administrative assistants. 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 Administrative Services AAS degree or certificate program; completion of 15 credits in degree plan; approval of coordinator.

POFM 1300 - BASIC MEDICAL CODING
3 Credits (2 hrs. lec., 3 hrs. lab.) Presentation and application of basic coding rules, principles, guidelines, and conventions utilizing various coding systems. Prerequisite: HITT 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. ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher. Text on this page has been revised since publication of the printed catalog. Please see addendum for details.
DESCRIPTION

POFM 1317 - MEDICAL ADMINISTRATIVE SUPPORT
3 Credits (2 hrs. lec., 3 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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

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, patient relations, and legal and ethical issues. Prerequisite: HIT 1305.

POFM 2310 - INTERMEDIATE MEDICAL CODING
3 Credits (2 hrs. lec., 3 hrs. lab.) Assignment and application of various coding guidelines with emphasis on physician billing and regulatory requirements. Includes code selection for Evaluation and Management (E/M) and Medical/Surgical cases. Prerequisites: POFM 1300; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

POFM 2333 - MEDICAL DOCUMENT PRODUCTION
3 Credits (2 hrs. lec., 3 hrs. lab.) Create, format and produce publishable medical documents. Prerequisites: HIT 1305, ITSC 1301, POFM 1317.

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: Completion of at least 15 credits in degree or certificate plan.

POFM 2386 - INTERNSHIP - MEDICAL ADMINISTRATIVE ASSISTANT/SECRETARY
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. Prerequisites: HIT 1305 and completion of at least 15 credits in degree or certificate plan.

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 USING TECHNOLOGY
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 2301 - INTERMEDIATE KEYBOARDING
3 Credits (1 hr. lec., 4 hrs. lab.) A continuation of keyboarding skills emphasizing acceptable speed and accuracy levels and formatting documents. Prerequisites: POFT 1329 or ITSW 1301; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

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POFT 2312 - BUSINESS CORRESPONDENCE & COMMUNICATION
3 Credits (2 hrs. lec., 3 hrs. lab.) Development of writing and presentation skills to produce effective business communications. Prerequisite: POFT 1301

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 1301 or COSC 1301 or ITSW 1301; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

PORT 1411 - BEGINNING PORTUGUESE 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. Prerequisite: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing; ENGL 0309 or ENGL 0310 also meets prerequisite

PGST 1115 - INTRO TO POLYSOMNOGRAPHY
1 Credit. (3 hrs. lab.) Introduction to the history of sleep medicine and the role of the technologist in current practice settings. Prerequisite: department approval

PSGT 1260 - POLYSOMNOGRAPHY CLINICAL I
2 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. Prerequisites: PSGT 1305, PSGT 1400, PSGT 1310, and PSGT 1340 and department approval

PSGT 1291 - SPECIAL TOPICS - POLYSOMNOGRAPHY
2 Credits (1 hr. 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. Prerequisites: PSGT 1360 and PSGT 2250 and department approval

PSGT 1305 - NEUROPHYSIOLOGY OF SLEEP
3 Credits (3 hrs. lec.) Review of the human central nervous system as related to sleep. Emphasis on associated wave patterns and collection and utilization of sleep histories. Prerequisite: department approval

PSGT 1310 - NEUROANATOMY & PHYSIOLOGY
3 Credits (2 hrs. lec., 3 hrs. lab.) Basic neuroanatomy and physiology. Includes neurologic history, neurologic exam, and diagnostic tools applied to the study of various neurologic disorders. Prerequisite: department approval

PSGT 1340 - SLEEP DISORDERS
3 Credits (2 hrs. lec., 3 hrs. lab.) Disorders that affect sleep. Includes insomnia, circadian rhythm disorders, narcolepsy, sleep disordered breathing, REM behavior, movement and neuromuscular disorders, medical, and psychiatric. Prerequisite: department approval
PSGT 1360 - POLYSOMNOGRAPHY CLINICAL 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. Prerequisites: PSGT 1260, PSGT 2205 and PSGT 2411 and department approval

PSGT 1400 - POLYSOMNOGRAPHY I  
4 Credits (2 hrs. lec., 6 hrs. lab.) Introduction to polysomnographic technology. Includes terminology, instrumentation, patient safety, infection control, recording and monitoring techniques, documentation, professional issues, and patient-technologist interactions. Prerequisite: department approval

PSGT 2205 - SLEEP SCORING & STAGING  
2 Credits (1 hr. lec., 2 hrs. lab.) Development of skills for sleep scoring, staging, and record preparation. Prerequisites: PSGT 1305, PSGT 1400, PSGT 1310 and PSGT 1340

PSGT 2250 - INFANT PEDIATRIC POLYSOMNOGRAPHY  
2 Credits (1 hr. lec., 4 hrs. lab.) Sleep physiology and the normal sleep patterns of the infant and pediatric population. Includes opportunities to perform a pediatric study. Prerequisites: PSGT 1260, PSGT 2205 and PSGT 2411 and department approval

PSGT 2411 - POLYSOMNOGRAPHY II  
4 Credits (2 hrs. lec., 6 hrs. lab.) Current practices in polysomnography. Includes the use of specialized equipment used to record and monitor various physiological parameters involved with sleep testing. Emphasizes sleep disorders, theory of testing and treatment procedures, and analysis of polysomnography data. Prerequisites: PSGT 1305, PSGT 1400, PSGT 1310 and PSGT 1340 and department approval

PSGT 2661 - POLYSOMNOGRAPHY CLINICAL III  
6 Credits. (36 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: PSGT 1360 and PSGT 2250 and department approval

PSYC 2301 - GENERAL PSYCHOLOGY  
3 Credits (3 hrs. lec.) This course is a survey of the essential subject areas, major theories and approaches to the scientific study of behavior and mental processes. (4201015125) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

PSYC 2306 - HUMAN SEXUALITY  
3 Credits (3 hrs. lec.) This course will provide an overview of the broad field of human sexuality. Topics will be covered from various perspectives – biological, sociological, anthropological, etc., but will focus primarily on the psychological perspective. The goal is for each student to learn factual, scientifically-based information that will provoke thought and contribute to his/her own decision-making on sexual issues outside of the classroom. (4201015325) Prerequisites: PSYC 2301 or departmental approval; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

PSYC 2308 - CHILD GROWTH AND DEVELOPMENT  
3 Credits (3 hrs. lec.) This course will address psychological development from conception through adolescence with references to physical, cognitive, social and personality changes. Students will examine the interplay of biological factors, human interaction, social structures and cultural forces in development. Students who have taken PSYC 2314 must have instructor approval to enroll in PSYC 2308. (4207015125) Prerequisites: PSYC 2301 or departmental approval; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

PSYC 2314 - LIFESPAN GROWTH AND DEVELOPMENT  
3 Credits (3 hrs. lec.) This course explores Lifespan Growth and 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. Students who have taken PSYC 2308 must have instructor approval to enroll in PSYC 2314. (4207015125) Prerequisites: PSYC 2301; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310
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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. Prerequisites: PSYC 2301; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

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. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; 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. Prerequisites: SOC 1301 or PSYC 2301 or departmental approval; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

PTHA 1201 - THE PROFESSION OF PHYSICAL THERAPY
2 Credits (2 hrs. lec.) Introduction to the profession of physical therapy and the role of the physical therapist assistant. Prerequisites: ENGL 0304 or ENGL 0364 AND ENGL 0306 or ENGL 0374 OR ENGL 0302 OR higher level course (ENGL 1301) OR placement by testing.

PTHA 1225 - COMMUNICATION IN HEALTH CARE
2 Credits (2 hrs. lec.) Communication theories and principles for optimal delivery of health care. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite. Corequisites: PTHA 1305 and 1413.

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. Prerequisites: PTHA 1225, 1305 and 1413; Corequisites: PTHA 1431, 2201 and 2435

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. Requires LSCS liability insurance. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite. Corequisites: PTHA 1225 and 1413

PTHA 1321 - PATHOPHYSIOLOGY FOR THE PTA
3 Credits (3 hrs. lec.) Study of the pathophysiology of diseases/conditions encountered in physical therapy. Prerequisites: PTHA 1225, 1305 and 1413; Corequisite: PTHA 2409

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. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite. Corequisites: PTHA 1225 and 1305

PTHA 1431 - PHYSICAL AGENTS
4 Credits (3 hrs. lec., 4 hrs. lab.) Biophysical principles, physiological effects, efficacy, and application of physical agents. Prerequisites: PTHA 1225, 1305, and 1413; Corequisites: PTHA 1260, 2201 and 2435

PTHA 2201 - ESSENTIALS OF DATA COLLECTION
2 Credits (1 hr. lec., 3 hrs. lab.) Data collection techniques used 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 2250 - CURRENT CONCEPTS IN PHYSICAL THERAPY
2 Credits (2 hrs. lec.) Current concepts, skills, and knowledge in the provision of physical therapy services. Includes enhancement of professional development. Prerequisites: PTHA 1321 and PTHA 2409 with a grade of "C" or better in each course

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.) Comprehensive rehabilitation of selected diseases and disorders. 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 2250, PTHA 2462

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 2250, PTHA 2461

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. Prerequisites: PTHA 2461 and 2462; Corequisite: PTHA 2217

PTRT 1191 - SPECIAL TOPICS IN PETROLEUM TECHNOLOGY/TECHNICIAN
1 Credit (1 hr. lec.) This special topics course will assist the student in obtaining and filing the proper paperwork to be eligible for hiring by most public and private organizations. Prerequisite: None

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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; MATH 0308

PTRT 1303 - DRILLING
3 Credits (3 hrs. lec.) A study of practices and procedures for drilling operations. Rig equipment, casing design, fishing, and proper procedures to successfully drill a well are discussed. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

PTRT 1312 - PETROLEUM REGULATIONS
3 Credits (3 hrs. lec.) Regulatory requirements and structures associated with the petroleum industry. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

PTRT 1370 - PETROLEUM GEOLOGY
3 Credits (3 hrs. lec., 1 hr. lab.) An introduction to the principles and practical application of geological and geophysical concepts in the petroleum industry. The course will focus on the use of facies models, rock shapes and structures, porosity and permeability, geophysical logs, drillstem tests, drilling, and production strategies in petroleum exploration. Prerequisites: ENGL 0309 and MATH 0308

PTRT 1371 - PETROLEUM DATA MANAGEMENT I - EXPLORATION
3 Credits (3 hrs. lec., 1 hr. lab.) Overview of computer applications in exploration; covers the history, fundamentals, terminology and software for exploration; introduction to the principles of geology, geophysics and petro-physics. Prerequisites: ENGL 0309 and MATH 0308

PTRT 1372 - PETROLEUM DATA MANAGEMENT II - DRILLING AND PRODUCTION
3 Credits (2 hrs. lec., 2 hrs. lab.) Overview of computer applications in drilling and production. Covers the history, fundamentals, terminology and software for drilling and production. Introduction to the principles
DESCRIPTION OF COURSES

PTRT 1373 - EXPLORATION AND PRODUCTION I
3 Credits (3 hrs. lec., 1 hr. lab.) Overview of various aspects of deepwater operations deepwater exploration, drilling and completing wells, development of production systems. Prerequisites: ENGL 0309 and MATH 0308 and PTRT 1301

PTRT 1374 - EXPLORATION AND PRODUCTION II
3 Credits (3 hrs. lec., 1 hr. lab.) Continue with exploration and production principles including drilling rigs, giant oil and gas fields, beam pumpers, and geological classifications. Prerequisites: ENGL 0309 and MATH 0308 and PTRT 1373

PTRT 1391 - PETROLEUM TROUBLESHOOTING
3 Credits (2 hrs. lec., 4 hrs. lab.) Application of petroleum related systems. Emphasizes related to equipment and devices used in the petroleum production field to solve and troubleshoot problems in the field. Prerequisites: ENGL 0309 or ENGL 0310 and MATH 0308 and ENGL 1301 OR higher level course (ENGL 1301) OR placement by testing.

PTRT 1424 - PETROLEUM INSTRUMENTATION
4 Credits (3 hrs. lec., 3 hrs. lab.) Study of instruments, instrument systems, terminology, process variables, and control coops as used in a petroleum environment. Prerequisites: CETT 1402 or CETT 1409

PTRT 2331 - WELL COMPLETIONS
3 Credits (3 hrs. lec.) Drilling and wellbore analysis data to develop a well completion plan. A study of practices and procedures that are involved in drilling operations and evaluate the effects of production operations choosing the tools and procedures for completing a drilled well-bore. Topics on rig equipment, casing design, fishing, and proper procedures to successfully drill a well are implemented; instruction in volume calculations, hydrostatic pressures, formations pressures, and analyzing problems in down-hole drilling operations. Prerequisite: PTRT 1301

PTRT 2370 - PETROLEUM DATA MANAGEMENT III - FACILITIES & PERFORMANCE
3 Credits (3 hrs. lec., 1 hr. lab.) Overview of computer applications in surface facilities and automation. Covers the history, fundamentals, terminology and software for surface facilities and automation. Prerequisites: MATH 0308 and ENGL 0309 and PTRT 1372 or Instructor Consent

PTRT 2371 - INTERNSHIP - PETROLEUM TECHNOLOGY
3 Credits (1 hr. lec., 17 hr. external) 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 AND ENGL 0309, MATH 0308

PTRT 2380 - COOPERATIVE EDUCATION - PETROLEUM 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: Instructor approval

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 0309 or ENGL 0310 and MATH 0308 and ENGL 1301 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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 0309 or ENGL 0310 and MATH 0308 and ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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

*LSC-CyFair and LSC-Montgomery offer these courses in different semesters so the weekly hours may differ (16 hrs/wk in the fall and 12 hrs/wk in the summer.)
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 1360

**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 profession 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 anatomic 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. Requires LSCS liability insurance. 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 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 1313

**RADR 2305 - PRINCIPLES OF RADIOGRAPHIC IMAGING II**
3 Credits (3 hrs. lec., 1 hr. lab.) Continuation of Radiographic image quality and the effects of exposure variables, 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. Prerequisite: RADR 2331; BIOL 2401 and BIOL 2402 or BIOL 2404

**RADR 2331 - ADVANCED RADIOGRAPHIC PROCEDURES**
3 Credits (3 hrs. lec., 1 hr. lab.) Continuation of positioning; alignment of the anatomic 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.) Anatomic relationships present under various sectional orientations. Prerequisite: Admission to medical radiologic technology 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.

**RADR 2361 - 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 2360.

**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 anatomic structure and equipment, and evaluation of images for proper demonstration of anatomy. Prerequisite: RADR 1460.

**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: RBTC 1401, CETT 1402 or CETT 1409.

**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: CETT 1402 or CETT 1409.

**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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

**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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

**RNSG 1105 - NURSING SKILLS I**
1 Credit (3 hrs. lab.) Study of the concepts and principles necessary to perform basic nursing skills for the adult patient; and demonstrate competence in the performance of nursing procedures. Content includes knowledge, judgment, skills, and professional values within a legal/ethical framework. This course lends itself to a blocked approach. Prerequisites: Admission to the Nursing Integrated or Nursing Block Program; ENGL 1301, PSYC 2301 and BIOL 2401.

**RNSG 1115 - HEALTH ASSESSMENT**
1 Credit (3 hrs. lab.) Development of skills and techniques required for a comprehensive nursing health assessment within a legal/ethical framework. This course lends itself to a blocked approach. Prerequisites: ENGL 1301, BIOL 2401, PSYC 2301; Corequisites: BIOL 2402, RNSG 1144, 1146, 1209 and 1105.

**RNSG 1144 - NURSING SKILLS II**
1 Credit (3 hrs. lab.) Study of the concepts and principles necessary to perform intermediate or advanced nursing skills for the adult patient; and demonstrate competence in the performance of nursing procedures. Content includes knowledge, judgment, skills and professional values within a legal/ethical framework. This course lends itself to a blocked approach. Prerequisites: BIOL 2401, PSYC 2301, ENGL 1301; Corequisites: RNSG 1105, 1209, 1115, 1146.

**RNSG 1219, 1119 - INTEGRATED NURSING SKILLS I**
2 Credits (1 hr. lec., 3 hrs. lab.) Study of the concepts and principles necessary to perform basic nursing skills for care of diverse patients across the life span; demonstrate competence in the performance of nursing procedures. Content includes knowledge, judgment, skills and professional values within a legal/ethical framework. This course lends itself to an integrated approach. Prerequisites: None; RNSG 1105, PSYC 2301, BIOL 2401, ENGL 1301 and admission to the ADN program; Corequisites: RNSG 1301, 1361 and 1523; and BIOL 2402.

**RNSG 1229 - INTEGRATED NURSING SKILLS II**
2 Credit (4 hrs. lab.) Study of the concepts and principles necessary to perform intermediate or advanced
nursing skills for care of diverse patients across the life span. Content includes knowledge, judgment, skills, and professional values within a legal/ethical framework. This course lends itself to an integrated approach. Prerequisites: ENGL 1301, RNSG 1144, RNSG 1301, RNSG 1523, BIOL 2402 Corequisites: RNSG 1362 and RNSG 2504

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 professional. Requires LSCS liability insurance. Prerequisites: RNSG 1144 and BIOL 2402; Corequisites: RNSG 1341 and BIOL 2420

RNSG 1301 - PHARMACOLOGY
3 Credits (3 hrs. lec.) Introduction to the science of pharmacology with emphasis on the actions, interactions, adverse effects, and nursing implications of drug classifications. Content includes the roles and responsibilities of the nurse in safe administration of medications within a legal/ethical framework. This course lends itself to either a blocked or integrated approach. Prerequisite: BIOL 2401 OR current licensure as RN, LVN, or Paramedic; Corequisite: BIOL 2402

RNSG 1309 - INTRODUCTION TO NURSING
3 Credits (3 hrs. lec.) Overview of nursing and the role of the professional nurse as provider in patient-centered care, patient safety advocate, member of health care team, and member of the profession. Content includes knowledge, judgment, skills and professional values with a legal/ethical framework. This course lends itself to a blocked approach. Prerequisites: BIOL 2401, PSYC 2301, ENGL 1301; Corequisites: RNSG 1105, 1115, 1144

RNSG 1341 - COMMON CONCEPTS OF ADULT HEALTH
3 Credits (3 hrs. lec.) Basic integration of the role of the professional nurse as a provider of patient-centered care, patient safety advocate, member of health care team, and member of the profession. Study of the common concepts of caring for adult patients and families with medical-surgical health care needs related to body systems, emphasizing knowledge, judgment, skills, and professional values within a legal/ethical framework. This course lends itself to a blocked approach. 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 patient-centered care, patient safety advocate, member of health care team, and member of a profession in the care of adult patients and families with complex medical-surgical health care needs associated with body systems. Emphasis on complex knowledge, judgments, skills, and professional values within a legal/ethical framework. This course lends itself to a blocked approach. Prerequisites: RNSG 1341 and RNSG 1261; Corequisites: RNSG 1362 and BIOL 2420

RNSG 1360 - CLINICAL - NURSING FOR ARTICULATING STUDENTS
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: admission to nursing RN transition program and PSYC 2301, PSYC 2314, BIOL 2401, BIOL 2402, BIOL 2420, ENGL 1301, RNSG 1301 Corequisites: RNSG 1517

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 1105 and admission to the ADN Program; Corequisites: RNSG 1362, 1319 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 1319, 1361, 1523, 1301; BIOL 2402; Corequisites: RNSG 1229 and 2504

RNSG 1517 - CONCEPTS OF PROFESSIONAL NURSING PRACTICE FOR ARTICULATING STUDENTS
5 Credits (5 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; and competency in knowledge, judgment, skill, and professional values within a legal/ethical framework. This course lends itself to either a blocked or integrated approach. Prerequisites: Admission to nursing RN transition program, BIOL 2401, 2402; PSYC 2301, 2314, RNSG 1301; Corequisite: RNSG 1260
### DESCRIPTION OF COURSES

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisites/Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>RNSG 1523</td>
<td>INTRO TO PROFESSIONAL NURSING FOR INTEGRATED PROGRAMS</td>
<td>5</td>
<td>(4 hrs. lec., 2 hrs. lab.) Introduction to the profession of nursing including the roles of the professional nurse as provider of patient-centered care, patient safety advocate, member of health care team, and member of profession 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 patients across the life span; and applicable competencies in knowledge, judgment, skills, and professional values within a legal/ethical framework. This course lends itself to an integrated approach. Prerequisites: Admission to ADN program, BIOL 2401, PSYC 2301, ENGL 1301, and RNSG 1105; Corequisites: RNSG 1119, 1219, and 1361</td>
</tr>
<tr>
<td>RNSG 2162</td>
<td>CLINICAL: MENTAL HEALTH NURSING</td>
<td>2</td>
<td>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 1362, RNSG 1343, PSYC 2314, SOCI 1301; Corequisites: RNSG 2213 and SPCH 1318</td>
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<tr>
<td>RNSG 2201</td>
<td>CARE OF CHILDREN AND FAMILIES</td>
<td>2</td>
<td>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 1362; Corequisites: RNSG 2260, 2261</td>
</tr>
<tr>
<td>RNSG 2207</td>
<td>ADAPTATION TO ROLE OF PROFESSIONAL NURSE</td>
<td>2</td>
<td>Selected concepts related to the role of the professional nurse as a provider of patient-centered care, patient safety advocate, member of health care team, and member of the profession. Review of trends and issues impacting nursing and health care today and in the future. Content includes knowledge, judgment, skill, and professional values within a legal/ethical framework. Prerequisites: RNSG 1229, RNSG 2361, and RNSG 2514</td>
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<tr>
<td>RNSG 2208</td>
<td>MATERNAL/NEWBORN NURSING AND WOMEN’S HEALTH</td>
<td>2</td>
<td>Concepts related to nursing care for childbearing families and women’s health issues. Content includes knowledge, judgment, skill, and professional values within a legal/ethical framework. This course lends itself to a blocked approach. Prerequisite: RNSG 1362 or RNSG 1162;</td>
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<tr>
<td>RNSG 2213</td>
<td>MENTAL HEALTH NURSING</td>
<td>2</td>
<td>Principles and concepts of mental health, psychopathology, and treatment modalities related to the nursing care of patients and their families. This course lends itself to a blocked approach. Prerequisites: RNSG 1362, SOCI 1301; Corequisites: RNSG 2162</td>
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<tr>
<td>RNSG 2231</td>
<td>ADVANCED CONCEPTS OF ADULT HEALTH</td>
<td>2</td>
<td>Application of advanced concepts and skills for the development of the professional nurse’s roles with adult patients and families involving multiple body systems. Emphasis on advanced knowledge, judgment, skills, and professional values within a legal/ethical framework. This course lends itself to a blocked approach. Prerequisites: RNSG 2162, 2260, 2261; Corequisite: RNSG 2207</td>
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<tr>
<td>RNSG 2260</td>
<td>CLINICAL - CARE OF CHILDREN AND FAMILIES</td>
<td>2</td>
<td>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 1362, PSYC 2314; Corequisite: RNSG 2201</td>
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<tr>
<td>RNSG 2261</td>
<td>CLINICAL - MATERNAL/NEWBORN NURSING</td>
<td>2</td>
<td>Principles and concepts of mental health, psychopathology, and treatment modalities related to the nursing care of patients and their families. This course lends itself to a blocked approach. Prerequisites: RNSG 1362; Corequisite: RNSG 2208</td>
</tr>
<tr>
<td>RNSG 2307</td>
<td>ADAPTATION TO ROLE OF PROFESSIONAL NURSE</td>
<td>3</td>
<td>Selected concepts related to the role of the professional nurse as a provider of patient-centered care, patient safety advocate, member of health care team, and member of the profession. Review of trends and issues impacting nursing and health care today and in the future. Content includes knowledge, judgment, skill, and professional values within a legal/ethical framework. This course lends itself to a blocked approach. Prerequisites: RNSG 2201, RNSG 2208, RNSG 2213, RNSG 2162;</td>
</tr>
</tbody>
</table>
RNSG 2261, RNSG 2260

**RNSG 2361 - CLINICAL - NURSING III**
5 Credits (4 hrs. lec., 2 hrs. lab.) A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. Requires LSCS liability insurance. Prerequisites: RNSG 1129, 1260, 1362, 1417, 2504; BIOL 2420; PSYC 2314; SOCI 1301; Corequisites: RNSG 2362, 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 2361, 2514; Corequisites: RNSG 1207, 2535

**RNSG 2504 - INTEGRATED CARE OF THE PATIENT WITH COMMON HEALTH CARE NEEDS**
5 Credits (4 hrs. lec., 2 hrs. lab.) Application of a systematic problem-solving process, critical thinking skills and concepts to provide nursing care to diverse patients and families across the life span with common health care needs including, but not limited to, common childhood/adolescent diseases, uncomplicated perinatal care, mental health concepts, perioperative care, frequently occurring adult health problems and health issues related to aging. Emphasis on secondary disease prevention and collaboration with members of the interdisciplinary health care team. Content includes roles of the professional nurse and applicable competencies in knowledge, judgment, skills, and professional values within a legal/ethical framework. This course lends itself to an integrated approach. Prerequisites: RNSG 1229, 2361, 2514; Corequisites: RNSG 1207, 2535

**RNSG 2535 - INTEGRATED PATIENT CARE MANAGEMENT**
5 Credits (4 hrs. lec., 2 hrs. lab.) Application of independent nursing interventions to care for diverse patients and families throughout the life span whose health care needs may be difficult to predict. Emphasis on collaborative clinical reasoning, nursing leadership skills, and patient management. Content includes the significance of professional development, trends in nursing and health care, and applicable knowledge, judgment, skills, and professional values within a legal/ethical framework. This course lends itself to an integrated approach. Prerequisites: RNSG 1229, 2361, 2514; Corequisites: RNSG 2362

**RNSG 2560 - CLINICAL - REGISTERED NURSING**
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. Requires LSCS liability insurance. Prerequisites: RNSG 2362, 2260, 2261; Corequisites: RNSG 2361, 2514

**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. This course may be offered only by a college with a program approved by the Commission on Accreditation for Respiratory Care Education (CoARC) or successor organizations. Requires LSCS liability insurance. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

**RSPT 1166 - 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 for Respiratory Care Education (CoARC) or successor organizations. Requires LSCS liability insurance. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310
also meets prerequisite; Corequisites: RSPT 1201, 1325, and 1429

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. This course may be offered only by a college with a program approved by the Commission on Accreditation for Respiratory Care Education (CoARC) or successor organizations. Requires LSCS liability insurance. Prerequisite: None; Corequisite: RSPT 1166

RSPT 1201 - INTRODUCTION TO RESPIRATORY CARE
2 Credits (1 hr. lec., 4 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 for Respiratory Care Education (CoARC) or successor organizations. Prerequisite: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; Corequisite: RSPT 1166

RSPT 1207 - CARDIOPULMONARY ANATOMY AND PHYSIOLOGY
2 Credits (1 hr. lec., 4 hrs. lab.) Anatomy and physiology of the cardiovascular and pulmonary systems. This course may be offered only by a college with a program approved by the Commission 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 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. This course may be offered only by a college with a program approved by the Commission on Accreditation for Respiratory Care Education (CoARC) or successor organizations. Prerequisite: None

RSPT 1310 - RESPIRATORY CARE PROCEDURES I
3 Credits (2 hrs. lec., 4 hrs. lab.) Essential knowledge of the equipment and techniques used in the treatment of cardiopulmonary disease. 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 for Respiratory Care Education (CoARC) or successor organizations. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

RSPT 1429 - RESPIRATORY CARE FUNDAMENTALS
4 Credits (2 hrs. lec., 6 hrs. lab.) Introduction to respiratory care fundamentals. This course may be offered only by a college with a program approved by the Commission on Accreditation for Respiratory Care Education (CoARC) or successor organizations. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; Corequisite: RSPT 1166

RSPT 1431 - RESPIRATORY CARE FUNDAMENTALS II
4 Credits (2 hrs. lec., 6 hrs. lab.) Continued development of knowledge and skills for respiratory care. This course may be offered only by a college with a program approved by the Commission on Accreditation for Respiratory Care Education (CoARC) or successor organizations. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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 for Respiratory Care Education (CoARC) or successor organizations. Prerequisite: None
RSPT 2166 - PRACTICUM RESPIRATORY CARE THERAPY/ThERAPIST
1 Credit (10 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 for Respiratory Care Education (CoARC) or successor organizations. Requires LSCS liability insurance. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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 for Respiratory Care Education (CoARC) or successor organizations. Prerequisite: None

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 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 for Respiratory Care Education (CoARC) or successor organizations. Prerequisite: None

RSPT 2260 - CLINICAL RESPIRATORY CARE THERAPY/ThERAPIST
2 Credit (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. This course may be offered only by a college with a program approved by the Commission on Accreditation for Respiratory Care Education (CoARC) or successor organizations. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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 for Respiratory Care Education (CoARC) or successor organizations. Prerequisite: None

RSPT 2353 - NEONATAL/PEDIATRIC CARDIOPULMONARY CARE
3 Credits (1 hr. lec., 5 hrs. lab.) A study of neonatal/pediatric cardiopulmonary care. This course may be offered only by a college with a program approved by the Commission 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 for Respiratory Care Education (CoARC) or successor organizations. Requires LSCS liability insurance. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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 directing, and in-camera or basic continuity editing with an emphasis on underlying principles of video technology. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite
DESCRIPTION OF COURSES

RTVB 1325 - TV STUDIO PRODUCTION
3 Credits (2 hrs. lec., 4 hrs. lab.) Basic television production planning and techniques including video, audio and lighting equipment commonly used in a studio. Prerequisite: None

RTVB 1429 - SCRIPTWRITING
4 Credits (4 hrs. lec.) Writing scripts for film and electronic media. Emphasizes format and style for commercials, public service announcements, promos, news, and documentaries. Prerequisite: None

RTVB 2164 - PRACTICUM
1 Credit (8 hrs. ext.) Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student. Prerequisites: AVTS 1371, RTVB 1321, RTVB 2330

RTVB 2330 - FILM AND VIDEO EDITING
3 Credits (2 hrs. lec., 2 hrs. lab.) Film and broadcast editing for the preparation and completion of shorts, trailers, documentaries, and features. Prerequisite: None

RTVB 2337 - TV PRODUCTION WORKSHOP I
3 Credits (2 hrs. lec., 4 hrs. lab.) Design and production of video content for location or studio shoots adhering to deadline and quality control restrictions. Prerequisite: Meets final semester requirement for Video and Post Production certificate or Visual Communication AAS degree-track C (Video and Post-Production)

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 for Video and Post Production certificate, Motion Graphics certificate, or Visual Communication AAS degree - track C (video and Post-Production)

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: DAAC 1317 1417, DAAC 2354 and SCWK 1321; ENGL 0304 or ENGL 0364 AND ENGL 0306 or ENGL 0374 OR ENGL 0302 OR higher level course (ENGL 1301) OR placement by testing

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: DAAC 1317 1417, DAAC 2354 and SCWK 1321; ENGL 0304 or ENGL 0364 AND ENGL 0306 or ENGL 0374 OR ENGL 0302 OR higher level course (ENGL 1301) OR placement by testing

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: None ENGL 0304 or ENGL 0364 AND ENGL 0306 or ENGL 0374 OR ENGL 0302 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: DAAC 1317 1417 DAAC 2354 and SCWK 1321; ENGL 0304 or ENGL 0364 AND ENGL 0306 or ENGL 0374 OR ENGL 0302 OR higher level course (ENGL 1301) OR placement by testing

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 the historical development of social services; populations served by social service workers; and review of current treatment and/or services. Prerequisites: None ENGL 0304 or ENGL 0364 AND ENGL 0306 or ENGL 0374 OR ENGL 0302 OR higher level course (ENGL 1301) OR placement by testing

SCWK 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

SCWK 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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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 or ENGL
0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375
or ENGL 0117 OR higher level course (ENGL 1301)
OR placement by testing. ENGL 0309 or ENGL 0310
also meets prerequisite

SLNG 2431 - INTERPRETING III
4 Credits (3 hrs. lec., 4 hrs. lab.) A practice orient-
ed course to strengthen skills in the integration and
application of processing more complex selections.
Continued exposure to simulated interpreting expe-
rience through the use of multimedia material. This
course will also include the use of computer labora-
tories, multimedia equipment and video equipment to
assess and enhance sign-to-voice and voice-to-sign skill
development. Prerequisites: SLNG 2402; ENGL 0305
or ENGL 0365 or ENGL 0115 AND ENGL 0307 or
ENGL 0375 or ENGL 0117 OR higher level course
(ENGL 1301) OR placement by testing. ENGL 0309
or ENGL 0310 also meets prerequisite

SLNG 2589 - INTERNSHIP: SIGN LANGUAGE
INTERPRETER
5 Credits (20 hrs. ext.) A work-based learning expe-
rience 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 or ENGL 0365 or
ENGL 0115 AND ENGL 0307 or ENGL 0375 or
ENGL 0117 OR higher level course (ENGL 1301)
OR placement by testing. ENGL 0309
or ENGL 0310 also meets prerequisite

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
or ENGL 0365 or ENGL 0115 AND ENGL 0307 or
ENGL 0375 or ENGL 0117 OR higher level course
(ENGL 1301) OR placement by testing. ENGL 0309
or ENGL 0310 also meets prerequisite

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 or
ENGL 0365 or ENGL 0115 AND ENGL 0307 or
ENGL 0375 or ENGL 0117 OR higher level course
(ENGL 1301) OR placement by testing. ENGL 0309
or ENGL 0310 also meets prerequisite

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. (4227075125) Prerequisites: SOCI
1301 or PSYC 2301 or departmental approval; ENGL
0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or
ENGL 0375 or ENGL 0117 OR higher level course
(ENGL 1301) OR placement by testing. ENGL 0309
or ENGL 0310 also meets prerequisite

SPAN 1300 - SPANISH CONVERSATION I
3 Credits (3 hrs. lec.) This is a conversational Spanish
course for beginners. It includes extensive comprehen-
sion, 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 or ENGL 0365
or ENGL 0115 AND ENGL 0307 or ENGL 0375 or
ENGL 0117 OR higher level course (ENGL 1301) OR

Prerequisites: ENGL 0305 or ENGL 0365 or ENGL
0115 AND ENGL 0307 or ENGL 0375 or ENGL
0117 OR higher level course (ENGL 1301) OR
placement by testing. ENGL 0309 or ENGL 0310
also meets prerequisite

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 cul-
tures and subcultures. Second, this course examines
some of the problems and possible solutions that
have developed in courtship, marriage and parent-
hood in a society undergoing rapid social change.
(4511015425) Prerequisites: ENGL 0305 or
ENGL 0365 or ENGL 0115 AND ENGL 0307 or
ENGL 0375 or ENGL 0117 OR higher level course
(ENGL 1301) OR placement by testing. ENGL 0309
or ENGL 0310 also meets prerequisite

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Text on this page has been revised since publication of the printed catalog. Please see addendum for details.
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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

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 improve to the next level and receive credit. (1609055213) Prerequisites: SPAN 1412 or placement by exam; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

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, SPAN 2313 OR placement by exam; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

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 2313046012) Prerequisites: Approval of instructor; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

SPCH 1311 - INTRODUCTION TO COMMUNICATION
3 Credits (3 hrs. lec.) Introduces basic human communication principles and theories embedded in a variety of contexts including interpersonal, small group, and public speaking. (2313045112) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

SPCH 1315 - PUBLIC SPEAKING
3 Credits (3 hrs. lec.) Application of communication theory and practice to the public speaking context, with emphasis on audience analysis, speaker delivery, ethics of communication, cultural diversity, and speech organizational techniques to develop students’ speaking abilities. (2313045312) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or
ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

SPCH 1318 - INTERPERSONAL COMMUNICATION
3 Credits (3 hrs. lec.) Application of communication theory to interpersonal relationship development, maintenance, and termination in relationship contexts including friendships, romantic partners, families, and relationships with co-workers and supervisors. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

SPCH 1321 - BUSINESS AND PROFESSIONAL COMMUNICATION
3 Credits (3 hrs. lec.) Study and application of communication within the business and professional context. Special emphasis will be given to communication competencies in presentations, dyads, teams, and technologically mediated formats. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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. Requires LSCS liability insurance. Prerequisites SRGT 1405; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; Corequisite: BIOL 2404

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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; MATH 0306

SRGT 1409 - FUNDAMENTALS OF PERIOPERATIVE CONCEPTS AND TECHNIQUES
4 Credits (3 2 hrs. lec., 4 6 hrs. lab.) In-depth coverage of perioperative concepts such as aseptic/sterile principles and practices, infectious processes, wound healing, and creation and maintenance of the sterile field. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or
ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; 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. Requires LSCS liability insurance. Prerequisites: SRGT 1260; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; MATH 0306

SRGT 1541 - SURGICAL PROCEDURES I
5 Credits (4 5 hrs. lec., 2 hrs. 1 hr. lab.) Introduction to surgical procedures and related pathologies with emphasis on surgical procedures related to general, obstetrics/gynecology, genitourinary, otorhinolaryngology, and orthopedic surgical specialties incorporating instruments, equipment, and supplies. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; MATH 0306

SRGT 1542 - SURGICAL PROCEDURES II
5 Credits (4 5 hrs. lec., 2 hrs. 1 hr. lab.) Introduction to surgical procedures and related pathologies with emphasis on surgical procedures related to thoracic, peripheral vascular, plastic/reconstructive, ophthalmology, cardiology, and neurological surgical specialties incorporating instruments, equipment, and supplies. Prerequisites: SRGT 1541; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; MATH 0306

SRGT 2130 - PROFESSIONAL READINESS
1 Credit (1 hr. lec.) Overview of professional readiness for employment, attaining certification, and maintaining certification status. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; 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. Requires LSCS liability insurance. Prerequisites: SRGT 1460; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; 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 ENGL 0364 AND ENGL 0306 or 0374 OR ENGL 0302 OR higher level course (ENGL 1301) OR placement by testing

SRVY 1315 - SURVEYING CALCULATIONS I
3 Credits (3 hrs. lec.) Review and application of mathematics used in surveying and mapping. Prerequisites: SRVY 1301; MATH 0306

SRVY 1319 - INTRODUCTION TO GEOGRAPHIC INFORMATION SYSTEMS
3 Credits (2 hrs. lec., 2 hrs. lab.) A study of the theory of geographic information systems, including conceptual understanding and database development, terms, definitions, classifications, use and client requirements, and prevailing and applicable professional standards. Projects and procedures to establish maps based upon geographic information systems. This course is part of the LSCS technology program. Prerequisites: SRVY 1301; 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. Prerequisite: SRVY 1301.

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 - PLAN 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 calculators and computers. Addresses methods of traversing and adjustment of errors according to prevailing professional standards. Prerequisite: None; Corequisite: SRVY 1301.

SRVY 2309 - COMPUTER AIDED MAPPING
3 Credits (3 hrs. lec., 1 hr. lab.) Production of survey maps using appropriate computer aided drafting software. Includes plats, civil engineering design drawings and topographic maps. Prerequisite: 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 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, and record search of public and private land records. Prerequisites: SRVY 1301; ENGL 0305 or ENGL 0365 or ENGL 0115 and ENGL 0307 or ENGL 0375 or ENGL 0117 or higher level course (ENGL 1301) or placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

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. (1301015209) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 and ENGL 0307 or ENGL 0375 or ENGL 0117 or higher level course (ENGL 1301) or placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

TECA 1311 - EDUCATING YOUNG CHILDREN
3 Credits (2 hrs. lec., 2 hrs. lab.) An introduction to the education of the young child, including developmentally appropriate practices and programs, theoretical and historical perspectives, ethical and professional responsibilities, and current 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 or ENGL 0365 or ENGL 0115 and ENGL 0307 or ENGL 0375 or ENGL 0117 or higher level course (ENGL 1301) or placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

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: ENGL 0365 or ENGL 0375 or ENGL 0115 AND ENGL 0375 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

TECM 1303 - TECHNICAL CALCULATIONS
3 Credits (3 hrs. lec., 1 hr. lab.) 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 1119 - LEADERSHIP AND PROFESSIONAL DEVELOPMENT
1 Credit (1 hr. 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, 1262, 1331 and 1409; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; Corequisite: VNSG 1323.

VNSG 1163 - CLINICAL - PEDIATRIC
1 Credit (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 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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; Corequisite: VNSG 1334.

VNSG 1216 - NUTRITION
2 Credits (2 hrs. 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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

VNSG 1226 - GERONTOLOGY
2 Credits (2 hrs. lec.) Overview of the physical, psychosocial, and cultural aspects of the aging process. Addresses disease processes of aging. Exploration of perceptions toward care of the older adult. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310.
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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 or higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; Corequisite: VNSG 1400

VNSG 1262 - CLINICAL II
2 Credits (11 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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; Corequisite: VNSG 1409

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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; Corequisite: VNSG 1409

VNSG 1323 - BASIC NURSING SKILLS
3 Credits (2 hrs. lec., 3 hrs. lab.) Mastery of basic nursing skills and competencies for a variety of health care settings using the nursing process as the foundation for all nursing interventions. Prerequisites: Program Admission; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing; ENGL 0309 or ENGL 0310 also meets prerequisite; Corequisite: VNSG 1160

VNSG 1330 - MATERNAL-NEONATAL NURSING
3 Credits (3 hrs. lec.) A study of the biological, psychological, and sociological concepts applicable to basic needs of the family including childbearing and neonatal care. Utilization of the nursing process in the assessment and management of the childbearing family. 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, VNSG 1311, VNSG 1262, VNSG 1409; ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing; Corequisite: VNSG 2161

VNSG 1331 - PHARMACOLOGY
3 Credits (3 hrs. lec.) 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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing; ENGL 0309 or ENGL 0310 also meets prerequisite; Corequisites: VNSG 1262 and 1409

VNSG 1334 - PEDIATRICS
3 Credits (3 hrs. lec., 1 hr. lab.) Study of the care of the pediatric patient and family during health and disease. Emphasis on growth and developmental needs utilizing the nursing process. Prerequisites: VNSG 1160, VNSG 1260, VNSG 1304, VNSG 1323, VNSG 1400, BIOL 2404; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; Corequisite: VNSG 1163

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 patient across the life span, and therapeutic nursing interventions. Prerequisites: Program admission; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; Corequisite: VNSG 1260

VNSG 1409 - NURSING IN HEALTH AND ILLNESS II
4 Credits (4 hrs. lec., 1 hr. lab.) Introduction to health problems requiring medical and surgical interventions. Prerequisites: VNSG 1160, 1260, 1304, 1323, and 1400; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117
VNSG 1410 - NURSING IN HEALTH AND ILLNESS III
4 Credits (4 hrs. lec., 1 hr. lab.) Continuation of Nursing in Health and Illness II. Further study of medical-surgical health problems of the patient including concepts of mental illness. Incorporates knowledge necessary to make the transition from student to graduate vocational nurse. Prerequisites: VNSG 1163, 1331, 1262 and 1409; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; Corequisite: VNSG 1262

VNSG 2161 - MATERNAL/NEWBORN CLINICAL
1 Credit (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 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, 1331, 1262, and 1409; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; Corequisite: VNSG 1330

VNSG 2361 - CLINICAL III
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. 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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; 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 drug dosages. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite AND departmental approval

VTHT 1140 - VETERINARY JURISPRUDENCE AND ETHICS
1 Credit (1 hr. lec.) Survey of laws, regulations, and ethical standards governing the veterinary profession. Prerequisite: VTHT 1413; Corequisite: VTHT 1441

VTHT 1166 - PRACTICUM VETERINARY/ANIMAL HEALTH TECHNOLOGY/TECHNICIAN
1 Credit (10 hrs. ext.) Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student. Prerequisites: VTHT 1209, VTHT 1413, VTHT 2209 AND departmental approval

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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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,
abnormal absorption, and metabolism with application to normal and therapeutic nutritional needs. Prerequisites: VTHT 1205, VTHT 1301, VTHT 2217 AND departmental approval

**VTHT 1301 - INTRODUCTION TO VETERINARY TECHNOLOGY**

3 Credits (1 hr. lec., 4 hrs. lab.) Survey of the profession of veterinary technology with emphasis on basic techniques, handling and care of animals, and ethical and professional requirements. Clinical rotational time will be incorporated in the laboratory to develop feeding, handling, and medical treatment techniques. Prerequisites: Departmental approval; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

**VTHT 1345 - VETERINARY RADIOLOGY**

3 Credits (1 hr. lec., 4 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. Clinical rotational time will be incorporated in the laboratory to develop phlebotomy techniques and handling skills. Prerequisites: VTHT 1413 AND departmental approval; Corequisites: VTHT 1140, VTHT 1345 and VTHT 2431

**VTHT 1349 - VETERINARY PHARMACOLOGY**

3 Credits (1 hr. lec., 4 hrs. lab.) Fundamentals of pharmacology including recognition, calculation, labeling, packaging, and administration of veterinary drugs, biologics and therapeutic agents. Discussion of normal and abnormal responses to these agents. Clinical rotation time is incorporated in the laboratory to develop protocols for handling techniques in parenteral pharmaceutical applications. Prerequisites: VTHT 1125, VTHT 1209, VTHT 1301 and VTHT 1413

**VTHT 1413 - VETERINARY ANATOMY AND PHYSIOLOGY**

4 Credits (2 hrs. lec., 5 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. Clinical rotation time is incorporated in the laboratory to develop feeding, handling, and treatment techniques for all domestic animals. Prerequisites: VTHT 1205, VTHT 1301, VTHT 2217 AND departmental approval

**VTHT 1441 - ANESTHESIA AND SURGICAL ASSISTANCE**

4 Credits (2 hrs. lec., 6 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 2201, 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 1125, 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. Prerequisites: VTHT 1205, VTHT 1301, and VTHT 1413

**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, VTHT 1301, and VTHT 2217

**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. Corequisites: VTHT 1301

This page has been added to the online PDF to accommodate additional text added after publication. Please see addendum for details.
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 1209, 1413, and 1266 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. Prerequisite: VTHT 2323; Corequisites: VTHT 1345, 1411, 1140, and 2431

VTHT 2421 - VETERINARY PARASITOLOGY
4 Credits (3 hrs. lec., 3 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, VTHT 1413, and VTHT 2209

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 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 1345, 1411, 1140, and 2431

WIND 1300 - INTRODUCTION TO WIND ENERGY
3 Credits (2 hrs. lec., 2 hrs. lab.) Introduction of wind technology, wind farm design, and wind power delivery. Prerequisite: None

WIND 2359 - WIND POWER DELIVERY SYSTEM
3 Credits (2 hrs. lec., 2 hrs. lab.) Components, equipment, and infrastructure used in the production and transmission of electricity as related to wind turbine power. Prerequisite: WIND 1300

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, repousse, and piercing to create objects from sheet and stock materials. Includes welding, brazing, soldering, tinning, polishing, and tool making. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

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 welding processes. 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: WLDG 1413 and WLDG 1421

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. Prerequisite: None.

WLDG 1428 - INTRODUCTION TO SHIELDED METAL ARC WELDING (SMAW)
4 Credits (3 hrs. lec., 3 hrs. lab.) An introduction to the 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. Prerequisites: WLDG 1421 and WLDG 1413

WLDG 1430 - INTRODUCTION TO GAS METAL ARC WELDING (GMAW)
4 Credits (3 hrs. lec., 3 hrs. lab.) Principles of gas metal arc welding, setup and use of Gas Metal Arc Welding (GMAW) equipment, and safe use of tools/equipment. Instruction in various joint designs. Prerequisites: WLDG 1413 and WLDG 1421

WLDG 1434 - INTRODUCTION TO GAS TUNGSTEN ARC WELDING (TIG)
4 Credits (3 hrs. lec., 3 hrs. lab.) Principles of gas
tungsten arc welding (GTAW), including setup, GTAW equipment. Instruction in various positions and joint designs. Prerequisites: WLDG 1413 and WLDG 1421

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 1453 - INTERMEDIATE LAYOUT AND FABRICATION
4 Credits (3 hrs. lec., 3 hrs. lab.) An intermediate course in layout and fabrication. Includes design and production of shop layout and fabrication. Emphasis placed on symbols, blueprints, and written specifications. Prerequisite: WLDG 1417

WLDG 1457 - INTERMEDIATE SHIELDED METAL ARC WELDING (SMAW)
4 Credits (3 hrs. lec., 3 hrs. lab.) A study of the production of various fillets and groove welds. Preparation of specimens for testing in various positions. 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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

WLDG 2435 - ADVANCED LAYOUT AND FABRICATION
4 Credits (3 hrs. lec., 3 hrs. lab.) An advanced course in layout and fabrication. Includes production and fab-
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<thead>
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<th>Title</th>
<th>Education</th>
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<tbody>
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<td>Jan Koenig</td>
<td>Government &amp; Public Affairs</td>
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<tr>
<td>Stephen Koszewski</td>
<td>Corporate College</td>
<td>M.S., University of Houston</td>
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<tr>
<td>Darlene Krampota</td>
<td>Acct Payable &amp; Fixed Assets</td>
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<td>Robin Krath</td>
<td>Public Safety</td>
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<td>Helen Kubiak</td>
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<td>John Lambert</td>
<td>Office of Technology Services</td>
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<td>Joseph Lambright</td>
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<td>Jerry Langley</td>
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<tr>
<td>Tamela Larson</td>
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<td>M.Ed., Colorado State University</td>
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<td>Linda Lattelle</td>
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<td>Jennifer Leadbetter</td>
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<td>J. Dianne Leal</td>
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<td>Michael Ledinski</td>
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<td>Monique Lee</td>
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<tr>
<td>Jacqueline Lieber</td>
<td>Customized Training</td>
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<td>Ketra Lincoln</td>
<td>Workforce Education</td>
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<td>Karen Lovejoy</td>
<td>Chancellor’s Office</td>
<td>M.S., Texas A&amp;M University – Texarkana</td>
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<td>Blerta Lumani</td>
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<td>Filogonio Luna</td>
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<td>Gloria Lyons-Miller</td>
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<td>John Mahoney</td>
<td>Machining</td>
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<td>Alexander Mai</td>
<td>Office of Technology Services</td>
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<td>B.S.N., University of Texas Health Center School of Nursing-San Antonio</td>
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<td>Nakeya Manning</td>
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<tr>
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LONE STAR COLLEGE–KINGWOOD
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## LONE STAR COLLEGE–KINGWOOD
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<thead>
<tr>
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<th>Department</th>
<th>Degrees and Institutions</th>
</tr>
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<tbody>
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<td>Carmencita Abood</td>
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<td>M.S.N., University of Phoenix, M.B.A., University of Phoenix</td>
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<tr>
<td>Hamid Amnieh</td>
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<td>Miroslawa Moryson</td>
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<td>Victor Moussoki</td>
<td>Economics</td>
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<td>John Nevins</td>
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<td>Jeffrey A. Norem</td>
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<td>Maria Del Carmen Marin Ocana</td>
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<td>Catherine H. Olson</td>
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<td>Debra Parish</td>
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<td>Vaheribhai C. Patel</td>
<td>Mathematics/Developmental Math</td>
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<td>James A. Pelezco</td>
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<td>Van A. Piercy</td>
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<td>Steven W. Prewitt</td>
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<td>Cynthia Reese</td>
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<td>Terra Ruppert</td>
<td>Occupational Therapy</td>
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<td>William J. Simcik</td>
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<td>Jane D. Simons</td>
<td>Computer Information Systems</td>
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LONE STAR COLLEGE–TOMBALL
FACULTY
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<tr>
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<td>Reyna L. Sirias</td>
<td>Foreign Languages</td>
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<td>Rachel N. Smith</td>
<td>Mathematics/Developmental Math</td>
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<td>Kyle Solak</td>
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<td>Earl Staley</td>
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<td>Melissa Studdard</td>
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<td>Jackie Thomas</td>
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<td>Sean Tiffee</td>
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<td>Alanna M. Tynes</td>
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<td>Kristin Vandenbelt</td>
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<td>Sherri R. White</td>
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<td>Tracie J. Wood</td>
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<td>Melanie M. Younger</td>
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LONE STAR COLLEGE–TOMBALL
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M.A., Sverdlovsk State Pedagogical
B.A., Sverdlovsk State Pedagogical
# Faculty

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<tr>
<th>Name</th>
<th>Department</th>
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<tr>
<td>Gregory Oaks</td>
<td>English</td>
<td>Ph.D., University of Houston&lt;br&gt;M.F.A., Texas State University–San Marcos&lt;br&gt;B.A., University of Texas at San Antonio</td>
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<tr>
<td>Marcia Oliveira</td>
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<td>Elaine Patton</td>
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<td>Daniel L. Rathe</td>
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<td>Frank Rodriguez</td>
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<td>Thomas Rogers</td>
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<td>Betty Rugh</td>
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<td>Cherry Sawyer</td>
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<td>D.Psy., Argosy University&lt;br&gt;M.A., Argosy University</td>
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<td>Richard Smalley</td>
<td>Mathematics</td>
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<td>Accounting</td>
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<td>William Sullivan</td>
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<td>Jennifer Thompson</td>
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<td>Jessica Weisel</td>
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Each spring, the Lone Star College Foundation 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

American Business Women's Association Greenspoint Chapter Endowment - Minimum part-time student, minimum 2.5 GPA, must be female and a U.S. citizen.

Brian Heisler Endowment - Minimum part-time student and minimum 2.5 GPA.

Canteen Vending Endowment - Funds to be used for all education related expenses.

Canyon Gate Endowment - Minimum 2.0 GPA and resident of Canyon Gate or Canyon Lakes Village communities.

Carl and Colene Joiner Endowment - Attend any LSCS College.

Carol Bary Memorial Endowment - Must be enrolled in LVN program and must demonstrate financial need.

Computer Science and Computer Information Endowment - Minimum part-time student, minimum 2.5 GPA, academic disciplines are Computer Science or Computer Information Technology.

Copperfield Church Endowment - Minimum full-time student, minimum 2.0 GPA, Christian service and commitment at local church, career goal of "people services", and must demonstrate financial need.

Dr. Joe A. Airola Endowment - Minimum part-time student and minimum 2.5 GPA.

Dr. Nockie Zizelmann Endowment - Must be enrolled in either LVN or ADN program, student to be selected by Director of Nursing, and second year of scholarship available.

Dr. Richard G. Carpenter Endowment - Selection to be made in conjunction with the Executive Director of the Honors College.

Elmer L. and Dorothy M. Beckendorf Endowment - Minimum full-time student, minimum 2.5 GPA, student without high school or recent college should have recommendation from employer in place of a GPA, academic discipline is Health Care, and must demonstrate financial need.

Estelle R. Cameron Memorial Endowment - Must be enrolled in the Interpreter Training Technology program.

Fiesta Mart, Inc. Endowment - Must demonstrate financial need.

Future Pipe Industries, Inc. Endowment - Minimum full-time student and minimum 3.0 GPA.

Glenn Family Endowment - Minimum 3.0 GPA, academic disciplines are Education, Engineering, Science or Mathematics, and student must have attended Conroe ISD.

Greater Texas Foundation Student Success Scholarship Endowments - Minimum part-time student, minimum 2.0 GPA, must be a first generation in college student, must be enrolled in Math 0306, Math 0308, Math 0310, or Math 0312, must demonstrate financial need with an EFC of $3,500 or above, and funds to be used for tuition, fees and books.

Hauke Endowment - Must be a graduate of Hauke Alternative School in Conroe ISD.

Houston Northwest Chamber of Commerce Foundation Thomas Hetherington Scholarship Endowment - Minimum 3.0 GPA.

Houston Northwest Medical Center Endowment - Minimum part-time student, minimum 2.5 GPA, and funds to be used for tuition, fees and books.

Humble Police Association Endowment - Minimum 2.0 GPA, preference given to a graduate of Humble High School, must demonstrate financial need, funds to be used for all education related expenses and recipients are requested to attend an annual event in April to be recognized and to meet donors, and volunteer opportunities will be available for the recipients during that event.

Humble Police Association-Callaway's Collision Endowment - Minimum 2.0 GPA, preference given to a graduate of Humble High School, must demonstrate financial need, funds to be used for all education related expenses and recipients are requested to attend an annual event in April to be recognized and to meet donors, and volun-
Volunteer opportunities will be available for the recipients during that event.

Humble Police Association-Carley Summer McNutt Endowment - Must be a graduate of Atascocita High School.

Humble Police Association-D&D Collision Endowment - Minimum 2.0 GPA, preference given to a graduate of Humble High School, must demonstrate financial need, funds to be used for all education related expenses and recipients are requested to attend an annual event in April to be recognized and to meet donors, and volunteer opportunities will be available for the recipients during that event.

Humble Police Association-David Niccum Endowment - Minimum 2.0 GPA, preference given to a graduate of Humble High School, must demonstrate financial need, funds to be used for all education related expenses and recipients are requested to attend an annual event in April to be recognized and to meet donors, and volunteer opportunities will be available for the recipients during that event.

Humble Police Association-Gary and Daniel Lee Endowment - Must be a graduate of Humble High School or Atascocita High School.

Humble Police Association-Leo Medley Memorial Endowment - Minimum 2.0 GPA, graduate of Humble High School or Atascocita High School, and must demonstrate financial need.

Humble Police Association-Mr. and Mrs. Tim Gill Endowment - Minimum 2.0 GPA, preference given to a graduate of Humble High School, must demonstrate financial need, funds to be used for all education related expenses and recipients are requested to attend an annual event in April to be recognized and to meet donors, and volunteer opportunities will be available for the recipients during that event.

Humble Police Association-Petrochem Field Services Endowment - Minimum part-time student, minimum 2.0 GPA, preference for a graduate of Humble High School and secondly a graduate of any Humble ISD High School, must demonstrate financial need, and funds to be used for tuition, fees and books.

In Honor of Randy Bates and Tom Forestier Endowment - Must demonstrate financial need and funds to be used for tuition, fees and books.

InvesTex Credit Union Endowment - Attend any LSCS College.

Jack and Lynn Fields Endowment - Preference for a single mother.

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

Jim and Nelda Blair Endowment - Minimum 2.5 GPA, academic discipline is Education, and student must have attended Conroe ISD.

John A. and Annice B. Nanninga Endowment - Minimum part-time student, minimum 2.0 GPA, must be an in-district student, and funds to be used for tuition, fees and books. This is a $1,000 award and $500 should be awarded in the Fall and $500 in the Spring each year.

John J. Collins Technology Endowment Fund - Minimum 2.5 GPA, academic discipline is Technology, must demonstrate financial need, and funds to be used for tuition, fees and books.

John P. Hughes Memorial Endowment - Minimum part-time, must be a Humble ISD graduate and preference for a first generation in college student, also preference for a student who has personally overcome a health or financial challenge or is a member of a family that has faced such challenges, recipient will be eligible to apply for a second year of support after successful completion of first year courses, must demonstrate financial need, and funds to be used for tuition, fees and books.

John R. Zizelmann Memorial Endowment - Must be enrolled in technical fields such as Welding, CNC or Engineering Technology, and preference given to MATTCO employee.

Joiner Architects Endowment - Attend any LSCS College.

Joiner Partnership, Inc. Endowment - Attend any LSCS College.
Kingwood Area Emergency Medical Services Association Endowment - Minimum 2.75 GPA, enrolled in EMS, Fire, Nursing or Allied Health programs, must be a resident of zip codes 77339 or 77345 or a Fire Services volunteer in good standing that is outside of those zip codes.

Mike R. Willis Memorial Scholarship Endowment - Attend any LSCS College, academic discipline is Welding - Credit or C.E., and funds to be used for tuition, fees and books.

Montgomery & Associates Endowment - Minimum full-time student, minimum 2.8 GPA, and funds to be used for tuition and fees.

Nursing Program Endowment - Minimum part-time student, minimum 2.5 GPA, enrolled in a nursing program, and must demonstrate financial need.

Office of Workforce Development Endowment - Must be enrolled in a Workforce Program.

OTS Family & Friends Scholarship Endowment - Minimum part-time student, minimum 3.0 GPA, preference given to a child of a current OTS employee, past recipients are not eligible for a second award, and if no child of an OTS employee is eligible, academic discipline is Technology.

OTS-Women in Technology Endowment - Minimum part-time student, minimum 3.0 GPA, must be female, preference given to a child of a current OTS employee, past recipients are not eligible for a second award, and if no child of an OTS employee is eligible, academic discipline is Technology.

Patricia Harless Endowment - Must demonstrate financial need and funds to be used for all education related expenses including childcare.

PBK Architects Endowment - Attend any LSCS College.

Pearl Fincher Endowment - Minimum part-time student, minimum 2.5 GPA, and must demonstrate financial need.

Pepsi Cola Endowment - Minimum part-time student and minimum 2.5 GPA.

Representative Kevin Bailey Scholarship Endowment - Minimum part-time student, student must live in District 140, and funds to be used for tuition, fees and books.

Rosemary M. and Ambrose J. Eisterhold Endowment - Minimum full-time student, academic discipline is Nursing, and funds to be used for tuition only.

Schulte Building Systems Endowment - Minimum full-time student, minimum 3.0 GPA, and funds to be used for tuition, fees and books.

Seth and Dianne Sharr Endowment - Attend any LSCS College.

Shirley Acres Endowment - Minimum full-time student, minimum 2.5 GPA, and funds to be used for tuition, fees, and books.

SHW Group LLC Endowment - Attend any LSCS college, minimum 3.0 GPA, and must demonstrate financial need.

Society of Petroleum Engineers/Gulf Coast Section Endowment - Academic discipline is Engineering, specific course requirements (please discuss with Financial Aid Office), and funds to be used for tuition, fees and books.

Stone Gate Endowment - Minimum 2.0 GPA, resident of the Stone Gate or Canyon Lake communities, and funds to be used for all education related expenses.

TechKnowledge Consulting Endowment - Minimum part-time student, minimum 3.0 GPA, academic discipline is Technology, and must demonstrate financial need.

The John Anthony Farinacci Memorial Scholarship Endowment - Minimum part-time student, minimum 2.5 GPA, funds to be used for a graduate of Klein Forest High School/non-traditional student.

The Kathryn Ann McCallister Memorial Nursing Scholarship Endowment - Minimum full-time student, minimum 3.0 GPA, academic discipline is Nursing, must demonstrate financial need, and funds to be used for tuition, fees and books. This is a $2,000 scholarship.

Tomball Regional Medical Center Endowment - Minimum 3.0 GPA, sophomore student enrolled in an Allied Health Care program, preference for students from the Tomball trade area, student must demonstrate financial need, and funds to be used for tuition, fees and books.

Toni Lawrence Endowment - Must have league, high school, college or other organized tennis experience and must demonstrate financial need.

Wells Fargo Endowment - Must demonstrate financial need.

Wilda June Glover Endowment - Minimum full-time student, must be enrolled in the Honors Program, and funds to be used for tuition, fees and books.
Woodforest National Bank Endowment - Minimum 2.5 GPA, academic discipline is Education, and student must have attended Conroe ISD.

LSC-CYFAIR ENDOWED SCHOLARSHIPS

Alvis Endowment - Must attend LSC-CyFair, minimum 3.0 GPA, enrolled in ADN program, receives no other form of financial aid, non-minority single student with no children, and funds to be used for tuition, fees and books.

Bertram Family in Memory of Florence T. Bertram Endowment - Must attend LSC-CyFair, minimum 3.0 GPA, enrolled in ADN program, must demonstrate financial need, and funds to be used for all education related expenses.

Beryl A. MacLean Endowment - Must attend LSC-CyFair and academic disciplines are Speech or Communications.

Bill and Connie Yancey Endowment - Must attend LSC-CyFair, minimum full-time student, minimum 2.5 GPA, student should have a clear goal, must demonstrate financial need, and funds to be used for tuition, fees and books.

Caldwell Companies Endowment - Must attend LSC-CyFair, minimum part-time student, minimum 2.5 GPA, same student the following year if he or she meets the criteria, and funds to be used for tuition, fees, books and class supplies.

Carl’s BBQ Endowment - Must attend LSC-CyFair, minimum part-time student, minimum 2.5 GPA, must demonstrate financial need, and funds to be used for tuition, fees and books.

Charlotte and David G. Lampe Endowment - Must attend LSC-CyFair, minimum 3.0 GPA, academic disciplines are Education, Public Service or Government, and funds to be used for tuition, fees and books.

Christal M. Albrecht Endowment - Must attend LSC-CyFair, academic disciplines are medical assisting and sonography, and funds to be used for tuition, fees and books.

Clarence Kruger Memorial Endowment - Must attend LSC-CyFair, minimum 2.0 GPA, academic disciplines are Music, Theatre, or Performing Arts, and funds to be used for all education related expenses.

CLR, Inc. Endowment - Must attend LSC-CyFair, minimum 2.5 GPA, and academic discipline is an AAS program.

Copperfield Women’s Club Endowment - Must attend LSC-CyFair, minimum part-time, and be a female student over the age of 25.

Cy-Fair Express Network of American Business Women’s Association Endowment - Must attend LSC-CyFair and must be a non-traditional female student who is not a recent high school graduate and who has had a career change or is pursuing additional degrees or certificates.

Cy-Fair Federal Credit Union Endowment - Must attend LSC-Cy-Fair and enrolled in the Alternative Teacher Certification program.

Cy-Fair Houston Chamber of Commerce Endowment - Must attend LSC-CyFair, minimum 2.5 GPA, must demonstrate financial need, and funds to be used for tuition, fees and books.

Cypress Fairbanks Medical Center Endowment - Must attend LSC-CyFair, minimum part-time, minimum 2.5 GPA, and enrolled in LVN, ADN or other Allied Health Care programs.

Cypress Fairbanks Rotary Club Endowment - Must attend LSC-CyFair, minimum full-time student, minimum 2.5 GPA, and must demonstrate financial need.

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

Dr. Bob Williams Endowment - Must attend LSC-CyFair.

Dr. Diane K. Troyer Endowment - Must attend LSC-CyFair, minimum part-time student, preference given to single parent, must demonstrate financial need, and funds to be used for tuition, fees, books and childcare expenses.

Dr. John E. Pickelman Endowment - Must attend LSC-CyFair, must demonstrate financial need, and funds to be used for tuition, fees and books.

Earl Campa Endowment - Must attend LSC-CyFair, minimum part-time student, minimum 3.0 GPA, must be a member of Phi Theta Kappa, and funds to be used for tuition, fees and books.

Easton Commons Commercial Association, Inc. Endowment - Must attend LSC-CyFair, pref-
herence given to a Copperfield resident, and funds may be used for tuition, fees and books.

**Empower U Endowment** - Must attend LSC-CyFair, minimum part-time student, and funds to be used for tuition, fees and books.

**ESL Student Scholarship Endowment** - Must attend LSC-CyFair, academic discipline is English as a Second Language, must demonstrate financial need, and funds to be used for tuition only.

**Evelyn F. and Eugene F. Whitehorne Endowment** - Must attend LSC-CyFair, minimum part-time student, minimum 2.5 GPA, must demonstrate financial need, and funds to be used for tuition, fees and books.

**First Community Credit Union Endowment** - Must attend LSC-CyFair, minimum 3.0 GPA, academic disciplines are Accounting, Math and Business, must demonstrate financial need, and funds to be used for tuition, fees and books.

**Fox and Bubela, Inc. Endowment** - Must attend LSC-CyFair, must demonstrate financial need, and funds to be used for tuition, fees and books.

**Gensler Endowment** - Must attend LSC-CyFair.


**In Honor of Nancy F. Caldwell Endowment** - Must attend LSC-CyFair, minimum 3.0 GPA, enrolled in the Nursing program, and a student with a child or children.

**Jacque D. Holman Endowment** - Must attend LSC-CyFair, minimum full-time student, must be a student who graduated from one of the LSCS in-district high schools, and must demonstrate financial need.

**Jerry Albrecht Endowment** - Must attend LSC-CyFair, minimum part-time student, minimum 2.5 GPA, and must be a student with a documented learning disability.

**John Haskins Endowment** - Must attend LSC-Fairbanks Center, academic discipline is English as a Second Language, no restriction based on citizenship status, and must demonstrate financial need.

**Klein Bank and Trust Endowment** - Must attend LSC-CyFair, candidate must have an income which is less than 80 percent of the area adjusted median income, and funds to be used for all education related expenses.

**Linda and Donnie Humphries Family Endowment** - Must attend LSC-CyFair, must demonstrate financial need, and funds to be used for tuition, fees and books.

**LSC-CyFair Biology Faculty Endowment** - Must attend LSC-CyFair or LSC-Fairbanks Center, minimum part-time student, minimum 3.0 GPA, must have received an A or B in Biology I (1406 or 1408), and funds to be used for all education related expenses.

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

**LSC-CyFair Faculty Senate Endowment for Robert McGehee** - Must attend LSC-CyFair and academic discipline is Art.

**LSC-CyFair Friends of the Library Endowment** - Must attend LSC-CyFair, must be a non-traditional student, and must demonstrate financial need.

**LSC-CyFair President’s Endowment** - Must attend LSC-CyFair, minimum part-time student, minimum 2.5 GPA, and must demonstrate financial need.

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

**LSC-CyFair Science Olympiad Scholarship Endowment** - Must attend LSC-CyFair, minimum part-time student, academic discipline is science and must be a past Science Olympiad participant with a letter from school to verify, and funds to be used for all education related expenses.

**Methodist Willowbrook Hospital Endowment** - Must attend LSC-CyFair, minimum 2.5 GPA, enrolled in Nursing, Radiology or Sonography program, preference for a student committed to a health care career and an employee of the hospital, must demonstrate financial need, and funds to be used for tuition, fees and books.

**Mingoia Family Endowment** - Must attend LSC-CyFair, minimum 2.5 GPA, must demonstrate financial need, and funds to be used for tuition, fees and books.
NCI Building Systems Endowment - Must attend LSC-CyFair, minimum 2.5 GPA overall and 3.0 GPA in major, and academic disciplines are Drafting and Design.

NewQuest Properties Endowment - Must attend LSC-CyFair, minimum full-time, minimum 3.0 GPA, non-minority student who is single and without children, academic discipline is business, and student receives no other form of financial aid.

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

Qwock Lem and Kim Yoke Lau Endowment - Must attend LSC-CyFair, minimum part-time student, minimum 3.3 GPA, must demonstrate financial need, and funds to be used for tuition, fees and books.

Robert J. Adam Family Endowment - Must attend LSC-CyFair, minimum full-time student, must demonstrate financial need, and funds to be used for tuition, fees and books.

Rosemary A. Freda Endowment - Must attend LSC-CyFair, minimum 3.0 GPA, and funds to be used for all education related expenses.

St. Aidan’s Church Endowment - Must attend LSC-CyFair, must demonstrate financial need, and funds to be used for tuition, fees and books.

Sterling Bank Endowment - Must attend LSC-CyFair, minimum full-time student, minimum 2.5 GPA, academic disciplines are Business or undecided, must demonstrate financial need, and funds to be used for all education related expenses.

Susan and Jeff Edwards Endowment - Must attend LSC-CyFair, minimum part-time student, minimum 2.0 GPA, student must have completed 12 semester hours, student must not have any college graduates in immediate family, must demonstrate financial need, and funds to be used for all education related fees.

Susan J. Caldwell Endowment for the Arts - Must attend LSC-CyFair, minimum part-time student, minimum 2.0 GPA, must be enrolled in two courses in the Arts, Music, Drama or a combination, and funds to be used for tuition, fees, books and class supplies.

Texas Process Equipment Endowment - Must attend LSC-CyFair, minimum 9 credit hours, minimum 3.0 GPA, academic disciplines are Engineering Design Graphics, Machining Technology, Industrial Maintenance, Welding and Inspection Technology, preference for child of a TPE employee, and funds to be used for tuition, fees and books.

The Feldman Family Endowment - Must attend LSC-CyFair, minimum full-time student, must be a student who graduated from one of the LSCS in-district high schools, and must demonstrate financial need.

The Feldman Family Endowment in Memory of Krysta Rodriguez - Must attend LSC-CyFair, minimum full-time student, enrolled in Fire Science program, must be a student who graduated from one of the LSCS in-district high schools, and must demonstrate financial need. This is a $2,000 scholarship.

The Paul and Debbie Blackshear Family Endowment - Must attend LSC-CyFair, minimum part-time student, preference for a resident of Boys and Girls Country, and funds to be used for tuition, fees and books.

The Taylor Rodriguez Collins Path to Success Scholarship Endowment - Must attend LSC-CyFair, minimum 2.0 GPA, must be a Cypress Woods High School graduate, must be either a recent high school graduate or a non-traditional student, and funds to be used for tuition, fees and books.

William A. Brookshire Foundation Endowment - Must attend LSC-CyFair, minimum 2.5 GPA, minimum full-time student with preference for student working 20 hours per week, must be a United States Citizen, academic disciplines are Drafting, Engineering Technology or Pre-Engineering, funds to be used for tuition, fees, books and all education related expenses including childcare.

LSC-KINGWOOD ENDED Scholarships

Administaff Endowment - Must attend LSC-Kingwood, minimum full-time student, minimum 3.0 GPA, must demonstrate financial need, funds to be used for all education related expenses and other expenses including childcare.

Andrew Wade Heron Memorial Endowment - Must attend LSC-Kingwood, minimum full-time student, minimum 3.75 GPA, must be enrolled in second year of ADN program, and preference for a student with interest in either Pediatrics and/or Oncology.
Bob and Darcy Mingoia Endowment - Must attend LSC-Kingwood, minimum 2.5 GPA, must demonstrate financial need, and funds to be used for tuition, fees and books.

David and Pamela Dickson Endowment - Must attend LSC-Kingwood and must be first-year student who is a single parent or from an abusive family.

Diane K. Blanco Endowment - Must attend LSC-Kingwood, minimum full-time student, minimum 3.0 GPA, must demonstrate financial need, and funds to be used for tuition, fees and books.

Dr. Graciella G. Blanco Endowment - Must attend LSC-Kingwood, minimum full-time student, minimum 3.0 GPA, must demonstrate financial need, and funds to be used for tuition, fees and books.

Dr. Linda and Ed Stegall Endowment - Must attend LSC-Kingwood, minimum part-time student, minimum 2.5 GPA, academic discipline is Business related, must demonstrate financial need, and funds to be used for tuition, fees and books.

Dr. Linda Stegall Excellence in Education Scholarship Endowment - Must attend LSC-Kingwood, minimum full-time credit student, must be a second year student, and GPA in the current top 25 students who will be matriculating in the subsequent fall semester. These are $3,500 scholarships.

Fred Dornak Scholarship Endowment - Must attend LSC-Kingwood, minimum full-time student, minimum 2.75 GPA, and funds to be used for tuition only.

Friends of LSC-Kingwood Endowment - Must attend LSC-Kingwood and must demonstrate financial need.

George W. Butler Memorial Endowment - Must attend LSC-Kingwood and academic disciplines are Visual Arts and Performing Arts.

Honora and Porfirio Diaz Endowment - Must attend LSC-Kingwood, minimum 2.0 GPA, student must be a U. S. Citizen and at least 25 years of age, must demonstrate financial need, and funds to be used for tuition, fees and books.

James R. D. Lewis Jr. Endowment - Must attend LSC-Kingwood, minimum part-time student, minimum 3.0 GPA, academic disciplines are Photography or other Arts, must demonstrate financial need, and funds to be used for tuition, fees and books.

Jean Whileyman Endowment - Must attend LSC-Kingwood, minimum full-time student, minimum 3.0 GPA, academic discipline is Education for either Math or Science Teachers, and funds to be used for tuition, fees and books.

Kenny and Mattie McCowen Endowment - Must attend LSC-Kingwood, minimum 3.0 GPA, must demonstrate financial need, academic discipline is Respiratory Care, and funds to be used for all education related expenses.

Kingwood College 20th Anniversary Endowment - Must attend LSC-Kingwood, must demonstrate financial need, and funds to be used for tuition, fees and books.

Kingwood College Golf Tournament Endowment - Must attend LSC-Kingwood, minimum part-time student, and minimum 2.5 GPA.

Kingwood Medical Center Endowment - Must attend LSC-Kingwood, academic discipline is a Health Field, and funds to be used for tuition, special fees and books.

LSC-Kingwood Continuing Education Administration Endowment - Must attend LSC-Kingwood and must be enrolled in CE.

LSC-Kingwood Dental Hygiene Endowment - Must attend LSC-Kingwood, minimum full-time student, minimum 3.0 GPA, enrolled in second year of Dental Hygiene program, minimum of 49 accumulated hours, and funds to be used for all education related expenses.

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

LSC-Kingwood President’s Endowment - Must attend LSC-Kingwood, minimum part-time student, minimum 2.5 GPA, and must demonstrate financial need.

Marjorie H. Shifferd Endowment - Must attend LSC-Kingwood, minimum 9 credit hours, mini-
mum 3.0 GPA, has at least 80 percent completion rate for the past three (3) semesters, and must be a student worker in the Financial Aid Office.

R.M. Machell Family Endowment - Must attend LSC-Kingwood, minimum part-time student, minimum 3.4 GPA, enrolled in ADN program, and funds to be used for all education related expenses.

Rotary Club of Humble Intercontinental - In Recognition of Dr. and Mrs. Gene Caldclough Endowment - Must attend LSC-Kingwood, minimum full-time student, minimum 3.0 GPA, must demonstrate financial need, academic discipline is Liberal Arts, and funds to be used for tuition, fees and books.

Rotary Club of Humble Intercontinental Endowment - Must attend LSC-Kingwood, minimum part-time student, and minimum 2.5 GPA.

Selma Lilley Memorial Endowment - Must attend LSC-Kingwood and enrolled in the LVN program.

Wells Fargo Endowment - Must attend LSC-Kingwood and must demonstrate financial need.

**LSC-MONTGOMERY ENDOVED SCHOLARSHIPS**

Amegy Bank of Texas Endowment - Must attend LSC-Montgomery.

Ann Friend Endowment - Must attend LSC-Montgomery, academic discipline is courses to gain skills to improve vocational abilities, must be resident of Montgomery County, and must demonstrate financial need.

Beta Delta Iota Endowment - Must attend LSC-Montgomery, minimum 3.5 GPA, must be an active Beta Delta Iota Officer, and funds to be used for tuition and fees.

Bob and Darcy Mingoia Endowment - Must attend LSC-Montgomery, minimum 2.5 GPA, must demonstrate financial need, and funds to be used for tuition, fees and books.

Brandon Michael Schiltz Memorial Endowment - Must attend LSC-Montgomery, minimum 2.75 GPA, must demonstrate financial need, HEB employee or dependent preferred, and funds to be used for all education related expenses.

Brandon Michael Schiltz Memorial Endowment - Must attend LSC-Montgomery, minimum 2.75 GPA, a preference is given to a HEB employee with a letter of reference from the employee’s manager, must demonstrate financial need, and funds to be used for all education related expenses.

Conroe New Car and Truck Dealers Endowment - Must attend LSC-Montgomery, minimum full-time student, minimum 2.5 GPA, and resident of Montgomery County.

Conroe Regional Medical Center and Auxiliary Endowment - Must attend LSC-Montgomery, minimum 2.5 GPA, enrolled in ADN or LVN program with one semester completed, resident of Montgomery County, and must demonstrate financial need.

Donna McVeigh Memorial Endowment - Must attend LSC-Montgomery, minimum part-time student, and minimum 2.5 GPA.

Dr. Bill Law Jr. Endowment - Must attend LSC-Montgomery and minimum 2.5 GPA.

Entergy Endowment - Must attend LSC-Montgomery, minimum part-time student, and minimum 2.5 GPA.

Gwen Hruska Endowment - Must attend LSC-Montgomery and be a current or former recipient of services from Montgomery County Youth Services.

Hayden Taylor “Physical Therapist Assistant” PTA Scholarship Endowment - Must attend LSC-Montgomery, minimum 3.0 GPA in all PTA courses previously taken, academic discipline is PTA program, must have a reference from PTA Director, academic performance and financial need should receive equal weight, preference for student with previous related work experience, and funds to be used for all education related expenses.

Henry and Billie Brooks Endowment - Must attend LSC-Montgomery, must demonstrate financial need, and student must be a U.S. Citizen.

Houston Golf Association Endowment - Must attend LSC-Montgomery, minimum part-time student, and minimum 2.5 GPA.

John Wiesner Endowment - Must attend LSC-Montgomery, minimum full-time student, min-
imum 3.0 GPA, must demonstrate financial need, and funds to be used for tuition, fees and books.

**Karen and Waylan West Endowment** - Must attend LSC-Montgomery, minimum full-time student, minimum 3.0 GPA, and must demonstrate financial need.

**Land Surveying and Mapping Technology Endowed Scholarship** - Must attend LSC-Montgomery and academic discipline is Land Surveying and Mapping Technology.

**LSC-Montgomery Biology Faculty Endowment** - Must attend LSC-Montgomery and applicants must include a letter of recommendation from the LSC-Montgomery Biology Scholarship Committee with their scholarship applications.

**LSC-Montgomery Healthier U Endowment** - Must attend LSC-Montgomery, enrolled in Nursing, Radiology Technician, PTA, Biotech, Fire Science, or EMT, and funds may be used for tuition, fees, books, other fees including supplies and uniforms and testing/exam fees.

**LSC-Montgomery President’s Endowment** - Must attend LSC-Montgomery, minimum part-time student, minimum 2.5 GPA, and must demonstrate financial need.

**Mark and Christine Scully Endowment** - Must attend LSC-Montgomery.

**Melissa Trotter Memorial Endowment** - Must attend LSC-Montgomery.

**Memorial Hermann The Woodlands Hospital Endowment** - Must attend LSC-Montgomery, enrolled in LVN or ADN program, and funds to be used for all education related expenses.

**Montgomery College 10th Anniversary Legacy Endowment** - Must attend LSC-Montgomery.

**Research Forest Science and Engineering Library Endowment** - Must attend LSC-Montgomery, minimum 3.0 GPA, and must be a minority student and a single parent enrolled in an AAS degree program.

**Rhonda Harwell Nursing Scholarship Endowment** - Must attend LSC-Montgomery, minimum GPA 3.0, student must have been accepted into the ADN Nursing program, must demonstrate financial need, and funds to be used for tuition, fees, books and childcare expenses.

**Rotary Club of Conroe Endowment** - Must attend LSC-Montgomery and be a single parent.

**Rotary Club of The Woodlands Endowment** - Must attend LSC-Montgomery, minimum full-time student, resident of Montgomery County, and must demonstrate financial need.

**South Montgomery County Lions Club Endowment** - Must attend LSC-Montgomery, minimum part-time student, minimum 2.5 GPA, must be a resident of Montgomery County, and must demonstrate financial need.

**Splitrock Endowment** - Must attend LSC-Montgomery, minimum 2.0 GPA, must be a female student and a single mother, preference given to Splitrock employee or family member, and funds to be used for tuition, fees and books.

**Stan and Suzanne St. Pierre Endowment** - Must attend LSC-Montgomery, minimum full-time student, must demonstrate financial need, and funds to be used for all education related expenses.

**The Kelsey Vogel “Shining Star” Memorial Scholarship Endowment** - Must attend LSC-Montgomery, minimum full-time student, enrolled in a standard theatre course and a theatre practicum course, selection process will be based on student’s exceptional talent and versatile performing ability, scholarship will be distributed equally between female/male, and funds to be used for tuition, fees and books.

**The Short Course Endowed Scholarship for Land Surveying** - Must attend LSC-Montgomery and academic discipline is Land Surveying & Mapping Technology.

**The Thomas R. and Kathryn C. Polk Scholarship Endowment** - Must attend LSC-Montgomery, minimum part-time student, minimum 2.20 GPA for subsequent terms, must demonstrate financial need, and funds to be used for tuition, fees and books.


**The Woodlands Living Arts Council Endowment** - Must attend LSC-Montgomery, enrolled in a minimum of 9 hours, minimum 3.0 GPA, academic disciplines are an Associate of Science degree or an Associate of Arts degree in Art, Music, or Theatre, must demonstrate financial need based on the formula calculated for the Federal Pell grant, and preference for students with a unmet need level who are not eligible for other financial assistance.
The Woodlands Waterway Marriott Hotel Endowment - Must attend LSC-Montgomery.

Tom Stallings Memorial Endowment - Must attend LSC-Montgomery, minimum 3.0 GPA, academic discipline in music, must have a letter of reference from a Music faculty member, and funds to be used for tuition, fees and books.

Wells Fargo Endowment - Must attend LSC-Montgomery and must demonstrate financial need.

William D. Law Sr. Memorial Endowment - Must attend LSC-Montgomery, minimum full-time student, academic discipline is Honors Program, and funds to be used for tuition, fees and books.

William Patrick Sellers Memorial Endowment - Must attend LSC-Montgomery, academic discipline is History, and preference given to a U.S. Army Veteran.

LSC-NORTH HARRIS ENDOWED SCHOLARSHIPS

Barbara Benzel Memorial Endowment - Must attend LSC-North Harris, minimum 3.0 GPA, must be a female student at least 30 years of age, and academic discipline is English.

Bob and Darcy Mingoia Endowment - Must attend LSC-North Harris, minimum 2.5 GPA, must demonstrate financial need, and funds to be used for tuition, fees and books.

Brian Ray Olson Memorial Endowment - Must attend LSC-North Harris, minimum part-time student, minimum 2.5 GPA, enrolled in Paramed- ic program, must demonstrate financial need, and funds to be used for tuition, fees and books.

Cook/Covington Memorial Endowment - Must attend LSC-North Harris, minimum 2.0 GPA, and must be a first-year African American student.

Cypress Woodlands Junior Forum Scholarship Endowment - Must attend LSC-North Harris, minimum part-time student, minimum 2.5 GPA, and must demonstrate financial need.

Dr. Cher Brock Endowment - Must attend LSC-North Harris with preference given to student attending LSC-Victory Center, minimum full-time student, minimum 2.5 GPA, academic discipline is Education, funds to be used for tuition, fees and books, and may be renewed for same student in second year.

Dr. Joe McMillian Endowment - Must attend LSC-North Harris, minimum 3.0 GPA, enrolled in an AA or AS program, must demonstrate financial need, and funds to be used for all education related expenses.

Dr. Sanford Shugart Endowment - Must attend LSC-North Harris, minimum full-time student, minimum 2.5 GPA and funds to be used for tuition, fees and books.

Elizabeth “Beth” Boyd Memorial Nursing Endowment - Must attend LSC-North Harris, enrolled in first year of ADN program, and must demonstrate financial need.

Fred Fincher Sr. Memorial Endowment - Must attend LSC-North Harris and enrolled in the Automotive Technology program.

J. Anthony Walter, M.D. Endowment - Must attend LSC-North Harris or LSC-Tomball, minimum full-time student, academic disciplines are Computer Programming, Technology or Engineering Technology, and funds to be used for tuition, fees and books.

Joe B. Anders Jr. Memorial Endowment - Must attend LSC-North Harris, minimum full-time student, minimum 3.0 GPA, must be a male student, academic discipline is Health Care, and funds to be used for tuition, fees and books.

John R. Zizelmann Memorial Endowment - Must be enrolled in technical fields such as Welding, CNC or Engineering Technology, and preference given to MATTCO employee.

John R. Zizelmann Memorial Endowment - Must be enrolled in technical fields such as Welding, CNC or Engineering Technology, and recipient must be a MATTCO employee.

Judy Taylor Endowment - Must attend LSC-North Harris, minimum full-time student, minimum 3.0 GPA, academic disciplines are Math and Science and either: 1) the student or a family member must currently suffer from a medical hardship or 2) has recently overcome a devastating medical hardship.

Junior League North Harris South Montgomery County Endowment - Must attend LSC-North Harris or LSC-Montgomery, minimum part-time student, minimum 2.5 GPA, participates in the WINGS program, and funds to be used for tuition, fees and books. $500 annual award at LSC-North Harris and $500 annual award at LSC-Montgomery.
LSC-North Harris President’s Endowment - Must attend LSC-North Harris, minimum part-time student, minimum 2.5 GPA, and must demonstrate financial need.

Major John and Niki Myers Fund Endowment - Must attend LSC-North Harris, minimum full-time student, minimum GPA 2.0, must demonstrate financial need, and funds to be used for tuition, fees, books, childcare expenses and transportation.

North Harris County Branch of American Association of University Women Endowment - Must attend LSC-North Harris, minimum part-time student, must already have at least 12 credit hours from LSC-North Harris, minimum 2.5 GPA, preference for women who have promoted the AAUW mission, must demonstrate financial need, and funds to be used for tuition, fees, books and childcare. This will be two $500 awards.

The H.E.B. Scholarships for LSC-Victory Center Endowment - Must attend LSC-Victory Center, minimum 2.0 GPA, may be enrolled in credit or workforce classes, selection to be made in conjunction with VP of College Centers, and funds to be used for tuition, fees and books.

Thelma Jones Endowment - Must attend LSC-North Harris, minimum part-time student, and must be based on both financial need and merit.

Tiffani Stanley Memorial Endowment - Must attend LSC-North Harris, minimum 2.5 GPA, enrolled in EMS program and receives a letter of reference from the EMS faculty, and funds to be used for tuition, fees, books and uniforms.

Tom Hobbs Geology Endowment - Must attend LSC-North Harris, minimum 3.0 GPA, must demonstrate financial need, have completed two geology classes with a 3.0 GPA, and committed to major in Geology.

Wells Fargo Endowment - Must attend LSC-North Harris, must demonstrate financial need, and funds to be used for tuition, fees and books.

Bill Stafford Memorial Endowment - Must attend LSC-Tomball, minimum full-time student, minimum 3.0 GPA, academic disciplines are Social Work, Counseling or Teaching, and funds to be used for tuition, fees and books.

Bob and Darcy Mingoia Endowment - Must attend LSC-Tomball, minimum 2.5 GPA, must demonstrate financial need, and funds to be used for tuition, fees and books.

Candace Grace Howard Memorial Endowment - Must attend LSC-Tomball, minimum full-time student, minimum 3.0 GPA, enrolled in the Veterinary Technology program, first-year student, must be a U.S. Citizen, and LSC-Tomball Director of Veterinary Technology must review applications and participate in selection process.

Houston Livestock Show and Rodeo Endowment - Must attend LSC-Tomball, enrolled in the Veterinary Technology program, must reside in Texas, must be a U.S. Citizen, and LSC-Tomball Director of Veterinary Technology must review applications and participate in selection process.

Hulon and Marion Madeley Endowment - Must attend LSC-Tomball, minimum full-time student, minimum 3.0 GPA, academic disciplines are Life and Earth Sciences, must have completed at least 30 college level credits, and in the event that no selection can be made from among students at LSC-Tomball, a student from LSC-North Harris meeting all the criteria can be given the scholarship.

Ken and Melba Graham Nursing Endowment in Honor of Kathleen Graham Semmler - Must attend LSC-Tomball, minimum full-time student, and enrolled in the Nursing program.

LSC-Tomball Mathematics Excellence Endowment - Must attend LSC-Tomball, minimum part-time student, minimum 3.0 GPA, academic disciplines are Mathematics, Mathematics Education, or Engineering, and funds to be used for tuition, fees and books.

LSC-Tomball Mathematics Faculty Endowment - Must attend LSC-Tomball, minimum part-time student, minimum 3.0 GPA, academic discipline is Mathematics Education, and funds to be used for all education related expenses including calculator and/or software.

LSC-Tomball President’s Endowment - Must attend LSC-Tomball, minimum part-time student, and minimum 2.5 GPA.
Mathematics Department at LSC-Tomball Endowment - Must attend LSC-Tomball, minimum part-time student, minimum 2.8 GPA, enrolled in math courses – may be at a developmental level, and funds to be used for tuition, fees, books, calculator or software.

Nitin Bezbaruah Sarangapani Endowment - Must attend LSC-Tomball, minimum part-time student, minimum 2.5 GPA, former veteran of armed forces including reserves, academic disciplines are Math, Computer Science or Biology, must demonstrate financial need and funds to be used for all education related expenses.

Performing Fine Arts Scholarship Endowment - Must attend LSC-Tomball, minimum full-time student, minimum 3.0 GPA, academic disciplines are Drama and Music, must have been in at least one of LSC-Tomball’s Drama or Musical performances in the prior academic year, and funds to be used for tuition, fees and books.

Ryan Paul Whitaker Memorial Nursing Endowment - Must attend LSC-Tomball, minimum 2.5 GPA, academic discipline is Nursing, student must be at least 25 years of age, and funds to be used for all education related expenses.

The Marion D. Hanson Nursing Scholarship Endowment Fund - Must attend LSC-Tomball, minimum full-time student, minimum 3.0 GPA, enrolled in the ADN program, $5,000 awarded over a 2 year period, as part of application process, candidates must write an essay detailing their interest in nursing and the LSC-Tomball Director of Nursing must review applications and participate in selection process, and funds to be used for all education related expenses.

The Robert E. Hanson Veterinary Technology Endowed Scholarship - Must attend LSC-Tomball, minimum full-time student, minimum 3.0 GPA, must be a second-year Veterinary Technology student, LSC-Tomball Director of Veterinary Technology must review applications and participate in selection process, and funds to be used for all education related expenses.

Tomball Regional Arts Council Endowment - Must attend LSC-Tomball or LSC-CyFair, minimum full-time student, minimum 2.0 GPA, academic discipline is the Arts, student must be 21 years of age or older who is starting or returning to college, must demonstrate financial need, and funds to be used for tuition, fees and books.

Tomball Rotary Club Endowment - Must attend LSC-Tomball, minimum part-time student, and minimum 2.5 GPA.

Wells Fargo Endowment - Must demonstrate financial need.

LSC-UNIVERSITY PARK ENDOURED SCHOLARSHIPS

Anonymous Endowment - Must attend LSC-University Park, minimum part-time student, and minimum 2.5 GPA.

Bob and Darcy Mingoia Endowment - Must attend LSC-University Park, minimum 2.5 GPA, must demonstrate financial need, and funds to be used for tuition, fees and books.

Caldwell Companies Endowment in Honor of Dr. Richard Carpenter - Must attend LSC-University Park, minimum part-time student, and funds to be used for tuition, fees and books.

Corrpro Corrosion Protection Scholarship Endowment - Must attend LSC-University Park.

LSC-University Park President’s Endowment - Must attend LSC-University Park, minimum part-time student, minimum 2.5 GPA, and must demonstrate financial need.

LSC-University Park OTS Family and Friends Scholarship Endowment - Must attend LSC-University Park, minimum part-time student, minimum 3.0 GPA, preference given to a child of an OTS employee, past recipients are not eligible for a second award, and if no child of an OTS employee is eligible, academic discipline is Technology.

Mary Anne Grasso Foundation Endowment - Must attend LSC-University Park, academic disciplines are Education and Teaching, must demonstrate financial need, and funds to be used for tuition, fees and books.

Noble Energy, Inc. Endowment - Must attend LSC-University Park, minimum 2.5 GPA, must be committed to pursuing an Associate Degree, must demonstrate financial need, and funds to be used for tuition, fees and books.

Precision Task Group Endowment - Must attend LSC-University Park and must demonstrate financial need.

The Feldman Family Endowment - Must attend LSC-University Park, minimum full-time student, must be a student who graduated from one of the
LSCS in-district high schools, and must demonstrate financial need.

**The Foreman Family Endowment** - Must attend LSC-University Park and minimum 3.0 GPA.

**The Student Success Scholarship Endowment funded by Tellepsen, OC+A, Morris, JE Dunn and HOK** - Must attend LSC-University Park, academic disciplines are Engineering Technology, must demonstrate financial need, and funds to be used for tuition, fees and books.

**William J. and Olive H. Upton Endowment** - Must attend Police Academy at LSC-University Park and have completed the first of the four sections of curriculum with a minimum 2.0 GPA. Student achievement and classroom attitude as well as need for financial assistance will all be part of the selection process that will involve the Academy Coordinator and other Police Academy personnel.
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The members of the Board of Trustees are elected to their positions by voters in the Lone Star College System, for a term of six years, which are staggered.

Responsibilities of board members include:

- appointing the chancellor;
- setting board and system policies;
- contracting system assets;
- ratifying employment contracts;
- approving various system business activities;
- establishing tax rates;
- setting budgets; and
- monitoring and reviewing the overall performance of the system.