Welcome to the Lone Star College System!

We know you have a choice and we are proud that you have chosen Lone Star College System for your higher education needs. LSCS is nationally recognized, globally connected and locally focused, and as a leader in higher education innovation, your LSCS education will be first rate. You will be joining the close to 80,000 students in credit courses who call LSCS home each year.

Lone Star College System understands that in today’s changing world, education and career training have never been more important and we have never been more focused on the success of our students. That’s why at Lone Star College you can 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.

We want you to succeed, and we are here to help you achieve your goal! We have made a number of changes to better guide you through college including an improved orientation process, more advisors, more focus on selecting the right program of study, and other strategies, designed to help you perform at the highest level and reach your educational goals.

As an innovative leader in higher education, LSCS has two University Centers that are designed to provide upper-level university classes and a seamless transfer process to achieve a four-year college degree. Lone Star College System 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 puts its students first. Those are words we put into action through our total commitment to student success and credential completion. At LSCS, classes are small—most average about 24 students—which gives you personalized attention from the outstanding LSCS faculty. And all of the Lone Star Colleges offer mentoring, tutoring and counseling to help you achieve your success—all as part of your student experience.

Dr. Richard Carpenter
Chancellor

The chancellor is the chief executive officer of the Lone Star College System.
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 3, 2013. For updates, refer to the catalog online at LoneStar.edu/lscs-catalog.
Lone Star College-CyFair
9191 Barker Cypress Road
Cypress, TX 77433-1383
281.290.3200

Lone Star College-Kingwood
20000 Kingwood Drive
Kingwood, TX 77339-380
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 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
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 ........................................ 281.290.3910
LSC-Kingwood .................................... 281.312.1613
LSC-Montgomery .................................. 936.273.7236
LSC-North Harris .................................. 281.618.5410
LSC-Tomball ...................................... 281.351.3310
LSC-University Park .............................. 281.401.5300

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 .............................. 281.401.5300

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 .................................. 281.618.5602
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) ........................ 281.290.5975
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
Math Lab (LSC-North Harris) ....................... 281.618.5469
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 ...................................... 832.559.4200
LSC-University Park .............................. 281.401.5390

OFFICE OF INSTRUCTION
LSC-CyFair ........................................ 281.290.3952
LSC-Kingwood .................................... 281.312.1504
LSC-Montgomery .................................. 936.273.7223
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
Transcript Requests ................................. 832.813.6808

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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Board of Trustees ................................................................. Inside Back Cover
Calendar 13/14

Fall Term 2013

Registration begins ........................................ April 10
Full payment due for fall classes ......................... Aug. 16
Faculty return ................................................. Aug. 19
Last day to register ........................................ Aug. 24
Weekday classes begin ..................................... Aug. 26
Labor Day holiday .......................................... Aug. 31-Sep. 2
Friday evening, Saturday & Sunday
   classes begin ........................................ Sept. 6-8
Official day of record ..................................... Sept. 9
Last day to file for Dec. graduation .................... Oct. 1
Mid-term ....................................................... Oct. 19
Last day to drop class & receive “W” ............... Nov. 13
Thanksgiving holidays ................................. Nov. 28 - Dec. 1
   (offices closed-classes dismiss Nov. 27, 4:30 pm)
   Final Exams ........................................ Dec. 9-15
End of term .................................................. Dec. 15
Grades due MyLoneStar (4 pm) ....................... Dec. 17
Winter holidays (offices closed) ...................... Dec. 19 - Jan. 1

Spring Term 2014

Registration begins ....................................... Nov. 18
Full payment due for Dec. Mini-Term ............... Dec. 6
Last day to register Dec. Mini-Term ................. Dec. 13
Winter Mini-mester (3 week) ......................... Dec. 16 - Jan. 5
Winter Mini-mester (4 week) ......................... Dec. 16 - Jan. 12
   “W” day for 3 week Mini-Term .................. Dec. 30
College offices reopen .................................. Jan. 2
   Full payment due for spring classes .......... Jan. 4
   “W” day for 4 week Mini-Term ................ Jan. 6
   Faculty return ........................................ Jan. 6
   Last day to register ................................ Jan. 11
   Weekday classes begin ............................. Jan. 13
Friday evening, Saturday & Sunday
   classes begin ........................................ Jan. 17 - 19
M.L. King Jr. holiday (colleges closed) ............ Jan. 20
Official day of record .................................... Jan. 27
Last day to file for May graduation ................ Feb. 1
Mid-term ...................................................... March 8
Mid-term break ............................................ March 10 - 16
   (offices closed-no classes March 10 - 16)
**Calendar 13/14**

<table>
<thead>
<tr>
<th>Month</th>
<th>Dates</th>
<th>Events</th>
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<tbody>
<tr>
<td>January 2014</td>
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<td>Classes resume .................................................................................. March 17</td>
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<td>Last day to file for Aug. graduation ........................................... April 1</td>
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<td>Last day to drop class &amp; receive “W” ............................................ April 3</td>
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<td>Spring holiday (offices closed) ...................................................... April 18 - 20</td>
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<td>Final Exams ..................................................................................... May 5 - 11</td>
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<td>Commencement .................................................................................. May 9-10</td>
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<td>End of term ...................................................................................... May 11</td>
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<td>Grades due MyLoneStar (4 pm) .......................................................... May 13</td>
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<tr>
<td>February 2014</td>
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<td>Registration begins ........................................................................... March 5</td>
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<td>Full payment due for May Mini-Term ............................................... May 2</td>
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<td>Last day to register for May Mini-Term .......................................... May 9</td>
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<td>March 2014</td>
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<td>Memorial Day holiday (offices closed) ............................................. May 12 - June 1</td>
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<td>Full payment due for Summer classes ............................................. May 16 *</td>
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<td>Grade due MyLoneStar (4 pm) ............................................................. June 3</td>
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<td></td>
<td>(May Mini-Term) ................................................................................ June 6-8</td>
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<tr>
<td>April 2014</td>
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<td>Official Day Summer I Term ............................................................. June 5</td>
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<td></td>
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<td>Weekend classes begin ........................................................................ June 6-8</td>
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<td>Official Day full Summer Term ....................................................... June 9</td>
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<tr>
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<td>Full payment due for Summer II Term ............................................. June 20</td>
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<td></td>
<td>“W” day for Summer I Term .................................................................. July 24</td>
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<tr>
<td>May 2014</td>
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<td>Independence Day holiday .................................................................. July 3 - 6</td>
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<td>Last day to register/pay for Summer II .......................................... July 9</td>
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<td></td>
<td>“W” day for full Summer Term ........................................................... July 28</td>
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<td>“W” day for Summer II Term ............................................................. Aug. 5</td>
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<td>Fall 2014 registration begins April 9 ............................................. Aug. 18</td>
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<td>Final Exams are Dec. 8 - 14 .............................................................. Aug. 18</td>
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<td>Consult registration guides for registration dates.</td>
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<td>July 2014</td>
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<td>August 2014</td>
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<td>December 2014</td>
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* This text was revised (effective 8/13). Please see addendum for details.
### Registration & Class Dates

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<thead>
<tr>
<th>Fall 2013</th>
<th>Spring 2014</th>
<th>Summer 2014</th>
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<tbody>
<tr>
<td>April 10</td>
<td>Dec 15</td>
<td>Summer 2014</td>
</tr>
<tr>
<td>Aug 24</td>
<td>Dec 16-Jan 12</td>
<td>March 5</td>
</tr>
<tr>
<td>Aug 26</td>
<td>Nov 18</td>
<td>May 30</td>
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<tr>
<td>Nov 13</td>
<td>Jan 11</td>
<td>June 2</td>
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<td>Dec 15</td>
<td>Jan 13</td>
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<td>April 3</td>
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</tr>
<tr>
<td></td>
<td>May 11</td>
<td></td>
</tr>
</tbody>
</table>

**Registration Dates:**
- Fall: April 10
- Spring: Dec 15
- Summer: March 5
- May 30

**Class Dates:**
- Fall: Aug 24
- Spring: Nov 18
- Summer: Jan 13

**Last Day to Register:**
- Fall: Aug 26
- Spring: Jan 11
- Summer: April 3

**End of Semester Dates:**
- Fall: Dec 15
- Spring: Dec 16-Jan 12
- Summer: May 11

### Testing & Important Dates

<table>
<thead>
<tr>
<th>Dates</th>
<th>Events</th>
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<tbody>
<tr>
<td>June 2-July 8</td>
<td>First summer session</td>
</tr>
<tr>
<td>June 24</td>
<td>First day to drop &amp; receive a “W” for first summer session</td>
</tr>
<tr>
<td>July 9</td>
<td>Last day to register for second summer term</td>
</tr>
<tr>
<td>July 10-Aug 17</td>
<td>Second summer session</td>
</tr>
<tr>
<td>Aug 5</td>
<td>Last day to drop &amp; receive a “W” for second summer session</td>
</tr>
<tr>
<td>Aug 17</td>
<td>End of summer session</td>
</tr>
</tbody>
</table>

### Testing Dates

- Dec 9-15: Final Exams - Fall 2013
- May 5-11: Final Exams - Spring 2014

### Important Dates

- May 9-10: Commencement

### College Holidays

**2013**
- Aug 31–Sept 2: Labor Day holiday
- Nov 28–Dec 1: Thanksgiving holiday
- Dec 19–Jan 1: Winter holiday

**2014**
- Jan 20: MLK holiday
- Mar 10–16: Mid-semester break
- April 18–20: Spring holiday
- May 24–26: Memorial Day holiday
- July 3–6: Independence Day holiday

---

**Notes:**
- Winter mini-mester (3 & 4 wks)
- Colleges close 4:30 p.m., Nov 27
- Colleges close 4:30 p.m., Nov 27
- Colleges close 4:30 p.m., Nov 27
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 ten-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 Pharmacist Commission on Credentialing, the American Veterinary Medical Association, The Board of Nurse Examiners for the State of Texas, 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

| 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 |
| National League for Nursing Accrediting Commission, Inc. |
| 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 Education Theatre Association |
| Texas Higher Education Coordinating Board |
| Texas Real Estate Commission |
| Texas State Board of Public Accountancy |
| Texas State Cosmetology Commission |
| The Community College Speech and Theatre Association |
| 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.

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**Lone Star College System at a Glance**

**Lonestar.edu**

Known for its innovation and the visionary thinking of its leaders, Lone Star College System is the largest institution of higher education in the greater Houston area and the fastest-growing college system in the U.S.

The multi-college system, located across the north Houston region, is comprised of six colleges, five 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 provides quality education 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 implementation continues in 2013-14.
About LSC-CyFair
Cypress-Fairbanks residents voted to become part of 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 two 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; and 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. A second satellite center, LSC-Cypress Center, will open this fall at Clay and Fry Roads.

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 welding and 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 and newly-added magnetic resonance imaging.
- 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. **Engineering Technician** – An engineering technician maintains production oil field service equipment, robots, automated manufacturing machines, oil field pumps, gas pumps, and security systems. This program is part of the Lone Star Energy & Manufacturing Institute.

**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**

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 addition to opening the new LSC-Atascocita Center in 2011, two new buildings were completed and opened on the LSC-Kingwood campus – the Student Conference Center and the Music Instructional Building, both beautiful, state-of-the-art facilities that helped expand services and offerings to 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 architect firms, design studios or corporations and perform tasks such as space planning, lighting design, drafting and furniture specifications.

**Facilities Management** – Facilities management is a rapidly-growing industry that encompasses multiple disciplines to ensure functionality of the built environment by integrating people, place, process and technology. Graduates from this program will have an opportunity to work at places such as airports, hospitals, universities, museums, shopping centers, athletic/entertainment facilities, high-rise office buildings, manufacturing plants and high-tech research centers.

**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.

**Public Achievement** – Public Achievement is a youth civic engagement initiative focused on the most basic concepts of citizenship, democracy and public work.
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. Like other Lone Star Colleges, LSC-Montgomery recently experienced the most significant campus expansion in its history with three new buildings opening in 2011 on the main campus, 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 new buildings opened on campus in 2011 include a new Health Science Center, a one-of-its-kind Music Hall, and a General Academic Center, as well as a 1,000-space parking garage.

• A comprehensive range of transfer, workforce education, continuing education, and developmental education programs is available.

• A new, two-building campus has opened in north Conroe, convenient for northern Montgomery County residents. The LSC-Conroe Center offers both transferable college credit classes and workforce programs in a variety of trades.

• The Learning Center provides free support services, including tutoring (walk-in and appointment based), 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, audio visual systems specialist, 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.

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.

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 education for other Lone Star Colleges that followed it. In addition to the 200-acre main campus located on 2700 W.W. Thorne Drive in north Houston, LSC-North Harris also serves its students with three satellite centers – the LSC-Greenspoint Center located off Beltway 8 near Interstate 45 at 250 N. Sam Houston Parkway East in the Greenspoint area, and the LSC-Victory Center, located at 4141 Victory Drive.

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, distance 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.

*LSC-Victory Center
4141 Victory Drive
Houston, TX 77088-7321
281.810.5602

LSC-Health Professions Building
17200 & 17202 Red Oak
Houston, TX 77090-2647
281.943.6900

*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.

**Integrated Technology** – 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 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. Energy Training Center (ETRC)
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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LSCS Catalog 2013/2014
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.


Aurora Project – A college readiness program for GED graduates and adults over the age of 18 who are re-embarking on their education. Students complete intensive academic instruction in College Student Success Strategies, Reading and Writing, and Mathematics.

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

1. North Hall (N)
2. West Hall (W)
3. Student Center (C)
4. East Hall (E)
5. Beckendorf Conference Center
6. South Hall (S)
7. Large Animal Facility (LAF)
8. Wellness Center
9. Library
10. Performing Fine Arts Building
11. Veterinary Technology Building
T. Tennis Courts
LP. Library Parking
SP. Student Parking
CCP. Conference Center Parking
FSP. Faculty/Staff Parking
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. 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 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 ADAA 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, Sam Houston State University and Texas Southern 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, Texas Southern University Northwest, 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 EC-6 Generalist** – LSC-University Park offers courses that fulfill the state requirements for an Associate of Arts in Teaching (AAT). A variety of courses and degrees are offered to meet the diverse goals of early childhood education majors.

**AA in Teaching 4-8 Generalist** – The Associate of Arts in Teaching (AAT) degree offers the first two years of classes toward initial teacher certification. All courses lead to initial teacher certification programs at the four-year university.

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

*Anticipated Programs*
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.

Two locations to serve you:

**LSC-University Center at Montgomery**
3232 College Park Drive
The Woodlands, TX 77384
936.273.7510
936.321.4500 (Metro)

**LSC-University Center at University Park**
20515 State Highway 249 at Louetta
Houston, TX 77070
281.290.2600
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.

**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**

<table>
<thead>
<tr>
<th>University</th>
<th>Web</th>
<th>Phone</th>
<th>Schedule of Classes</th>
</tr>
</thead>
<tbody>
<tr>
<td>LSCS Catalog 2013/2014</td>
<td>LoneStar.edu/uc-montgomery</td>
<td>936.273.7510 936.321.4500 (Metro)</td>
<td>LoneStar.edu/UC-Montgomery ➔ select course schedules</td>
</tr>
<tr>
<td><strong>OUR LADY OF THE LAKE UNIVERSITY-WEEKEND COLLEGE</strong></td>
<td>ollusa.edu</td>
<td>936.273.7510</td>
<td>A schedule of classes can be found at: ollusa.edu ➔ Academics ➔ Weekend College</td>
</tr>
<tr>
<td>Undergraduate Degrees</td>
<td>Graduate Degrees and Post-Baccalaureate Certificate</td>
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<tr>
<td>Business</td>
<td>Healthcare Management</td>
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<tr>
<td>Accounting</td>
<td>Management</td>
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<tr>
<td>Psychology</td>
<td>Psychology-Marriage and Family Therapy</td>
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<tr>
<td>Management</td>
<td>Philosophy in Leadership Studies Doctorate</td>
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<tr>
<td><strong>SAM HOUSTON STATE UNIVERSITY</strong></td>
<td>shsu.edu</td>
<td>1.866.BEARKAT</td>
<td>A schedule of classes can be found at: shsu.edu/academics/ucenter/</td>
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<tr>
<td>Undergraduate Degrees</td>
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<tr>
<td>Accounting</td>
<td>Political Science</td>
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<tr>
<td>Applied Arts and Sciences</td>
<td>Psychology</td>
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<tr>
<td>Banking and Financial Institutions</td>
<td>Sociology</td>
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<tr>
<td>Criminal Justice</td>
<td>Spanish</td>
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<td>English</td>
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<tr>
<td>Family and Consumer Sciences</td>
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<td>Finance</td>
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<tr>
<td>General Business Administration</td>
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<tr>
<td>History</td>
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<tr>
<td>Interdisciplinary Academic Studies</td>
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<tr>
<td>Elementary Cert.</td>
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<tr>
<td>Management</td>
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<tr>
<td>Marketing</td>
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<tr>
<td>Mass Communications/Public Relations</td>
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<tr>
<td><strong>UNIVERSITY OF HOUSTON-VICTORIA</strong></td>
<td>uhv.edu/nursing</td>
<td>877.970.4848</td>
<td>A schedule of classes can be found at: uhv.edu/nursing ➔ RN to BSN ➔ Degree Plan and Schedule of Courses</td>
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<tr>
<td>Undergraduate Degrees</td>
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<td>RN to BSN</td>
</tr>
<tr>
<td><strong>UNIVERSITY OF ST. THOMAS</strong></td>
<td>stthom.edu</td>
<td>713.522.7911</td>
<td>A schedule of classes can be found at: stthom.edu ➔ Degrees &amp; Programs ➔ Courses &amp; Schedules</td>
</tr>
<tr>
<td>Graduate Degrees</td>
<td>Educational Leadership</td>
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<tr>
<td>Bilingual Education/Dual Language</td>
<td>Exceptionality/Educational Diagnostician</td>
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<tr>
<td>Counselor Education</td>
<td>Reading</td>
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<tr>
<td>Curriculum and Instruction</td>
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</tbody>
</table>
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
Sam Houston State University

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
Sam Houston State University

Curriculum and Instruction
Sam Houston State University

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

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

Kinesiology-Sports Management
Sam Houston State University

Management
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
LSC-UNIVERSITY CENTER AT UNIVERSITY PARK

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, Texas Southern University Northwest, 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

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<thead>
<tr>
<th>C</th>
<th>Conference Center (First Floor) Commons (Second Floor)</th>
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<tbody>
<tr>
<td>W</td>
<td>West Dining</td>
</tr>
<tr>
<td>11</td>
<td>Administration Building</td>
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<tr>
<td>12</td>
<td>LSC-University Center</td>
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<tr>
<td>13</td>
<td>LSC Academic Center</td>
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<tr>
<td>9</td>
<td>Tenant Building</td>
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<tr>
<td>10</td>
<td>Tenant Building</td>
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<tr>
<td>EMI</td>
<td>Future Energy &amp; Manufacturing Institute</td>
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<tr>
<td>VC</td>
<td>Visitor Center</td>
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<tr>
<td>PG-9</td>
<td>Parking Garage 9 (Tenants)</td>
</tr>
<tr>
<td>PG-10</td>
<td>Parking Garage 10 (Faculty &amp; Staff)</td>
</tr>
<tr>
<td>PG-11</td>
<td>Parking Garage 11 (Students)</td>
</tr>
<tr>
<td>CCP</td>
<td>Reserved Conference Center Parking</td>
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### University Partner Degrees Offered

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<thead>
<tr>
<th>University</th>
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<th>Email</th>
<th>Phone</th>
<th>Fax</th>
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<tbody>
<tr>
<td>Lone Star State University</td>
<td>LoneStar.edu/uc-universitypark</td>
<td><a href="mailto:universitypark@lonestar.edu">universitypark@lonestar.edu</a></td>
<td>281.290.2600</td>
<td></td>
</tr>
<tr>
<td>Lone Star State University</td>
<td>LoneStar.edu/UniversityCenter</td>
<td><a href="mailto:universitypark@lonestar.edu">universitypark@lonestar.edu</a></td>
<td>281.290.2600</td>
<td></td>
</tr>
</tbody>
</table>

A schedule of classes for each university can be found at: LoneStar.edu/UniversityCenter → select course schedules

#### Undergraduate Degrees
- Generalist
- Generalist with Special Education
- Bilingual Generalist
- Mathematics/Science

#### Graduate Degrees
- Instructional Technology
- Special Education
- Counseling
- Educational Administration
- Library Science

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<thead>
<tr>
<th>University</th>
<th>Web</th>
<th>Email</th>
<th>Phone</th>
<th>Fax</th>
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<tbody>
<tr>
<td>SHSU</td>
<td>shsu.edu/academics/university_park</td>
<td><a href="mailto:universitypark@shsu.edu">universitypark@shsu.edu</a></td>
<td>281.290.2900</td>
<td>281.290.2905</td>
</tr>
</tbody>
</table>

**Undergraduate Degrees**
- EC-6 Generalist with Special Education
- EC-6 Bilingual Generalist
- 4-8 Mathematics
- 8-12 Certification

**Graduate Degrees**
- Instructional Technology
- Special Education
- Counseling
- Educational Administration
- Library Science

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<tr>
<th>University</th>
<th>Web</th>
<th>Email</th>
<th>Phone</th>
<th>Fax</th>
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<tbody>
<tr>
<td>Texas Southern University</td>
<td>tsu.edu/northwest/</td>
<td><a href="mailto:nwcampus@tsu.edu">nwcampus@tsu.edu</a></td>
<td>281.290.3780</td>
<td></td>
</tr>
</tbody>
</table>

**Undergraduate Degrees**
- B.S., Administration of Justice
- B.S., Aviation Science and Technology
- B.S., Computer Engineering Technology
- B.S., Electronic Engineering Technology Radio, Television and Film

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<thead>
<tr>
<th>University</th>
<th>Web</th>
<th>Email</th>
<th>Phone</th>
<th>Fax</th>
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</thead>
<tbody>
<tr>
<td>UH-Downtown Northwest Campus</td>
<td>uh.edu/northwest</td>
<td><a href="mailto:northwest@uh.edu">northwest@uh.edu</a></td>
<td>832.842.5700</td>
<td></td>
</tr>
</tbody>
</table>

**Undergraduate Degrees**
- B.A., 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

**Graduate Degrees**
- 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

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<tr>
<th>University</th>
<th>Web</th>
<th>Email</th>
<th>Phone</th>
<th>Fax</th>
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<tr>
<td>UHD Downtown Northwest Campus</td>
<td>uhd.edu/northwest</td>
<td><a href="mailto:distance@uhd.edu">distance@uhd.edu</a></td>
<td>713.237.5400</td>
<td>713.237.5403</td>
</tr>
</tbody>
</table>

**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

**Graduate Degrees**
- M.A., Teaching
- M.S., Criminal Justice
BACHELOR’S DEGREE
(undergraduate programs)

Accounting
University of Houston-Downtown

Administration of Justice
Texas Southern University

Aviation Science and Technology
Texas Southern University

Biological and Physical Sciences
University of Houston-Downtown

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

Communication
University of Houston

Computer Engineering Technology
Texas Southern University

Consumer Science and Merchandising
University of Houston

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

Electronic Engineering Technology
Texas Southern University

Enterprise Information Systems
University of Houston-Downtown

Environmental Health
Texas Southern University

Finance
University of Houston-Downtown

General Business
University of Houston-Downtown

Health Care Administration
Texas Southern University

Health Information Management
Texas Southern University

Human Services and Consumer Sciences
Texas Southern University

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
Sam Houston State University

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

Interdisciplinary Studies with EC-6 Generalist with Special Education
Sam Houston State University

Logistics and Supply Chain Technology
University of Houston

Management
University of Houston-Downtown

Management Information Systems
Texas Southern University

Marketing
University of Houston-Downtown

Mass Communications-Radio, Television and Film Track
Texas Southern University

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

Respiratory Therapy
   Texas Southern University

Safety Management
   University of Houston-Downtown
   Sports Management
   Texas Southern University

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

Administration of Justice
   Texas Southern University

Criminal Justice
   University of Houston-Downtown

Health Care Administration
   Texas Southern University

Human Resource Development
   University of Houston

Instructional Leadership
   Sam Houston State University

Library Science
   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
**Lone Star College-Online**

LSC-Online supports online faculty and students, as well as managing the delivery of online courses and online components of hybrid courses. The content and transferability of online and hybrid courses are the same as traditional on-campus courses. Instructors of these courses use a variety of online learning activities such as discussions, projects, exams, presentations, and papers. Students enrolled in online courses have the same rights and responsibilities as those in traditional campus-based courses. Students can complete all core degree requirements and associate of arts and associate of science degree requirements through online offerings.

Online classes may require proctored (supervised) exams or other necessary learning activities such as orientations or labs. For these activities, online students have the option to go to a LSCS college site or to an off-campus location that is convenient to them and approved by the instructor.

For additional information on LSC-Online, call 832.813.6700, e-mail online@LoneStar.edu, or visit the Web at LoneStar.edu/LSC-Online.

**Hybrid Classes**

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

**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 career or improve current job skills, Lone Star College opens doors to high-demand careers in:

- Architecture & Construction
- Business Management & Administration
- Education & Training
- Energy & Manufacturing
- Health Science
- Hospitality & Tourism
- Industry Certification Prep
- Information Technology
- Law, Public Safety, Corrections & Security
- Transportation, Distribution & Logistics

Depending on which workforce certification program they complete, students can earn college transfer credit or continuing education units (CEUs). In addition, workforce scholarships may be available to those who qualify. To learn more about Lone Star College’s Career and Technical Education certification programs, go to LoneStar.edu/CTE.

Lone Star College also offers community education classes for all ages. Programs include:
• The Academy for Lifelong Learning, a membership community that offers free and low-cost classes, events and activities for adults age 50 and older.
• Discovery College, which offers educational and fun camp programs from June through August for kids ages 6 to 18.
• English as a Second Language, and other languages, at levels ranging from beginner to advanced.
• GED (General Educational Development) preparation and testing.
• Test preparation for the ACT, SAT, THEA and others.
• Fine arts, sports and recreation, computer classes, and more.

For more information on Lone Star College’s Community Education programs, go to LoneStar.edu/CE.

Lone Star Corporate College
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.

In addition, Lone Star Corporate College also holds several professional development seminars throughout the year and has two full-service conference centers located in Houston and in The Woodlands for corporate and community events.

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

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

Community Partnerships
LSCS’s office of external affairs helps coordinate community, economic, and small business development activities with each LSCS college. The Small Business Development Center (SBDC) and the North Houston Economic Development Alliance provide a central contact point for 10 area chambers of commerce and the North Houston Association. For more information, contact the LSCS office of external affairs at 832.813.6620.

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 home 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 comprehensive list of helpful website links and information is available at LoneStar.edu/consumer-safety for student reference.

Equal Opportunity Statement

It is the policy of the Lone Star College System to maintain a work and academic environment that is free of 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. Inquiries concerning LSCS’s policies, compliance with applicable laws, statutes, and regulations (such as Title VI, Title IX and Section 504) may be directed to the Office of the System General Counsel and Chief Legal Officer, 832.813.6655. Complaints of discrimination, including Title IX should be addressed to the director of the Office of Human Resources who is the Equal Employment Officer and Title IX investigator. Inquiries about the laws and compliance may also be directed to the Office of Civil Rights with the U.S. Department of Education.

ADA Statement

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

Clergy 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 in the LSCS Annual Security Report.

**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.

**Sex Offender Data**
Information concerning registered sex offenders can be accessed from the Texas DPS Web site at Records.TXdps.State.Tx.US/DPS_Web/SorNew/index.aspx.

**Sex Offender Policy**
Effective September 1, 2003, the Texas Code of Criminal Procedure 62.03(h) requires each person who is required to register as a sex offender and who intends to be employed, work with a contractor, or attend classes at an institution of higher education to register with the campus police department within seven days. Current LSCS board policy requires that sex offenders seeking to enroll at, provide services to, or be employed with LSCS 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.

**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 provide 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.
Admission Policies and Procedures

The Lone Star College System is an open admissions system. LSCS prefers that all new LSCS students fill out and submit an LSCS application form at 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 a one day delay in processing their requests for LSCS admission. Returning students must update their general information and submit a new residency oath if they have not been enrolled during the preceding fall and spring semesters.

Admissions Criteria for Credit Courses

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

1. Graduate from high school.
2. Transfer from another college or institution.
3. Obtain GED (General 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 on page 43.
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.

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.
- 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 assessment scores or 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.

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. Note that students will be unable to register for classes until this requirement is complete. Please
ADMISSIONS PROCEDURES

Visit LoneStar.edu/orientation for additional details.

**Exceptional Admissions: Definition**

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

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. Turn in official test scores (high school transcript is not sufficient).
3. Present evidence that required course prerequisites have been satisfied such as high school, home school, or college transcript, and high school graduation plan.
4. Complete the college registration form with college classes authorized by high school counselor or home school administrator.
5. Complete the exceptional admission form signed by student, parent/guardian, high school principal, or designee which lists the college classes and high school classes.
6. 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.

Students 15 years or younger must receive approval for exceptional admission. Additionally, the student’s parent or a designated responsible adult must be available at the college location to monitor the student’s activities outside of class while at a LSCS college campus and be immediately available in case of emergency.

**Dual Credit: Definition**

Dual credit is part of the Lone Star College System’s exceptional admissions program. It is especially designed for junior and senior secondary education students who qualify to earn high school and college credit simultaneously while still in high school. Dual credit students receive a 100% discounted tuition rate. All other fees will be assessed at the regular 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.

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 principal or designee.
school designee, college designee and parent/guardian.

- The student has taken an approved assessment:

**Please note:** Testing and placement requirements will undergo significant changes on the first day of class of the Fall 2013 Semester. Please refer to LoneStar.edu/dualcredit/eligibility for the most current information.

1. COMPASS, ACCUPLACER or ASSET (reading, writing and/or math relevant to the courses being taken) or

2. Exempt scores based on ACT, SAT, or THEA

3. For students enrolling in 11th grade, PSAT or PLAN scores may be used. Students must achieve a combined score of 107 on the PSAT/NMSQT with a minimum of 50 on the critical reading and/or mathematics test relevant to the courses to be taken. Students must achieve a composite score of 23 on the PLAN with a 19 or higher in mathematics and English. However, students meeting eligibility with either of these tests must retest for dual credit eligibility in the 12th grade.

- The student must meet prerequisites in the areas that are applicable to the course including reading, writing and math, where appropriate.

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

### Dual Credit Registration Deadlines

<table>
<thead>
<tr>
<th>Term</th>
<th>Deadline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall term</td>
<td>June 15*</td>
</tr>
<tr>
<td>Spring term</td>
<td>December 9*</td>
</tr>
<tr>
<td>Summer term</td>
<td>Follows regular college credit schedule</td>
</tr>
</tbody>
</table>

*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.

### 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 2,500 international students from 108 different countries. Students residing in the U.S. but who are not U.S. residents or citizens must present proper documentation for an appropriate visa category. These documents include a copy of the student’s valid passport, visa and I-94 card. Additional information is also required to show proof of their academic background. LSCS adheres to U.S. Citizenship and Immigration Services (UCIS) guidelines. It is the responsibility of the student to have knowledge of UCIS regulations pertaining to their visa type.

Enrollment involves three processes: admission, advisement and course registration. Applicants should contact the International Student Advisor/DSO at the college where they plan to attend. To be considered for admission to LSCS on an F-1 student visa, the applicant must present the following items with their completed application forms:

1. Online general admission application.
2. An LSCS International Student Application 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), bank statements for the most recent 3 months in U.S. dollars, and one additional supporting financial document. The International Student Advisor/DSO at each campus can provide additional information on acceptable forms of proof.

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 2. 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.
   - Students who have recently taken approved college assessment tests (SAT, ACT) may be exempt from part or all placement tests. See page 48.

   Test scores are valid for 3 years.

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. Degree-seeking students that have college/university credits outside the U.S. and wish to transfer their credits to LSCS, must submit a course-by-course evaluation by the American Association of Collegiate Registrars and Admissions Officers (AACRAO) International Education Services or by a service that maintains current membership in the National Association of Credential Evaluation Services, Inc. (NACES).

*This text was revised (effective 8/13). Please see addendum for details.*
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 1-5 listed above.
2. International Student Transfer Information Form completed by an international student advisor from the student’s previous institution and current copies of relevant documents including passport pages, U.S. visa, Form I-94, I-20.
4. F-1 Status Form, signed and dated by applicant.

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

International students must be enrolled in 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 LSCS students must meet the requirements of the Student Success Initiative (see page 48).

All new (F-1) international students must attend a mandatory international student information session before the start of their first semester. Please check with the International Student Advisor/DSO at the college.
Registration Policies and Procedures

Types of Courses
Lone Star College System offers various course delivery methods and enrollment options. LSCS has offerings in 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, complete 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 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-semester. 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 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. 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 pre-requisite 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**

In order to assist students in performing their best on placement tests, first time in college students are required to complete mandatory test preparation prior to taking placement tests. For more information, see LoneStar.edu/Test-Preparation. Test preparation includes a video presentation with an overview of the assessment areas on the test and basic test preparation tips. LSCS also makes available an option to complete additional skills development in reading, English, and/or mathematics. An online registration form for test preparation sessions is available at LoneStar.edu/Test-Preparation.
**LSCS Catalog 2013/2014**

**CHART A**

**(TSi Complete/Exempt)**

Minimum Score and Course Requirements

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

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).

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**Texas Success Initiative (TSI) and LSC Student Success Initiative (SSI)**

Per the THECB requirement, the new TSI assessment became effective on the first day on class, August 26, 2013.

In accordance with the new state regulations, LSCS has implemented the following:

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 (Chart A);
   - 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 who 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...
### CHART B

**Course Placement Scores** (Effective August 26, 2013)

<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>
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<tbody>
<tr>
<td><strong>Math</strong></td>
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<td>0309</td>
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<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>
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<td>1316, 1325, 1350, 1351</td>
<td></td>
<td>23-24</td>
<td>25-26 and B or better in HS Pre-Cal or Trig</td>
<td>600-649 and B or better in HS PreCal 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>
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<td>25-26</td>
<td>27 and B or better in HS Pre-Cal or Trig</td>
<td>650+ and B or better in HS PreCal or Trig</td>
<td>Tl 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>
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<tr>
<td>2413</td>
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<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>Tl 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>
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<tr>
<td><strong>Reading</strong></td>
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<td>342-350</td>
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<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>
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<tr>
<td><strong>Writing</strong></td>
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<td>0306</td>
<td>310-349 OR 1-3 on Essay</td>
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<tr>
<td>0307</td>
<td>350-362 and 4 on Essay</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<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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</tr>
<tr>
<td>0302</td>
<td>Reading: 310-341 OR Writing: 310-349 OR 1-3 on Essay</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>0309</td>
<td>Reading: 342-350 AND Writing: 350-362 and 4 on Essay</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<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.

* This text was revised (effective 8/13). Please see addendum for details.
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 and has been serving for at least three years preceding enrollment.

- The student who on or after August 1, 1990, was honorably discharged, retired, or released from active duty as a member of the armed forces of the United States or the Texas National Guard or service as a member of a reserve component of the armed forces of the United States.

The LSC Student Success Initiative implements appropriate prerequisites for all courses. All college level courses, with few exceptions, have college level reading and writing prerequisites. These prerequisites will assure that students have the ability to succeed in courses at the collegiate level.

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, 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 executive function skills, study skills, and social/emotional skills. Lone Star College’s student success courses are designed to assist students in achieving identified student learning outcomes that improve academic, career, and personal development to increase achievement and completion.
Lone Star College recommends that all First-Time-In-College (FTIC) students enroll in a student success course their first time in college. FTIC is defined as having not completed any college courses post high school. Beginning fall 2013, students who test below college level in math, reading, or writing will be required to enroll in a student success course their first semester. Beginning fall 2014, all FTIC students will be required to enroll in a student success course their first semester. The appropriate student success course placement is determined by established prerequisites. Students who do not pass their required Lone Star College student success course will not be allowed to register for subsequent semesters without re-enrolling in the identified 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...

---

### Placement Chart

#### ESOL READING

<table>
<thead>
<tr>
<th>LEVEL</th>
<th>COMPASS ESL</th>
<th>CREDIT</th>
<th>CONTINUING EDUCATION</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Read 42-57</td>
<td>ENGL 0361</td>
<td>ENGLC 3006101</td>
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<tr>
<td></td>
<td>Listen 42-57</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Read 58-73</td>
<td>ENGL 0362</td>
<td>ENGLC 3006201</td>
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<tr>
<td></td>
<td>Listen 58-73</td>
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<td></td>
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<tr>
<td>3</td>
<td>Read 74-86</td>
<td>ENGL 0363</td>
<td>ENGLC 3006301</td>
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<tr>
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<td>Listen 74-86</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Read 87-95</td>
<td>ENGL 0364</td>
<td>ENGLC 3000401</td>
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<td>Grammar 87-95</td>
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<td></td>
<td>Reading IV</td>
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<tr>
<td>5</td>
<td>Read 96-99</td>
<td>ENGL 0365</td>
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<tr>
<td>Grammar 96-99</td>
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<td>Reading V</td>
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#### ESOL WRITING/ESOL GRAMMAR WORKSHOP

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<td>ENGL 0308</td>
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<td>ENGL 0372</td>
<td>ENGLC 3007201</td>
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<td></td>
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<td>ENGLC 3000801</td>
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<td>4</td>
<td>Grammar 87-95</td>
<td>ENGL 0374</td>
<td>ENGLC 3007401</td>
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<td></td>
<td>ENGL 0308</td>
<td>ENGLC 3000801</td>
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#### ESOL ORAL COMMUNICATION

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</thead>
<tbody>
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<td>ENGL 0381</td>
<td>ENGLC 3008101</td>
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<tr>
<td>Grammar 42-57</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Listen 58-73</td>
<td>ENGL 0382</td>
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<td>Grammar 58-73</td>
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<tr>
<td>3</td>
<td>Listen 74-86</td>
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<tr>
<td>Grammar 74-86</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Listen 87-95</td>
<td>ENGL 0384</td>
<td>ENGLC 3008401</td>
</tr>
<tr>
<td>Grammar 87-95</td>
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<td></td>
<td></td>
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<tr>
<td>5</td>
<td>Listen 96-99</td>
<td>ENGL 0308</td>
<td>ENGLC 3000701</td>
</tr>
<tr>
<td>Grammar 96-99</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Writing sample required for ESOL Reading, Writing and Grammar courses
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(l)(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 ESOL) as required by the State.

**Developmental Education**
The Lone Star College System is committed to student success and completion. 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 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 de-
developmental education until they demonstrate college readiness in all three skill areas. 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 education courses, and other training and certification entities. The agreements allow students to earn college credit for competencies outside of the traditional community college classroom.

**University Articulation**

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

**High School Articulation**

Course articulation agreements match high school courses with college workforce courses included in credit workforce awards.

Students must fulfill the following requirements to receive articulated credit:

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

LSCS participates in the Advanced Technical Credit (ATC) program. 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](http://LoneStar.edu/hsa) or visit [atcTexas.org](http://atcTexas.org) for statewide information.
## ADVANCED TECHNICAL CREDIT (ATC) COURSE CROSSWALK

This is the high school statewide articulation course crosswalk with only courses that LSCS offers. This list does not include courses articulated by local agreements. Please visit this website to see a list of ATC and local course articulations by ISD: LoneStar.edu/hsa. This list will expire on August 31, 2015 (fifteen months after May 2014 graduation).

<table>
<thead>
<tr>
<th>High School CTE Courses by Career Cluster</th>
<th>LSCS College Credit Course</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Agriculture, Food &amp; Natural Resources</strong></td>
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<tr>
<td>Agricultural Mechanics and Metal Technolog</td>
<td>WLDG 1421</td>
</tr>
<tr>
<td><strong>Architecture and Construction</strong></td>
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<tr>
<td>Architectural Drafting - Residential</td>
<td>DFTG 1317</td>
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<tr>
<td>Interior Design</td>
<td>INDS 1311</td>
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<tr>
<td><strong>Arts, Audio/Visual Technology, and Communication</strong></td>
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<tr>
<td>Advanced Audio/Video Production</td>
<td>ARTV 1351 OR ARTV 1343</td>
</tr>
<tr>
<td>Animation</td>
<td>IMED 1345</td>
</tr>
<tr>
<td>Advanced Animation</td>
<td>ARTV 1303</td>
</tr>
<tr>
<td><strong>Business Management</strong></td>
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<tr>
<td>Business English</td>
<td>POFT 1301</td>
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<tr>
<td>Business Information Management I</td>
<td>ITSC 1401</td>
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<tr>
<td>Business Management</td>
<td>BMGT 1327</td>
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<tr>
<td>Global Business</td>
<td>IBUS 1305</td>
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<tr>
<td>Human Resources Management</td>
<td>HRPO 2301</td>
</tr>
<tr>
<td>Touch Systems Data Entry</td>
<td>POFT 1329</td>
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<tr>
<td><strong>Finance</strong></td>
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</tr>
<tr>
<td>Accounting I</td>
<td>ACNT 1303</td>
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<tr>
<td><strong>Health Science</strong></td>
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</tr>
<tr>
<td>Anatomy and Physiology</td>
<td>MDCA 1409</td>
</tr>
<tr>
<td>Medical Terminology AND Principles of Health Science (or) Health Science</td>
<td>MDCA 1213 OR HITT 1305</td>
</tr>
<tr>
<td><strong>Hospitality and Tourism</strong></td>
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<tr>
<td>Hospitality Services</td>
<td>HAMG 1321</td>
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<tr>
<td>Hotel Management</td>
<td>HAMG 1342</td>
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<tr>
<td><strong>Information Technology</strong></td>
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<tr>
<td>Advanced Computer Programming</td>
<td>ITSE 2459</td>
</tr>
<tr>
<td>Computer Maintenance</td>
<td>ITSC 1425</td>
</tr>
<tr>
<td>Computer Technician</td>
<td>CPMT 1445</td>
</tr>
<tr>
<td>Digital and Interactive Media</td>
<td>ARTC 1302 OR IMED 1301</td>
</tr>
<tr>
<td>Principles of Information Technology</td>
<td>ITSC 1401</td>
</tr>
<tr>
<td>Telecommunications and Networking</td>
<td>ITNW 1425</td>
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<tr>
<td>Web Technologies</td>
<td>IMED 1316</td>
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</tbody>
</table>
Continuing education (CE) students registered for a CE course linked to a credit course must meet the same requirements and prerequisites as credit students. Students registered through CE earn continuing education units (CEUs). CE students who wish to receive semester credit hours must complete a Prior Learning Assessment by CE-Credit Articulation form and petition for credit. For more details, visit LoneStar.edu/PLA or see a student advisor.

GED, High School Equivalency
LSCS offers a high school equivalency preparation and examination program. The GED exam is administered on a regular schedule. Consult the continuing education office or website at LoneStar.edu/continuing-ed for further information and for registration.

<table>
<thead>
<tr>
<th>High School CTE Courses by Career Cluster</th>
<th>LSCS College Credit Course</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Manufacturing</strong></td>
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<tr>
<td>Advanced Welding</td>
<td>WLDG 1421 OR WLDG 1428</td>
</tr>
<tr>
<td>Computer Integrated Manufacturing</td>
<td>INMT 1311</td>
</tr>
<tr>
<td>Precision Metal Manufacturing</td>
<td>MCHN 1338</td>
</tr>
<tr>
<td><strong>Marketing, Sales, and Services</strong></td>
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<tr>
<td>Marketing Dynamics</td>
<td>MRKG 1311</td>
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<tr>
<td>Entrepreneurship</td>
<td>BUSG 2309</td>
</tr>
<tr>
<td><strong>Science, Technology, Engineering, and Mathematics</strong></td>
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</tr>
<tr>
<td>Electronics OR Digital Electronics</td>
<td>CETT 1402 OR INTC 1307</td>
</tr>
<tr>
<td>Engineering Design Process and Presentation OR Introduction to Engineering Design</td>
<td>DFTG 1305 OR 1309</td>
</tr>
<tr>
<td><strong>Transportation, Distribution, and Logistics</strong></td>
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</tr>
<tr>
<td>Advanced Automotive Technology - Student must pass the National Automotive Student Skills Standards Assessment (NASSSA)</td>
<td>AUMT 1405, 1410 AND 1416</td>
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</table>
### Financial Information & Assistance

**2013-2014 TUITION & FEES SCHEDULE**

**TUITION AND FEES ARE SUBJECT TO CHANGE**

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

### Tuition & Fees per Credit Hour

<table>
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<th>Credit Hours</th>
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<th>Out-of-District Texas Resident 2</th>
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<td>2852</td>
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</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. Applies to all students enrolled in credit classes: Includes tuition at the rate of $40 per credit hour, a $7 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.


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 unless waived by appeal prior to the payment deadline. The appeal process can be found in the admissions office or online at [LoneStar.edu/repeatcourse](http://LoneStar.edu/repeatcourse).
**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 .............................................$7

**ACCUPLACER, ASSET, & COMPASS assessment fee ($10 per section)..................$29**

- Audit charges equal to credit enrollment
- Course/competency challenge exam .............$25
- ESOL Assessment Test ................................ $24
- Exam proctoring fee ...................................$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
- 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.

**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**

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.

Refunds for tuition are processed from the Lone 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.

*This text was revised (8/13).  **This text was revised (12/13) Please see addendum for details.
FINANCIAL INFORMATION

Semester Length Courses

Fall and Spring Semesters
Prior to the first calendar day of the semester ........................................... 100%
During the first 15 calendar days of the semester ........................................... 70%
During the 16th through 20th calendar days of the semester ......................... 25%
After the 20th calendar day of the semester ............................................ None

Six-Week Summer Semester
Prior to the first calendar day of the semester ........................................... 100%
During the first five calendar days of the semester ........................................... 70%
During the sixth and seventh calendar days of the semester ......................... 25%
After the seventh calendar day of the semester ............................................ None

Flex Entry and Non-Semester Length Courses

Prior to the first scheduled calendar session ................................................. 100%
After classes begin, see drops and withdrawals chart.

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

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>
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<tr>
<td>4 weeks</td>
<td>4th day of session</td>
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<td>11 weeks</td>
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<td>12 weeks</td>
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<td>16th day of session</td>
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<td>14 weeks</td>
<td>13th day of session</td>
<td>17th day of session</td>
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<td>15 weeks</td>
<td>14th day of session</td>
<td>19th day of session</td>
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<tr>
<td>16 weeks or longer</td>
<td>15th day of session</td>
<td>20th day of session</td>
</tr>
</tbody>
</table>

LSCS Catalog 2013/2014
FINANCIAL INFORMATION

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. Resulting collection costs may be added to the original debt and 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:

1. In-district Texas resident
   Students or dependent students whose parents or legal guardians have been a resident of Texas for the 12 months before the date of registration and who reside in the Lone Star College district (within the boundaries of the independent school districts of Aldine, Conroe, Cypress-Fairbanks, Humble, Klein, Magnolia, New Caney, Splendora, Spring, Tomball, and Willis) on the official reporting date are considered residents of the district. Individuals, or their dependents, who are not residents of the district, but own property which is subject to ad valorem taxation by the district, shall pay tuition and fees at the rate applicable to a student who resides in the district. Persons, or their dependents, applying for such waiver shall verify property ownership by pre-
FINANCIAL INFORMATION

sentation of an ad valorem tax statement or receipt issued by the County Tax Assessor Collector; or by presentation of a deed, property closing statement, or other appropriate evidence of ownership of property which is subject to ad valorem taxation by the district. A foreign student is not eligible for waiver of the nonresident tuition rate due to payment of ad valorem taxes.

2. Out-of-district Texas resident

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

3. Non-resident of Texas

A student or dependent student whose parent or legal guardian resides out of state or has not been a resident of the state for the 12 months prior to the official reporting date of the semester in which the student is registering is considered a non-resident of Texas.

4. Military personnel

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

5. Transfer students

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

Documentation for State Resident/In-District Resident Status

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

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

- Title to real property in Texas.
- Marriage certificate with documentation to support that the spouse is a domiciliary of Texas.
- Ownership of a business in Texas with documents that evidence the organization or the business as a partnership or corporation and reflect the ownership interest of the person or dependent’s parent.
- State or local licenses to conduct a business or practice a profession in Texas.

3. Documents that do not show the establishment of a domicile but support a student’s claim to have resided in the state for at least 12 months:

- A Texas high school transcript for the full senior year preceding the official reporting date.
- A transcript from a Texas institution showing presence in the state for the 12 months preceding the official reporting date.
- A Texas driver’s license or Texas ID card with an expiration date of not more than four years.
- Cancelled checks that reflect a Texas residence for the 12 months preceding the official reporting date.
- A current credit report that documents the length and place of residence of the person or the dependent student’s parent or legal guardian.
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• 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:

1. Attended a Texas public or accredited private high school for at least 36 months immediately prior to high school graduation.
2. Resided in Texas for at least 36 months immediately prior to receiving a GED as an alternative to a high school diploma.
3. Continuously resided in Texas for the 12 months prior to the official day of record for the semester in which the student registers.
5. Provides to the college an affidavit that he or she intends to file an application to become a permanent resident of the United States at the earliest opportunity that 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.

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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 fasfa.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.

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 on page 403. This list includes the primary criteria and requirements for each award; please see a financial aid advisor for more details.

Lone Star College Foundation
Endowed Scholarships

FINANCIAL INFORMATION

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.
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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 2013-14 year is $5,645. 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 US 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 subsidized)
- 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** - The State of Texas provides a tuition and fee exemption for any student who:

1. Was a U.S. citizen and a resident of the state of Texas at the time of entry into active duty, and
2. Has received an honorable discharge or separation or a general discharge under honorable conditions, and
3. Has exhausted or is not entitled to any VA educational benefits, and
4. Is classified as a Texas resident for tuition purposes, and
5. Is not in default on a loan made or guaranteed by the Federal Government or the state of Texas, and
FINANCIAL INFORMATION

6. Has attempted fewer than 15 credit hours using the Hazelwood Act exemption beginning with fall 2005.

Students who wish to use this program for this academic year must have the following:
1. Completed Hazelwood application
2. VA form DD214 indicating “Honorable Discharge,” a non-entitlement letter from the VA
3. Proof of current status regarding eligibility
4. Documentation of Texas residency at the time of veteran service
5. 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.
- 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.

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’ Campus 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 must notify the LSCS Veterans Affairs Center, by emailing GIBill@LoneStar.edu after registration (include student ID number) to request certification each and every semester.

• The process of certification may take six to eight weeks for submission and processing to the VA Regional Office.

• Students are responsible for paying all tuition and fees when due.

• Students who are eligible to receive the Post 9/11 GI Bill benefit or Federal Tuition Assistance, and have provided all required documentation, may request to have a “Do Not Drop” hold placed on their student account. Students wishing to receive a “Do Not Drop” hold must have their benefit request submitted to GIBill@LoneStar.edu or visit your Campus VA Advisor for application of this hold, at least thirty days prior to payment deadlines.

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 LoneStar.edu/transfer-into-lsc. Official transcripts must be received before subsequent registration or before a student is admitted to any degree or certificate program. If requested, it is the student’s responsibility to bring in course descriptions so the evaluator may determine if it is equivalent to a LSCS course.

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

1. American Association for Collegiate Registrars and Admissions Officers (AACRAO) International Education Services, or

2. An evaluation service which is a member of the National Association of Credential Evaluation Services Inc. (NACES)

Evaluations must be provided in addition to the official transcripts of credit. A list of evaluation providers affiliated with NACES is available from the admissions office. This evaluation must be mailed directly from the agency to the college or 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 be assessed an additional $60 per credit hour unless waived by appeal prior to the payment deadline. The appeal process can be found in the admissions office or online at 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 veteran services office at gibill@LoneStar.edu or 281.290.2898.

**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 (1) may dispute the denial of credit by contacting a designated official at either the sending or the receiving institution.

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

d. If the transfer dispute is not resolved to the satisfaction of the student or the sending institution within 45 days after the date the student received written notice of denial, the institution that denies the course credit for transfer shall notify the commissioner of its denial and the reasons for the denial.
e. The commissioner of higher education or the commissioner’s designee shall make the final determination about a dispute concerning the transfer of course credit and give written notice of the determination to the involved student and institutions.

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

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.

**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 courses 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.

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

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

Credit for Courses
The semester hour is the unit of measurement at Lone Star College. One semester credit hour is generally defined as one hour of class per week for a 16-week semester lecture course. The number of semester hours for a course which includes a laboratory, practicum, or internship component varies. 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
The student must notify the faculty member in writing within the first 12 days of the semester of the intent to be absent due to a religious holy day. Under Texas Education Code 51.911, a student who is absent from classes for the observance of a religious holy day shall be allowed to take an examination or complete an assignment scheduled for that day within a reasonable time as established by the faculty member.
Course Outcomes and Examinations

Course outcomes are provided in the faculty member’s course syllabus to students at the beginning of each course. The evaluation of student course progress and the final grade are based on the degree of mastery of course outcomes.

A final examination or evaluation activity will be given in each course at the end of each semester during the scheduled examination period unless the faculty member has made special arrangements with the appropriate vice president.

Grading Standards

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

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

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

Grade points earned for each course are determined by multiplying the number of points for each grade by the number of credit hours the course carries. For example, a student who takes a three-hour course and earns an “A” accumulates 12 grade points for that course. A student’s grade point average is computed by adding the grade point values for all college-level courses for which grade point values (A, B, C, D, 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 and; 2) has a cumulative GPA that is 2.0 or higher; and 3) has a semester GPA that is less than 2.0. Students may still enroll in courses under the guidelines stated above.

* This text was revised (8/13). Please see addendum for details.
• **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 academic suspension will result in a student being denied enrollment for a minimum of one spring or fall semester. Students desiring to appeal a suspension must follow the guidelines stipulated by the individual college at which the majority of their courses have been completed. For more information on appealing a suspension, students may contact their college counseling center.

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

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

**Academic 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 who attain a cumulative GPA of 3.5 - 3.699 will be acknowledged by **Cum Laude** on the diploma.
- Students who complete 9 hours of honors credit with a 3.5 GPA and 25 hours of community
service will be recognized at commencement and will receive the designation of **Honors Scholar Graduate** on their transcript.

- Students who complete 15 hours of honors credit with a 3.5 GPA and 25 hours of community service will be recognized at commencement and will receive the designation of **Honors Scholar with Distinction** on their transcript.

**Phi Theta Kappa**

Colleges within the system all have active chapters of Phi Theta Kappa 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.

**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 (PLA)**

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](http://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% 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.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Description</th>
<th>Reclassification Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>AUMT 1405</td>
<td>EMSP 2348</td>
<td>PHRA 1309</td>
</tr>
<tr>
<td>AUMT 1407</td>
<td>EMSP 2434</td>
<td>PHRA 1347</td>
</tr>
<tr>
<td>COSC 1401</td>
<td>EMSP 2444</td>
<td>PHRA 1413</td>
</tr>
<tr>
<td>CSME 1254</td>
<td>HART 1407</td>
<td>PHRA 1449</td>
</tr>
<tr>
<td>CSME 1310</td>
<td>HITT 1305</td>
<td>POFT 1329</td>
</tr>
<tr>
<td>CSME 1501</td>
<td>ITAL 1412</td>
<td>POFT 1371</td>
</tr>
<tr>
<td>CSME 1505</td>
<td>ITNW 1425</td>
<td>RADR 1260*</td>
</tr>
<tr>
<td>DFTG 1305</td>
<td>ITSC 1401</td>
<td>RADR 1313*</td>
</tr>
<tr>
<td>DFTG 1309</td>
<td>ITSE 1402</td>
<td>RADR 1409*</td>
</tr>
<tr>
<td>DFTG 1325</td>
<td>ITSW 1301</td>
<td>RADR 1411*</td>
</tr>
<tr>
<td>EMSP 1338</td>
<td>METL 1405</td>
<td>SGNL 1401</td>
</tr>
<tr>
<td>EMSP 1355</td>
<td>NDTE 2311</td>
<td>SGNL 1402</td>
</tr>
<tr>
<td>EMSP 1356</td>
<td>PHRA 1102</td>
<td>SLNG 1211</td>
</tr>
<tr>
<td>EMSP 2330</td>
<td>PHRA 1304</td>
<td>SRVY 1301</td>
</tr>
<tr>
<td>EMSP 2338</td>
<td>PHRA 1305</td>
<td>WLDG 1428</td>
</tr>
</tbody>
</table>

* 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>College Name</th>
<th>ACT</th>
<th>THEA</th>
<th>CLEP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lone Star College-CyFair</td>
<td>4786</td>
<td>144</td>
<td>n/a</td>
</tr>
<tr>
<td>Lone Star College-Kingwood</td>
<td>4260</td>
<td>219</td>
<td>n/a</td>
</tr>
<tr>
<td>Lone Star College-Montgomery</td>
<td>n/a</td>
<td>226</td>
<td>n/a</td>
</tr>
<tr>
<td>Lone Star College-North Harris</td>
<td>4139</td>
<td>221</td>
<td>6508</td>
</tr>
<tr>
<td>Lone Star College-Tomball</td>
<td>4261</td>
<td>222</td>
<td>8720</td>
</tr>
<tr>
<td>Lone Star College-University Park</td>
<td>n/a</td>
<td>n/a</td>
<td>4246</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.

* Text in this table was revised (8/13). Please see addendum for details.
### ENGLISH

<table>
<thead>
<tr>
<th>Subject Area</th>
<th>Examination</th>
<th>LSCS Course</th>
<th>Min. Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td>IB (SL)</td>
<td>ENGL 1301 &amp; 1302</td>
<td>4</td>
</tr>
<tr>
<td>English</td>
<td>IB (HL)</td>
<td>ENGL 1301, 1302 &amp; 2332</td>
<td>4</td>
</tr>
<tr>
<td>English Usage</td>
<td>ACT</td>
<td>ENGL 1301</td>
<td>31</td>
</tr>
<tr>
<td>English Language &amp; Composition</td>
<td>AP College Board</td>
<td>ENGL 1301</td>
<td>3</td>
</tr>
<tr>
<td>American Literature</td>
<td>CLEP</td>
<td>ENGL 2327 &amp; 2328</td>
<td>46</td>
</tr>
<tr>
<td>English Literature</td>
<td>CLEP</td>
<td>ENGL 2322 &amp; 2323</td>
<td>46</td>
</tr>
<tr>
<td>English Literature &amp; Composition</td>
<td>AP College Board</td>
<td>ENGL 1302</td>
<td>3</td>
</tr>
</tbody>
</table>

### FOREIGN LANGUAGES

<table>
<thead>
<tr>
<th>Language</th>
<th>Examination</th>
<th>LSCS Course</th>
<th>Min. Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>French</td>
<td>CLEP</td>
<td>FREN 1411 &amp; 1412</td>
<td>50</td>
</tr>
<tr>
<td>Spanish</td>
<td>IB (AB)</td>
<td>SPAN 1411</td>
<td>4</td>
</tr>
<tr>
<td>Spanish</td>
<td>IB (B) (SL)</td>
<td>SPAN 1411, 1412</td>
<td>4</td>
</tr>
<tr>
<td>Spanish</td>
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### COMPUTER SCIENCE

<table>
<thead>
<tr>
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<th>LSCS Course</th>
<th>Min. Score</th>
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### SOCIAL & BEHAVIORAL SCIENCE

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<td>Business Law II</td>
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<td>Business &amp; Management</td>
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<td>BIOL 1406 &amp; 1407</td>
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<td>3(BC) or 3(AB)</td>
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<td>MUSI 1211 &amp; 1216</td>
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<td>Drawing Studio Art **</td>
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<td>ARTS 1316</td>
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<td>Design Studio Art **</td>
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<td>Visual Arts</td>
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<td>Theatre Arts</td>
<td>IB (SL or HL)</td>
<td>DRAM 1310</td>
<td>4</td>
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</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.

Other Foreign Language Placement Exams
The CAPE exam is a computerized placement exam for non-native speakers of the language. The Spanish Heritage Learner Exam is for native speakers of Spanish, individuals who are competent through some other life experience or those who score 425 or higher on the S-CAPE exam. 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. See LoneStar.edu/pla-exam-foreign-language for details and applicable fees.

<table>
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<tr>
<th>CAPE- French/German/Spanish</th>
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<td>330-389</td>
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<tr>
<td>390-424</td>
<td>Student places in 2312</td>
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**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 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 job workstations. 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 Homepage 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.
Student Development Programs and Services

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

Counseling and Advising Services

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

- Educational Academic Counseling/Advising - for help in selecting a major, resolving academic difficulties and planning for further educational pursuits.
- Career Exploration - for information concerning abilities, interests and personality traits, essential knowledge in making an informed and intelligent career choice. 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 in the geographical area of disability assessment, depression, substance abuse, etc.
- Transfer Planning - for assistance in selecting course work to transfer to a four-year college or university.
- Faculty Advisement - for course selection and career decision-making.
- Disability Services - for students with special needs. Requests for these services should be made through the counseling/advising office at any LSCS college.

System-wide Talent Acquisition Center

The system-wide Job Placement Center establishes linkages 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 Office of Student Life 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 encourage responsibility and respect for the rights and viewpoints of others.

The general morale of the student body is dependent upon many factors; among these are the success of its graduates, the attitude
of the faculty and administration, the general behavior of individual students and the reputation of the school. We believe that a primary factor in strong student morale is an overall regard for good citizenship on the part of the student body. The system assumes that students eligible to perform on the college level are familiar with the ordinary rules governing proper conduct and that they will observe these rules as a matter of training and habit. Regulations of the system forbid gambling, the use of controlled substances and alcoholic beverages, and the appearance of anyone under the influence of any of these on the campus or when attending or participating in activities sponsored by the college. All LSCS buildings are tobacco free.

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

No person or group of people acting in concert may willfully engage in disruptive activity or disrupt a lawful assembly on any campus or property of LSCS. 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 (LSCS) 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
Parking and traffic regulations are outlined in the student information brochure available at registration, from the student services office or online at LoneStar.edu/parking. Students and staff are requested to adhere to good manners and consideration of others when parking on campus. Students should follow the directions given on the traffic signs and park in designated areas only. Violators may be subject to a citation.

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

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.
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. Requirements are on page 96.

**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. Requirements are on page 98.

**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. Requirements are on pages 99.

**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. Requirements are on page 114.

**Core Curriculum Certificate of Completion** - 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. Students receive a designation for being “core complete” on their transcripts, and students completing the core will be awarded a core completion certificate (page 89) 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 on page 96.

**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
GRADUATION REQUIREMENTS

study into which the student transfers. Requirements are on pages 100-102.

Certificate - A program of study that varies in length and is designed to prepare the student for occupational employment. The certificate is awarded upon completion of specific courses that have been industry validated and sequenced for the purpose of developing and upgrading skills in an occupation. Requirements are on page 92.

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. Requirements are on page 102.

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

LSCS Core Perspectives and Intellectual Competencies

The Lone Star College System has defined student outcomes and skill development as completion of the AA and AS degrees and core curriculum. When appropriate and applicable to the course content, the faculty will integrate course activities and assignments that reflect these values, behaviors, and skills.

Basic Intellectual Competencies in the Core Curriculum

READING: Analyze and interpret a variety of printed materials - books, articles, and documents - including both general methods of analyzing printed materials and specific methods for analyzing the subject matter of individual disciplines.

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

SPEAKING: Communicate orally in clear, coherent, and persuasive language appropriate to purpose, occasion and audience. Exhibit poise and control of the language through experience in making presentations appropriate to the audience and discipline.

LISTENING: Analyze and interpret various forms of spoken communication.

MATHEMATICS: Apply mathematical techniques to solve problems as required in both discipline-specific and real-life applications, including employment situations.

WRITING: Produce prose that is clear, grammatically correct and coherent. Adapt prose to the purpose, occasion and audience, and employ steps in the writing process including topic discovery and development, organization, and audience analysis and adaptation.

CRITICAL THINKING: Apply both qualitative and quantitative skills analytically and creatively to subject matter in order to evaluate arguments and to construct alternative strategies. Problem solving is one of the applications of critical thinking - used to address an identified task.

MULTICULTURAL COMPETENCIES: Demonstrate knowledge of elements and processes that create and define culture. Develop knowledge of the values, practices, beliefs, and responsibilities of living in a multicultural world. Develop cross-cultural understanding, empathy, and communication. Demonstrate understanding of diverse cultural expressions and their influences on cross-cultural interactions.
Perspectives in the Core Curriculum

1. Establish broad and multiple perspectives of the individual in relationship to the larger society and world in which he or she lives, and to understand the responsibilities of living in a culturally and ethnically diversified world;

2. Stimulate a capacity to discuss and reflect upon individual, political, economic, and social aspects of life in order to understand ways in which to be a responsible member of society;

3. Recognize the importance of maintaining health and wellness;

4. Develop a capacity to use knowledge of how technology and science affect their lives;

5. Develop personal values for ethical behavior;

6. Develop the ability to make aesthetic judgments;

7. Use logical reasoning in problem solving; and

8. Integrate knowledge and understand the interrelationships of the scholarly disciplines.

Core Curriculum Exemplary Objectives by Component Area

Communication:

- To understand and demonstrate writing and speaking processes through invention, organization, drafting, revision, editing, and presentation.

- To understand the importance of specifying audience and purpose and to select appropriate communication choices.

- To understand and appropriately apply modes of expression, i.e., description expositive, narrative, scientific, and self-expressive, in written, visual, and oral communication.

- To participate effectively in groups with emphasis on listening, critical and reflective thinking, and responding.

- To understand and apply basic principles of critical thinking, problem solving and technical proficiency in the development of exposition and argument.

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

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

**Humanities, Visual & Performing Arts:**
- To demonstrate awareness of the scope and variety of works in the arts and humanities.
- To understand those works as expressions of individual and human values within an historical and social context.
- To respond critically to works in the arts and humanities.
- To engage in the creative process or interpretive performance and comprehend the physical and intellectual demands required of the author or visual or performing artist.
- To articulate an informed personal reaction to works in the arts and humanities.
- To develop an appreciation for the aesthetic principles that guide or govern the humanities and arts.
- To demonstrate knowledge of the influence of literature, philosophy, and/or the arts on intercultural experiences.

**Social/Behavioral Sciences:**
- To employ the appropriate methods, technologies, and data that social and behavioral scientists use to investigate the human condition.
- To examine social institutions and processes across a range of historical periods, social structures, and cultures.
- To use and critique alternative explanatory systems or theories.
- To develop and communicate alternative explanations or solutions for contemporary social issues.
- To analyze the effects of historical, social, political, economic, cultural, and global forces on the area under study.
- To comprehend the origins and evolution of U.S. and Texas political systems, with a focus on the growth of political institutions, the constitutions of the U.S. and Texas, federalism, civil liberties, civil and human rights.
• To understand the evolution and current role of the U.S. in the world.
• To differentiate and analyze historical evidence (documentary and statistical) and differing points of view.
• To recognize and apply reasonable criteria for the acceptability of historical evidence and social research.
• To analyze, critically assess, and develop creative solutions to public policy problems.
• To recognize and assume one’s responsibility as a citizen in a democratic society by learning to think for oneself, by engaging in public discourse, and by obtaining information through the news media and other appropriate information sources about politics and public policy.
• To identify and understand differences and commonalities within diverse cultures.

**Multicultural Competencies:**

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

**Demonstration of Mastery**

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

**General Associate Degree Requirements**

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

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

Completion of associate degrees requires the following:

1. At least 60 semester hours of earned credit, 25% of which must be courses taken at LSCS and apply to the degree.

Courses transferred from regionally-accredited institutions will be evaluated and applied to degree requirements if:

a. At least a grade of “D” was earned.

b. The cumulative GPA of the transfer courses applied to the degree or certificate must be at least a 2.00.

c. AAS graduates may be required to demonstrate skills/proficiencies in the discipline.

2. Satisfaction of core competency requirements.
GRADUATION 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. Completion of LSCS Student Success Initiative requirements (college level reading and writing, and at least completion of Math 0308) even if students are exempt from the Texas Success Initiative.

6. Completed formal application for graduation on or before the announced deadline.

7. 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 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.

**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 (minimum completion of MATH 0308 plus any math degree requirements), oral communication competencies, wellness, and multicultural requirements.

**Earning Additional Associate Degrees**

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

This provision is subject to the following stipulations:

1. For each additional associate degree, a minimum of 18 semester credit hours must be completed at LSCS. These credit hours may not repeat credit applied to a previous degree and must apply to the additional degree.

2. All courses required by any specific program must be completed.

**Certificate Programs and General Requirements**

Certificates are awarded upon the completion of specific courses 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. APPLY FOR GRADUATION before a certificate can be awarded.

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, and post AAS certificates require completion of TSI requirements.

Students must complete 50% of the credits of a credit certificate program or at least 25% 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 he/she has completed the greatest number of technical program credit hours applicable to the degree or certificate. Nursing students will graduate from the college where they successfully complete the capstone course for the program.

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

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

**AA, AS, AAT Transferability**

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

**Graduation Through Reverse Transfer**

Reverse transfer provides an avenue for obtaining an associate degree after transferring to a 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.
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 Options</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A.A.</strong> Associate of Arts</td>
<td>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).</td>
</tr>
<tr>
<td><strong>A.A.— F.O.S.</strong> Associate of Arts–Field of Study</td>
<td>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).</td>
</tr>
<tr>
<td><strong>A.A.T.</strong> Associate of Arts in Teaching</td>
<td>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.</td>
</tr>
<tr>
<td><strong>A.S.</strong> Associate of Science</td>
<td>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.)</td>
</tr>
<tr>
<td><strong>CORE Completion Certificate</strong></td>
<td>Prepares you to finish an associate's degree and/or transfer to a Texas public university or college with all core curriculum completed.</td>
</tr>
<tr>
<td><strong>A.A.S.</strong> Associate of Applied Science</td>
<td>Prepares you to enter a specialized career field. While this degree is not focused on transfer, LSCS has articulation agreements with partner universities that allow some transferability of academic and technical coursework.</td>
</tr>
<tr>
<td><strong>CERTIFICATES</strong></td>
<td>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.</td>
</tr>
<tr>
<td>Marketable Skills Award</td>
<td>Prepares you to enter a high-demand career field with minimal training.</td>
</tr>
<tr>
<td>First &amp; Second Level</td>
<td>Prepares you for entry in a career field requiring up to 2 years of training.</td>
</tr>
<tr>
<td>Enhanced Skills Certificate</td>
<td>Pursued simultaneously with an AAS, prepares you for a career field with more specialized training.</td>
</tr>
<tr>
<td>Advanced Technical Certificate</td>
<td>Pursued after the completion of a related bachelor’s or associates degree, prepares you for a specialized career field.</td>
</tr>
</tbody>
</table>

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

While certain courses are recommended, the requirements are essentially the basic first year and second year offerings appropriate for the first two years of many baccalaureate degree programs. Students who successfully complete the degree requirements of the programs of study will be eligible to receive the Associate of Arts degree or the Associate of Science degree from Lone Star College System.

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

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

<table>
<thead>
<tr>
<th>Core Component</th>
<th>Course Options</th>
<th>Semester credit hours</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>COMMUNICATION</strong></td>
<td><strong>ENGL</strong> 1301 and 1302 and 3 hours of Speech: <strong>SPCH</strong> 1144, 1145, 1311, 1315, 1318, 1321, 2144, 2145</td>
<td>9 hours</td>
</tr>
<tr>
<td><strong>MATHEMATICS</strong></td>
<td><strong>MATH</strong> 1314, 1316, 1324, 1325, 1332, 1342, *1350, *1351, 2318, 2320, †2412, †2413, †2414, †2415</td>
<td>3 hours</td>
</tr>
<tr>
<td><strong>NATURAL SCIENCES</strong></td>
<td><strong>BIOL</strong> 1406 OR 1408, 1407 OR 1409, 2401, 2402, 2404, 2406, 2416, 2420, 2421; <strong>CHEM</strong> 1405, 1411, 1412, 1419, 2423, 2425; <strong>ENVR</strong> 1401, 1402; <strong>GEOL</strong> 1403, 1404, 1405, 1445, 2307; <strong>PHYS</strong> 1401, 1402, 1403, 1404, 1410, 2425, 2426</td>
<td>8 hours</td>
</tr>
<tr>
<td><strong>VISUAL &amp; PERFORMING ARTS</strong></td>
<td><strong>ARTS</strong> 1301, 1303, 1304, 1311, 1316, 2346, 2356; <strong>DANC</strong> 2303; <strong>DRAM</strong> 1120, 1121, 1310, 1330, 1351, 1352, 2120, 2331, 2361, 2362, 2366; <strong>MUSI</strong> 1301, 1306, 1308, 1309, 1310</td>
<td>3 hours</td>
</tr>
<tr>
<td><strong>HUMANITIES</strong></td>
<td><strong>ENGL</strong> 2307, 2322, 2323, 2327, 2328, 2332, 2333, 2341, 2342, 2343, 2351; <strong>HUMA</strong> 1301, 1302; <strong>PHIL</strong> 1301, 1304, 2306, 2321; <strong>SPCH</strong> 2341; <strong>FREN</strong> 2311, 2312; <strong>GERM</strong> 2311, 2312; <strong>ITAL</strong> 2311, 2312; <strong>SPAN</strong> 2311, 2312, 2313, 2315</td>
<td>3 hours</td>
</tr>
<tr>
<td><strong>SOCIAL/BEHAVIORAL SCIENCES</strong></td>
<td><strong>HIST</strong> 1301, 1302, or 2301 [select 6 hours with 3 hours in U. S. History]</td>
<td>6 hours</td>
</tr>
<tr>
<td></td>
<td><strong>GOVT</strong> 2305 and 2306</td>
<td>6 hours</td>
</tr>
<tr>
<td></td>
<td><strong>ANTH</strong> 2301, 2346, 2351; <strong>CRIJ</strong> 1301, 1307; <strong>ECON</strong> 2301, 2302; <strong>GOVT</strong> 2304; <strong>HIST</strong> 2311, 2312; <strong>PSYC</strong> 2301, 2306, 2308; <strong>SOCI</strong> 1301, 1306, 2301, 2319, 2326</td>
<td>3 hours</td>
</tr>
<tr>
<td><strong>KINESIOLOGY</strong></td>
<td>Select any KINE activity course 1111-2184 identified with an asterisk (*) in the course descriptions in this catalog</td>
<td>1 hour</td>
</tr>
<tr>
<td><strong>MULTICULTURAL REQUIREMENT</strong></td>
<td>Students must take one of the above underlined courses or one of the following to meet the multicultural requirement of this degree: <strong>FREN</strong> 1300, 1310, 1411, 1412; <strong>GERM</strong> 1411, 1412; <strong>ITAL</strong> 1411, 1412; <strong>JAPN</strong> 1411, 1412; <strong>SGNL</strong> 1401, 1402, 2301, 2302; <strong>SPAN</strong> 1300, 1310, 1411, 1412</td>
<td>TOTAL 42 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.
## Requirements for the Associate of Arts:

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

<table>
<thead>
<tr>
<th>Core Component</th>
<th>Course Options</th>
<th>Semester credit hours</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>COMMUNICATION</strong></td>
<td>ENGL 1301 and 1302</td>
<td>9 hours</td>
</tr>
<tr>
<td></td>
<td>And 3 hours of Speech: SPCH 1144, 1145, 1311, 1315, 1318, 1321, 2144, 2145</td>
<td></td>
</tr>
<tr>
<td><strong>LITERATURE</strong></td>
<td>ENGL 2322, 2323, 2327, 2328, 2332, 2333, 2341, 2342, 2343, 2351</td>
<td>3 hours</td>
</tr>
<tr>
<td><strong>MATHEMATICS</strong></td>
<td>MATH 1314, 1316, 1324, 1325, 1332, 1342, *1350, *1351, 2318, 2320, 2412, 2413, 2414, 2415</td>
<td>3 hours</td>
</tr>
<tr>
<td><strong>NATURAL SCIENCES</strong></td>
<td>BIOL 1406 OR 1408, 1407 OR 1409, 2401, 2402, 2404, 2406, 2416, 2420, 2421; CHEM 1405, 1411, 1412, 1419, 2423, 2425; ENVIR 1401, 1402; GEOL 1403, 1404, 1405, 1445, 2307; PHYS 1401, 1402, 1403, 1404, 1410, 2425, 2426</td>
<td>8 hours</td>
</tr>
<tr>
<td><strong>VISUAL &amp; PERFORMING ARTS</strong></td>
<td>ARTS 1301, 1303, 1304, 1311, 1316, 2346, 2356; DANC 2303; DRAM 1120, 1121, 1310, 1330, 1351, 1352, 2120, 2331, 2361, 2362, 2366; MUSI 1301, 1306, 1308, 1309, 1310</td>
<td>3 hours</td>
</tr>
<tr>
<td><strong>HUMANITIES</strong></td>
<td>ENGL 2307, 2322, 2323, 2327, 2328, 2332, 2333, 2341, 2342, 2343, 2351; HUMA 1301, 1302; PHIL 1301, 1304, 2306, 2321; SPCH 2341; FREN 2311, 2312; GERM 2311, 2312; ITAL 2311, 2312; SPAN 2311, 2312, 2313, 2315</td>
<td>3 hours</td>
</tr>
<tr>
<td><strong>SOCIAL/BEHAVIORAL SCIENCES</strong></td>
<td>HIST 1301, 1302, or 2301 (select 6 hours with 3 hours in U.S. History)</td>
<td>6 hours</td>
</tr>
<tr>
<td></td>
<td>GOVT 2305 and 2306</td>
<td>6 hours</td>
</tr>
<tr>
<td></td>
<td>ANTH 2301, 2346, 2351; CRIJ 1301, 1307; ECON 2301, 2302; GEOG 1300, 1303; GOVT 2304; HIST 2311, 2312, 2321, 2322; PSYC 2301, 2306, 2308; SOCi 1301, 1306, 2301, 2319, 2326</td>
<td>3 hours</td>
</tr>
<tr>
<td><strong>KINESIOLOGY</strong></td>
<td>Select any KINE activity course 1111-2184 identified with an asterisk (*) in the course descriptions in this catalog</td>
<td>1 hour</td>
</tr>
<tr>
<td><strong>ELECTIVES</strong></td>
<td>COSC 1401 (if course or challenge exam are not chosen and successfully completed)</td>
<td>16 hours</td>
</tr>
<tr>
<td><strong>MULTICULTURAL REQUIREMENT</strong></td>
<td>FREN 1300, 1310, 1411, 1412; GERM 1411, 1412; ITAL 1411, 1412; JAPN 1411, 1412; SGNL 1401, 1402, 2301, 2302; SPAN 1300, 1310, 1411, 1412</td>
<td>16 hours</td>
</tr>
</tbody>
</table>

* Specifically designed for elementary and middle school teachers. **TOTAL 61 hours**
Requirements for the Associate of Science:

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

<table>
<thead>
<tr>
<th>Core Component</th>
<th>Course Options</th>
<th>Semester credit hours</th>
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<tbody>
<tr>
<td>COMMUNICATION</td>
<td>ENGL 1301 and 1302</td>
<td>9 hours</td>
</tr>
<tr>
<td></td>
<td>And 3 hours of Speech: SPCH 1144, 1145, 1311, 1315, 1318, 1321, 2144, 2145</td>
<td></td>
</tr>
<tr>
<td>MATHEMATICS</td>
<td>MATH 1314, 1316, 1324, 1325, 1332, 1342, *1350, *1351, 2318, 2320, 2412, 2413, 2414, 2415</td>
<td>6 hours</td>
</tr>
<tr>
<td>NATURAL SCIENCES</td>
<td>BIOL 1406 OR 1408, 1407 OR 1409, 2401, 2402, 2404, 2406, 2416, 2420, 2421; CHEM 1405, 1411, 1412, 1419, 2423, 2425; ENVR 1401, 1402; GEOL 1403, 1404, 1405, 1445, 2307; PHYS 1401, 1402, 1403, 1404, 1410, 2425, 2426</td>
<td>16 hours</td>
</tr>
<tr>
<td>VISUAL &amp; PERFORMING ARTS</td>
<td>ARTS 1301, 1303, 1304, 1311, 1316, 2346, 2356; DANC 2303; DRAM 1120, 1121, 1310, 1330, 1351, 1352, 2120, 2331, 2361, 2366; MUSI 1301, 1306, 1308, 1309, 1310</td>
<td>3 hours</td>
</tr>
<tr>
<td>HUMANITIES</td>
<td>ENGL 2307, 2322, 2323, 2327, 2328, 2332, 2333, 2341, 2342, 2343, 2351; HUMA 1301, 1302; PHIL 1301, 1304, 2306, 2321; SPCH 2341; FREN 2311, 2312; GERM 2311, 2312; ITAL 2311, 2312; SPAN 2311, 2312, 2313, 2315</td>
<td>3 hours</td>
</tr>
<tr>
<td>SOCIAL/BEHAVIORAL SCIENCES</td>
<td>HIST 1301, 1302, or 2301 (select 6 hours with 3 hours in U. S. History)</td>
<td>6 hours</td>
</tr>
<tr>
<td></td>
<td>GOVT 2305 and 2306</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ANTH 2301, 2346, 2351; CRIJ 1301, 1307; ECON 2301, 2302; GEOG 1300, 1303; GOVT 2304; HIST 2311, 2312, 2321, 2322; PSYC 2301, 2306, 2308; SOCI 1301, 1306, 2301, 2319, 2326</td>
<td>3 hours</td>
</tr>
<tr>
<td>KINESIOLOGY</td>
<td>Select any KINE activity course 1111-2184 identified with an asterisk (*) in the course descriptions in this catalog</td>
<td>1 hour</td>
</tr>
<tr>
<td>ELECTIVES</td>
<td>COSC 1401 (if course or challenge exam are not chosen and successfully completed)</td>
<td>8 hours</td>
</tr>
<tr>
<td>MULTICULTURAL REQUIREMENT</td>
<td>FREN 1300, 1310, 1411, 1412; GERM 1411, 1412; ITAL 1411, 1412; JAPN 1411, 1412; SGNL 1401, 1402, 2301, 2302; SPAN 1300, 1310, 1411, 141</td>
<td>TOTAL 61 hours</td>
</tr>
</tbody>
</table>

* Specifically designed for elementary and middle school teachers.
### Associate of Arts in Teaching

#### EC-6 Generalist
Leading to a bachelor’s degree for individuals seeking Texas teacher certification.

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

<table>
<thead>
<tr>
<th>FIRST YEAR</th>
<th>Credit</th>
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</thead>
<tbody>
<tr>
<td>GOVT 2305 Federal Government</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 1301 Composition &amp; Rhetoric I</td>
<td>3</td>
</tr>
<tr>
<td>SPCH(^1)</td>
<td>Elective</td>
</tr>
<tr>
<td>EDUC(^2) 1301 Intro to the Teaching Profession</td>
<td>3</td>
</tr>
<tr>
<td>MATH 1314 College Algebra</td>
<td>3</td>
</tr>
<tr>
<td>ARTS(^2) 1301 Art Appreciation OR Elective</td>
<td>3</td>
</tr>
<tr>
<td>SPCH 1311, 1315, 1318, or 1321</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 1301 Composition &amp; Rhetoric II</td>
<td>3</td>
</tr>
<tr>
<td>MATH 1350 Foundations of Math I</td>
<td>3</td>
</tr>
<tr>
<td>Elective(^4) Natural Science</td>
<td>4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SECOND YEAR</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIST 1301 U.S. History to 1877</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 1302 Composition &amp; Rhetoric II</td>
<td>3</td>
</tr>
<tr>
<td>MATH 1350 Foundations of Math I</td>
<td>3</td>
</tr>
<tr>
<td>Elective(^4) Natural Science</td>
<td>4</td>
</tr>
</tbody>
</table>

**TOTAL Credit Hours for AA Degree in Teaching** 60

1. Choose from SPCH 1311, 1315, 1318, or 1321
2. Successful completion of a background check is required for entry into EDUC 1301 and EDUC 2301. Students must also complete 16 hours of observation in each course to meet state field experience requirements.
3. ARTS 1301 meets the multicultural requirement. If DRAM, ARTS, or MUSI elective option is chosen, select a course that will meet multicultural requirements. See core requirements.

4. Eight total hours of science must consist of four hours each of two science courses with labs. Choose BIOL 1406 or 1408, 1407 or 1409, CHEM 1405, 1411, 1412, GEOL 1403, or PHYS 1410. It is recommended (not required) that the courses be chosen from two different areas for a broader understanding of the sciences.

5. Select from: ENGL 2322, 2323, 2327, 2328, 2332, 2333, 2341, 2342, 2343, or 2351

LSCS requires that students meet computer literacy competency. It is strongly recommended that students speak with an advisor at the transferring institution to confirm transferability of courses into degree plans, THEA score requirements, and SBEC requirements.

---

### Associate of Arts in Teaching

#### Grades 4-8 Generalist
Leading to a bachelor’s degree for individuals seeking Texas teacher certification.

(AAT_48GN degree offered at LSC-CyFair, Kingwood, Montgomery, North Harris, Tomball, and University Park)

<table>
<thead>
<tr>
<th>FIRST YEAR</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>GOVT 2305 Federal Government</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 1301 Composition &amp; Rhetoric I</td>
<td>3</td>
</tr>
<tr>
<td>SPCH(^1)</td>
<td>Elective</td>
</tr>
<tr>
<td>EDUC(^2) 1301 Intro to the Teaching Profession</td>
<td>3</td>
</tr>
<tr>
<td>MATH 1314 College Algebra</td>
<td>3</td>
</tr>
<tr>
<td>ARTS(^3) 1301 Art Appreciation OR Elective</td>
<td>3</td>
</tr>
<tr>
<td>HIST 1301 U.S. History to 1877</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 1302 Composition &amp; Rhetoric II</td>
<td>3</td>
</tr>
<tr>
<td>MATH 1350 Foundations of Math I</td>
<td>3</td>
</tr>
<tr>
<td>Elective(^4) Natural Science</td>
<td>4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SECOND YEAR</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIST 1302 U.S. History since 1877</td>
<td>3</td>
</tr>
<tr>
<td>MATH 1351 Foundations of Math II</td>
<td>3</td>
</tr>
<tr>
<td>EDUC(^2) 2301 Intro to Special Populations</td>
<td>3</td>
</tr>
<tr>
<td>Elective(^4) Natural Science</td>
<td>4</td>
</tr>
<tr>
<td>TECA 1354 Child Growth and Development OR PSYC 2301 General Psychology</td>
<td>3</td>
</tr>
<tr>
<td>GEOL 1403 Physical Geology OR PHYS 1410 Elementary Physics</td>
<td>4</td>
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<tr>
<td>GOVT 2306 Texas Government</td>
<td>3</td>
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<tr>
<td>ENGL(^5) Elective</td>
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</tr>
<tr>
<td>GEOG 1300 Principles of Geography OR GEOG 1303 World Geography</td>
<td>3</td>
</tr>
</tbody>
</table>

**TOTAL Credit Hours for AA Degree in Teaching** 60

1. Choose from SPCH 1311, 1315, 1318, or 1321
2. Successful completion of a background check is required for entry into EDUC 1301 and EDUC 2301. Students must also complete 16 hours of observation in each course to meet state field experience requirements.
3. ARTS 1301 meets the multicultural requirement. If DRAM, ARTS, or MUSI elective option is chosen, select a course that will meet multicultural requirements. See core requirements.

4. Eight total hours of science must consist of four hours each of two science courses with labs. Choose BIOL 1406 or 1408, 1407 or 1409, CHEM 1405, 1411, 1412, GEOL 1403, or PHYS 1410. It is recommended (not required) that the courses be chosen from two different areas for a broader understanding of the sciences.

5. Select from: ENGL 2322, 2323, 2327, 2328, 2332, 2333, 2341, 2342, 2343, or 2351

LSCS requires that students meet computer literacy competency. It is strongly recommended that students speak with an advisor at the transferring institution to confirm transferability of courses into degree plans, THEA score requirements, and SBEC requirements.
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.

Field of Study Curriculum in Business

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

Associate of Arts Degree with Field of Study Transfer Curriculum for Business

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

FIRST YEAR

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

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>ECON 2302 Microeconomics</td>
<td>3</td>
</tr>
<tr>
<td>GOVT 2305 Federal Government</td>
<td>3</td>
</tr>
<tr>
<td>ACCT 2402 Principles of Accounting II</td>
<td>4</td>
</tr>
<tr>
<td>Elective 1 Humanities</td>
<td>3</td>
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<tr>
<td>Elective Natural Science</td>
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</tr>
<tr>
<td>GOVT 2306 Texas Government</td>
<td>3</td>
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<tr>
<td>MATH 1325 Elements Calculus w/Applications</td>
<td>3</td>
</tr>
<tr>
<td>Elective 4 Business</td>
<td>3</td>
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<td>Elective Natural Science</td>
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<tr>
<td>ENGL 5 Literature Elective</td>
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<tr>
<td>KINE 1111 Fitness for Life I</td>
<td>1</td>
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TOTAL Credit Hours for Field of Study in Business 66

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

Field of Study Curriculum in Computer Science

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

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
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<tbody>
<tr>
<td>MATH 1314 College Algebra</td>
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<tr>
<td>MATH 1316 Trigonometry</td>
<td>3</td>
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FIRST YEAR

<table>
<thead>
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<th>Course</th>
<th>Credit</th>
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<tbody>
<tr>
<td>COSC 1436 Programming Fundamentals I</td>
<td>4</td>
</tr>
<tr>
<td>ENGL 1301 Composition and Rhetoric I</td>
<td>3</td>
</tr>
<tr>
<td>HIST 1301 U.S. History to 1877</td>
<td>3</td>
</tr>
<tr>
<td>MATH 2412 Pre-Calculus</td>
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</tr>
<tr>
<td>KINE 1 Any physical activity course</td>
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<tr>
<td>COSC 1437 Programming Fundamentals II</td>
<td>4</td>
</tr>
<tr>
<td>ENGL 1302 Composition and Rhetoric II</td>
<td>3</td>
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<tr>
<td>HIST 1302 U.S. History since 1877</td>
<td>3</td>
</tr>
<tr>
<td>MATH 2413 Calculus I</td>
<td>4</td>
</tr>
<tr>
<td>SPCH 2 Communications</td>
<td>3</td>
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SECOND YEAR

<table>
<thead>
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<th>Course</th>
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<tbody>
<tr>
<td>COSC 2436 Programming Fundamentals III</td>
<td>4</td>
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<tr>
<td>MATH 2414 Calculus II</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 2425 Mechanics &amp; Heat</td>
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</table>
### Field of Study Curriculum in Criminal Justice

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)

<table>
<thead>
<tr>
<th>FIRST YEAR</th>
<th>Credit</th>
<th>SECOND YEAR</th>
<th>Credit</th>
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</thead>
<tbody>
<tr>
<td>ENGL 1301 Composition and Rhetoric I</td>
<td>3</td>
<td>MUAP</td>
<td>Private Lesson</td>
</tr>
<tr>
<td>HIST 1301 Elective</td>
<td>3</td>
<td>ENGL 1301 Composition &amp; Rhetoric I</td>
<td>3</td>
</tr>
<tr>
<td>CRJ 1301 Introduction to Criminal Justice</td>
<td>3</td>
<td>HIST 1301 United States History to 1877</td>
<td>3</td>
</tr>
<tr>
<td>COSC 1401 Introduction to Computers</td>
<td>4</td>
<td>MATH 1314 College Algebra or higher</td>
<td>3</td>
</tr>
<tr>
<td>KINE Any physical activity course</td>
<td>1</td>
<td>MUSI 1308 Music Literature since 1827</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 1302 Composition and Rhetoric II</td>
<td>3</td>
<td>MUAP</td>
<td>Private Lesson</td>
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<tr>
<td>HIST 1302 Elective</td>
<td>3</td>
<td>ENGL 1302 Composition &amp; Rhetoric II</td>
<td>3</td>
</tr>
<tr>
<td>Elective Natural Science</td>
<td>4</td>
<td>HIST 1302 U.S. History since 1877</td>
<td>3</td>
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<tr>
<td>CRJ 1306 Court Systems &amp; Practices</td>
<td>3</td>
<td>MUSI 1309 Music Literature since 1827</td>
<td>3</td>
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<tr>
<td>MATH 1302 Elective</td>
<td>3</td>
<td>MUAP</td>
<td>Private Lesson</td>
</tr>
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</table>

**TOTAL Credit Hours for Field of Study in Criminal Justice**

- **61**

---

1. Select from HIST 1301, 1302, or 2301
2. Select from general education course requirements in the catalog. Select one course to meet multicultural requirement.

### Field of Study Curriculum in Music

Leading to the Bachelor of Music degree but may also be applied to the Bachelor of Arts or other baccalaureate-level music degrees as deemed appropriate by the awarding institution. 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>
<th>SECOND YEAR</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUSI 1211 Theory</td>
<td>2</td>
<td>MUSI 2211 Theory III</td>
<td>2</td>
</tr>
<tr>
<td>MUSI 1216 Ear Training &amp; Sight Singing</td>
<td>2</td>
<td>MUSI 2216 Ear Training &amp; Sight Singing III</td>
<td>2</td>
</tr>
<tr>
<td>MUSI 1181 Class Piano I</td>
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<td>MUSI 2181 Class Piano III</td>
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<td>MUSI 1308 Music Literature to 1827</td>
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**TOTAL Credit Hours for Field of Study in Music**

- **65**
Field of Study Curriculum in Speech Communication

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

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

FIRST YEAR

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TOTAL Credit Hours for Field of Study in Speech Communication 61

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).

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

Students must also complete the core computer literacy requirement.

DEGREE OPTIONS

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

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

3 ENGL 2322, 2323, 2327, 2328

See AA degree core requirements for science elective options.

The elective for either English literature, social/behavioral science, visual performing arts or humanities must also meet multicultural requirement.
**Credit Programs of Study** (As of 5.29.13)

As part of the Lone Star College System commitment to help students achieve their education and career goals, LSC Programs of Study are organized according to nationally recognized career clusters. Each career cluster represents a group of occupations and broad industries 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.

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**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 5.29.13)

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

(As of 5.29.13)

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* This text was revised (7/13).

** This text was deleted (11/13). Please see addendum for details.

LSCS Catalog 2013/2014
## Credit Programs of Study

### DEGREES AND CERTIFICATES

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

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

★ This text was added (11/13). Please see addendum for details.
## Credit Programs of Study
(As of 5.29.13)

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Credit Programs of Study (As of 5.29.13)
# Credit Programs of Study

(As of 5.29.13)

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

* A program was added (7/13) effective summer 2014. Please see addendum for details.
## Credit Programs of Study

*(As of 5.29.13)*

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### Networking: Cisco & Microsoft

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### Web

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### Law, Public Safety, Corrections & Security Cluster

### Emergency Medical Services Professionals

<table>
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<tr>
<th>Program</th>
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**CF:** LSC-CyFair  **K:** LSC-Kingwood  **M:** LSC-Montgomery  **NH:** LSC-North Harris  **T:** LSC-Tomball  **UP:** LSC-University Park  **OL:** LSC-Online Learning

*This program was deactivated (fall 2013).  **This text was revised (12/13). Please see addendum for details.*
## PROGRAMS OF STUDY

### Credit Programs of Study

(As of 5.29.13)

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#### Fire Science Technology

| Fire Science Technology AAS Degree | ★ | ★ | | | | |
| Basic Structural Firefighter Certificate | ★ | ★ | ★ | | |

#### Paralegal Studies

| Paralegal Studies AAS Degree | | ★ | ★ | ★ | | |
| Paralegal Studies Advanced Technical Certificate | | ★ | ★ | ★ | | |

#### Marketing Cluster

| Marketing Certificate | ★ | ★ | ★ | ★ | ★ | ★ | ★ |

#### Science, Technology, Engineering & Mathematics Cluster

**Biotechnology**

| Biotechnology AAS Degree | ★ | ★ | ★ | ★ | ★ | | |
| Biotechnology Advanced Technical Certificate | ★ | ★ | | | |

**Computer Engineering**

| Computer Engineering Technology AAS Degree | ★ | ★ | ★ | ★ | | |
| Basic Electronics Certificate | ★ | ★ | ★ | | |

**Energy & Manufacturing Technology**

| Automated Manufacturing Technician AAS Degree | | | | | ★ | |
| Petroleum Field Service Technician AAS Degree | | | | | ★ | |
| Industrial Diesel Technology AAS degree | | | | | ★ | |
| Automated Manufacturing Technician Certificate | | | | | ★ | ★ |
| Field Service Technician Certificate | ★ | ★ | ★ | | |
| Petroleum Field Service Technician Certificate | | | | | ★ | |
| Field Service Technician Marketable Skills Award | | | | | ★ | ★ |
| Industrial Diesel Technology Certificate | | | | | ★ | |

**Engineering Design Graphics Technology**

| Architectural Engineering Technology AAS Degree | ★ | ★ | ★ | ★ | | |
| Mechanical Engineering Technology AAS Degree | ★ | ★ | ★ | ★ | | |
| Pre-Engineered Metal Building Drafting & Design AAS Degree | ★ | ★ | | | |
| Computer-Aided Design Operator/Drafting Certificate, Track 1: Architectural, Civil/Structural | ★ | ★ | | |
| Computer-Aided Design Operator/Drafting Certificate, Track 2: Mechanical, Manufacturing, Product Design | ★ | ★ | | |

* This program was deactivated (fall 2013). Please see addendum for details.

** This text was added (11/13). Please see addendum for details.

★ Total Academic Transfer Certification or Degree Offered

☆ Some Courses Offered
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# Non-Credit Programs of Study

As part of the Lone Star College System commitment to help students achieve their education and career goals, LSC Programs of Study are organized according to nationally recognized career clusters. Each career cluster represents a group of occupations and broad industries 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. Non-credit programs of study are not included in this catalog and generally do not include transferable college credits.

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<td>AutoCAD Draftsman</td>
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<td><strong>Arts, Audio/Visual Technology &amp; Communication Cluster</strong></td>
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</table>
| Web Designer (Artist) | | | | | | | ★ ★
| Web Developer (Programming) | | | | | | | ★ ★
| **Business Management & Administration Cluster** | | | | | | | |
| Accounting Assistant | ★ | ★ | ★ | ★ | ★ | | |
| PayTrain | ★ | | | | | | ★
| Project Management Certification | | | | | | | ★
| Supervisor I | | | | | | | ★
| Supervisor II | | | | | | | ★
| **Education & Training Cluster** | | | | | | | |
| Substitute Teacher | | | | | | | ★
| Texas Teacher Certification: Clinical Teaching Track | ★ | ★ | ★ | ★ | ★ | | ★
| Texas Teacher Certification: Internship Track | ★ | ★ | ★ | ★ | ★ | | ★
| **Energy & Manufacturing Cluster** | | | | | | | |
| **Engineering Technology** | | | | | | | |
| Engineering Technician Assistant Pre-Apprentice | | | | | | | ★
| Engineering Technician | ★ | | | | | | ★
| **Machining** | | | | | | | |
| Machining Pre-Apprentice | | | | | | | ★
| Machine Tool (CNC) Operator | | | | | | | ★
| **Welding** | | | | | | | |
| Shielded Metal Welder (SMAW) | ★ | | | | | | ★
| Gas Metal Welder (MIG) | ★ | | | | | | ★
| Gas Tungsten Welder (TIG) | | | | | | | ★
| Pipe Welder | | | | | | | ★

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

(As of 5.29.13)

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<td>Accounting Assistant</td>
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<td>Electrocardiography Technician</td>
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<tr>
<td>Emergency Medical Technician (EMT): Basic</td>
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<tr>
<td>Massage Therapist</td>
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<tr>
<td>Nurse Aide (CNA)</td>
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<tr>
<td>Patient Care Technician</td>
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<tr>
<td>Personal Trainer</td>
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<td>Phlebotomist</td>
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<td><strong>Hospitality &amp; Tourism Cluster</strong></td>
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<td>Floral Designer</td>
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<td>A+ Certification</td>
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<td>AutoCAD Draftsman</td>
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<tr>
<td>CCNA (Cisco Certified Networking Associate)</td>
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<tr>
<td>Computer Support Technician</td>
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<td>Solid Model Design</td>
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<td><strong>Law, Public Safety, Corrections &amp; Security Cluster</strong></td>
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<td>Engineering Technician Assistant Pre-Apprentice</td>
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★ Total Academic Transfer Certification or Degree Offered  ☆ Some Courses Offered
## Non-Credit Programs of Study

(As of 5.29.13)

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<th>CF</th>
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<th>NH</th>
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<tr>
<td>Automotive Technician</td>
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<td>Certified Logistics Associate</td>
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<td>Diesel Technician</td>
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<td>Global Logistics</td>
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<tr>
<td>Professional Truck Driver (CDL)</td>
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<tr>
<th>Industry Certification &amp; Exam Prep Cluster</th>
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<td>A+ Certification</td>
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<td>Electrician - Journeyman: Exam Review</td>
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<tr>
<td>Electrician - Master: Exam Review</td>
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<td>Project Management Certification</td>
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<tr>
<td>ServSafe Certification (food Handler)</td>
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<tr>
<td>Welding Inspector Exam Prep</td>
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<tr>
<td>Wedding Planner Certification</td>
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</tbody>
</table>

★ This program was deactivated (summer 2014). Please see addendum for details.
Requirements for the Associate of Applied Science:

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

See individual programs for specific information

<table>
<thead>
<tr>
<th>Core Component</th>
<th>Course Options</th>
<th>Semester credit hours</th>
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<tbody>
<tr>
<td><strong>COMPOSITION</strong></td>
<td><strong>ENGL 1301</strong></td>
<td>3 hours</td>
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<tr>
<td><strong>MATH/NATURAL SCIENCES</strong></td>
<td><strong>BIOl</strong> 1406 or 1408, 1407 or 1409, 2401, 2402, 2404, 2406, 2416, 2420, 2421; <strong>CHEM</strong> 1405, 1411, 1412, 1419, 2423, 2425; <strong>ENVr</strong> 1401, 1402; <strong>GEOL</strong> 1403, 1404, 1405, 1445, 2307; <strong>MATH</strong> 1314, 1316, 1324, 1325, 1332, 1342, *1350, *1351, 2320, 2412, 2413, 2414, 2415; <strong>PHYS</strong> 1401, 1402, 1403, 1404, 1410, 2425, 2426</td>
<td>3 hours</td>
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<tr>
<td><strong>SOCIAL/BEHAVIORAL SCIENCES</strong></td>
<td><strong>ANTH</strong> 2301, 2346, 2351; <strong>CRIJ</strong> 1301, 1307; <strong>ECON</strong> 2301, 2302; <strong>GEOG</strong> 1300, 1303; <strong>GOVT</strong> 2304, 2305, 2306; <strong>HIST</strong> 1301, 1302, 2301, 2311, 2312, 2321, 2322; <strong>PSYC</strong> 2301, 2306, 2308; <strong>SOCl</strong> 1301, 1306, 2301, 2319, 2326</td>
<td>3 hours</td>
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<tr>
<td><strong>HUMANITIES/FINE ARTS</strong></td>
<td><strong>ARTS</strong> 1301, 1303, 1304, 1311, 1316, 2346, 2356; <strong>DANC</strong> 2303; <strong>DRAM</strong> 1120, 1121, 1310, 1330, 1351, 1352, 2120, 2331, 2361, 2362, 2366; <strong>ENGL</strong> 2307, 2322, 2323, 2327, 2328, 2332, 2333, 2341, 2342, 2343, 2351; <strong>HUMA</strong> 1301, 1302; <strong>MUSI</strong> 1301, 1306, 1308, 1309, 1310; <strong>PHIL</strong> 1301, 1304, 2306, 2321; <strong>FREN</strong> 2311, 2312; <strong>GERM</strong> 2311, 2312; <strong>ITAL</strong> 2311, 2312; <strong>SPAN</strong> 2311, 2312, 2313, 2315</td>
<td>3 hours</td>
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<tr>
<td><strong>ELECTIVE</strong></td>
<td>To meet LSCS core requirements (general education courses), see individual program degree plans for specific course.</td>
<td>3 hours</td>
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<tr>
<td><strong>SPECIFIC WORKFORCE OR SUPPORT PROGRAM COURSES</strong></td>
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<td>45-57 hours</td>
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</table>

**MULTICULTURAL REQUIREMENTS**

Students must take one of the above underlined courses to meet the multicultural requirement of this degree, or master the multicultural competencies contained in a specific degree program, or take one of the following courses to meet the multicultural requirement of this degree. **FREN** 1300, 1310, 1411, 1412; **GERM** 1411, 1412; **ITAL** 1411, 1412; **JAPN** 1411, 1412; **SGNL** 1401, 1402, 2301, 2302; **SPAN** 1300, 1310, 1411, 1412

**TOTAL** (individual programs vary) 60-72 hours

---

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

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

* Specifically designed for elementary and middle school teachers. Please see graduation requirements.
<table>
<thead>
<tr>
<th>Prefixes Assigned to Programs &amp; Disciplines</th>
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<tbody>
<tr>
<td>Accounting                                  ACCT, ACNT</td>
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<tr>
<td>Administrative Services                     ITSW, POFL, POFM, POFT</td>
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<tr>
<td>Agriculture                                 AGRI</td>
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<tr>
<td>American Sign Language                      SGNL</td>
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<tr>
<td>Anthropology                                ANTH</td>
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<tr>
<td>Arabic                                      ARAB</td>
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<tr>
<td>Art                                         ARTS</td>
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<td>Automotive Technology                      AUMT</td>
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<tr>
<td>Biology                                     BIOL</td>
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<td>Biotechnology                               BITC</td>
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<tr>
<td>Business Administration                     BMGT, BUSG, BUSI, HRPO, IBUS, MRKG</td>
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<tr>
<td>Chemistry                                   CHEM</td>
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<tr>
<td>Chinese                                     CHIN</td>
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<tr>
<td>Computer Information Technology             BCIS, COSC, INEW, ITCC, ITMT, ITNW, ITSC, ITSE, ITSY</td>
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<tr>
<td>Cosmetology                                 CSME</td>
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<td>Criminal Justice                            CRIJ</td>
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<td>Dance                                       DANC</td>
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<td>Dental Hygiene                              DHYG</td>
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<tr>
<td>Diagnostic Medical Sonography               DSVT, DSAE, DMSO</td>
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<td>Drama                                       DRAM</td>
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<td>Economics                                   ECON</td>
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<td>Education                                   EDUC, TECA</td>
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<td>Electrician                                 ELMT, ELPT, FCEL, WIND</td>
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<td>Emergency Medical Services Professions      EMSP</td>
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<td>Energy &amp; Manufacturing Technology           INMT, OSHT, PTRT, RBTC</td>
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<td>Engineering                                 ENGR</td>
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<td>Engineering Design Graphics Technology      ARCE, CETT, CNBT, DFTG, ENTC, HART, IEIR, INMT, MCHN</td>
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<td>Engineering Technology                      CETT, CPMT, DFTG, EECT, ELMT, IEIR, INMT, INTC, RBTC</td>
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<tr>
<td>English                                     ENGL</td>
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<td>Environmental Science                      ENVR</td>
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<td>Fire Science Technology                     FIRS, FIRT</td>
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<td>French                                      FREN</td>
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<td>Game Design and Simulation                  GAME</td>
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<td>Geographic Information Systems               GIS</td>
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<tr>
<td>Geography                                   GEOG</td>
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<td>Geology                                     GEOL</td>
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<tr>
<td>German                                      GERM</td>
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<td>Government                                  GOVT</td>
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<tr>
<td>Health Information Technology               HIIT, HPRS, MRMT</td>
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<td>Heating, Ventilation, Air Conditioning and Refrigeration ELPT, HART, IEIR, MAIR</td>
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<tr>
<td>History                                     HIST</td>
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<td>Humanities                                  HUMA</td>
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<td>Human Development                           HUMD</td>
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<td>Human Services                              CMSW, DAAC, GERS, SCWK</td>
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<td>Interior Design Technology                  INDS</td>
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<td>Interpreter Training Technology             SGNL, SLNG</td>
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<td>Italian                                     ITAL</td>
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<td>Japanese                                    JAPN</td>
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<td>Journalism                                  COMM</td>
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<td>Kinesiology                                 KINE</td>
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<td>Land Surveyor                               SRVY</td>
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<td>Live Entertainment Technology               AVTS</td>
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<td>Logistics Management                        LMGT</td>
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<td>Machining Technology                        DFTG, INMT, MCHN</td>
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<td>Mathematics                                 MATH, TECM</td>
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<td>Medical Assisting                           MDCA, ECRD</td>
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<td>Medical Radiologic Technology               CTMT, MRIT, RADR</td>
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<td>Music                                       MUAP, MUEN, MUSI</td>
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<td>Associate Degree Nursing                    RNSG</td>
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<td>Paralegal Studies                           LGLA</td>
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<td>Pharmacy Technology                         PHRA</td>
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<td>Philosophy                                  PHIL</td>
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<td>Physical Therapist Assistant                PTHA</td>
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<td>Physics                                     PHYS</td>
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<td>Portuguese                                  PORT</td>
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<td>ROTC                                         AFSC, MSCI</td>
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<td>Spanish                                     SPAN</td>
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<td>Speech                                      SPCH</td>
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<td>Surgical Technology                         SRGT</td>
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<td>Veterinary Technology                       VTHT</td>
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<td>Visual Communication                        ARTC, ARTV, GRPH, ITSW, FLMC, IMED, PHTC, RTVB</td>
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<td>Vocational Nursing                          VNSG</td>
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<tr>
<td>Welding Technology                          METL, NDTE, QCTC, WLDG</td>
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Crosswalk of Courses

Visit our website at [LoneStar.edu/course-crosswalk](http://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.

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<td>ACNT 2335 Financial Statement Analysis</td>
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<td>ACNT 2371 International Accounting</td>
<td>ACNT 2337 International Financial Reporting</td>
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<td>ACNT 2374 Technical Writing for Accountants</td>
<td>ACNT 2345 Technical Writing for Accountants</td>
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<td>ARTS 1303 Art History Survey I</td>
<td>ARTS 1303 Art History: Prehistory to Gothic</td>
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<tr>
<td>ARTS 1304 Art History Survey II</td>
<td>ARTS 1304 Art History: Renaissance to Modern</td>
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<td>ARTS 2323 Drawing III: Figure Drawing</td>
<td>ARTS 2323 Life Drawing I</td>
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<td>BIOL 1407 Biology II...................................................</td>
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<td>MCHN 1302 Print Reading for Machine Trades</td>
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<td>ENGL 2322 Survey of British Literature: Anglo-Saxon</td>
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<tr>
<td>Eighteenth Century</td>
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<td>ENGL 2323 Survey of British Literature - Mid-18th Century-Present .... ENGL 2323</td>
<td>ENGL 2323 Survey of British Literature: Romantic through the Present</td>
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<td>ENGL 2327 Survey of American Literature - Colonial to Civil War...... ENGL 2327</td>
<td>ENGL 2327 Survey of American Literature: Colonial to Civil War</td>
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<td>ENGL 2328 Survey of American Literature: Civil War through the Present</td>
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<td>ENGL 2332 Survey of World Literature: Ancient Times - Mid-17th Century .................................. ENGL 2332</td>
<td>ENGL 2332 Survey of World Literature: Ancient World through the 16th Century</td>
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<tr>
<td>ENGL 2333 Survey of World Literature - Mid 17th Century-Present.....ENGL 2333</td>
<td>ENGL 2333 Survey of World Literature: 17th Century through the Present</td>
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<td>HART 1403 Air Conditioning Control Principles.................... MAIR 1449</td>
<td>MAIR 1449 Refrigerators, Freezers, Window Air Conditioners</td>
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<td>HART 2442 Commercial Refrigeration ........................................ HART 2436</td>
<td>HART 2436 Air Conditioning Troubleshooting</td>
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<td>INMT 1443 CAD - CAM ................................................... MCHN 1326</td>
<td>MCHN 1326 Introduction to Computer-Aided Manufacturing (CAM)</td>
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<td>PHIL 2303 Logic............................................................. PHIL 2303</td>
<td>PHIL 2303 Introduction to Formal Logic</td>
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<td>PHIL 2317 History of Philosophy II ................................... PHIL 2317</td>
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<td>PHIL 2318 Contemporary Philosophy ................................... PHIL 2318</td>
<td>PHIL 2318 Nineteenth &amp; Twentieth Century Philosophy</td>
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<td>POFL 1303 Legal Office Procedures I</td>
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<td>POFM 1300 Medical Coding Basics ..................................... POFM 1300</td>
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<td>POFT 1325 Business Math and Machine Applications ........... POFT 1325</td>
<td>POFT 1325 Business Math Using Technology</td>
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<td>POFT 1371 Bilingual Business Writing ......................... POFT 1301</td>
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</table>
DEGREES AND CERTIFICATES

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 61-62 credit hours as outlined. Students desiring a less comprehensive program should consider one of the accounting certificate programs also listed below.

Accounting Advanced Technical Certificate-CPA Exam Preparation: The Texas State Board of Public Accountancy (TSBPA) awarded Lone Star College System (LSCS) the designation to offer “Qualifying Educational Credit for the CPA Examination.” Twelve 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. 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 in the Accounting Advanced Technical Certificate-CPA Exam Preparation and take no less than 24 semester hours of accounting and qualified business courses to be awarded this certificate. Contact the accounting department at LSC-CyFair, Montgomery, North Harris, Tomball or 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 associates 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, Montgomery, North Harris, Tomball and University Park |
| FIRST YEAR Credit |
| ACNT 1331 Federal Income Tax: Individual 3 |
| ACCT 2401 Principles of Accounting I 4 |
| ACNT 1347 Federal Income Tax for Partnerships and Corps. 3 |
| ACNT 1393 Special Topics in Taxation 3 |
| TOTAL Credits for Taxation Certificate Marketable Skills Award | 13 |

ACCOUNTING CERTIFICATE

| C1_ACC1 certificate offered at LSC-CyFair, Montgomery, North Harris, Tomball and University Park |
| FIRST YEAR Credit |
| ACCT 2401 Principles of Accounting I 4 |
| ACNT 1331 Fed. Income Tax: Individual 3 |
| ITSC 1401 Introduction to Computers 4 |
| BCIS 1405 Business Computer Applications 4 |
| TOTAL Credits for Accounting Certificate | 13 |

* This text was revised (2/14) effective summer 2014. Please see addendum for details.
### DEGREES AND CERTIFICATES

#### DEGREES AND CERTIFICATES

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**TOTAL Credits for Accounting Certificate**  
30-31

¹ Electives to be selected from ACNT 1340, 1347, 1393, 2330, 2332, 2333, 2335, 2337, 2380, 2381; BUSI 1301, 2301, 2304; IITSW 1404,1407. Other electives may be chosen with accounting department approval.

² Capstone course

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#### ACCOUNTING

**Associate of Applied Science degree**

[AAS_ACCS degree offered at LSC-CyFair, Montgomery, North Harris, Tomball and University Park]

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<td>BUSI 2301</td>
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**TOTAL Credits for AAS Degree**  
61-62

¹ Choose business electives from the following: BMGT 1327, BMGT 1331, HRPO 2307, MRKG 1311, MRKG 2348, and BUSI 2372. Other electives may be chosen with accounting department approval.

² Meets the TSBPA’s requirements for a discrete (stand-alone) course in accounting communications or business communications.

³ Meets 1 semester hour out of a 2 semester hour TSBPA’s requirement for accounting research and analysis.

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, 2335, 2337²

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#### ACCOUNTING ADVANCED TECHNICAL CERTIFICATE-CPA EXAM PREPARATION

[C4_ACC4 certificate offered at LSC-CyFair, Montgomery, North Harris and Tomball]

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

**FIRST YEAR**

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**TOTAL Credits for Accounting Advanced Technical Certificate**  
48

¹ Choose business electives from the following: BMGT 1327, BMGT 1331, HRPO 2307, MRKG 1311, MRKG 2348, and BUSI 2372. Other electives may be chosen with accounting department approval.

² Meets the TSBPA’s requirements for a discrete (stand-alone) course in accounting communications or business communications.

³ Meets 1 semester hour out of a 2 semester hour TSBPA’s requirement for accounting research and analysis.

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, 2335, 2337²

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* This text was added (10/13).

** This text was added (1/14). Please see addendum for details.
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 63-64 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.

Graduation requirement

All students graduating with an AAS or level II certificate must complete LSCS Student Success Initiative (SSI) requirements. To determine your SSI status, see a college advisor.

The general education core will transfer to a variety of colleges and universities, and the degree will transfer in whole to some universities. 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, North Harris, and Tomball)

FIRST YEAR Credit
POFT 1329 Beginning Keyboarding 3
POFT 1301 Business English 3
POFT 1325 Business Math Using Technology 3
ITSW 1301 Intro to Word Processing 3
ITSC 1401 Introduction to Computers 4
ITSW 1404 Introduction to Spreadsheets 4

TOTAL Credit Hours for Business Operations Assistant 20

1 Capstone course

ADMINISTRATIVE SUPPORT CERTIFICATE

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

FIRST YEAR Credit
POFT 1329 Beginning Keyboarding 3
POFT 1301 Business English 3
POFT 1325 Business Math Using Technology 3
ITSW 1301 Intro to Word Processing 3
ITSC 1401 Introduction to Computers 4
ITSW 1404 Introduction to Spreadsheets 4
Track 3 Specialty Track A-F
Track 3 Specialty Track A-F

SECOND YEAR Credit
Track 3 Specialty Track A-F

1 Capstone course
### DEGREE TRACKS

1. Choose only one specialty track A, B, C, D, E, or F, 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, POFT 2312; any 3-4 hr. business or computer course; choose either POFT 2380 or POFT 2386 as capstone course.

**Track B: Bookkeeping Specialty C2_ABS2**
- ACNT 1303, ACNT 1311, ACCT 2401, BUSI 1301, BMGT 1341, POFT 2312; any 3-4 hr. business or computer course; ACNT 2380 - capstone course.

**Track C: Legal Specialty C2_ALS2**
- POFL 1303, POFL 1305, POFL 2301, POFL 2305, POFL 1340, BUSI 2301; any 3-4 hr. business or computer course; POFL 2380 - capstone course.

**Track D: Medical Specialty C2_AMS2**
- 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 E: Global Office Support Specialty C2_AGO2**
- IWSW 1310, IWSW 1407, IBUS 1305, IBUS 2341, POFT 2312; any 3-4 hr. foreign language course; Choose either POFT 2380 or POFT 2386 for capstone course.

**Track F: Office Communications Specialty C2_AOC2**
- ITSC 1401, ITSC 2331, POFT 2312, IWSW 1310, IWSW 1301, ARTC 1302, ARTC 1313; any 3-4 hr. business or computer course; Choose POFT 2380 or POFT 2386 for capstone course.

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### ADMINISTRATIVE SERVICES

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

**FIRST YEAR**

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<th>Course</th>
<th>Credit</th>
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**TOTAL Credit Hours for Administrative Support Certificate** 47-49

**TOTAL Credit Hours for Administrative Services 63-64**

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**Note:**
- This text was revised (10/13).
- This track was deleted (2/14) effective spring 2014.
- Please see addendum for details.
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 North Harris)

FIRST YEAR Credit
AUMT 1405 Intro to Automotive Technology 4
AUMT 1407 Automotive Electrical Systems 4
AUMT 1410 Automotive Brake Systems 4
AUMT 1416 Suspension and Steering 4
AUMT1 2380 Cooperative Education OR 3
AUMT1 2328 Automotive Service

TOTAL Credits for General Service Technician Certificate 19

1 Capstone course

CHASSIS AND ELECTRICAL TECHNICIAN SPECIALIZATION CERTIFICATE
(C1_CET1 certificate offered at LSC-North Harris)

FIRST YEAR Credit
AUMT 1405 Intro to Automotive Technology 4
AUMT 1407 Automotive Electrical Systems 4
AUMT 1410 Automotive Brake Systems 4
AUMT 2425 Auto Transmission & Transaxle 4
AUMT1 2381 Cooperative Education OR 3
AUMT1 2328 Automotive Service
AUMT 1416 Suspension and Steering 4
AUMT 1445 Auto Heating & Air Conditioning 4
AUMT 2437 Automotive Electronics 4

TOTAL Credits for Chassis and Electrical Technician Specialization Certificate 31

1 Capstone course

Note: 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-North Harris)

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<td>AUMT 2413 Manual Drive Train and Axles</td>
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<td>AUMT 2417 Engine Performance Analysis I</td>
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**TOTAL Credits for Power Train and Driveability Technician Specialization Certificate** 35

1 Capstone course

Note: 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)

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<td>AUMT 1407 Automotive Electrical Systems</td>
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<td>ENGL 1301 Composition and Rhetoric I</td>
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<td>Elective¹ Social/Behavioral Science</td>
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<td>AUMT 1410 Automotive Brake Systems</td>
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**TOTAL Credits for Automotive Technology Specialization** 70

¹ See core requirements for AAS degree for options.
² Meets multicultural requirement
³ Automotive electives to be selected from AUMT 1416, 2413, 2425
⁴ Capstone

It is strongly suggested that the following A.S.E. exams be taken by the student: the Engine Repair exam, Engine Performance exam, Electrical exam and one elective exam. Note: Students must meet TSI requirements. See LoneStar.edu/TSI for details.

**BIOTECHNOLOGY**

Biotechnology is a continually evolving field offering solutions to problems in fields such as forensics, pharmaceutical, medicine, alternative fuels, and agriculture. LSC-Montgomery offers the training to prepare students with relevant skills necessary for entry-level work in the bioscience industry. The Biotechnology Associate of Applied Science (AAS) degree offers experiences in cell culture, laboratory methods, molecular biology, and laboratory instrumentation. Additionally, the program includes a sequence of biology, chemistry, and microbiology courses. In the final semester of the program, students work as interns in area biotechnology companies, chemical technology companies, or research labs to complete their training. The LSC-Montgomery biotechnology program is the top-ranked program in Texas and the only one to be rated as “Exemplary” by the Texas Higher Education Coordinating Board. In addition, the biotechnology associate degree program is rated as a recognized biotechnology program by the Texas Skill Standards Board (TSSB) as it has integrated the state’s biotechnology and biomedical skill standards into its program.

After completing the AAS degree, students may choose to transfer to a neighboring university and enroll in a program leading to a bachelor’s degree in biotechnology or related fields. In recent years, students have transferred to 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.

Students with the appropriate level of prior training may elect to take individual courses within the biotechnology core, with the exception of the internship course. A student, for example, may take the Molecular Biology Techniques course (BITC 2441) to gain skills in that area.

The LSC 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 LSCBI 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 LSCBI.

BIOTECHNOLOGY
Associate of Applied Science degree
(AAS_BIOT degree offered at LSC-Montgomery)

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
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<tbody>
<tr>
<td>BIOL 1406 Biology I for Science Majors</td>
<td>4</td>
</tr>
<tr>
<td>BITC 1411 Intro. to Biotechnology</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 1405 Introductory Chemistry OR</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 1411 General Chemistry I</td>
<td>4</td>
</tr>
<tr>
<td>ENGL 1301 Composition &amp; Rhetoric I</td>
<td>3</td>
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</tbody>
</table>

MATH 1314 College Algebra 3
BIOL 2420 Medical Microbiology OR 4
BIOL 2421 General Microbiology 4
BITC 1402 Biotechnology Lab Methods & Techniques 4
CHEM 1419 Intro Organic/Biochemistry OR 4
CHEM 1412 General Chemistry II 3

SECOND YEAR

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
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</thead>
<tbody>
<tr>
<td>BIOL 1407 Biology II for Science Majors</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 2416 Genetics</td>
<td>4</td>
</tr>
<tr>
<td>BITC 2411 Biotechnology Lab Instrumentation</td>
<td>4</td>
</tr>
<tr>
<td>PHIL 2306 Introduction to Ethics</td>
<td>3</td>
</tr>
<tr>
<td>KINE Any physical activity course</td>
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</tr>
<tr>
<td>BITC 1191 Special Topics in Biotechnology</td>
<td>1</td>
</tr>
<tr>
<td>BITC 2441 Molecular Biology Techniques</td>
<td>4</td>
</tr>
<tr>
<td>BITC 2431 Cell Culture Techniques</td>
<td>4</td>
</tr>
<tr>
<td>SPCH 1311 Intro to Speech Communication OR</td>
<td>3</td>
</tr>
<tr>
<td>SPCH 1315 Public Speaking OR</td>
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<tr>
<td>SPCH 1321 Business and Professional Communication</td>
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<tr>
<td>SOCI 1301 Principles of Sociology OR</td>
<td>3</td>
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<tr>
<td>SOCI 2319 Minority Studies</td>
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<tr>
<td>BITC 1191 Special Topics in Biotechnology</td>
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<tr>
<td>BITC 2486 Internship</td>
<td>4</td>
</tr>
</tbody>
</table>

TOTAL Credits for Biotechnology AAS Degree 69

1. Meets computer competency
2. Meets multicultural requirement
3. Capstone course

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

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
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</thead>
<tbody>
<tr>
<td>BITC 1402 Biotechnology Lab Methods &amp; Techniques</td>
<td>4</td>
</tr>
<tr>
<td>BITC 2411 Biotechnology Lab Instrumentation</td>
<td>4</td>
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<tr>
<td>BIOL 2416 Genetics</td>
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<tr>
<td>BITC 1191 Special Topics in Biotechnology</td>
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<tr>
<td>BITC 2431 Cell Culture Techniques</td>
<td>4</td>
</tr>
<tr>
<td>BITC 2441 Molecular Biology Techniques</td>
<td>4</td>
</tr>
<tr>
<td>BITC 1191 Special Topics in Biotechnology</td>
<td>1</td>
</tr>
<tr>
<td>BITC 2486 Internship</td>
<td>4</td>
</tr>
</tbody>
</table>

TOTAL Credits for Biotechnology Advanced Technical Certificate 26
BUSINESS ADMINISTRATION

The Business Administration Applied Science degree includes knowledge, skills, and attitudes necessary to succeed in the business world. The program provides students with a basic foundation in general management skills.

The Business Administration Associate of Applied Science degree is awarded for successful completion of 66-68 credit hours. Those desiring a less comprehensive program should consider certificate awards in supervision, human resources, management, or others.

Business Administration offers specializations in supervision, human resources, marketing, small business management, and entrepreneurship.

A wide variety of job opportunities are available to graduates of the program, including middle-management positions, first line supervisors, company owners, and other positions requiring leadership, decision-making, and critical thinking skills.

The general education core will transfer to a variety of colleges and universities. The Business Administration AAS degree will transfer to several four-year colleges and universities in a BAAS degree. Contact an advisor or faculty member at any of the colleges for specific information and to obtain the recommended sequencing of courses.

ENTREPRENEURSHIP MARKETABLE SKILLS CERTIFICATE

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

FIRST YEAR

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
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<tbody>
<tr>
<td>BUSG 1341 Small Business Financing</td>
<td>3</td>
</tr>
<tr>
<td>BUSG 2309 Small Business Management/Entrepreneurship</td>
<td>3</td>
</tr>
<tr>
<td>BUSG 2371 Entrepreneurial Marketing</td>
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</tbody>
</table>

TOTAL Credit Hours for Entrepreneurship Marketable Skills Certificate 9

* This text was revised (11/13) effective fall 2013. Please see addendum for details.

SUPERVISOR’S MARKETABLE SKILLS CERTIFICATE

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

FIRST YEAR

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
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<tbody>
<tr>
<td>BMGT 1301 Supervision</td>
<td>3</td>
</tr>
<tr>
<td>BMGT 1309 Information &amp; Project Management</td>
<td>3</td>
</tr>
<tr>
<td>BMGT 2303 Problem Solving &amp; Decision Making</td>
<td>3</td>
</tr>
<tr>
<td>HRPO 1311 Human Relations</td>
<td>3</td>
</tr>
</tbody>
</table>

TOTAL Credit Hours for Supervisor’s Marketable Skills Certificate 12

HUMAN RESOURCE CERTIFICATE

(C1_HRM1 certificate offered at LSC-CyFair, Kingwood, Montgomery, North Harris and Tomball)

FIRST YEAR

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
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<tbody>
<tr>
<td>HRPO 1311 Human Relations</td>
<td>3</td>
</tr>
<tr>
<td>HRPO 2301 Human Resource Management</td>
<td>3</td>
</tr>
<tr>
<td>BCIS1 1405 Business Computer Applications</td>
<td>4</td>
</tr>
<tr>
<td>IBUS 2341 Intercultural Management</td>
<td>3</td>
</tr>
<tr>
<td>HRPO2 2307 Organizational Behavior</td>
<td>3</td>
</tr>
</tbody>
</table>

TOTAL Credit Hours for Human Resource Certificate 16

1 ITSC/COSC 1401 may be substituted
2 Capstone course

MARKETING CERTIFICATE

(C1_MMK1 certificate offered at LSC-CyFair, Kingwood, Montgomery, North Harris and Tomball)

FIRST YEAR

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
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</thead>
<tbody>
<tr>
<td>MRKG 1301 Customer Relationship Mgmt.</td>
<td>3</td>
</tr>
<tr>
<td>BCIS1 1405 Business Computer Applications</td>
<td>4</td>
</tr>
<tr>
<td>MRKG 1311 Principles of Marketing</td>
<td>3</td>
</tr>
<tr>
<td>MRKG 2333 Principles of Selling</td>
<td>3</td>
</tr>
<tr>
<td>MRKG 2349 Advertising &amp; Sales Promotion</td>
<td>3</td>
</tr>
<tr>
<td>MRKG2 2348 Marketing Research &amp; Strategies</td>
<td>3</td>
</tr>
</tbody>
</table>

TOTAL Credit Hours for Marketing Certificate 19

1 ITSC/COSC 1401 may be substituted
2 Capstone course
DEGREES AND CERTIFICATES

SMALL BUSINESS MANAGEMENT
CERTIFICATE
(C1_MSB1 certificate offered at LSC-CyFair, Kingwood, Montgomery, North Harris, Tomball and University Park)

FIRST YEAR
Credit
ACCT 2401 Principles of Accounting I 4
BUSI 2301 Business Law 3
ITSC 1401 Introduction to Computers OR 4
COSC 1401 Introduction to Computers OR
BCIS 1405 Business Computer Applications
MRKG 2333 Principles of Selling OR 3
MRKG 2348 Marketing Research & Strat.
BUSG 1341 Small Business Financing 3
BUSG1 2309 Small Business Management/Entrepreneurship
BUSI 1301 Business Principles 3

TOTAL Credit Hours for Small Business Certificate 23
1 Capstone course

BUSINESS MANAGEMENT LEVEL 1
CERTIFICATE
(C1_BSM1 certificate offered at LSC-CyFair, Kingwood, Montgomery, North Harris, Tomball and University Park)

FIRST SEMESTER
Credit
BUSI 1301 Business Principles 3
BMGT 1327 Principles of Management 3
BMGT 1309 Information and Project Mgmt 3
BCIS 14051 Business Computer Applications 4
SPCH 13152 Public Speaking 3

TOTAL Credit Hours for Business Management Level 1 Certificate 16
1 May substitute COSC 1401 or ITSC 1401.
2 May substitute SPCH 1321.

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

FIRST YEAR
Credit
FIRST SEMESTER
BUSI 1301 Business Principles 3
BMGT 1327 Principles of Management 3
BMGT 1309 Information and Project Mgmt 3
BCIS 14051 Business Computer Applications 4

SECOND SEMESTER
HRPO 1311 Human Relations 3
HRPO 2301 Human Resource Management 3
IBUS 23413 Intercultural Management 3
BUSI, BMGT, BUSG, HRPO, HMSY, or MRKG4 3

Upon successful completion of the first and second semesters, a student may be eligible for the Human Resources Certificate.

SUMMER SEMESTER
BUSI 2301 Business Law 3
BUSI, BMGT, BUSG, HRPO, MRKG, OR HMSY4 3

SECOND YEAR
Credit
FIRST SEMESTER
ACCT 2401 Principles Of Accounting I 4
MRKG 1311 Principles of Marketing 3
ENGL 1301 Composition & Rhetoric I 3
BUSI 1307 Personal Finance 3

SECOND SEMESTER
BMGT 1341 Business Ethics 3
BUSI 2304 Business Writing and Correspondence 3
Math/Science elective 5 3 – 4
BMGT 23826 Co-op Business Administration I OR 3
BMGT 23886 Internship: Business & Mgmt

SUMMER SEMESTER
ECON 2301 Macro-economics 3
Humanities/Fine Arts elective 7 3
KINE Elective 1

TOTAL Credit Hours for Business Administration AAS 66-67
1 May substitute COSC 1401 or ITSC 1401.
2 May substitute SPCH 1321.
3 Meets multicultural requirement
4 Specialization Elective chosen from any BUSI, BMGT, BUSG, HRPO, MRKG, or HMSY course. (Students seeking the HR Management Certificate should take HRPO 2307 during the 2nd semester of 1st year.)
5 Suggested elective: MATH 1314; students must meet TSI requirements. See LoneStar.edu/TSI for details.
6 Capstone course
7 Choose from the AAS core

* This text was revised (7/13). 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
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**DEGREES AND CERTIFICATES**

- Network Administrator
- Network Engineer/Designer
- Network Security Specialist
- Programmer

Students seeking degrees in computer information technology may follow a plan that adds academic courses to the two levels of certificates.

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 Associates 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, Kingwood, Montgomery, North Harris, Tomball and University Park)

**FIRST YEAR**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
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</thead>
<tbody>
<tr>
<td>ITSC 1401 Introduction to Computers OR COSC 1401 Introduction to Computers</td>
<td>4</td>
</tr>
<tr>
<td>ITSC 1405 Intro to PC Operating Systems</td>
<td>4</td>
</tr>
<tr>
<td>ITNW 1425 Fundmntls of Networking Technlgs</td>
<td>4</td>
</tr>
<tr>
<td>POFT 1301 Business English</td>
<td>3</td>
</tr>
<tr>
<td>COSC 1309 Logic Design OR ITSE 1402 Computer Programming</td>
<td>3-4</td>
</tr>
<tr>
<td>ITSC 1425 Personal Computer Hardware</td>
<td>4</td>
</tr>
<tr>
<td>ITSC 1315 Project Management Software</td>
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</tr>
</tbody>
</table>

**TOTAL Credits for Information Technology Core** 25-26

1 Capstone course

**MICROSOFT OFFICE SPECIALIST CERTIFICATE**

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

**FIRST YEAR**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
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</thead>
<tbody>
<tr>
<td>ITSC 1401 Introduction to Computers OR COSC 1401 Introduction to Computers</td>
<td>4</td>
</tr>
<tr>
<td>COSC 1309 Logic Design OR ITSE 1402 Computer Programming</td>
<td>3-4</td>
</tr>
<tr>
<td>ITSC 1425 Personal Computer Hardware</td>
<td>4</td>
</tr>
<tr>
<td>ITCC 1401 Cisco Exploration1-Network Fundamentals</td>
<td>4</td>
</tr>
<tr>
<td>ITCC 1404 Cisco Exploration 2-Routing Protocols and Concepts</td>
<td>4</td>
</tr>
<tr>
<td>SPCH 1321 Business and Professional Communication</td>
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</tr>
</tbody>
</table>

**TOTAL Credits for Microsoft Office Specialist Certificate** 21

1 Capstone course

**INTEGRATED TECHNOLOGY BASIC CERTIFICATE**

(C1_ITB1 certificate offered at LSC-North Harris)

**Prerequisite**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
</tr>
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<tbody>
<tr>
<td>ITSC 1401 Introduction to Computers OR COSC 1401 Introduction to Computers</td>
<td>4</td>
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**FIRST YEAR**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
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<tbody>
<tr>
<td>ITSC 1405 Intro to PC Operating Systems</td>
<td>4</td>
</tr>
<tr>
<td>ITSC 1425 Personal Computer Hardware</td>
<td>4</td>
</tr>
<tr>
<td>ENGL 1301 Composition &amp; Rhetoric I</td>
<td>3</td>
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<tr>
<td>ITCC 1401 Cisco Exploration1-Network Fundamentals</td>
<td>4</td>
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<tr>
<td>ITCC 1404 Cisco Exploration 2-Routing Protocols and Concepts</td>
<td>4</td>
</tr>
<tr>
<td>SPCH 1321 Business and Professional Communication</td>
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</table>

**TOTAL Credits for Integrated Technology Basic Certificate** 26

**INTEGRATED TECHNOLOGY ADVANCED CERTIFICATE**

(C2_ITA2 certificate offered at LSC-North Harris)

**Prerequisite**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
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<tbody>
<tr>
<td>ITSC 1401 Introduction to Computers OR COSC 1401 Introduction to Computers</td>
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**FIRST YEAR**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
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<tbody>
<tr>
<td>ITSC 1405 Intro to PC Operating Systems</td>
<td>4</td>
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<tr>
<td>ITSC 1425 Personal Computer Hardware</td>
<td>4</td>
</tr>
<tr>
<td>ENGL 1301 Composition &amp; Rhetoric I</td>
<td>3</td>
</tr>
<tr>
<td>ITCC 1401 Cisco Exploration1-Network Fundamentals</td>
<td>4</td>
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* This text was revised (12/13). Please see addendum for details.
### DEGREES AND CERTIFICATES

<table>
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<tr>
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<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ITCC 1404</td>
<td>Cisco Exploration 2-Routing Protocols and Concepts</td>
<td>4</td>
</tr>
<tr>
<td>SPCH 1321</td>
<td>Business and Professional Communication</td>
<td>3</td>
</tr>
<tr>
<td>ITCC 2408</td>
<td>Cisco Exploration 3-LAN Switching and Wireless</td>
<td>4</td>
</tr>
<tr>
<td>ITCC 2410</td>
<td>Cisco Exploration 4-Accessing the WAN</td>
<td>4</td>
</tr>
<tr>
<td>MATH 1314</td>
<td>College Algebra</td>
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### SECOND YEAR

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<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>ITMT 1470</td>
<td>Windows 7 Client Configuration</td>
<td>4</td>
</tr>
<tr>
<td>ITMT 1471</td>
<td>Windows Server 2008</td>
<td>4</td>
</tr>
<tr>
<td>Elective¹</td>
<td>Technical Elective</td>
<td>3-4</td>
</tr>
<tr>
<td>ITSY 1442</td>
<td>Information Technology Security OR</td>
<td></td>
</tr>
<tr>
<td>ITSC 1407</td>
<td>UNIX Operating System I</td>
<td></td>
</tr>
</tbody>
</table>

**TOTAL Credits for Integrated Technology Advanced Certificate**: 52-53

¹ Choose from ITCC 2441, ITSE 1445, ITNW 2452, ITSY 2400, ITSY 2401, EECT 1371, EECT 1307, ITMT 1472, 1473, ITMT 2470

### INTEGRATED TECHNOLOGY

**Associate of Applied Science degree**

(AAS_ITEC degree offered at LSC-North Harris)

**Prerequisite**
- ITSC 1401 Introduction to Computers OR COSC 1401 Introduction to Computers

**FIRST YEAR**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ITSC 1405</td>
<td>Intro to PC Operating Systems</td>
<td>4</td>
</tr>
<tr>
<td>ITSC 1425</td>
<td>Personal Computer Hardware</td>
<td>4</td>
</tr>
<tr>
<td>ENGL 1301</td>
<td>Composition &amp; Rhetoric I</td>
<td>3</td>
</tr>
<tr>
<td>ITCC 1401</td>
<td>Cisco Exploration 1-Network Fundamentals</td>
<td>4</td>
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<tr>
<td>ITCC 1404</td>
<td>Cisco Exploration 2-Routing Protocols and Concepts</td>
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<tr>
<td>SPCH 1321</td>
<td>Business and Professional Communication</td>
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</tr>
<tr>
<td>ITCC 2408</td>
<td>Cisco Exploration 3-LAN Switching and Wireless</td>
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<tr>
<td>ITCC 2410</td>
<td>Cisco Exploration 4-Accessing the WAN</td>
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<tr>
<td>MATH 1314</td>
<td>College Algebra</td>
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**SECOND YEAR**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>ITMT 1470</td>
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<tr>
<td>ITMT 1471</td>
<td>Windows Server 2008</td>
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<tr>
<td>Elective¹</td>
<td>Technical Elective</td>
<td>3-4</td>
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<tr>
<td>Elective¹</td>
<td>Technical Elective</td>
<td>3-4</td>
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<tr>
<td>SOCI² 1301</td>
<td>Principles of Sociology</td>
<td>3</td>
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<tr>
<td>Elective¹</td>
<td>Technical Elective</td>
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<tr>
<td>Elective¹</td>
<td>Technical Elective</td>
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</tbody>
</table>

**TOTAL Credits for Integrated Technology AAS**: 65-68

¹ Choose from ITCC 2441, ITSE 1445, ITNW 2452, ITSY 2400, ITSY 2401, EECT 1371, EECT 1307, ITMT 1472, 1473, ITMT 2470.

² Capstone choose from ITSC 2381, ITSY 2443, ITSE 2433 or ITSE 2456

³ Meets multicultural requirement

### COMPUTER NETWORKING SPECIALIZATION

**Associate of Applied Science degree**

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

**Prerequisite**
- ITSC 1401 Introduction to Computers OR COSC 1401 Introduction to Computers OR CPMT 1403 Intro. to Computer Technology

**FIRST YEAR**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>BMGT 1309</td>
<td>Information &amp; Project Management</td>
<td>3</td>
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<tr>
<td>ITSC 1315</td>
<td>Project Management Software</td>
<td>3</td>
</tr>
<tr>
<td>Elective¹</td>
<td>Social/Behavioral Science</td>
<td></td>
</tr>
<tr>
<td>ITSC 1405</td>
<td>Intro to PC Operating Systems</td>
<td>4</td>
</tr>
<tr>
<td>ITNW 1425</td>
<td>Fundamentals of Netwkg Technlgs</td>
<td>4</td>
</tr>
<tr>
<td>ENGL 1301</td>
<td>Composition &amp; Rhetoric I</td>
<td>3</td>
</tr>
<tr>
<td>Elective¹</td>
<td>Humanities/Fine Arts</td>
<td>3</td>
</tr>
<tr>
<td>Tech. Track²</td>
<td>Technical Networking Core</td>
<td>4</td>
</tr>
<tr>
<td>Tech. Track²</td>
<td>Technical Networking Core</td>
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<tr>
<td>KINE</td>
<td>Any physical activity course</td>
<td>1</td>
</tr>
<tr>
<td>POFT 1301</td>
<td>Business English OR</td>
<td>3</td>
</tr>
<tr>
<td>BUSI² 2304</td>
<td>Business Writing &amp; Correspondence</td>
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**SECOND YEAR**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>Elective⁷</td>
<td>Math/Natural Science</td>
<td>3-4</td>
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<tr>
<td>ITSC 1425</td>
<td>Personal Computer Hardware</td>
<td>4</td>
</tr>
<tr>
<td>Tech. Track²</td>
<td>Technical Networking</td>
<td>4</td>
</tr>
<tr>
<td>Tech. Track²</td>
<td>Technical Networking</td>
<td>4</td>
</tr>
<tr>
<td>Elective⁴</td>
<td>General Education</td>
<td>3</td>
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<td>Elective⁴</td>
<td>Technical Elective</td>
<td>3-4</td>
</tr>
<tr>
<td>Elective⁴</td>
<td>Technical Elective</td>
<td>3-4</td>
</tr>
<tr>
<td>ITSC⁶ 2439</td>
<td>Personal Computer Help Desk Support OR</td>
<td>3-4</td>
</tr>
<tr>
<td>ITSC⁶ 2380</td>
<td>Cooperative Education</td>
<td></td>
</tr>
</tbody>
</table>

**TOTAL Credits for Computer Networking Specialization AAS**: 63-67

¹ To meet multicultural requirement, choose an approved course from either social/behavioral science or humanities/fine arts elective

² All Technical Networking courses must be chosen from the same track:

Microsoft Track (AAS_CNMS): ITMT 1470, ITMT 1471, ITMT 1472 or ITMT 1473, ITMT 2470

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This text was revised (11/13) effective spring 2014. Please see addendum for details.
DEGREES AND CERTIFICATES

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

Prerequisite

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
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</thead>
<tbody>
<tr>
<td>ITNW(^1) 1425 Fundamentals of Networking Technologies</td>
<td>4</td>
</tr>
<tr>
<td>ITSC 1401 Introduction to Computers OR COSC 1401 Introduction to Computers</td>
<td>4</td>
</tr>
</tbody>
</table>

FIRST YEAR

<table>
<thead>
<tr>
<th>Track</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tech. Track(^2) Technical Networking (1st 8 weeks)</td>
<td>4</td>
</tr>
<tr>
<td>Tech. Track(^2) Technical Networking (2nd 8 weeks)</td>
<td>4</td>
</tr>
<tr>
<td>Tech. Track(^2) Technical Networking (3rd 8 weeks)</td>
<td>4</td>
</tr>
<tr>
<td>Tech. Track(^2) Technical Networking (4th 8 weeks)</td>
<td>4</td>
</tr>
</tbody>
</table>

TOTAL Credits for Network Administrator MCSA/CCNA Certificate 20-24

\(^1\) ITNW 1425 Fundamentals of Networking Technologies is required for Microsoft track only. Students in the Microsoft track will complete 24 hours, and students in the Cisco track will complete 20 hours.

\(^2\) All technical networking courses must be chosen from the same track:
- **Microsoft Track (C1_MCSA):** ITMT 1470, ITMT 1471, ITMT 1472 or ITMT 1473, ITMT 2470
- **Cisco Track (C1_CCNA):** ITCC 1401, ITCC 1404, ITCC 2408, ITCC 2410 OR ITCC 1475, 1476, 2478, 2479, ITCC 2454, 2455, 2456

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

Prerequisite

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
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<tbody>
<tr>
<td>ITNW(^1) 1425 Fundamentals of Networking Technologies</td>
<td>4</td>
</tr>
<tr>
<td>ITSC 1401 Introduction to Computers OR COSC 1401 Introduction to Computers</td>
<td>4</td>
</tr>
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FIRST YEAR

<table>
<thead>
<tr>
<th>Track</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tech. Track(^2) Technical Networking (1st 8 weeks)</td>
<td>4</td>
</tr>
<tr>
<td>Tech. Track(^2) Technical Networking (2nd 8 weeks)</td>
<td>4</td>
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<tr>
<td>Tech. Track(^2) Technical Networking (3rd 8 weeks)</td>
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</tr>
<tr>
<td>Tech. Track(^2) Technical Networking (4th 8 weeks)</td>
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SECOND YEAR

<table>
<thead>
<tr>
<th>Track</th>
<th>Credit</th>
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</thead>
<tbody>
<tr>
<td>Tech. Track(^2) Technical Networking (1st 8 weeks)</td>
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</tr>
<tr>
<td>Tech. Track(^2) Technical Networking (2nd 8 weeks)</td>
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</tr>
</tbody>
</table>

TOTAL Credits for Network Engineer MCSE/CCNP Certificate 36-40

\(^1\) ITNW 1425 Fundamentals of Networking Technologies is required for Microsoft track only. Students in the Microsoft track will complete 40 hours. Students in the Cisco track will complete 36 hours.

\(^2\) All technical networking courses must be chosen from the same track:
- **Microsoft Track (C1_MCSE):** ITMT 1470, ITMT 1471, ITMT 1472 or ITMT 1473, ITMT 2470, ITMT 24xx, ITNW 24xx or departmental approval.
- **Cisco Track (C1_CCNP):** ITCC 1401, ITCC 1404, ITCC 2408, ITCC 2410 OR ITCC 1475, 1476, 2478, 2479, ITCC 2454, 2455, 2456

PC DESKTOP SPECIALIST CERTIFICATE
(C1_PCDS certificate offered at LSC-CyFair, Kingwood, Montgomery, North Harris and Tomball)

FIRST YEAR

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
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<tbody>
<tr>
<td>ITSC 1401 Introduction to Computers OR COSC 1401 Introduction to Computers</td>
<td>4</td>
</tr>
<tr>
<td>BMGT 1309 Information &amp; Project Management</td>
<td>3</td>
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<tr>
<td>ITNW 1425 Fundamentals of Networking Technologies OR ITCC 1401 Cisco Exploration1-Network Fundamentals</td>
<td>4</td>
</tr>
<tr>
<td>ITSC 1405 Introduction to Operating Systems</td>
<td>3</td>
</tr>
<tr>
<td>POFT 1301 Business English</td>
<td>3</td>
</tr>
<tr>
<td>COSC 1309 Logic Design</td>
<td>3</td>
</tr>
</tbody>
</table>

TOTAL Credits for PC Desktop Specialist Certificate 34

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

FIRST YEAR

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
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<tbody>
<tr>
<td>ITSC 1401 Introduction to Computers OR COSC 1401 Introduction to Computers</td>
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</tr>
<tr>
<td>ITSC 1315 Project Management Software</td>
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<tr>
<td>ITNW 1425 Fundamentals of Networking Technologies OR ITCC 1401 Cisco Exploration1-Network Fundamentals</td>
<td>4</td>
</tr>
<tr>
<td>ITSC 1405 Introduction to Operating Systems</td>
<td>4</td>
</tr>
<tr>
<td>POFT 1301 Business English</td>
<td>3</td>
</tr>
<tr>
<td>COSC 1309 Logic Design OR IMED 1316 Web Design I</td>
<td>3-4</td>
</tr>
</tbody>
</table>

** This text was revised (8/13). ** This program was deactivated (fall 2013). Please see addendum for details.
### PROGRAMMING SPECIALIST CERTIFICATE

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

<table>
<thead>
<tr>
<th>FIRST YEAR</th>
<th>Credit</th>
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</thead>
<tbody>
<tr>
<td>ITSC 1401 Introduction to Computers</td>
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<tr>
<td>COSC 1401 Introduction to Computers</td>
<td>3-4</td>
</tr>
<tr>
<td>ITSE 1402 Computer Programming OR</td>
<td>4</td>
</tr>
<tr>
<td>SPCH 1318 Interpersonal Communications</td>
<td>3</td>
</tr>
<tr>
<td>Elective¹ Programming Language</td>
<td>3-4</td>
</tr>
<tr>
<td>Elective¹ Programming Language</td>
<td>4</td>
</tr>
<tr>
<td>ITNW 1425 Fundamentals of Network OR</td>
<td>4</td>
</tr>
<tr>
<td>ITCC 1401 Cisco Exploration 1-Network Fundamentals</td>
<td>4</td>
</tr>
<tr>
<td>ITSC 1405 Intro to PC Operating Systems</td>
<td>4</td>
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</table>

<table>
<thead>
<tr>
<th>SECOND YEAR</th>
<th>Credit</th>
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<tbody>
<tr>
<td>Elective² Programming Language (sequence course)</td>
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<tr>
<td>Elective² Programming Language (sequence course)</td>
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</tr>
<tr>
<td>ITSE 1450 System Analysis and Design</td>
<td>4</td>
</tr>
<tr>
<td>ITSE³ 2459 Adv. Computer Programming OR</td>
<td>3-4</td>
</tr>
<tr>
<td>ITSE³ 2380 Cooperative Education</td>
<td>4</td>
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</tbody>
</table>

**TOTAL Credits for Programming Specialist Certificate** 40-43

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1. Choose from general education courses
2. Choose from MATH 1314 or higher level course
3. ITSE 1356, 1407, 1430, 1432, 1418, or 2417
4. To meet multicultural requirement, choose an approved course from either social/behavioral science or humanities/fine art elective.
5. ITSE 2453, 2449, 2431, or INEW 2438
6. Choose from ITSE, ITSW, ITSY, ITNW, ITSC, IMED, GRPH
7. Capstone course

---

**PROGRAMMING SPECIALIST SPECIALIZATION**

Associate of Applied Science degree

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

<table>
<thead>
<tr>
<th>FIRST YEAR</th>
<th>Credit</th>
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<tbody>
<tr>
<td>Elective¹ General Education</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 1301 Composition &amp; Rhetoric I</td>
<td>3</td>
</tr>
<tr>
<td>ITSC 1401 Introduction to Computers OR</td>
<td>4</td>
</tr>
<tr>
<td>COSC 1401 Introduction to Computers</td>
<td>3-4</td>
</tr>
<tr>
<td>ITSE 1402 Computer Programming OR</td>
<td>3-4</td>
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<tr>
<td>COSC 1309 Logic Design</td>
<td>3-4</td>
</tr>
<tr>
<td>MATH² Elective</td>
<td>3-4</td>
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<tr>
<td>ACNT 1303 Introduction to Accounting I OR</td>
<td>3-4</td>
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<tr>
<td>ACCT 2401 Principles of Accounting</td>
<td>3-4</td>
</tr>
<tr>
<td>Elective³ Programming Language</td>
<td>3-4</td>
</tr>
<tr>
<td>Elective³ Programming Language</td>
<td>4</td>
</tr>
<tr>
<td>Elective³ Programming Language</td>
<td>4</td>
</tr>
<tr>
<td>ITSE 1405 Intro to PC Operating Systems</td>
<td>4</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>SECOND YEAR</th>
<th>Credit</th>
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<tbody>
<tr>
<td>Elective⁴ Social/Behavioral Science</td>
<td>3</td>
</tr>
<tr>
<td>Elective⁵ Programming Language</td>
<td>4</td>
</tr>
<tr>
<td>Elective⁵ Programming Language</td>
<td>4</td>
</tr>
<tr>
<td>KINE Any physical activity course</td>
<td>1</td>
</tr>
<tr>
<td>SPCH 1318 Interpersonal Communications</td>
<td>3</td>
</tr>
<tr>
<td>Elective⁵ Technical</td>
<td>3-4</td>
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<tr>
<td>Elective⁶ Humanities/Fine Arts</td>
<td>3</td>
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<tr>
<td>ITNW 1425 Fundamentals of Network OR</td>
<td>4</td>
</tr>
<tr>
<td>ITCC 1401 Cisco Exploration 1-Network Fundamentals</td>
<td>4</td>
</tr>
<tr>
<td>ITSE 1450 System Analysis and Design</td>
<td>4</td>
</tr>
<tr>
<td>ITSE² 2459 Adv. Computer Programming OR</td>
<td>3-4</td>
</tr>
<tr>
<td>ITSE² 2380 Cooperative Education</td>
<td>4</td>
</tr>
</tbody>
</table>

**TOTAL Credits for Programming Specialist Specialization** 62-68

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1. ITSE 1356, 1430, 1432, 1407, 1418, 2417
2. ITSE 2449, 2431, 2453 or INEW 2438
3. Capstone course

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This text was revised (11/13) effective spring 2014. Please see addendum for details.
C++ PROGRAMMING
ENHANCED SKILLS CERTIFICATE
(C3_CCP3 certificate offered at LSC-CyFair, Kingwood, North Harris and Tomball)

FIRST YEAR
Credit
ITSE 1407 Intro to C++ Programming 4
ITSE 2431 Adv. C++ Programming 4
ITSE 2459 Adv. Computer Programming 4

TOTAL Credits for Enhanced Skills Certificate 12

GRAND TOTAL for AAS Degree with Enhanced Skills Certificate 74-80

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, Kingwood, North Harris and Tomball)

FIRST YEAR
Credit
ITSE 1432 Introduction to Visual Basic.Net Programming 4
ITSE 2449 Adv. Visual BASIC Programming 4
ITSE 2459 Adv. Computer Programming 4

TOTAL Credits for Enhanced Skills Certificate 12

GRAND TOTAL for AAS Degree with Enhanced Skills Certificate 74-80

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

E-BUSINESS WEB DEVELOPER CERTIFICATE
(C1_WEB1 certificate offered at LSC-CyFair, Kingwood, Montgomery and North Harris)

Prerequisite
ITSC 1401 Introduction to Computers OR
COSC 1401 Introduction to Computers

FIRST YEAR
Credit
BMGT 1309 Information & Project Management 3
ITSC 1401 Cisco Exploration I-Network Fundamentals OR
ITNW 1425 Fundamentals of Netwkg Technlgs OR
ITSE 1402 Computer Programming 4
POFT 1301 Business English 3
Elective  Programming Language 4
ITSC 1407 UNIX Operating System I 4
ITNW 1407 Introduction to Database 4
MRKG 1311 Principles of Marketing 3

SECOND YEAR
Credit
Elective  Advanced Databases (SQL) 4
Elective  Humanities/Fine Arts 3
Elective  Social/Behavioral Science 3
Elective  Programming Language 4 (sequence course)
ENGL 1301 Composition & Rhetoric I 3
Elective  General Education 3
MATH Elective 3-4
ITSE 2472 Web Application Development 4
ITSE 2380 Cooperative Education OR
IMED 2309 Internet Commerce OR
ITSC 2335 Application Software Problem Solving
KINE Any physical activity course 1

TOTAL Credits for E-Business Web Developer Specialization 71-72

1 Course meets communication competency
2 Choose from ITSE 1407, 1432, 1445, 1492 1430
3 ITSE 2433, 2456, or ITSW 2437 depending on concentration

E-BUSINESS WEB DEVELOPER SPECIALIZATION
Associate of Applied Science degree
(AAS_EBUS specialization offered at LSC-CyFair, Kingwood and North Harris)

Prerequisite
ITSC 1401 Introduction to Computers OR
COSC 1401 Introduction to Computers

FIRST YEAR
Credit
BMGT 1309 Information & Project Management 3
ITSC 1401 Cisco Exploration I-Network Fundamentals OR
ITNW 1425 Fundamentals of Netwkg Technlgs OR
ITSE 1402 Computer Programming 4
POFT 1301 Business English 3
Elective  Programming Language 4
IMED 1316 Web Design I 3
ITSC 1407 UNIX Operating System I 4
ITSW 1407 Introduction to Database 4
MRKG 1311 Principles of Marketing 3

SECOND YEAR
Credit
Elective  Advanced Databases (SQL) 4
Elective  Humanities/Fine Arts 3
Elective  Social/Behavioral Science 3
Elective  Programming Language 4
ENGL 1301 Composition & Rhetoric I 3
Elective  General Education 3
MATH Elective 3-4
ITSE 2472 Web Application Development 4
ITSE 2380 Cooperative Education OR
IMED 2309 Internet Commerce OR
ITSC 2335 Application Software Problem Solving
KINE Any physical activity course 1

TOTAL Credits for E-Business Web Developer Specialization 71-72

1 Course meets communication competency
2 Choose from ITSE 1407, 1432, 1445, 1492 1430
3 ITSE 2433, 2456, or ITSW 2437 depending on concentration

* This text was revised (11/13) effective spring 2014. Please see addendum for details.
To meet the multicultural component for the AAS degree, choose a social/behavioral science OR humanities/fine arts elective from one of these courses: GEOG 1303, SOCI 1301, ARTS 1301, HUMA 1301, or PHIL 1304

Choose from ITSE 2449, 2431, 2454, 2417, 2453
Choose from general education electives
Choose MATH 1314 or higher level course

Capstone course

**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 hairdresser, skin care specialist, and makeup 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.

**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.

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 and CHI © Lone Star College-North Harris School of Cosmetology.

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

Prerequisite Credit
ENGL 1301 Composition & Rhetoric I 3
Electives¹ General Education 9

FIRST YEAR Credit
CSME 1434 Cosmetology Instructor I 4
CSME 1435 Orientation to the Instruction of Cosmetology 4
CSME 2414 Cosmetology Instructor II 4
CSME 2415 Cosmetology Instructor III 4
CSME 2444 Cosmetology Instructor IV 4
CSME 2445 Instructional Theory & Clinical Oper 4

TOTAL Credits for Cosmetology Instructor Certificate 36

¹ Suggested general education electives are those that appear in the Cosmetology AAS degree plans.
Note: Capstone experience is completed by taking a departmental exam.

COSMETOLOGY INSTRUCTOR Associate of Applied Science degree
(AAS_COSI degree offered at LSC-Kingwood and North Harris)

FIRST YEAR Credit
ENGL 1301 Composition & Rhetoric I 3
SPCH 1315 Public Speaking OR 3
SPCH 1318 Interpersonal Communication 3
PSYC 2301 General Psychology 3
KINE 1304 Personal Health 3
Elective¹ Math/Natural Science 3-4
CSME 1434 Cosmetology Instructor 4

SECOND YEAR
CSME 2415 Cosmetology Instructor III 4
CSME 2444 Cosmetology Instructor IV 4
CSME 2445 Instruction Theory & Clinic Operation 4
GOVT 2305 Federal Government OR 3
GOVT 2306 Texas Government 3
BUSG 2309 Small Business Management/Entrepreneurship 3
HRPO 1311 Human Relations 3
ENGL 1302 Composition & Rhetoric II 3
MRKG 2333 Principles of Selling OR 3
Elective² Business course 3
KINE Any physical activity course 1
Elective³ Humanities/Fine Arts 3

TOTAL Credits for Cosmetology Instructor AAS degree 62-63

¹ See core requirements for AAS degree for options. Students must meet TSI requirements. See LoneStar.edu/TSI for details.
² Choose one course from MRKG, BUSG, or HRPO with departmental approval
³ Must meet multicultural requirement
Note: Capstone experience is completed by taking a departmental exam.

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

FIRST YEAR Credit
CSME 1254 Artistry of Hair Design I 2
CSME 1310 Intro to Haircutting & Related Theory 3
CSME 1505 Fundamentals of Cosmetology 5
CSME 1553 Chemical Reformation and Related Theory 5
CSME 2310 Intermediate Haircutting and Related Theory 3
CSME 2337 Advanced Cosmetology Techniques 3
CSME 2501 Principles of Hair Coloring and Related Theory 5
CSME 2539 Advanced Hair Design 5
CSME 2541 Prep. for the State Licensing Exam 5

TOTAL Credits for Cosmetology Operator Certificate 41

Note: Capstone experience is completed by taking a departmental exam.
**DEGREES AND CERTIFICATES**

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

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
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<tbody>
<tr>
<td>CSME 1420 Orientation to Facial Specialist</td>
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</tr>
<tr>
<td>CSME 1421 Principles of Facial and Skin Care Technology I</td>
<td>4</td>
</tr>
<tr>
<td>CSME 1248 Principles of Skin Care</td>
<td>2</td>
</tr>
<tr>
<td>CSME 1447 Principles of Skin Care/Facials and Related Theory</td>
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<tr>
<td>CSME 1445 Principles of Facial and Skin Care Technology II</td>
<td>4</td>
</tr>
<tr>
<td>CSME 2431 Principles of Facials and Skin Care Technology III</td>
<td>4</td>
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</table>

**TOTAL Credits for Facial Specialist Certificate** 22

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 North Harris)

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
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</thead>
<tbody>
<tr>
<td>ENGL 1301 Composition &amp; Rhetoric I</td>
<td>3</td>
</tr>
<tr>
<td>KINE Any physical activity course</td>
<td>1</td>
</tr>
<tr>
<td>SPCH Elective</td>
<td>3</td>
</tr>
<tr>
<td>Elective Math/Natural Science</td>
<td>3-4</td>
</tr>
<tr>
<td>PSYC 2301 General Psychology</td>
<td>3</td>
</tr>
<tr>
<td>CSME 1254 Artistry of Hair Design</td>
<td>3</td>
</tr>
<tr>
<td>CSME 1310 Intro to Haircutting &amp; Related Theory</td>
<td>3</td>
</tr>
<tr>
<td>CSME 1501 Orientation to Cosmetology</td>
<td>5</td>
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<tr>
<td>CSME 1505 Fundamentals of Cosmetology</td>
<td>5</td>
</tr>
</tbody>
</table>

**TOTAL Credits for Cosmetology Facial AAS Degree** 60-61

1. See core requirements for AAS degree for options. Students must meet TSI requirements. See LoneStar.edu/TSI for details.
2. Choose one course from MRKG, BUSG, or HRPO with departmental approval.
3. Must meet multicultural requirement.

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

**COSMETOLOGY**
Associate of Applied Science degree
(AAS_COSM degree offered at LSC-Kingwood and North Harris)

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
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</thead>
<tbody>
<tr>
<td>ENGL 1301 Composition and Rhetoric I</td>
<td>3</td>
</tr>
<tr>
<td>SPCH1 Elective</td>
<td>3</td>
</tr>
<tr>
<td>SPCH2 Math/Natural Science</td>
<td>3-4</td>
</tr>
<tr>
<td>PSYC 2301 General Psychology</td>
<td>3</td>
</tr>
<tr>
<td>CSME 1254 Artistry of Hair Design I</td>
<td>3</td>
</tr>
<tr>
<td>CSME 1310 Intro to Haircutting &amp; Related Theory</td>
<td>3</td>
</tr>
<tr>
<td>CSME 1501 Orientation to Cosmetology</td>
<td>5</td>
</tr>
<tr>
<td>CSME 1505 Fundamentals of Cosmetology</td>
<td>5</td>
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</tbody>
</table>

**TOTAL Credits for Cosmetology AAS Degree** 61-62

1. Choose from SPCH 1311, 1315, 1318, or 1321.
2. See core requirements for AAS degree for options. Students must meet TSI requirements. See LoneStar.edu/TSI for details.
3. Must meet the multicultural requirement.

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

The Lone Star College System (LSCS) offers an Associate of Applied Science in Dental Hygiene at LSC-Kingwood. 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

Associate of Applied Science degree

(AAS_DNHY degree offered at LSC-Kingwood)

Prerequisite Credit

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>CHEM 1405</td>
<td>Introduction to Chemistry</td>
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<tr>
<td>ENGL 1301</td>
<td>Composition and Rhetoric I</td>
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<tr>
<td>BIOL 2401</td>
<td>Human Anatomy and Physiology I</td>
<td>4</td>
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<tr>
<td>SOCI1 1301</td>
<td>Principles of Sociology</td>
<td>3</td>
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FIRST YEAR Credit

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<thead>
<tr>
<th>Course</th>
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<th>Credit</th>
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<tbody>
<tr>
<td>BIOL 2402</td>
<td>Human Anatomy and Physiology II</td>
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<tr>
<td>DHYG 1301</td>
<td>Orofacial Anatomy, Histology &amp; Embryology</td>
<td>3</td>
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<tr>
<td>DHYG 1431</td>
<td>Preclinical Dental Hygiene Care</td>
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SECOND YEAR Credit

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<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credit</th>
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<tbody>
<tr>
<td>SPCH 1318</td>
<td>Interpersonal Communication</td>
<td>3</td>
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<tr>
<td>DHYG 1235</td>
<td>Pharmacology for the Dental Hygienist</td>
<td>2</td>
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<tr>
<td>DHYG 2231</td>
<td>Contemporary Dental Hygiene Care II</td>
<td>2</td>
</tr>
<tr>
<td>DHYG1 2362</td>
<td>Clinical - Dental Hygiene/ Hygienist III</td>
<td>3</td>
</tr>
<tr>
<td>DHYG 1239</td>
<td>General and Oral Pathology</td>
<td>2</td>
</tr>
<tr>
<td>PHIL 2306</td>
<td>Introduction to Ethics</td>
<td>3</td>
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<tr>
<td>DHYG 1215</td>
<td>Community Dentistry</td>
<td>2</td>
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<tr>
<td>DHYG 2153</td>
<td>Dental Hygiene Practice</td>
<td>1</td>
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<tr>
<td>DHYG 1327 2363</td>
<td>Clinical - Dental Hygiene/ Hygienist IV</td>
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</tbody>
</table>

TOTAL Credits for AAS Degree 72

1 Meets multicultural requirement
2 Meets wellness competency
3 Meets computer competency
4 Capstone course

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

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 profession. 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
ASSET, ACCUPLACER, COMPASS, or THEA and score high enough to place into college-level courses. To determine your Student Success Initiative (SSI) status, see a college advisor. Students must complete ENGL 1301, MATH 1314, PHYS 1401 or 1410, BIOL 2401 and 2402 prior to the first DMSO/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. 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.

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</th>
<th>Credit</th>
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<tbody>
<tr>
<td>BIOL 2401 Human Anatomy and Physiology I</td>
<td>4</td>
</tr>
<tr>
<td>MATH 1314 College Algebra</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 2402 Human Anatomy and Physiology II</td>
<td>4</td>
</tr>
<tr>
<td>PHYS1 1401 General Physics I</td>
<td>4</td>
</tr>
<tr>
<td>PHYS1 1410 Elementary Physics</td>
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</tr>
<tr>
<td>ENGL 1301 Composition and Rhetoric I</td>
<td>3</td>
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**FIRST YEAR**

<table>
<thead>
<tr>
<th>Credit</th>
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<tbody>
<tr>
<td>72</td>
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**SECOND YEAR**

<table>
<thead>
<tr>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>72</td>
</tr>
</tbody>
</table>

1. RADR 1313 AND RADR 2305 may be substituted for the PHYS course requirement.
2. Meets communication competency; DMSO 1210 meets wellness competency
3. Meets multicultural course requirement
4. See AAS degree requirements
5. Capstone course

Students must pass the THEA test and place into college level reading, writing and math prior to entering program. Students must complete PHYS 1401 OR 1410, ENGL 1301, MATH 1314, BIOL 2401 and 2402 prior to the first DMSO course.

**ECHOCARDIOGRAPHY**

**Associate of Applied Science degree**

(AAS_ECHO degree offered at LSC-CyFair)

<table>
<thead>
<tr>
<th>Prerequisite</th>
<th>Credit</th>
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<tbody>
<tr>
<td>BIOL 2401 Human Anatomy and Physiology I</td>
<td>4</td>
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<tr>
<td>BIOL 2402 Human Anatomy and Physiology II</td>
<td>4</td>
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<tr>
<td>ENGL 1301 Composition and Rhetoric I</td>
<td>3</td>
</tr>
<tr>
<td>MATH 1314 College Algebra</td>
<td>3</td>
</tr>
<tr>
<td>PHYS1 1401 General Physics I</td>
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</tr>
<tr>
<td>PHYS1 1410 Elementary Physics</td>
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**FIRST YEAR**

<table>
<thead>
<tr>
<th>Credit</th>
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<tr>
<td>12</td>
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<table>
<thead>
<tr>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>72</td>
</tr>
</tbody>
</table>

1. RADR 1313 AND RADR 2305 may be substituted for the PHYS course requirement.
2. Meets communication competency; DMSO 1210 meets wellness competency
3. Meets multicultural course requirement
4. See AAS degree requirements
5. Capstone course

Students must pass the THEA test and place into college level reading, writing and math prior to entering program. Students must complete PHYS 1401 OR 1410, ENGL 1301, MATH 1314, BIOL 2401 and 2402 prior to the first DMSO course.
DEGREES AND CERTIFICATES

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
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<tbody>
<tr>
<td>DSAE 1364 Practicum I</td>
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<tr>
<td>DSAE 2437 Echocardiographic Evaluation of Pathology II</td>
<td>4</td>
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<tr>
<td>DMSO 2351 Doppler Physics</td>
<td>3</td>
</tr>
<tr>
<td>SOCI 1301 Introduction to Sociology</td>
<td>3</td>
</tr>
<tr>
<td>DSAE 2364 Practicum II</td>
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SECOND YEAR

<table>
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<tr>
<th>Course</th>
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<tbody>
<tr>
<td>DSAE 2235 Advanced Echocardiography</td>
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<tr>
<td>DSVT 2200 Vascular Technology Applications</td>
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<tr>
<td>DMSO 2130 Advanced Ultrasound Review</td>
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<tr>
<td>Elective§ Humanities/Fine Arts</td>
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<tr>
<td>DSAE 2365 Practicum III</td>
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</table>

TOTAL Credits for Echocardiography AAS Degree 72

1 RADR 1313 AND RADR 2305 may be substituted for the PHYS course requirement.
2 Meets communication competency; DMSO 1210 meets wellness competency
3 Meets multicultural course requirement
4 Capstone course
5 See AAS degree requirements.

Note: Students must pass the THEA test and place into college level reading, writing and math prior to entering program. Students must complete PHYS 1401 OR 1410, ENGL 1301, MATH 1314, BIOL 2401 and 2402 prior to the first DSAE course.

SONOGRAPHY NON-INVASIVE VASCULAR TECHNOLOGY ENHANCED SKILLS CERTIFICATE
(C3_NIV3 certificate offered at LSC-CyFair)

FIRST YEAR

<table>
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<tr>
<th>Course</th>
<th>Credit</th>
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<tbody>
<tr>
<td>DSVT 2330 Non-Invasive Cerebral Vascular Evaluation</td>
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<tr>
<td>DSVT 2418 Non-Invasive Peripheral Vascular Evaluation</td>
<td>4</td>
</tr>
<tr>
<td>DSVT 1364 Practicum I</td>
<td>3</td>
</tr>
<tr>
<td>DSVT 1265 Practicum II</td>
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<tr>
<td>DSVT 2335 Advanced Non-Invasive Vascular Technology</td>
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TOTAL Credits for Sonography Enhanced Skills Certificate 15

1 Capstone course

SONOGRAPHY ADVANCED TECHNICAL CERTIFICATE
(C4_SON4 certificate offered at LSC-CyFair)

FIRST YEAR

<table>
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<tbody>
<tr>
<td>DMSO 1210 Introduction to Sonography</td>
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<td>DMSO 1351 Sonographic Sectional Anatomy</td>
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<tr>
<td>DMSO 1405 Sonography of Abdominopelvic Cavity</td>
<td>4</td>
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<tr>
<td>DMSO 1302 Basic Ultrasound Physics</td>
<td>3</td>
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<tr>
<td>DMSO 1360 Clinical</td>
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<td>DMSO 1366 Practicum I</td>
<td>3</td>
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<tr>
<td>DMSO 1342 Intermediate Ultrasound Physics</td>
<td>3</td>
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<tr>
<td>DMSO 2405 Sonography of Obstetrics/Gynecology</td>
<td>4</td>
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<tr>
<td>DMSO 2253 Sonography of Superficial Structures</td>
<td>2</td>
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<tr>
<td>DMSO 1367 Practicum II (13 weeks)</td>
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<tr>
<td>DMSO 2342 Sonography of High Risk Obstetrics (12 weeks)</td>
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<tr>
<td>DMSO 2351 Doppler Physics (12 weeks)</td>
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SECOND YEAR

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<tr>
<th>Course</th>
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<tr>
<td>DSVT 2200 Vascular Technology Applications</td>
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<tr>
<td>DMSO 2366 Practicum III</td>
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<tr>
<td>DMSO 2130 Advanced Ultrasound Review</td>
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<tr>
<td>DMSO 2245 Advanced Sonography Practices</td>
<td>2</td>
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</tbody>
</table>

TOTAL Credits for Sonography Advanced Technical Certificate 44

1 Capstone course

Note: Admission to the program requires graduation from a two-year patient-care allied health program.

ELECTRICIAN

If you have been fascinated by electricity, then you might want to look at a career as an electrician. Electricians enjoy one of the higher paid specialty-industry fields with a solid future as America becomes more dependent on consistent and well-maintained supplies of electricity.

There are two general types of electrical work:

- Construction work, which includes reading blueprints, wiring, installing, and testing electrical systems; and
- Maintenance work, which involves troubleshooting, testing, fixing and upgrading already installed, improperly functioning, electrical systems.

Some electricians become electrical inspectors, enter teaching programs, or work as construction consultants. A few enter training programs to become contractors. Electricians are also finding that their profession is becoming linked with those who do computer and telecommunications wiring. Over 15 percent of electricians take additional classes on telecommunications systems, wiring, and electrical interfaces.
At LSC-Tomball, specialized electrician courses are offered that emphasize application more than theoretical development. The courses complement on-the-job training and mirror real-world situations by providing classroom studies with hands-on applications in high-tech laboratories. The program also works with local electrician providers/companies to ensure that the class focus meets their needs and on preparing the student to pass the Texas State Licensing exam.

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

**SOLAR PHOTOVOLTAIC SYSTEM ELECTRICIAN MARKETABLE SKILLS AWARD**

*(MSC_SPSE award offered at LSC-Tomball)*

**FIRST YEAR**

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>ELPT 1325 National Electrical Code I</td>
<td>3</td>
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<tr>
<td>DFTG 2307 Electrical Drafting</td>
<td>3</td>
</tr>
<tr>
<td>ELPT 1429 Residential Wiring OR</td>
<td>4</td>
</tr>
<tr>
<td>ELPT 1445 Commercial Wiring</td>
<td>3</td>
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<tr>
<td>ELMT 1302 Solar Photovoltaic Systems</td>
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TOTAL Credits for Solar Photovoltaic System Electrician Marketable Skills Award 13

**FUEL CELL SYSTEMS ELECTRICIAN MARKETABLE SKILLS AWARD**

*(MSC_FCSE award offered at LSC-Tomball)*

**FIRST YEAR**

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<tbody>
<tr>
<td>ELPT 1325 National Electrical Code I</td>
<td>3</td>
</tr>
<tr>
<td>FCEL 1302 Introduction to Fuel Cell Technology</td>
<td>3</td>
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<tr>
<td>FCEL 2330 Fuel Cell Installation, Start-Up, and Maintenance</td>
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<tr>
<td>ELPT 1429 Residential Wiring OR</td>
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<tr>
<td>ELPT 1445 Commercial Wiring</td>
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</table>

TOTAL Credits for Fuel Cell Systems Electrician Marketable Skills Award 13

**WIND TURBINE SYSTEM ELECTRICIAN MARKETABLE SKILLS AWARD**

*(MSC_WTSE award offered at LSC-Tomball)*

**FIRST YEAR**

<table>
<thead>
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<th>Course</th>
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<tbody>
<tr>
<td>ELPT 1325 National Electrical Code I</td>
<td>3</td>
</tr>
<tr>
<td>WIND 1300 Introduction to Wind Energy</td>
<td>3</td>
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<tr>
<td>WIND 2359 Wind Power Delivery System</td>
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<td>ELPT 1429 Residential Wiring OR</td>
<td>4</td>
</tr>
<tr>
<td>ELPT 1445 Commercial Wiring</td>
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</table>

TOTAL Credits for Wind Turbine System Electrician Marketable Skills Award 13

**RESIDENTIAL/COMMERCIAL ELECTRICIAN CERTIFICATE**

*(C1_REC1 certificate offered at LSC-Tomball)*

**FIRST YEAR**

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>ELPT 1311 Basic Electrical Theory</td>
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<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 2325 National Electrical Code II</td>
<td>3</td>
</tr>
<tr>
<td>DFTG 2307 Electrical Drafting</td>
<td>3</td>
</tr>
<tr>
<td>ELPT* 1429 Residential Wiring</td>
<td>4</td>
</tr>
<tr>
<td>ELPT 1445 Commercial Wiring</td>
<td>4</td>
</tr>
</tbody>
</table>

TOTAL Credits for Residential/Commercial Electrician Certificate 26

1 Capstone course

**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
DEGREES AND CERTIFICATES

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 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. Completion of the following prerequisites is required for admission into the 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.
3. Present proof of successful completion of the American Heart Association’s Basic Life Support for Health Care Providers within
the previous two years, or an equivalent course approved by the program director.

4. Document immunization or laboratory report of immune serum antibody titer against tetanus, diphtheria, pertussis, mumps, measles, rubella, varicella and Hepatitis B.

5. Completed Physical Examination/Medical History form.

6. 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.

7. 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 course work 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 program that begins in the fall.

5. An application portfolio must be submitted according to the deadlines estab-

lished by the EMSP department of each college program. The following should be included in the portfolio.

a. Documentation of high school diploma or GED.

b. Copies of all relevant academic transcripts: high school, college or university, military service schools, and other (proprietary schools).

c. A resume or curriculum vitae showing work history with emphasis on EMS or other health care experience.

d. Documentation of EMT certification. Students who currently are enrolled in an EMT course or who have completed EMT course work and are engaged in the credentialing process should provide a statement to this effect.

e. Document immunization or laboratory report of immune serum antibody titer against tetanus, diphtheria, pertussis, mumps, measles, rubella, varicella and Hepatitis B.

f. Document negative results from a tuberculosis test (Mantoux) within six months of beginning course work and annually thereafter. If the test is positive a chest x-ray should be performed within the time limit established by the facility. Submit the radiology report with the immunization form. If a positive test was obtained, a screening questionnaire should be completed prior to the second year of the program. Gold Test results will be accepted.

g. Proof of successful completion of the American Heart Association’s Basic Life Support for Health Care Providers within the previous two years.

h. Completed Physical Examination/Medical History form.
6. 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, personal medical insurance, and additional immunizations.

7. Completion of the following prerequisites is required for admission into the 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.

**Emergency Medical Services Professions Intermediate Certificate**

(C1_EMI1 certificate offered at LSC-CyFair, Montgomery and North Harris)

LSC-CyFair offers this certificate in an accelerated schedule. Contact the faculty for more information.

**Prerequisite**

<table>
<thead>
<tr>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMSP 1160 Clinical - EMT</td>
</tr>
<tr>
<td>EMSP 1501 Emergency Medical Technician</td>
</tr>
</tbody>
</table>

**FIRST YEAR**

<table>
<thead>
<tr>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMSP 1161 Clinical - Paramedic I</td>
</tr>
<tr>
<td>EMSP 1338 Introduction to Advanced Practice</td>
</tr>
<tr>
<td>EMSP 1356 Pt. Assessment &amp; Airway Mgmt</td>
</tr>
<tr>
<td>EMSP 2348 Emergency Pharmacology</td>
</tr>
<tr>
<td>EMSP 1162 Clinical - Paramedic II</td>
</tr>
<tr>
<td>EMSP 1355 Trauma Management</td>
</tr>
<tr>
<td>EMSP 2338 EMS Operation</td>
</tr>
<tr>
<td>EMSP 2444 Cardiology</td>
</tr>
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**SECOND YEAR**

<table>
<thead>
<tr>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMSP 2160 Clinical - Paramedic III</td>
</tr>
<tr>
<td>EMSP 2330 Special Populations</td>
</tr>
<tr>
<td>EMSP 2434 Medical Emergencies</td>
</tr>
<tr>
<td>EMSP 2143 Assessment Based Management</td>
</tr>
<tr>
<td>EMSP 2361 Clinical - EMS</td>
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</tbody>
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**TOTAL Credits for Emergency Medical Services Professions Paramedic Certificate** 39

1 Capstone experience course

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 North Harris)

LSC-CyFair offers the Associate of Applied Science degree in an accelerated schedule. Contact the faculty for more information.

**Prerequisite**

<table>
<thead>
<tr>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMSP 1160 Clinical - EMT</td>
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<tr>
<td>EMSP 1501 Emergency Medical Technician</td>
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**FIRST YEAR**

<table>
<thead>
<tr>
<th>Credit</th>
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<tbody>
<tr>
<td>BIOL 2401 Human Anatomy &amp; Physiology I</td>
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<tr>
<td>EMSP 1161 Clinical - Paramedic I</td>
</tr>
<tr>
<td>EMSP 1338 Intro of Advanced Practice</td>
</tr>
<tr>
<td>EMSP 1356 Pt. Assessment &amp; Airway Mgmt</td>
</tr>
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</table>
EMSP 2348 Emergency Pharmacology 3
KINE Any physical activity course 1
BIOL 2402 Human Anat. & Physiology II 4
EMSP1 1162 Clinical - Paramedic II 1
EMSP 1355 Trauma Management 3
EMSP 2338 EMS Operations 3
ENGL 1301 Composition and Rhetoric I 3
KINE Any physical activity course 1
EMSP2 2444 Cardiology 4
EMSP3 Elective 3
Elective4 Humanities/Fine Arts 3

SECOND YEAR

EMSP1 2160 Clinical - Paramedic III 1
EMSP1 2330 Special Populations 3
EMSP 2434 Medical Emergencies 4
PSYC 2301 General Psychology 3
EMSP1,5 2143 Assessment Based Management 1
EMSP1 2361 Clinical - EMS 3
GOVT 2305 Federal Government OR 3
GOVT 2306 Texas Government
SOCI6 1301 Principles of Sociology 3

TOTAL Credits for EMSP AAS Degree 67

1 Meets communication competency
2 Meets computer competency
3 Choose from EMSP 2300, 2352 or 2359
4 See the catalog for appropriate choices and requirements for the Associate of Applied Science degree
5 Capstone course
6 Meets multicultural requirements

Note: Students must meet TSI requirements. See LoneStar.edu/TSI for details. It is recommended that students complete BIOL 2401 prior to beginning paramedic coursework.

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, North Harris, and University Park)

FIRST YEAR

CETT 1402 Electricity Principles OR 4
CETT 1409 DC-AC Circuits
IEIR 1310 Motor Controls 3
HYDR 1345 Hydraulics and Pneumatics 3
RBTC 1401 Programmable Controllers 4

TOTAL Credits for Field Service Technician Marketable Skills Award 14

FIELD SERVICE TECHNICIAN
(C1_EMAIL certificate offered at LSC-CyFair, North Harris, and University Park)

FIRST YEAR

CETT 1402 Electricity Principles OR 4
CETT 1409 DC-AC Circuits
TECM 1303 Technical Calculations OR 3
MCHN 1343 Machine Shop Mathematics
DFTQ 1325 Blueprint Reading & Sketching 3 *
HYDR 1345 Hydraulics and Pneumatics 3
PTRT 1191 Special Topics-Petroleum Technology 1
MCHN 1302 Print Reading for Machine Trades 3 **
IEIR 1310 Motor Controls 3
INMT1 2303 Pumps, Compressors & Mechanical Drives 3

LSCS Catalog 2013/2014 * This text was deleted (9/13). ** This text was added (9/13). Please see addendum for details.
## DEGREES AND CERTIFICATES

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>RBTC 1401</td>
<td>Programmable Controllers</td>
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<tr>
<td>OSHT 1316</td>
<td>Material Handling</td>
<td>3</td>
</tr>
<tr>
<td>ITSC 1401</td>
<td>Introduction to Computers</td>
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</table>

**TOTAL Credits for Field Service Technician Certificate** 31

1 Capstone course

### AUTOMATED MANUFACTURING TECHNICIAN CERTIFICATE

(C2_AMT2 certificate offered at LSC-University Park)

**FIRST YEAR**

<table>
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<th>Credits</th>
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<td>Electricity Principles OR</td>
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<td>DC-AC Circuits</td>
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<tr>
<td>TECM 1303</td>
<td>Technical Calculations OR</td>
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<tr>
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<td>Machine Shop Mathematics</td>
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<tr>
<td>DFTG 1325</td>
<td>Blueprint Reading &amp; Sketching</td>
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<tr>
<td>HYDR 1345</td>
<td>Hydraulics and Pneumatics</td>
<td>3</td>
</tr>
<tr>
<td>PTRT 1191</td>
<td>Special Topics-Petroleum Technology</td>
<td>1</td>
</tr>
<tr>
<td>IEIR 1310</td>
<td>Motor Controls</td>
<td>3</td>
</tr>
<tr>
<td>INMT 2303</td>
<td>Pumps, Compressors &amp; Mechanical Drives</td>
<td>3</td>
</tr>
<tr>
<td>RBTC 1401</td>
<td>Programmable Controllers</td>
<td>4</td>
</tr>
<tr>
<td>OSHT 1316</td>
<td>Material Handling</td>
<td>3</td>
</tr>
<tr>
<td>ITSC 1401</td>
<td>Intro to Computers</td>
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**SECOND YEAR**

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<td>KINE</td>
<td>Any physical activity course</td>
<td>1</td>
</tr>
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<td>MCHN 1319</td>
<td>Manufacturing Materials &amp; Processes</td>
<td>3</td>
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<tr>
<td>ELMT 2433</td>
<td>Industrial Electronics</td>
<td>4</td>
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<tr>
<td>RBTC 1305</td>
<td>Robotic Fundamentals</td>
<td>3</td>
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<td>INMT 1417</td>
<td>Industrial Automation</td>
<td>4</td>
</tr>
<tr>
<td>SPCH 1311</td>
<td>Intro to Speech Communication</td>
<td>3</td>
</tr>
<tr>
<td>MATH</td>
<td>College Algebra</td>
<td>3</td>
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<tr>
<td>SOCI</td>
<td>Principles of Sociology</td>
<td>3</td>
</tr>
<tr>
<td>Elective</td>
<td>Humanities/Fine Arts</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 1301</td>
<td>Composition &amp; Rhetoric</td>
<td>3</td>
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<tr>
<td>INMT 2388</td>
<td>Internship Manufacturing/Technology</td>
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**TOTAL Credits for Automated Manufacturing AAS 67**

1 See requirements for AAS degree.

2 Capstone course

### INDUSTRIAL DIESEL TECHNOLOGY CERTIFICATE I LEVEL 1 CERTIFICATE

(certificate offered at LSC-North Harris)

**FIRST YEAR**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
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<td>3</td>
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<tr>
<td>DEMR 1306</td>
<td>Diesel Engine I</td>
<td>3</td>
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<tr>
<td>DEMR 1313</td>
<td>Fuel Systems</td>
<td>3</td>
</tr>
<tr>
<td>DEMR 1305</td>
<td>Basic Electrical Systems</td>
<td>3</td>
</tr>
<tr>
<td>DEMR 1310</td>
<td>Diesel Engine Testing and Repair I</td>
<td>3</td>
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</tbody>
</table>

**TOTAL Credits for Industrial Diesel Technology Certificate I Level 1 Certificate 15**

1 Capstone course

### INDUSTRIAL DIESEL TECHNOLOGY CERTIFICATE II LEVEL 2 CERTIFICATE

(certificate offered at LSC-North Harris)

**FIRST YEAR**

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<tbody>
<tr>
<td>DEMR 1301</td>
<td>Shop Safety and Procedures</td>
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<tr>
<td>DEMR 1306</td>
<td>Diesel Engine I</td>
<td>3</td>
</tr>
<tr>
<td>DEMR 1313</td>
<td>Fuel Systems</td>
<td>3</td>
</tr>
<tr>
<td>DEMR 1305</td>
<td>Basic Electrical Systems</td>
<td>3</td>
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<tr>
<td>DEMR 1310</td>
<td>Diesel Engine Testing and Repair I</td>
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**SECOND SEMESTER**

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<tbody>
<tr>
<td>DEMR 2332</td>
<td>Electronic Controls</td>
<td>3</td>
</tr>
<tr>
<td>DEMR 1349</td>
<td>Diesel Engine II</td>
<td>3</td>
</tr>
<tr>
<td>DEMR 1229</td>
<td>Preventative Maintenance</td>
<td>2</td>
</tr>
<tr>
<td>DEMR 1316</td>
<td>Basic Hydraulics</td>
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### INDUSTRIAL DIESEL TECHNOLOGY

**ASSOCIATE OF APPLIED SCIENCE DEGREE**

(AAS degree offered at LSC-North Harris)

<table>
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<tbody>
<tr>
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<tr>
<td>DEMR 1301</td>
<td>Shop Safety and Procedures</td>
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<tr>
<td>DEMR 1306</td>
<td>Diesel Engine I</td>
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<tr>
<td>DEMR 1313</td>
<td>Fuel Systems</td>
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<tr>
<td>DEMR 1305</td>
<td>Basic Electrical Systems</td>
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<tr>
<td>DEMR 1310</td>
<td>Diesel Engine Testing and Repair I</td>
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<tr>
<td>DEMR 2332</td>
<td>Electronic Controls</td>
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<td>DEMR 1349</td>
<td>Diesel Engine II</td>
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<td>Preventative Maintenance</td>
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<tr>
<td>DEMR 1316</td>
<td>Basic Hydraulics</td>
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<td>DEMR 2380</td>
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<table>
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<tr>
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<tr>
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<td>DEMR 1317</td>
<td>Basic Brake Systems</td>
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<td>DEMR 2334</td>
<td>Advanced Diesel Tune-up and Troubleshooting</td>
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<td><strong>SECOND SEMESTER</strong></td>
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<tr>
<td>SPCH 1321</td>
<td>Business and Professional Communication</td>
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<tr>
<td>DEMR 2312</td>
<td>Diesel Engine Testing and Repair II</td>
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<tr>
<td>DEMR 1321</td>
<td>Power Train I</td>
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<tr>
<td>DEMR 2381</td>
<td>Cooperative Education - Diesel Mechanics Tech</td>
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<tr>
<td>Social Behavioral Science</td>
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</table>

**TOTAL Credits for Industrial Diesel Technology AAS** 60

1. Choose from the AAS core
2. Meets wellness competency
3. Select a course from the AAS core that meets the multicultural requirement
4. Capstone course

### PETROLEUM DATA TECHNOLOGY

**CERTIFICATE LEVEL 1 CERTIFICATE**

(Level 1 certificate offered at LSC-Cyfair and LSC-Tomball)

<table>
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<tbody>
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<td><strong>FIRST SEMESTER</strong></td>
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<tr>
<td>PTRT 1301</td>
<td>Introduction to Petroleum Industry</td>
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<tr>
<td>ITSC 1401</td>
<td>Introduction to Computers OR</td>
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<td>COSC 1401</td>
<td>Introduction to Computers</td>
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<tr>
<td>PTRT 1370</td>
<td>Petroleum Geology</td>
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<td>PTRT 1371</td>
<td>Petroleum Data Management I - Exploration</td>
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<tr>
<td>TECM 1303</td>
<td>Technical Calculations</td>
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<tr>
<td>ITSW 1404</td>
<td>Introduction to Spreadsheets</td>
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<td>PTRT 1373</td>
<td>Exploration and Production I</td>
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<td>ITSW 1407</td>
<td>Introduction to Databases</td>
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<tr>
<td><strong>THIRD SEMESTER</strong></td>
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<tr>
<td>PTRT 1372</td>
<td>Petroleum Data Management II - Drilling and Production</td>
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<td>PTRT 2380</td>
<td>Cooperative Education - Petroleum Technology/Technician</td>
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**TOTAL Credits for Petroleum Data Technology Certificate Level 1 Certificate** 33

1. Capstone course

### PETROLEUM FIELD SERVICE TECHNICIAN

**CERTIFICATE**

(C2_PFT2 certificate offered at LSC-University Park)

<table>
<thead>
<tr>
<th>FIRST YEAR</th>
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<tbody>
<tr>
<td>CETT 1402</td>
<td>Electricity Principles OR</td>
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<tr>
<td>CETT 1409</td>
<td>DC-AC Circuits</td>
</tr>
<tr>
<td>TECM 1303</td>
<td>Technical Calculations OR</td>
</tr>
<tr>
<td>MCHN 1343</td>
<td>Machine Shop Math Mathematics</td>
</tr>
<tr>
<td>DFTG 1325</td>
<td>Blueprint Reading &amp; Sketching</td>
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<td>HYDR 1345</td>
<td>Hydraulics and Pneumatics</td>
</tr>
<tr>
<td>PTRT 1191</td>
<td>Special Topics-Petroleum Technology</td>
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<tr>
<td>MCHN 1302</td>
<td>Print Reading for Machine Trades</td>
</tr>
<tr>
<td>IEIR 1310</td>
<td>Motor Controls</td>
</tr>
<tr>
<td>INMT 2303</td>
<td>Pumps, Compressors &amp; Mechanical Drives</td>
</tr>
<tr>
<td>RBTC 1401</td>
<td>Programmable Controllers</td>
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<tr>
<td>OSHT 1316</td>
<td>Material Handling</td>
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<tr>
<td>ITSC 1401</td>
<td>Introduction to Computers</td>
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* This text was deleted (9/13).
** This text was added (9/13). Please see addendum for details.
### DEGREES AND CERTIFICATES

#### SECOND YEAR

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<td>PRTT</td>
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</tr>
<tr>
<td>PRTT</td>
<td>1391 Special Topics-Petroleum Technology</td>
<td>3</td>
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<td>PRTT</td>
<td>1303 Drilling</td>
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<td>PRTT</td>
<td>1424 Petroleum Instrumentation</td>
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<tr>
<td>SPCH</td>
<td>1311 Intro to Speech Communication</td>
<td>3</td>
</tr>
</tbody>
</table>

**TOTAL Credits for Petroleum Field Service Technician Certificate** 51

1 Capstone course

### PETROLEUM FIELD SERVICE TECHNICIAN

**ASSOCIATE OF APPLIED SCIENCE DEGREE**

(AAS_ETPT degree offered at LSC-University Park)

**FIRST YEAR**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>CETT</td>
<td>1402 Electricity Principles OR</td>
<td>4</td>
</tr>
<tr>
<td>CETT</td>
<td>1409 DC-AC Circuits</td>
<td>3</td>
</tr>
<tr>
<td>TECM</td>
<td>1303 Technical Calculations OR</td>
<td>3</td>
</tr>
<tr>
<td>MCHN</td>
<td>1343 Machine Shop Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>DFTG</td>
<td>1325 Blueprint Reading &amp; Sketching</td>
<td>3</td>
</tr>
<tr>
<td>HYDR</td>
<td>1345 Hydraulics and Pneumatics</td>
<td>3</td>
</tr>
<tr>
<td>PRTT</td>
<td>1191 Special Topics-Petroleum Technology</td>
<td>1</td>
</tr>
<tr>
<td>MCHN</td>
<td>1302 Print Reading for Machine Trades</td>
<td>3</td>
</tr>
<tr>
<td>IEIR</td>
<td>1310 Motor Controls</td>
<td>3</td>
</tr>
<tr>
<td>INMT</td>
<td>2303 Pumps, Compressors &amp; Mechanical Drives</td>
<td>3</td>
</tr>
<tr>
<td>RBTC</td>
<td>1401 Programmable Controllers</td>
<td>4</td>
</tr>
<tr>
<td>ITSC</td>
<td>1401 Intro to Computers</td>
<td>4</td>
</tr>
<tr>
<td>OSHT</td>
<td>1316 Material Handling</td>
<td>3</td>
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**SECOND YEAR**

<table>
<thead>
<tr>
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<tr>
<td>INTC</td>
<td>1341 Principles of Automatic Control</td>
<td>3</td>
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<tr>
<td>KINE</td>
<td>Any physical activity course</td>
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<tr>
<td>PRTT</td>
<td>1301 Petroleum Industry</td>
<td>3</td>
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<tr>
<td>PRTT</td>
<td>1391 Special Topics-Petroleum Technology</td>
<td>3</td>
</tr>
<tr>
<td>PRTT</td>
<td>1303 Drilling</td>
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</tr>
<tr>
<td>PRTT</td>
<td>1424 Petroleum Instrumentation</td>
<td>4</td>
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<tr>
<td>SPCH</td>
<td>1311 Intro To Speech Communication</td>
<td>3</td>
</tr>
<tr>
<td>MATH</td>
<td>1314 College Algebra</td>
<td>3</td>
</tr>
<tr>
<td>SOCI</td>
<td>1301 Principles of Sociology</td>
<td>3</td>
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<tr>
<td>Elective</td>
<td>Humanities/Fine Arts</td>
<td>3</td>
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<tr>
<td>ENGL</td>
<td>1301 Composition &amp; Rhetoric</td>
<td>3</td>
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<tr>
<td>PRTT</td>
<td>2380 Cooperative Education-Petroleum</td>
<td>3</td>
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<tr>
<td>Technology</td>
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</table>

**TOTAL Credits for Petroleum Field Service Tech AAS** 66

1 See requirements for AAS degree.
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 North Harris)

### FIRST YEAR

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit</th>
</tr>
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<tbody>
<tr>
<td>DFTG 1305</td>
<td>Technical Drafting</td>
<td>3</td>
</tr>
<tr>
<td>DFTG 1309</td>
<td>Basic Computer-Aided Drafting</td>
<td>3</td>
</tr>
<tr>
<td>Elective¹</td>
<td>Discipline Track</td>
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<tr>
<td>TECM 1303</td>
<td>Technical Calculations OR</td>
<td>3</td>
</tr>
<tr>
<td>MATH² 1314</td>
<td>College Algebra</td>
<td></td>
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<tr>
<td>Elective¹</td>
<td>Discipline Track</td>
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<tr>
<td>Elective¹</td>
<td>Discipline Track</td>
<td>3</td>
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<tr>
<td>DFTG 2319</td>
<td>Interm. Computer-Aided Drafting</td>
<td>3</td>
</tr>
<tr>
<td>DFTG 2340</td>
<td>Solid Modeling/Design</td>
<td>3</td>
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<tr>
<td>Elective¹</td>
<td>Discipline Track</td>
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<tr>
<td>Elective¹</td>
<td>Discipline Track</td>
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</tbody>
</table>

**TOTAL Credits for Computer-Aided Design Operator/Drafting Certificate** 30

¹ Students must select one of the two tracks below and may not deviate from them as they progress through the certificate.
DEGREES AND CERTIFICATES

Discipline Track Courses
Track 1: Architectural, Civil/Structural - CNBT 1311, DFTG 1391, DFTG 2331, DFTG 1317, ARCE 1352, DFTG 2328

Track 2: Mechanical, Manufacturing, Product Design - MCHN 1319, DFTG 1391, DFTG 2302, DFTG 2323, METL 1301, INMT 1311, DFTG 2335 OR CETT 1409

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 North Harris)

FIRST YEAR

ENGL 1301 Composition and Rhetoric I 3
DFTG 1305 Technical Drafting 3
MATH 1314 College Algebra 3
CNBT 1311 Construction Methods & Materials I 3
DFTG 1309 Basic Computer-Aided Drafting 3
ARCE 1352 Structural Drafting 3
MATH 1316 Trigonometry 3
CNBT 1342 Building Codes & Inspection 3
DFTG 2331 Adv Technologies Architectural Design and Drafting 3
DFTG 2319 Intermediate Computer-Aided Drafting 3
DFTG 2328 Architectural Drafting-Commercial 3
ENGL 2311 Technical Communications OR 3
ENGL 1302 Composition and Rhetoric II 3
KINE Any physical activity course 1

SECOND YEAR

ARTS2 1304 Art History: Renaissance to Modern 3
ENTC 1343 Statics 3
DFTG 1371 Metal Building Systems I 3
PHYS 1401 General Physics I 4
DFTG 1317 Architectural Drafting - Residential 3
ARCE 1315 Structural Steel Detailing 3
Elective3 Social/Behavioural Science 3
SPCH3 1423 Speech Elective 3
ENTC 1423 Strength of Materials 4
DFTG 1391 Special topics in Drafting and Design Technology OR 3
ENTC3 2380 Cooperative Education OR 3
DFTG 2338 Final Project - Advanced Drafting 3

TOTAL Credits for Architectural Engineering Technology Specialization 69

1 Meets computer competency
2 Meets multicultural requirement.

3 See AAS degree requirements
4 Choose elective from SPCH 1311, 1315, or 1321
5 Capstone course

MECHANICAL ENGINEERING
Associate of Science degree
(Pending THECB Approval)

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

FIRST YEAR

MATH 2413 Calculus I 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
MATH 2414 Calculus II 4
PHYS 2425 Mechanics & Heat 4
ENGR 1304 Engineering Graphics I 3
HIST 1302 United States History Since 1877 3

SECOND YEAR

MATH 2415 Calculus III 4
PHYS 2426 Electricity, Magnetism, and Light 4
ENGR 2301 Engineering Mechanics:Statics 3
ENGR 2304 Programming for Engineers 3
GOVT 2305 Federal Government 3
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 Mechanical Engineering AS 60

MECHANICAL ENGINEERING TECHNOLOGY SPECIALIZATION
Associate of Applied Science degree
(AAS_EDME specialization offered at LSC-CyFair and North Harris)

FIRST YEAR

MATH 1314 College Algebra 3
ENGL 1301 Composition and Rhetoric I 3
DFTG 1305 Technical Drafting 3
DFTG 1371 Metal Building Systems I 3
PHYS 1401 General Physics I 4
DFTG 1317 Architectural Drafting - Residential 3
ARCE 1315 Structural Steel Detailing 3
Elective4 Social/Behavioural Science 3
SPCH4 1423 Speech Elective 3
ENTC 1423 Strength of Materials 4
DFTG 1391 Special topics in Drafting and Design Technology OR 3
ENTC 2380 Cooperative Education OR 3
DFTG 2338 Final Project - Advanced Drafting 3
CETT 1409 DC-AC Circuits 4
ENGL 2311 Technical Communications OR 3
ENGL 1302 Composition and Rhetoric II 3
Elective4 Humanities/Fine Arts 3
KINE Any physical activity course 1

This text was added (10/13). Please see addendum for details.
### DEGREES AND CERTIFICATES

#### SECOND YEAR

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
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</thead>
<tbody>
<tr>
<td>ENTC 1343 Statics</td>
<td>3</td>
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<tr>
<td>PHYS 1401 General Physics I</td>
<td>4</td>
</tr>
<tr>
<td>DFTG 2335 Advanced Technologies in Mechanical Design &amp; Drafting</td>
<td>3</td>
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<tr>
<td>IEIR 1310 Motor Controls OR QCTC 1303 Quality Control</td>
<td>3</td>
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<tr>
<td>ENTC 1423 Strength of Materials Elective Social/Behavioral Science</td>
<td>3</td>
</tr>
<tr>
<td>DFTG 2336 CAD Programming</td>
<td>3</td>
</tr>
<tr>
<td>INMT 1311 Computer Integrated Manufacturing OR DFTG 2380 Cooperative Education</td>
<td>3</td>
</tr>
<tr>
<td>DFTG 2338 Final Project - Advanced Drafting</td>
<td>3</td>
</tr>
<tr>
<td>DFTG 1391 Special topics in Drafting and Design Technology SPCH Elective</td>
<td>3</td>
</tr>
</tbody>
</table>

**TOTAL Credits for Mechanical Engineering Technology Specialization**: 70

1. Meets computer competency
2. See college catalog for Associate of Applied Science degree graduation requirements for a listing of electives. Select course from either of these areas to meet multicultural requirement.
3. 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 environment.
4. QCTC 1303 and INMT 1311 are intended for students wanting to focus their employment within a production and manufacturing environment.
5. DFTG 2323 is intended for students wanting to focus on being mechanical designers in oil field and process related industries.
6. Capstone course
7. Choose from SPCH 1311, SPCH 1315 or SPCH 1321

### 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

### 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
```markdown
DEGREES AND CERTIFICATES

The core courses will transfer to a variety of colleges and universities. Contact a counselor or faculty advisor for specific information.

* **BASIC ELECTRONICS CERTIFICATE**
  (C1_ELTE certificate offered at LSC-CyFair)

**FIRST YEAR**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>ITSC 1401 Introduction to Computers OR COSC 1401 Introduction to Computers CETT 1403 DC Circuits MATH 1314 College Algebra CETT 1405 AC Circuits CETT+ 1425 Digital Fundamentals CETT 1429 Solid State Devices OR Elective* Technical</td>
<td>4 4 3 4 3 4 3-4</td>
</tr>
</tbody>
</table>

**TOTAL Credits for Basic Electronics Certificate**

22-23

1 Capstone course

+ Approved electives include any CETT, CPMT, EECT, or ITCC course.

**COMPUTER ENGINEERING TECHNOLOGY SPECIALIZATION**

Associate of Applied Science degree

(AAS_CETS specialization offered at LSC-CyFair)

**FIRST YEAR**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>ITSC 1401 Introduction to Computers OR COSC 1401 Introduction to Computers CPMT 1403 Introduction to Computer Technology</td>
<td>4 4 3</td>
</tr>
</tbody>
</table>

**SECOND YEAR**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
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</thead>
<tbody>
<tr>
<td>CETT 1429 Solid State Devices</td>
<td>4</td>
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<tr>
<td>CETT 1445 Microprocessor</td>
<td>4</td>
</tr>
<tr>
<td>CPMT 1445 Computer Systems Maintenance</td>
<td>4</td>
</tr>
<tr>
<td>MATH 1316 Trigonometry</td>
<td>3</td>
</tr>
<tr>
<td>ITSY 1442 Information Technology Security</td>
<td>4</td>
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<tr>
<td>CPMT 2433 Computer Integration</td>
<td>4</td>
</tr>
<tr>
<td>Elective* Technical (Capstone Course)</td>
<td>3-4</td>
</tr>
<tr>
<td>KINE Any physical activity course</td>
<td>1</td>
</tr>
</tbody>
</table>

**TOTAL Credits for Computer Engineering Technology Specialization**

62-63

1 To meet multicultural requirement, choose either SOCI 1301 or any foreign language
2 Choose technical elective from CPMT 1449, EECT 2439, ELMT 2433, or departmental approval
3 Capstone course. Choose from CETT 2449, EECT 2380 or ELMT 2433

**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, Kingwood and Montgomery)

**FIRST YEAR**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
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<tbody>
<tr>
<td>FIRS 1301 Firefighter Certification I</td>
<td>3</td>
</tr>
<tr>
<td>FIRS 1407 Firefighter Certification II</td>
<td>4</td>
</tr>
<tr>
<td>FIRS 1313 Firefighter Certification III</td>
<td>3</td>
</tr>
<tr>
<td>FIRS 1319 Firefighter Certification IV</td>
<td>3</td>
</tr>
<tr>
<td>FIRT 1171 Firefighter Agility &amp; Fitness Prep</td>
<td>1</td>
</tr>
<tr>
<td>FIRT/FIRS Elective</td>
<td>3</td>
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<tr>
<td>FIRT 2171 Firefighter Agility &amp; Fitness Prep II</td>
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<td>FIRS 1423 Fire Certification V</td>
<td>4</td>
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<tr>
<td>FIRS 1329 Fire Certification VI</td>
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<tr>
<td>FIRS 1433 Fire Certification VII</td>
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</table>

**TOTAL Credits for Basic Structural Fire Fighter Certificate**

29

1 Capstone course

**FIRE SCIENCE TECHNOLOGY**

Associate of Applied Science degree

(AAS_FSCT degree offered at LSC-CyFair and Montgomery)

**FIRST YEAR**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
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<tbody>
<tr>
<td>FIRS 1301 Firefighter Certification I</td>
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<tr>
<td>FIRS 1407 Firefighter Certification II</td>
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<td>FIRS 1313 Firefighter Certification III</td>
<td>3</td>
</tr>
<tr>
<td>FIRS 1319 Firefighter Certification IV</td>
<td>3</td>
</tr>
<tr>
<td>FIRT 1171 Firefighter Agility &amp; Fitness Prep</td>
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<td>FIRT/FIRS Elective</td>
<td>3</td>
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<tr>
<td>FIRT 2171 Firefighter Agility &amp; Fitness Prep II</td>
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<tr>
<td>FIRS 1423 Fire Certification V</td>
<td>4</td>
</tr>
<tr>
<td>FIRS 1329 Fire Certification VI</td>
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<tr>
<td>FIRS 1433 Fire Certification VII</td>
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</table>

**TOTAL Credits for Fire Science Technology**

**This program was deactivated (fall 2013).**

**This text was revised (8/13). Please see addendum for details.**

LSC Catalog 2013/2014

148
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 Tomball)

**FIRST YEAR**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
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<tbody>
<tr>
<td>ENGL 1301 Composition and Rhetoric I</td>
<td>3</td>
</tr>
<tr>
<td>GAME 1303 Introduction to Game Design and Development</td>
<td>3</td>
</tr>
<tr>
<td>ARTV 1303 Basic Animation</td>
<td>3</td>
</tr>
<tr>
<td>ARTC 1302 Digital Imaging I</td>
<td>3</td>
</tr>
<tr>
<td>ARTS 1316 Drawing I</td>
<td>3</td>
</tr>
<tr>
<td>GAME 1335 Interactive Writing I</td>
<td>3</td>
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<tr>
<td>ARTV 1345 3-D Modeling &amp; Rendering</td>
<td>3</td>
</tr>
<tr>
<td>IMED 1345 Interactive Digital Media I</td>
<td>3</td>
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**SECOND YEAR**

<table>
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<tr>
<th>Course</th>
<th>Credit</th>
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<tbody>
<tr>
<td>ARTV 1341 3-D Animation I</td>
<td>3</td>
</tr>
<tr>
<td>GAME 1304 Level Design</td>
<td>3</td>
</tr>
<tr>
<td>IMED 2345 Interactive Digital Media II</td>
<td>3</td>
</tr>
<tr>
<td>ITSC 1401 Introduction to Computer OR</td>
<td>4</td>
</tr>
<tr>
<td>COSC 1401 Introduction to Computers</td>
<td></td>
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<tr>
<td>GAME 2332 Project Development I OR</td>
<td>3</td>
</tr>
<tr>
<td>GAME 2386 Internship</td>
<td>3</td>
</tr>
<tr>
<td>GAME 2338 Game Testing</td>
<td>3</td>
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</tbody>
</table>
DEGREES AND CERTIFICATES

TOTAL Credits for Game Design & Simulation Designer (Artist) Certificate 43

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

GAME DESIGN AND SIMULATION DEVELOPER (PROGRAMMING) CERTIFICATE
(C2_GDP2 certificate offered at LSC-Kingwood and Tomball)

FIRST YEAR

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>ITSC 1401 Introduction to Computer OR COSC 1401 Introduction to Computers</td>
<td>4</td>
</tr>
<tr>
<td>GAME 1303 Introduction to Game Design and Development</td>
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### DEGREES AND CERTIFICATES

<table>
<thead>
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<th>Course Title</th>
<th>Credits</th>
</tr>
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<tbody>
<tr>
<td>ARTV 1303</td>
<td>Basic Animation</td>
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<td>ENGL 1301</td>
<td>Composition and Rhetoric I</td>
<td>3</td>
</tr>
<tr>
<td>ARTS 1316</td>
<td>Drawing I</td>
<td>3</td>
</tr>
<tr>
<td>GAME 1335</td>
<td>Interactive Writing I</td>
<td>3</td>
</tr>
<tr>
<td>ITSE 1402</td>
<td>Computer Programming OR</td>
<td>3-4</td>
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<tr>
<td>COSC 1309</td>
<td>Logic Design</td>
<td>3</td>
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<tr>
<td>MATH 1314</td>
<td>College Algebra</td>
<td>3</td>
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#### SECOND YEAR

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>ITSE 1407</td>
<td>Introduction to C++ OR</td>
<td>4</td>
</tr>
<tr>
<td>COSC 1420</td>
<td>“C” Language</td>
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<tr>
<td>GAME 1304</td>
<td>Level Design</td>
<td>3</td>
</tr>
<tr>
<td>SOCI 1301</td>
<td>Principles of Sociology OR</td>
<td>3</td>
</tr>
<tr>
<td>SPCH 1318</td>
<td>Interpersonal Communications</td>
<td></td>
</tr>
<tr>
<td>KINE</td>
<td>Any physical activity course</td>
<td>1</td>
</tr>
<tr>
<td>GAME 2332</td>
<td>Project Development I OR</td>
<td>3</td>
</tr>
<tr>
<td>GAME 2386</td>
<td>Internship</td>
<td>3</td>
</tr>
</tbody>
</table>

**TOTAL Credits for Game Design & Simulation Developer (Programming) Certificate**: 42-43

1. 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>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
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</tr>
<tr>
<td>COSC 1401</td>
<td>Introduction to Computers</td>
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</tr>
<tr>
<td>GAME 1303</td>
<td>Introduction to Game Design and</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Development</td>
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<tr>
<td>ARTC 1302</td>
<td>Digital Imaging I</td>
<td>3</td>
</tr>
<tr>
<td>ARTV 1345</td>
<td>3-D Modeling &amp; Rendering</td>
<td>3</td>
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<tr>
<td>ARTS 1316</td>
<td>Drawing I</td>
<td>3</td>
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<td>Level Design</td>
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<td>Design Communications I</td>
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<td>ARTV 1303</td>
<td>Basic Animation</td>
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<td>ARTV 2345</td>
<td>3-D Modeling and Rendering II</td>
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<td>ENGL 1301</td>
<td>Composition and Rhetoric I</td>
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<td>KINE</td>
<td>Any physical activity course</td>
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<tr>
<td>GAME 2338</td>
<td>Game Testing</td>
<td>3</td>
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<tr>
<td>GAME 1334</td>
<td>Video Game Art I</td>
<td>3</td>
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#### SECOND YEAR

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<tr>
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<th>Course Title</th>
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<td>3</td>
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<tr>
<td>GAME 1335</td>
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<td>3</td>
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<tr>
<td>IMED 1345</td>
<td>Interactive Digital Media</td>
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<tr>
<td>ARTV 1341</td>
<td>3-D Animation I</td>
<td>3</td>
</tr>
<tr>
<td>MATH 1314</td>
<td>College Algebra</td>
<td>3</td>
</tr>
<tr>
<td>SPCH 1318</td>
<td>Interpersonal Communication</td>
<td>3</td>
</tr>
<tr>
<td>ARTV 2351</td>
<td>3-D Animation II OR</td>
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<td>ARTC 2305</td>
<td>Digital Imaging II</td>
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<td>IMED 2345</td>
<td>Interactive Digital Media II</td>
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<tr>
<td>SOCI 1301</td>
<td>Principles of Sociology</td>
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<td>Elective</td>
<td>General Academic Elective</td>
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<tr>
<td>GAME 2334</td>
<td>Project Development II OR</td>
<td>3</td>
</tr>
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</table>

**TOTAL Credits for Gaming Design and Simulation Designer (Artist) AAS**: 71-72

1. Meets multicultural requirement
2. Choose from AAS core requirements
3. Capstone course

### GAME DESIGN AND SIMULATION DEVELOPER (PROGRAMMING) SPECIALIZATION

**Associate of Applied Science degree**

(AAS_GDSP degree offered at LSC-Kingwood)

#### FIRST YEAR

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>ITSC 1401</td>
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<tr>
<td>COSC 1401</td>
<td>Introduction to Computers</td>
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<tr>
<td>GAME 1303</td>
<td>Introduction to Game Design and</td>
<td>3</td>
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<tr>
<td></td>
<td>Development</td>
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<td>MATH 1314</td>
<td>College Algebra</td>
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<tr>
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<td>Humanities/Fine Arts</td>
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<td>ENGL 1301</td>
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<td>PHYS 1410</td>
<td>Elementary Physics</td>
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<td>ITSE 1407</td>
<td>Introduction to C++ OR</td>
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<td>COSC 1420</td>
<td>“C” Language</td>
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<tr>
<td>KINE</td>
<td>Any physical activity course</td>
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<td>GAME 2338</td>
<td>Game Testing</td>
<td>3</td>
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<tr>
<td>GAME 1335</td>
<td>Interactive Writing I</td>
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#### SECOND YEAR

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<td>Project Development I</td>
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<td>GAME 1343</td>
<td>Game &amp; Simulation Programming I</td>
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<tr>
<td>GAME 2419</td>
<td>Game Engine</td>
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<td>GAME 2341</td>
<td>Game Scripting</td>
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<td>GAME 2303</td>
<td>AI Programming I</td>
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<tr>
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<td>SOCI 1301</td>
<td>Principles of Sociology</td>
<td>3</td>
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<tr>
<td>SPCH 1318</td>
<td>Interpersonal Communication</td>
<td>3</td>
</tr>
<tr>
<td>GAME 2334</td>
<td>Project Development II OR</td>
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</tr>
<tr>
<td>GAME 2386</td>
<td>Internship</td>
<td>3</td>
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</tbody>
</table>

**TOTAL Credits for Gaming Design and Simulation Developer (Artist) AAS**: 71-72

1. Meets multicultural requirement
2. Choose from AAS core requirements
3. Capstone course

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GEOGRAPHIC INFORMATION SYSTEMS

The geographic information systems (GIS) certificates and degree program prepare graduates for wide ranging career possibilities as entry-level technicians to data analysts and project managers in diverse fields of GIS application. From data collection and input, to management and analysis, to project completion and information delivery, individuals will develop the skills to work at many levels of business, industry, government agencies and research and development.

The GIS 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 23 credit hours of course work focusing on proficiency in GIS software applications and data management. The GIS Analyst certificate is awarded for completion of 34-35 credit hours of course work and provides graduates additional skills to develop and analyze data and prepare projects for delivery to clients. The GIS Associate of Applied Science degree is awarded for the completion of 66-68 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 sequenced of courses.

GEOGRAPHIC INFORMATION SYSTEMS-MARKETABLE SKILLS AWARD
(MSC_GINS award offered at LSC-CyFair)

FIRST YEAR Credit
GISC 1411 Intro to Geographic Information Systems 4
GISC 1401 Cartography and Geography in GIS and GPS 4
GISC 1421 Introduction to Raster-Based GIS 4

TOTAL Credits for Geographic Information Systems Marketable Skills Award 12

GEOGRAPHIC INFORMATION SYSTEMS TECHNICIAN CERTIFICATE
(C1_GIT1 certificate offered at LSC-CyFair)

FIRST YEAR Credit
COSC 1401 Introduction to Computers OR ITSC 1401 Introduction to Computers 4
GISC 1411 Intro to Geographic Information Systems (GIS) 4
MATH 1314 College Algebra 3
GISC 1401 Cartography and Geography in GIS and GPS 4
GISC 1421 Intro to Raster-Based GIS 4
ITSW 1407 Introduction to Databases 4

TOTAL Credits for Geographic Information Systems Technician Certificate 23

1 Capstone
2 ITSE 1402 or ITSE 1432 may substitute for ITSW 1407.

GEOGRAPHIC INFORMATION SYSTEMS ANALYST CERTIFICATE
(C1_GIA1 certificate offered at LSC-CyFair)

FIRST YEAR Credit
COSC 1401 Introduction to Computers OR ITSC 1401 Introduction to Computers 4
GISC 1411 Intro to Geographic Information Systems (GIS) 4
MATH 1314 College Algebra 3
GISC 1401 Cartography and Geography in GIS and GPS 4
GISC 1421 Intro to Raster-Based GIS 4
ITSW 1407 Introduction to Databases 4
GISC 2380 Cooperative Education OR 3-4
GISC 1491 Special Topics in Cartography 4
GISC 2401 Data Acquisition & Analysis in GIS 4
GISC 2411 GIS Applications 4
**DEGREES AND CERTIFICATES**

**TOTAL Credits for Geographic Information Systems Analyst Certificate** 34-35

1 ITSE 1402 or ITSE 1432 may substitute for ITSW 1407.
2 Capstone

**GEOGRAPHIC INFORMATION SYSTEMS**

**Associate of Applied Science degree**

(AAS_GINS degree offered at LSC-CyFair)

**FIRST YEAR**

<table>
<thead>
<tr>
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<th>Credit</th>
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<tr>
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<td>Introduction to Computers OR 4</td>
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<tr>
<td>ITSC 1401</td>
<td>Introduction to Computers 4</td>
</tr>
<tr>
<td>GISC 1411</td>
<td>Intro to Geographic Information Systems (GIS) 4</td>
</tr>
<tr>
<td>MATH 1314</td>
<td>College Algebra 3</td>
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<td>GISC 1401</td>
<td>Cartography and Geography in GIS and GPS 4</td>
</tr>
<tr>
<td>GISC 1421</td>
<td>Intro to Raster-Based GIS 4</td>
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<tr>
<td>ITSW 1407</td>
<td>Introduction to Databases 4</td>
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<td>GISC 2380</td>
<td>Cooperative Education OR 3-4</td>
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<td>GISC 2411</td>
<td>GIS Applications 4</td>
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<tr>
<td>GISC 2401</td>
<td>Data Acquisition &amp; Analysis in GIS 4</td>
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**SECOND YEAR**

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<tr>
<th>Course</th>
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<tr>
<td>GEOL 1403</td>
<td>Physical Geology 4</td>
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<tr>
<td>DFTG 1305</td>
<td>Technical Drafting 3</td>
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<td>GEOG 1300</td>
<td>Principles of Geography 3</td>
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<tr>
<td>ENGL 1301</td>
<td>Composition &amp; Rhetoric I 3</td>
</tr>
<tr>
<td>MATH 1316</td>
<td>Trigonometry 3</td>
</tr>
<tr>
<td>GISC 2381</td>
<td>Cooperative Education OR 3-4</td>
</tr>
<tr>
<td>GISC 1491</td>
<td>Special Topics in Cartography 3</td>
</tr>
<tr>
<td>SPCH 1315</td>
<td>Public Speaking 3</td>
</tr>
<tr>
<td>DFTG 1309</td>
<td>Basic Computer-Aided Drafting 3</td>
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<tr>
<td>KINE 2111</td>
<td>Any physical activity course 1</td>
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<tr>
<td>ENGL 2311</td>
<td>Technical Communications 3</td>
</tr>
<tr>
<td>Elective</td>
<td>Humanities/Fine Arts 3</td>
</tr>
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</table>

**TOTAL Credits for AAS Degree** 66-68

1 ITSE 1402 or ITSE 1432 may substitute for ITSW 1407
2 Capstone course
3 Select course to meet multicultural requirement

**HEALTH INFORMATION TECHNOLOGY**

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. The Hospital-Based Coding certificate is currently approved by the Council on Certification of the American Health Information Management Association (AHIMA). Program accreditation allows AAS degree graduates to apply for certification examination to become Registered Health Information Technicians (RHIT). In addition, program accreditation allows hospital-based 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.

In addition, students must meet the Student Success Initiative requirements as established by Lone Star College System. Students must demonstrate proficiency in MATH 0308 prior to graduation. Even though the prerequisite for the HIT major courses is MATH 0306, other academic courses such as BIOL 2401 require the completion of MATH 0308. Once the prerequisite for BIOL 2401 is met, the student has met this requirement for graduation.

**Admission criteria for AAS degree**
In order to be considered for admission to the HIT program, students must pass the college’s Student Success Initiative requirements and THEA test. Students who are exempt from the THEA test must take the ASSET or COMPASS test and receive college-level placement in reading, writing, and completion of MATH 0306 or higher. Students must submit an application that can be found on the college’s website under the HIT department. Prospective students may submit the form online or download the form and mail or bring to the departmental office in WNSP 170A. Applications are due July 30 for fall entry into the program. Students wishing to begin the program at any other time besides the fall may take some of the support classes or prerequisites for the program such as COSC or ITSC 1401 Introduction to Computers or HITT 1305 Medical Terminology.

Applicants seeking admission into the Health Information Technology AAS degree and coding certificate program must successfully pass a criminal background check. A drug screen may also be required based on terms of our clinical affiliation agreement. Information on approved vendors will be provided by the program director. Students may be required to show proof of immunizations such as tetanus and MMR (mumps, measles, rubella). Students may also be required to document negative results from a tuberculosis test. Applicants must cover the cost of the background check, immunizations and drug screen if required by clinical affiliates.

**Admission criteria for the Hospital-Based Coding or the Physician Office-Based certificate**

Admission to either coding certificate program requires completion of an application found on the LSC-North Harris website. Applications are due May 1 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 0306 or higher.

Hospital-Based Medical 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. The coding certificate program begins in the summer semester. Students wishing to begin the certificate program at any other time besides the summer may take some of the core classes or prerequisites for the program.

The Physician-Based Coding certificate prepares the technician to work in ambulatory settings such as clinics and doctors’ offices. Also known as billing and coding specialists, the medical biller is an integral part of the medical team. Their contribution is essential to running the medical office. Since most of the revenues generated by a medical office involve patient care, billing and collecting the revenue generated from patient care is one of the vital functions of the medical biller. Medical billers may also handle such things as filling out claim forms, corresponding with patients, managing office supplies, and handling minor accounting for the office. Students completing this certificate will be certified by the American Association of Professional Coders after one year of experience.

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 as tetanus and MMR (measles, rubella). Students may also be required to document negative results from a tuberculosis test. These costs are borne by the student.

### HOSPITAL-BASED CODING CERTIFICATE

(C2_HBC2 certificate offered at LSC-North Harris)

<table>
<thead>
<tr>
<th>Prerequisite</th>
<th>Credit</th>
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</thead>
<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>
</tr>
<tr>
<td>COSC 1401 Introduction to Computers</td>
<td>4</td>
</tr>
</tbody>
</table>

**FIRST YEAR**

| BIOL 2402 Human Anatomy & Physiology II | 4      |
| HITT 1401 Health Data Content & Structure | 4      |
| HPRS 2301 Pathophysiology               | 3      |
| HITT 1441 Coding & Classification Systems | 4      |
| HITT 1345 Health Care Delivery Systems  | 3      |
| HITT 1342 Ambulatory Coding             | 3      |
| HITT 2435 Coding & Reimbursement Methods | 4      |
| HITT 1211 Health Information Systems   | 2      |
| HITT 1266 Practicum - Health Information Technology | 2      |
| HITT 2346 Advanced Medical Coding       | 3      |

**TOTAL Credits for Coding Certificate** 43

1 Capstone course

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

### PHYSICIAN OFFICE-BASED CODING CERTIFICATE

(C1_POB1 certificate offered at LSC-North Harris)

<table>
<thead>
<tr>
<th>Prerequisite</th>
<th>Credit</th>
</tr>
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<tbody>
<tr>
<td>HITT 1305 Medical Terminology I</td>
<td>3</td>
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<tr>
<td>COSC 1401 Introduction to Computers OR</td>
<td>4</td>
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<td>ITSC 1401 Introduction to Computers</td>
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**FIRST YEAR**

| BIOL 2404 Intro to Anatomy & Physiology | 4      |
| POFM 1317 Medical Administrative Support | 3      |
| HPRS 2301 Pathophysiology               | 3      |
| HITT 1213 Insurance Coding              | 2      |
| HITT 2340 Advanced Medical Billing & Reimbursement | 3      |
| HPRS 2300 Pharmacology for Health Professions | 3      |
| HITT 1342 Ambulatory Coding             | 3      |
| HPRS 2321 Medical Law & Ethics for Health Professionals | 3      |
| HITT 1280 Cooperative Education         | 2      |

**TOTAL Credits for Physician Coding Certificate** 33

1 Capstone course

### HEALTH INFORMATION TECHNOLOGY

Associate of Applied Science degree

(AAS_HINT degree offered at LSC-North Harris)

**FIRST YEAR**

| BIOL 2401 Human Anatomy and Physiology I | 4      |
| HITT 1305 Medical Terminology I (TP)    | 3      |
| HITT 1401 Health Data Content & Structure | 4      |
| COSC 1401 Introduction to Computers     | 4      |
| KINE Any physical activity course       | 1      |
| BIOL 2402 Human Anatomy and Physiology II | 4      |
| ENGL 1301 Composition & Rhetoric I      | 3      |
| HITT 1345 Health Care Delivery Systems  | 3      |
| HITT 1355 Legal & Ethical Aspects of Health Information | 3      |
| HITT 1355 Health Care Statistics        | 3      |
| Elective1 Humanities/Fine Arts          | 3      |
| Elective1 Social/Behavioral Sciences    | 3      |

**SECOND YEAR**

| HITT 1166 Practicum                   | 1      |
| HPRS 2301 Pathophysiology             | 3      |
| HITT 1441 Coding & Classification Systems | 4      |
| HITT 1211 Health Information Systems  | 2      |
| SPCH2 Speech Elective                 | 3      |
| HITT 2339 Health Info Org. & Supervision | 3      |
| HITT 2343 Quality Assess. & Perf. Improvement | 3      |
| HITT 1342 Ambulatory Coding           | 3      |
| HITT 2435 Coding & Reimbursement Methods | 4      |
| HITT 2249 RHIT Competency Review      | 2      |
| HITT3 2460 Clinical                   | 4      |

**TOTAL Credits for AAS degree** 70

1 Either social/behavioral science or humanities/fine arts elective must meet multicultural requirement. See general education requirements for AAS degree listed in the catalog.

2 See AAS degree requirements

3 Capstone experience course: students meet 38 hrs/week for 5 1/2 weeks (equivalent to 12 hrs/week for 16 weeks).

Note: Students must meet TSI requirements. See...
DEGREES AND CERTIFICATES

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 HVACR 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 colleges 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 North Harris)

FIRST YEAR | Credit
--- | ---
HART 1401 Basic Electricity for HVAC 4
HART 1407 Refrigeration Principles 4
HART 1441 Residential Air Conditioning 4
HART 1445 Gas and Electric Heating 4
TOTAL Credits for HVAC 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
--- | ---
HART 1401 Basic Electricity for HVAC 4
HART 1407 Refrigeration Principles 4
HART 1441 Residential Air Conditioning 4
HART 1445 Gas and Electric Heating 4
MAIR 1449 Refrigerators, Freezers, Window Air Conditioners 4
HART 2436 Air Conditioning Troubleshooting 4
HART 2449 Heat Pumps 4
HART 2445 Residential AC Systems Design 4
HART 2431 Advanced Electricity 4
HART 2380 Cooperative Education - Heating, Air Conditioning and Refrigeration Technology/Technician OR
HART 1491 Special Topics in Heating, Air Conditioning & Refrigeration 4

TOTAL Credits for HVAC & R Residential Servicing Certificate 39-40

1 Capstone course

Note: It is strongly suggested to take one of the following professional exams: ARI/GAMA: Competency Exam in Residential Air Conditioning Service; ICE: Certification in Residential and Light Commercial Air Conditioning Service; or Technician Certification Exam.
HEATING, VENTILATION, AIR CONDITIONING AND REFRIGERATION COMMERCIAL SERVICING CERTIFICATE

(C1_HCS1 certificate offered at LSC-North Harris)

FIRST YEAR

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>HART 1401</td>
<td>Basic Electricity for HVAC</td>
<td>4</td>
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<td>HART 1407</td>
<td>Refrigeration Principles</td>
<td>4</td>
</tr>
<tr>
<td>HART 1441</td>
<td>Residential Air Conditioning</td>
<td>4</td>
</tr>
<tr>
<td>HART 1445</td>
<td>Gas and Electric Heating</td>
<td>4</td>
</tr>
<tr>
<td>HART 2434</td>
<td>Advanced A/C Controls</td>
<td>4</td>
</tr>
<tr>
<td>HART 2441</td>
<td>Commercial Air Conditioning</td>
<td>4</td>
</tr>
<tr>
<td>HART 2431</td>
<td>Advanced Electricity</td>
<td>4</td>
</tr>
<tr>
<td>HART 2443</td>
<td>Industrial Air Conditioning</td>
<td>4</td>
</tr>
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<td>HART 2442</td>
<td>Commercial Refrigeration</td>
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<tr>
<td>HART1 2380</td>
<td>Cooperative Education - Heating, Air Conditioning</td>
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<td>HART1 1491</td>
<td>Special Topics in Heating, Air Conditioning</td>
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TOTAL Credits for HVAC & R 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)

FIRST YEAR

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<thead>
<tr>
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<tbody>
<tr>
<td>HART 1401</td>
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<tr>
<td>HART 1407</td>
<td>Refrigeration Principles</td>
<td>4</td>
</tr>
<tr>
<td>HART 1441</td>
<td>Residential Air Conditioning</td>
<td>4</td>
</tr>
<tr>
<td>HART 1445</td>
<td>Gas and Electric Heating</td>
<td>4</td>
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<tr>
<td>ENGL 1301</td>
<td>Composition &amp; Rhetoric I</td>
<td>3</td>
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<tr>
<td>HUMA1 1301</td>
<td>Introduction to the Humanities I</td>
<td>3</td>
</tr>
<tr>
<td>MAIR 1449</td>
<td>Refrigerators, Freezers, Window Air Conditioners</td>
<td>4</td>
</tr>
<tr>
<td>HART 2445</td>
<td>Residential AC Systems Design</td>
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<tr>
<td>SPCH2</td>
<td>Elective</td>
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<tr>
<td>SOCI 1301</td>
<td>Principles of Sociology</td>
<td>3</td>
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<td>HART 2380</td>
<td>Cooperative Education</td>
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SECOND YEAR

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<td>Introduction to Computers</td>
<td>4</td>
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<tr>
<td>KINE</td>
<td>Any physical activity course</td>
<td>1</td>
</tr>
<tr>
<td>HART 2436</td>
<td>Air Conditioning Troubleshooting</td>
<td>4</td>
</tr>
<tr>
<td>HART 2449</td>
<td>Heat Pumps</td>
<td>4</td>
</tr>
<tr>
<td>HART 2431</td>
<td>Advanced Electricity</td>
<td>4</td>
</tr>
<tr>
<td>HART3 2434</td>
<td>Advanced A/C Controls OR</td>
<td>4</td>
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<td>HART3 2441</td>
<td>Commercial Air Conditioning</td>
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<tr>
<td>HART 1491</td>
<td>Special Topics in Heating, Air Conditioning</td>
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</table>

TOTAL Credits for HVAC AAS Degree

71

1 Meets multicultural requirement
2 Choose from SPCH 1311, 1315, or 1321
3 The capstone experience is completed by taking a departmental exit exam. It is strongly suggested to take one of the following professional exams: ARI/GAMA: Competency Exam in Residential Air Conditioning Service; ICE: Certification in Residential and Light Commercial Air Conditioning Service; or Technician Certification Exam.

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>Course</th>
<th>Credit</th>
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<tbody>
<tr>
<td>SCWK 1321 Orientation to Social Services</td>
<td>3</td>
</tr>
<tr>
<td>DAAC 1304 Pharmacology of Addiction</td>
<td>3</td>
</tr>
<tr>
<td>DAAC 1311 Counseling Theories</td>
<td>3</td>
</tr>
<tr>
<td>DAAC 1317 Basic Counseling Skills</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 2301 General Psychology</td>
<td>3</td>
</tr>
<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>DAAC1,2 2360 Clinical OR</td>
<td>3</td>
</tr>
<tr>
<td>SCWK1,2 2386 Internship</td>
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</tr>
<tr>
<td>Elective1 Technical</td>
<td>3</td>
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<tr>
<td>PSYC 2308 Child Growth &amp; Development</td>
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<tr>
<td>PSYC 2314 Life-Span Growth &amp; Development</td>
<td>3</td>
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**TOTAL Credits for Human Services Certificate** 30

1 Capstone course
2 Students may also take DAAC 2160 and DAAC 2260 to fulfill the field placement requirement, as long as three (3) credit hours are obtained in total.
3 Students may also take SCWK 2186 and SCWK 2286 to fulfill the field placement requirement, as long as three (3) credit hours are obtained in total.

**BASIC CHEMICAL DEPENDENCY COUNSELOR CERTIFICATE**
(C1_HBCD certificate offered at LSC-Montgomery)

**FIRST YEAR**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
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<tbody>
<tr>
<td>SCWK 1321 Orientation to Social Services</td>
<td>3</td>
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<td>DAAC 1311 Counseling Theories</td>
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<tr>
<td>DAAC 1317 Basic Counseling Skills</td>
<td>3</td>
</tr>
<tr>
<td>DAAC 1304 Pharmacology of Addiction</td>
<td>3</td>
</tr>
<tr>
<td>DAAC 2354 Dynamics of Group Counseling</td>
<td>3</td>
</tr>
<tr>
<td>DAAC 2341 Counseling Alcohol and Other Drug Addictions</td>
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</tr>
<tr>
<td>DAAC1 2360 Clinical/Field Placement</td>
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</table>

**TOTAL Credits for 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; Capstone course.

**HUMAN SERVICES**

**GENERAL HUMAN SERVICES TRACK**

 **Associate of Applied Science degree**
(AAS_HSGN degree offered at LSC-Montgomery)

**FIRST YEAR**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
</tr>
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<tbody>
<tr>
<td>SCWK 1321 Orientation to Social Services</td>
<td>3</td>
</tr>
<tr>
<td>DAAC 1304 Pharmacology of Addiction</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 1301 Composition and Rhetoric I</td>
<td>3</td>
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<tr>
<td>ITSC 1401 Introduction to Computers</td>
<td>3</td>
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<tr>
<td>COSC 1401 Introduction To Computers</td>
<td>4</td>
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<tr>
<td>PSYC 2301 General Psychology</td>
<td>3</td>
</tr>
<tr>
<td>SCWK 2331 Abnormal Behavior</td>
<td>3</td>
</tr>
<tr>
<td>CMSW 1353 Family Intervention Strategies</td>
<td>3</td>
</tr>
<tr>
<td>DAAC 1311 Counseling Theories</td>
<td>3</td>
</tr>
<tr>
<td>Elective1 Humanities/Fine Arts</td>
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<td>SOCI 1301 Principles of Sociology</td>
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<td>KINE Any physical activity course</td>
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**SECOND YEAR**

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>GOVT 2305 Federal Government OR</td>
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<tr>
<td>GOVT 2306 Texas Government</td>
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<tr>
<td>Elective Elective (CMSW, DAAC, SCWK)</td>
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<tr>
<td>Elective Elective (CMSW, DAAC, SCWK)</td>
<td>3</td>
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<tr>
<td>DAAC 2354 Dynamics of Group Counseling</td>
<td>3</td>
</tr>
<tr>
<td>Elective Elective (CMSW, DAAC, SCWK)</td>
<td>3</td>
</tr>
<tr>
<td>Elective Elective (CMSW, DAAC, SCWK)</td>
<td>3</td>
</tr>
<tr>
<td>Elective2 Math/Natural Science</td>
<td>3</td>
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<tr>
<td>Elective3 Elective (CMSW, DAAC, SCWK)</td>
<td>3</td>
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<tr>
<td>SPCH Elective Academic</td>
<td>3</td>
</tr>
</tbody>
</table>

**TOTAL Credits for Human Services AAS Degree (General Human Services Track)** 62-63

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LSCS Catalog 2013/2014

*This text was revised (11/13) effective fall 2013. Please see addendum for details.*
DEGREES AND CERTIFICATES

1 Refer to the catalog for associate of applied science degree requirements and a list of approved courses.
2 Students should consult their prospective senior institution’s catalog for science, math, and speech requirements.
3 Capstone course; Students may also take SCWK 2186 and SCWK 2286 OR DAAC 2161 and DAAC 2260 to fulfill the capstone requirements, as long as a total of 3 credit hours are successfully completed.
4 See core course requirements for options.

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

HUMAN SERVICES

SUBSTANCE ABUSE COUNSELING TRACK

Associate of Applied Science degree

(AAS_HSSA degree offered at LSC-Montgomery)

FIRST YEAR

<table>
<thead>
<tr>
<th>Course</th>
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<tr>
<td>SCWK 1321 Orientation to Social Services</td>
<td>3</td>
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<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>DAAC 1311 Counseling Theories</td>
<td>3</td>
</tr>
<tr>
<td>DAAC 2341 Counsel Alcohol &amp; Drug Addictions</td>
<td>3</td>
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<tr>
<td>DAAC 1304 Pharmacology of Addiction</td>
<td>3</td>
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<tr>
<td>DAAC 1319 Intro to Alcohol &amp; Drug Addictions</td>
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<tr>
<td>ENGL 1301 Composition &amp; Rhetoric I</td>
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<td>PSYC 2301 General Psychology</td>
<td>3</td>
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<td>SOCI 1301 Principles of Sociology</td>
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<td>KINE Any physical activity course</td>
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SECOND YEAR

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>SCWK 2331 Abnormal Behavior</td>
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<tr>
<td>DAAC 1309 Assessment Alcohol/Drug Addictions</td>
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<td>CMSW 1309 Problems of Children &amp; Adolescents</td>
<td>3</td>
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<tr>
<td>OR CMSW 1341 Behavior Modification with Cognitive Disorder</td>
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<tr>
<td>CMSW 1353 Family Intervention Strategies</td>
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<tr>
<td>ITSC 1401 Introduction to Computers OR</td>
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<td>COSC 1401 Introduction to Computers</td>
<td>3</td>
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<tr>
<td>GOVT 2305 Federal Government OR</td>
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<td>GOVT 2306 Texas Government</td>
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<tr>
<td>Humanities/Fine Arts Elective 1</td>
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<td>Math/Natural Science Elective 2</td>
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<td>DAAC 2360 Clinical - Alcohol/Drug Counseling</td>
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<td>Academic Elective 4</td>
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TOTAL Credits for Human Services AAS Degree (Substance Abuse Counseling Track) 62-63

1 Refer to the catalog for associate of applied science degree requirements and a list of approved courses.
2 Students should consult their prospective senior institution’s catalog for science, math, and speech requirements.
3 Capstone course; Students may also take DAAC 2161 and DAAC 2260 to fulfill the capstone requirement, as long as a total of 3 credit hours are successfully completed.
4 See core course requirements for options.

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

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 plotters, 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_DSE1 certificate offered at LSC-Kingwood)

FIRST YEAR

<table>
<thead>
<tr>
<th>Course</th>
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* This text was revised (11/13) effective fall 2013. Please see addendum for details.
### DEGREES AND CERTIFICATES

#### ARTS Elective - General Education  3
#### INDs 1311 Fundamentals of Interior Design  3
#### INDs 1319 Tech. Drawing/Interior Designers  3
#### INDs 1351 History of Interiors I  3
#### INDs 2307 Textiles for Interior Design  3
#### Elective General Education Core  3
#### HRPO 1311 Human Relations OR  3
#### PSYC 2301 General Psychology
#### INDs 1315 Materials, Methods, and Estimating  3
#### INDs\(^1\) 1349 Fundamentals of Space Planning  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

<table>
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<th>Course</th>
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<td>INDs 1311 Fundamentals of Interior Design</td>
<td>3</td>
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<td>INDs 1319 Technical Drawing for Interior Designers</td>
<td>3</td>
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<tr>
<td>INDs 2307 Textiles for Interior Design</td>
<td>3</td>
</tr>
<tr>
<td>INDs(^1) 1349 Fundamentals of Space Planning</td>
<td>3</td>
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<tr>
<td>INDs 2305 Interior Design Graphics</td>
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<td>INDs 2321 Presentation Drawing</td>
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<td>MATH(^2) Elective - College level</td>
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<td>SPCH 1315 Public Speaking OR</td>
<td>3</td>
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<tr>
<td>SPCH 1321 Business and Professional Communication OR</td>
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**SPCH 1311 Intro to Speech Communications**
### FACILITIES MANAGEMENT

The two-year Facilities Management Associate of Applied Science degree prepares students for an entry-level position in this field. A combination of design and business courses introduces students to the responsibilities involved in the effective management and maintenance of commercial properties and venues. Management courses highlight skills and knowledge necessary for business, while design courses focus on the built environment and its impact on workers and visitors. A supervised internship in the final semester of the program allows students to work with professional facilities managers and experience first-hand the daily complexities and variety of duties encountered in this fast-growing profession.

The general education core and many design and business 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.

<table>
<thead>
<tr>
<th>Second Year Credit</th>
<th>Course Code</th>
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<tr>
<td>IND5</td>
<td>1351</td>
<td>History of Interiors I</td>
<td>3</td>
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<tr>
<td>IND5</td>
<td>2330</td>
<td>Interior Design Building Systems</td>
<td>3</td>
</tr>
<tr>
<td>IND5</td>
<td>2313</td>
<td>Residential Design I OR</td>
<td>3</td>
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<tr>
<td>IND5</td>
<td>2315</td>
<td>Lighting for Interior Designers</td>
<td>3</td>
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<td>IND5</td>
<td>2325</td>
<td>Professional Practices for Interior Designers</td>
<td>3</td>
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<td>PSYC</td>
<td>2301</td>
<td>General Psychology</td>
<td>3</td>
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<td>IND5</td>
<td>1313</td>
<td>Materials, Methods and Estimating</td>
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<tr>
<td>IND5</td>
<td>1345</td>
<td>Commercial Design I OR</td>
<td>3</td>
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<tr>
<td>IND5</td>
<td>1352</td>
<td>History of Interiors II</td>
<td>3</td>
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<td>IND5</td>
<td>2237</td>
<td>Portfolio Presentation</td>
<td>2</td>
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<tr>
<td>IND5</td>
<td>2486</td>
<td>Internship - Interior Design</td>
<td>4</td>
</tr>
</tbody>
</table>

**TOTAL Credit Hours for Interior Design AAS** 64-65

1. Meets computer competency
2. MATH 1314, 1316, 1324, 1325, 1332, 1342, 2320, 2412, 2413, 2414, or 2415.
3. For INDS elective in third and fourth semesters, choose from INDS 1345, 1372, 2310, or 2313; cannot choose same course twice
4. Meets multicultural requirement
5. 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 67-68 semester credit hours of
coursework including 30-31 semester credit hours of general academic courses and 37 semester credit hours of technical coursework. The program includes a supervised internship as a capstone external learning experience, which integrates all instructional components of the program.

Students may also earn an ASL Communications Skills certificate. This 21 credit hour program concentrates on developing skills that are required for simple communication with ASL speakers. It is not intended to prepare students to perform as interpreters. Students who desire those skills should complete the Associate of Applied Science degree.

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

**ASL COMMUNICATIONS SKILLS CERTIFICATE**

(C1_INT1 certificate offered at LSC-CyFair and North Harris)

**FIRST YEAR**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 1301 Composition &amp; Rhetoric I</td>
<td>3</td>
</tr>
<tr>
<td>SGNL 1401 Beginning Amer. Sign Lang. I</td>
<td>4</td>
</tr>
<tr>
<td>SLNG 1215 Visual/Gestural Communication</td>
<td>2</td>
</tr>
<tr>
<td>SLNG 1317 Intro to the Deaf Community</td>
<td>3</td>
</tr>
<tr>
<td>SGNL 1402 Beginning Amer. Sign Lang. II</td>
<td>4</td>
</tr>
<tr>
<td>SLNG 1211 Fingerspelling</td>
<td>2</td>
</tr>
<tr>
<td>SLNG 1347 Deaf Culture</td>
<td>3</td>
</tr>
</tbody>
</table>

**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 North Harris)

**FIRST YEAR**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
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</thead>
<tbody>
<tr>
<td>Elective</td>
<td>Humanities/Fine Arts</td>
</tr>
<tr>
<td>ENGL 1301 Composition &amp; Rhetoric I</td>
<td>3</td>
</tr>
<tr>
<td>SGNL 1401 Beginning Amer. Sign Lang. I</td>
<td>4</td>
</tr>
<tr>
<td>SLNG 1215 Visual/Gestural Communication</td>
<td>2</td>
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</table>

**SECOND YEAR**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>SGNL 1211 Fingerspelling</td>
<td>2</td>
</tr>
<tr>
<td>SGNL 1321 Intro to the Interpreting Prof.</td>
<td>3</td>
</tr>
<tr>
<td>SGNL 1347 Deaf Culture</td>
<td>3</td>
</tr>
<tr>
<td>SPCH2 Elective</td>
<td>3</td>
</tr>
<tr>
<td>Elective1 Social/Behavioral Science</td>
<td>3</td>
</tr>
<tr>
<td>SLNG 2401 Interpreting I</td>
<td>4</td>
</tr>
<tr>
<td>KINE Any physical activity course</td>
<td>1</td>
</tr>
</tbody>
</table>

**TOTAL Credit Hours for AAS Degree** 67-68

1 Either social/behavioral science or humanities/fine arts elective must meet multicultural requirement. See general education requirements for AAS degree listed in the catalog.

2 Choose a 3 credit SPCH course from the academic core.

3 See core requirements for AAS degree for options. Students must meet TSI requirements. See LoneStar.edu/TSI for details.

4 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: Montgomery.LoneStar.edu/surveyor.

**MARKETABLE SKILLS AWARD**

**LAND SURVEYOR**

(MSC_SRVY award offered at LSC-Montgomery)

<table>
<thead>
<tr>
<th>FIRST YEAR</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>SRVY 1301 Intro to Surveying</td>
<td>3</td>
</tr>
<tr>
<td>SRVY 1413 Plane Surveying</td>
<td>4</td>
</tr>
<tr>
<td>SRVY 1441 Land Surveying</td>
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</tr>
</tbody>
</table>

TOTAL Credit Hours for Marketable Skills Award: 11

**LAND SURVEYOR CERTIFICATE**

(C1_SRVY1 certificate offered at LSC-Montgomery)

<table>
<thead>
<tr>
<th>FIRST YEAR</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>SRVY 1301 Intro to Surveying</td>
<td>3</td>
</tr>
<tr>
<td>DFTG 1309 Basic Computer-Aided Drafting</td>
<td>3</td>
</tr>
<tr>
<td>SRVY 1413 Plane Surveying</td>
<td>4</td>
</tr>
<tr>
<td>SRVY 1441 Land Surveying</td>
<td>4</td>
</tr>
<tr>
<td>SRVY 2343 Surveying-Legal Principles I</td>
<td>3</td>
</tr>
<tr>
<td>SRVY 2313 Control Surveying</td>
<td>3</td>
</tr>
<tr>
<td>SRVY 1315 Surveying Calculation I</td>
<td>3</td>
</tr>
<tr>
<td>SRVY 1319 Intro to GIS</td>
<td>3</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>SECOND YEAR</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>SRVY 1349 Surveying Calculation II</td>
<td>3</td>
</tr>
<tr>
<td>SRVY 1342 GPS Techniques for Surveying and Mapping</td>
<td>3</td>
</tr>
<tr>
<td>SRVY 2487 Internship OR</td>
<td>1-4</td>
</tr>
<tr>
<td>SRVY 1171 Capstone Exam Review</td>
<td></td>
</tr>
</tbody>
</table>

TOTAL Credit Hours for Land Surveyor Certificate: 33-36

1 Capstone course

**LAND SURVEYING AND MAPPING TECHNOLOGY**

**Associate of Applied Science degree**

(AAS_SRVY degree offered at LSC-Montgomery)

<table>
<thead>
<tr>
<th>FIRST YEAR</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>SRVY 1301 Intro to Surveying</td>
<td>3</td>
</tr>
<tr>
<td>DFTG1 1309 Basic Computer-aided Drafting</td>
<td>3</td>
</tr>
<tr>
<td>SRVY 1413 Plane Surveying</td>
<td>4</td>
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<tr>
<td>SRVY 1441 Land Surveying</td>
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<tr>
<td>KINE Any physical activity course</td>
<td>1</td>
</tr>
<tr>
<td>SRVY 2343 Surveying Legal Principles I</td>
<td>3</td>
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<tr>
<td>SRVY 2313 Control Surveying</td>
<td>3</td>
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<tr>
<td>SRVY 1315 Surveying Calculation I</td>
<td>3</td>
</tr>
<tr>
<td>SRVY 1319 Intro to GIS</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 1301 Composition and Rhetoric I</td>
<td>3</td>
</tr>
<tr>
<td>MATH 1314 College Algebra</td>
<td>3</td>
</tr>
<tr>
<td>SPCH Elective</td>
<td>3</td>
</tr>
<tr>
<td>GEOG 1300 Principles Of Geography</td>
<td>3</td>
</tr>
<tr>
<td>SRVY 2344 Surveying-Legal Principles II</td>
<td>3</td>
</tr>
<tr>
<td>SRVY 2309 Computer Aided Mapping</td>
<td>3</td>
</tr>
<tr>
<td>Elective Humanities/Fine Arts Elective</td>
<td>3</td>
</tr>
<tr>
<td>MATH 1316 Trigonometry</td>
<td>3</td>
</tr>
<tr>
<td>GEOG 1303 World Geography</td>
<td>3</td>
</tr>
<tr>
<td>SRVY5 2487 Internship OR</td>
<td>1-4</td>
</tr>
<tr>
<td>SRVY5 1171 Capstone Exam Review</td>
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</tbody>
</table>

TOTAL Credit Hours for Land Surveying and Mapping Technology AAS: 61-64
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

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
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<tbody>
<tr>
<td>AVTS 1371 Intro to Live Entertainment Technology</td>
<td>3</td>
</tr>
<tr>
<td>IMED 1301 Introduction to Digital Media</td>
<td>3</td>
</tr>
<tr>
<td>DRAM 1220 Theatre Practicum: Lighting &amp; Sound</td>
<td>2</td>
</tr>
<tr>
<td>DRAM 1330 Stagecraft I</td>
<td>3</td>
</tr>
</tbody>
</table>

TOTAL Credits for Live Entertainment Technology-MSA 11

1  Capstone course

LIVE ENTERTAINMENT TECHNOLOGY CERTIFICATE I

(C1_LET1 certificate offered at LSC-Montgomery)

FIRST YEAR

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
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<tbody>
<tr>
<td>AVTS 1371 Intro to Live Entertainment Technology</td>
<td>3</td>
</tr>
<tr>
<td>AVTS 2375 Lighting for Live Entertainment Technology</td>
<td>3</td>
</tr>
<tr>
<td>COSC 1401 Introduction to Computers</td>
<td>4</td>
</tr>
<tr>
<td>DRAM 1330 Stagecraft I</td>
<td>3</td>
</tr>
<tr>
<td>ELPT 1311 Basic Electrical Theory</td>
<td>3</td>
</tr>
<tr>
<td>DFTG 1309 Basic Computer-aided Drafting</td>
<td>3</td>
</tr>
<tr>
<td>DRAM 1220 Theatre Practicum: Lighting &amp; Sound</td>
<td>2</td>
</tr>
<tr>
<td>AVTS 2374 Audio for Live Entertainment Technology</td>
<td>3</td>
</tr>
<tr>
<td>DRAM 2331 Stagecraft II</td>
<td>3</td>
</tr>
</tbody>
</table>

TOTAL Credits for Live Entertainment Technology Certificate II 43

1  Capstone course

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

LIVE ENTERTAINMENT TECHNOLOGY

Associate of Applied Science degree

(AAS_LVET degree offered at LSC-Montgomery)

FIRST YEAR

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
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<tbody>
<tr>
<td>AVTS 1371 Intro to Live Entertainment Technology</td>
<td>3</td>
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<tr>
<td>AVTS 2375 Lighting for Live Entertainment Technology</td>
<td>3</td>
</tr>
<tr>
<td>COSC 1401 Introduction to Computers</td>
<td>4</td>
</tr>
<tr>
<td>DRAM 1330 Stagecraft I</td>
<td>3</td>
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<tr>
<td>MATH 1314 College Algebra</td>
<td>3</td>
</tr>
<tr>
<td>MATH 1332 College Math for Liberal Arts</td>
<td>3</td>
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<tr>
<td>AVTS 2374 Audio for Live Entertainment Technology</td>
<td>3</td>
</tr>
<tr>
<td>ELPT 1311 Basic Electrical Theory</td>
<td>3</td>
</tr>
<tr>
<td>IMED 1301 Introduction to Digital Media</td>
<td>3</td>
</tr>
<tr>
<td>DRAM 1220 Theatre Practicum: Lighting &amp; Sound</td>
<td>2</td>
</tr>
<tr>
<td>DRAM 2331 Stagecraft II</td>
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SECOND YEAR

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<tr>
<th>Course</th>
<th>Credit</th>
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<tbody>
<tr>
<td>ENGL 1301 Composition &amp; Rhetoric I</td>
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</tr>
<tr>
<td>ITNW 1425 Fundamentals of Networking Technologies</td>
<td>4</td>
</tr>
<tr>
<td>AVTS 1373 Advanced Entertainment Technology</td>
<td>3</td>
</tr>
</tbody>
</table>
DEGREES AND CERTIFICATES

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 also offers the Basic Logistics certificate as a one-semester program of three courses, and the First Line Logistics Leader certificate as a one-semester program of five courses.

BASIC LOGISTICS CERTIFICATE
(MSC_LOMT award offered at LSC-CyFair)

FIRST YEAR Credit
LMGT 1425 Warehouse & Distrib Ctr Mgmt. 4
LMGT 1319 Intro to Business Logistics 3
LMGT 1321 Intro to Materials Handling 3

TOTAL Credit Hours for Marketable Skills Certificate 10

FIRST LINE LOGISTICS LEADER CERTIFICATE
(C1_LLL1 certificate offered at LSC-CyFair)

FIRST YEAR Credit
LMGT 1425 Warehouse & Distrib Ctr Mgmt. 4
LMGT 1319 Intro to Business Logistics 3
LMGT 1321 Intro to Materials Handling 3
BMGT 1301 Supervision 3
BMGT 2303 Problem Solving & Decision Making 3

TOTAL Credit Hours for First Line Logistics Leader Certificate 16

1 Capstone course
DEGREES AND CERTIFICATES

LOGISTICS MANAGEMENT
Associate of Applied Science degree
(AAS_LOMT degree offered at LSC-CyFair)

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 certification programs are designed to prepare graduates for careers in the manufacturing industries. Topics within the certificate 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 tools.

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.

COMPUTER NUMERIC CONTROL OPERATOR/PROGRAMMER I CERTIFICATE
(C1_CNA1 certificate offered at LSC-CyFair and North Harris)

LOGISTICS MANAGEMENT

FIRST YEAR

FIRST SEMESTER

LMGT 1319 Introduction to Business Logistics 3
LMGT 1321 Introduction to Materials Handling 3
LMGT 1425 Warehouse and Distribution Center Management 4
BMGT 1301 Supervision 3
BMGT 2303 Problem Solving & Decision Making 3

SECOND SEMESTER

LMGT 1345 Economics of Transportation & Distribution 3
GEOG 1303 World Geography 3
ENGL 1301 Composition & Rhetoric I 3
TECM 1303 Technical Calculations 3
KINE Any physical activity course 1
ITSC 1401 Introduction to Computers OR 4
COSC 1401 Introduction to Computers OR
BCIS 1405 Business Computer Applications

SECOND YEAR

FIRST SEMESTER

LMGT 1323 Domestic and International Transportation Management 3
LMGT 1393 ST: Logistics & Materials Mgmt 3
BMGT 1309 Information and Project Mgmt 3
Math/Science Elective  3 – 4
LMGT 2434 Principles of Traffic Management 4

SECOND SEMESTER

BMGT 2382 Co-op Business Administration I 3
Elective Humanities/Fine Arts 3
Spanish Elective 3
SPCH Elective 3
ACCT 2401 Principles Of Accounting I 4

SPEECH ELECTIVES

SPCH 1311 Introduction To Communication 3
SPCH 1315 Public Speaking 3
SPCH 1318 Interpersonal Communication 3
SPCH 1321 Business and Professional Communication 3

TOTAL Credit Hours for AAS Degree 65-66

1 Meets multicultural requirement

2 See core requirements for AAS degree for options. If science option is chosen, math competency must be met (MATH 0308 or higher).

3 Capstone course

MACHINING TECHNOLOGY

FIRST YEAR

FIRST SEMESTER

MCHN 1302 Print Reading for Machine Trades 3
MCHN 1338 Basic Machine Shop I 3
MCHN 1426 Intro Computer-Aided Manufacturing 4
MCHN 2334 Operation of CNC Machining Ctrs 3
MCHN 2331 Operation of CNC Turning Centers 3
MCHN 1391 Special Topics Machinist OR 3
MCHN 1381 Cooperative Education

TOTAL Credit Hours for Computer Numeric Control Operator/Programmer I Certificate 19

1 Capstone course

* This text was revised (11/13). Please see addendum for details.
DEGREES AND CERTIFICATES

COMPUTER NUMERIC CONTROL OPERATOR/PROGRAMMER II CERTIFICATE
(C1_CNB1 certificate offered at LSC-CyFair and North Harris)

FIRST YEAR Credit
MCHN 1426 Intro Computer-Aided Manufacturing 4
MCHN 2438 Adv. Computer-Aided Manufacturing 4
MCHN 2303 Fund. of CNC Machine Controls 3
MCHN 2335 Advanced CNC Machining 3
MCHN 2381 Cooperative Education 3

TOTAL Credit Hours for Computer Numeric Control Operator/Programmer II Certificate 17

1 Capstone course

MACHINIST I CERTIFICATE
(C1_MAC1 certificate offered at LSC-CyFair and North Harris)

FIRST YEAR Credit
MCHN 1302 Print Reading for Machine Trades 3
MCHN 1338 Basic Machine Shop I 3
MCHN 1343 Machine Shop Math 3
MCHN 1352 Intermediate Machining I 3
MCHN 2341 Advanced Machining I 3
MCHN 1390 Special Topics Machine Shop Asst. OR
MCHN 1380 Cooperative Education

TOTAL Credit Hours for Machinist I Certificate 18

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.”

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 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 North Harris)

<table>
<thead>
<tr>
<th>FIRST YEAR</th>
<th>Credit</th>
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<tbody>
<tr>
<td>HPRS 1206 Essentials of Medical Terminology</td>
<td>2</td>
</tr>
<tr>
<td>MDCA 1417 Procedures in a Clinical Setting</td>
<td>4</td>
</tr>
<tr>
<td>MDCA 1421 Administrative Procedures</td>
<td>4</td>
</tr>
<tr>
<td>POFT 1325 Business Math Using Technology</td>
<td>3</td>
</tr>
<tr>
<td>POFT 1301 Business English</td>
<td>3</td>
</tr>
<tr>
<td>MDCA 1409 A &amp; P for Medical Assistants</td>
<td>4</td>
</tr>
<tr>
<td>MDCA 1352 Medical Asst. Lab Procedures</td>
<td>3</td>
</tr>
<tr>
<td>MDCA 1443 Medical Insurance</td>
<td>4</td>
</tr>
<tr>
<td>MDCA 1210 Medical Assistant Interpersonal and Communication Skills</td>
<td>2</td>
</tr>
<tr>
<td>MDCA 1348 Pharmacology &amp; Administration of Medications</td>
<td>3</td>
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<tr>
<td>ECRD 1211 Electrocardiography</td>
<td>2</td>
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<td>MDCA 1205 Medical Law and Ethics</td>
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<tr>
<td>MDCA1 1154 Medical Assisting Credentialing</td>
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<tr>
<td>MDCA 1264 Practicum (or field experience) - Medical/Clinical Assistant</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/default.

Go to the American Society of Radiologic Technologists website at www.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.

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 campus.

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. Declare a major in Medical Radiologic Technology (Code AAS_MRDR).

5. 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.
6. 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).

7. 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.

8. For each of the following courses completed, points will be earned towards 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
   - ENGL 1301
   - PSYC 2301
   - SPCH(1311, 1315, 1318, OR 1321)
   - Approved electives in KINE
   - Approved Humanities/Fine Arts

9. 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 1401 OR COSC 1401 OR BCIS
DEGREES AND CERTIFICATES

1405

- EDUC 1300 Learning Framework
- HPRS 1001 Intro to Health Professions
- HITT 1305 Medical Terminology I
- HPRS 2300 Pharmacology for Health Professions
- HPRS 2301 Pathophysiology
- HPRS 2321 Med. Law & Ethics for Health Professions

10. 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.

11. 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 the online process)
   b. Printed and signed score report (from the online process)
   c. Copy of program evaluation declaring a major in medical radiological technology.
   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. Beginning in 2012, 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
DEGREES AND CERTIFICATES

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 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.

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.

Magnetic Resonance Imaging, Advanced Technical Certificate

The Magnetic Resonance Imaging Technology (MRIT) program is a 12-month post-associate degree program that provides didactic and clinical instruction for currently certified American Registry of Radiologic Technologist (ARRT) or Nuclear Medicine Technology Certification Board (NMTCB) and state licensed (as applicable) Medical Radiologic Technologists (MRT), Registered Diagnostic Medical Sonographers (RDMS) or Registered Nurses (RN). Students currently enrolled in a JRCERT accredited school may apply, but the associate degree must be awarded prior to admission and the ARRT primary certification registry examination must be passed within 6 weeks.
of enrollment. If this does not occur, the student will be administratively withdrawn from the program. Applicants with a bachelor’s degree in a related science field may be considered on a case by case basis. Limited-MRTs, LVNs, LPNs and Medical Assistant credentials are not sufficient for entry to this program.

Magnetic resonance technologists use the resonance properties of atoms within a magnetic field to produce images of the body that assist physicians in the diagnosis and treatment of disease. MRI 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 certificate program will prepare students to apply for the post-primary certification examination in Magnetic Resonance Imaging administered by the American Registry of Radiologic Technologist (ARRT).

Admission Criteria

Program applications are available on-line. Students applying to the MRI program must:

1. Apply for admission to the LSC-System and submit official transcripts from all colleges and allied health programs previously attended.

2. Access the MRI program application located on the department website.

3. Complete, print and sign your application.

4. Submit the following materials to the LSC-CyFair campus Radiologic Technology office before the end of the application period. The application packet must include:

   a. Printed and signed application.

   b. Provide a copy of qualifying certification (ARRT, RDMS, NMTCB or RN)

   c. Provide a copy of state license to practice as applicable. In states that do not have MRT licensure, ARRT certification is sufficient.

   d. Provide 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.

   e. Understand that final acceptance into the program is contingent upon a satisfactory background check (as required by hospitals) that is completed by a college approved agency at the student’s expense. Clinical facilities may also require completion of satisfactory drug screening. Clinical facilities may also require proof of medical insurance.

   f. Complete the American Heart Association Basic Life Support Provider of Care and provide a valid certification card.

Applicants will be admitted on a first come, first served basis after all materials listed above have been received. The total number of students admitted may be limited due to available clinical sites. In addition to the tuition and textbooks for the MRI courses, there are additional fees and expenses. Students are required to purchase uniforms and accessories. Each student accepted into the program is required to purchase student liability insurance (subject to rates applicable at the time of registration) and obtain current immunizations as required by the Texas Department of State Health Services for healthcare providers. Regulations require that students complete the Hepatitis B immunization series that may take between 3-6 months prior to patient contact. Each student is also responsible for his/her own transportation to the clinical areas.
**DEGREES AND CERTIFICATES**

* **COMPUTED TOMOGRAPHY ADVANCED TECHNOLOGY CERTIFICATE**
  (certificate offered at LSC–Montgomery, admission requirements exist)

**FIRST SEMESTER**

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<tr>
<th>Course</th>
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<tr>
<td>CTMT 2232</td>
<td>Principles of Computed Tomography</td>
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<tr>
<td>RADR 2340</td>
<td>Sectional Anatomy for Medical Imaging</td>
<td>3</td>
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<tr>
<td>CTMT 2460</td>
<td>Clinical - Radiologic Technology/Science - Radiographer</td>
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**SECOND SEMESTER**

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<td>Special Topics in Computed Tomography Technology/Technician (Registry Preparation Seminar)</td>
<td>2</td>
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<tr>
<td>CTMT 2336</td>
<td>Computed Tomography Equipment and Methodology</td>
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<tr>
<td>CTMT 2461</td>
<td>Clinical - Radiologic Technology/Science - Radiographer</td>
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**TOTAL Credit Hours for Computed Tomography Advanced Technology Certificate** 18

**MEDICAL RADIOLOGIC TECHNOLOGY**

Associate of Applied Science degree

(AAS_MRDR degree offered at LSC-CyFair and Montgomery)

The sequence of courses at LSC-Montgomery may vary due to the January start date; however, all courses listed must be completed to fulfill degree requirements.

**Prerequisite**

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<tr>
<td>BIOL 2404</td>
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**FIRST YEAR Credit**

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<td>Intro to Radiography &amp; Patient Care</td>
<td>4</td>
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<tr>
<td>RADR 1411</td>
<td>Basic Radiographic Procedures</td>
<td>4</td>
</tr>
<tr>
<td>RADR 1313</td>
<td>Principles of Radiographic Imaging I</td>
<td>3</td>
</tr>
<tr>
<td>KINE</td>
<td>Any physical activity course</td>
<td>1</td>
</tr>
<tr>
<td>MATH 1314</td>
<td>College Algebra</td>
<td>3</td>
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<tr>
<td>RADR 2401</td>
<td>Interim. Radiographic Procedures</td>
<td>4</td>
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<tr>
<td>RADR 1260</td>
<td>Clinical</td>
<td>2</td>
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</tbody>
</table>

* This text was added (9/13). Please see addendum for details.
DEGREES AND CERTIFICATES

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, Montgomery, North Harris, and 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 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).

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 SEMESTER

RADR 2340 Sectional Anatomy for Medical Imaging 3

SECOND SEMESTER

MRIT 2260 Clinical-Radiologic Technology/Science 2

MRIT 2330 Principles of Magnetic Resonance Imaging 3

THIRD SEMESTER

MRIT 2360 Clinical Magnetic Resonance Tech 3

MRIT 2355 Magnetic Resonance Imaging Physics 3

MRIT 2334 Magnetic Resonance Equipment and Methodology 3

MRIT 2361 Clinical Magnetic Resonance Tech 3

TOTAL Credit Hours for Magnetic Resonance Imaging ATC 20

* This text was revised (11/13). Please see addendum for details.
The **Vocational Nursing certificate** program is offered at LSC-CyFair, Kingwood, Montgomery and Tomball. Graduates are prepared to provide nursing care for clients with predictable outcomes in a variety of health care settings. These programs are designed for individuals interested in becoming a licensed vocational nurse.

The **Transition to Professional Nursing (RN)** program is offered at LSC-Kingwood, Montgomery, North Harris, and 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 LVN’s 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.state.tx.us](bon.state.tx.us) 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 & 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. Additionally, in the last semester of the curriculum, students will take a standardized exit exam in order to graduate from the program. 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 & 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 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. The grades earned from the older credit will be used for grade point calculation, when applicable.

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

* This text was deleted (01/14). Please see addendum for details.
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, nlnac.org, and approval information is available from the Texas Board of Nursing, 333 Guadalupe #3-460, Austin, TX 78701, telephone 512.305.7400.

Admission Criteria – Basic Track
In addition to the admission requirements of the system and the general requirements listed above, the following are requirements for admission into the associate degree nursing program. The 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 the nursing website for a sample score sheet. The applicant must:

1. Complete college-level reading, writing, and math prerequisites or LSCS Student Success Initiative (SSI) requirements. All associate degrees in nursing require completion of MATH 0310 or higher. To determine SSI status, see a college advisor. All applicants must have completed MATH 0310 with a minimum grade of “C” or achieve placement into a college level math through an assessment test (THEA, Compass, ASSET, or equivalent) or complete
DEGREES AND CERTIFICATES

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 a KINE activity course. 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. Applicants must provide official documentation of all immunizations or titers received and a satisfactory physical exam on a college-approved form. Go to LoneStar.edu/immunizations 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 LSCS Student Success Initiative (SSI) requirements. All associate degrees in nursing require completion of MATH 0310 or higher. To determine SSI status, see a college advisor. All applicants must have completed MATH 0310 with a minimum grade of “C” or achieve placement into a 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 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 a KINE activity course. 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). 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
DEGREES AND CERTIFICATES

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.

VOCATIONAL NURSING CERTIFICATE

The vocational nursing program is a three-semester, one year, full-time 47-credit hour certificate program. The program is approved by the Texas Board of Nursing. Upon completion of the Vocational Nursing Certificate, nursing graduates may apply to take the licensure exam to become a Licensed Vocational Nurse (LVN). Eligibility to take the National Council Licensure Examination for Practical Nurses (NCLEX-PN) is determined solely by the Texas Board of Nursing.

Admission Criteria – Vocational Nursing

In addition to the system admission requirements, the following are required for the vocational nursing program. The application process is highly 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 LSCS Student Success Initiative (SSI) requirements. All VN programs require completion of MATH 0308 or higher. To determine SSI status, see a college advisor.

2. Complete BIOL 2404 with a grade of “C” or higher [Completion of BIOL 2401 & 2402 is accepted in place of BIOL 2404, and is recommended for those students planning to transition into the ADN program]. Biology courses submitted for program credit must be completed no more than five (5) years prior to application to the nursing program.

3. Maintain a cumulative grade point 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. Applicants must provide written documentation of all immunizations received and a satisfactory physical exam on a college-approved form. 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.
DEGREES AND CERTIFICATES

VOCATIONAL NURSING CERTIFICATE
(C2_PRN2 certificate offered at LSC-CyFair, Kingwood, Montgomery and 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.

Prerequisite Credit
BIOL 2404 Introduction to A&P 4

FIRST YEAR Credit
VNSG 1160 Clinical Basics 1
VNSG 1260 Clinical I 2
VNSG 1216 Nutrition 2
VNSG 1323 Basic Nursing Skills 3
VNSG 1304 Foundations 3
VNSG 1400 Nursing in Health & Illness I 4
VNSG 1216 Nutrition 2
VNSG 1163 Pediatric Clinical 1
VNSG 1311 Pharmacology 3
VNSG 1262 Clinical II 2
VNSG 1334 Pediatrics 3
VNSG 1409 Nursing in Health & Illness II 4
VNSG 1119 Leadership & Prof Development 1
VNSG 1226 Gerontology 2
VNSG 1330 Maternity/Neonatal Nursing 3
VNSG 1410 Nursing In Health & Illness III 4
VNSG 2161 Maternity/Newborn Clinical 1
VNSG 2361 Clinical III 3

TOTAL Credit Hours for Vocational Nursing Certificate 48

1 BIOL 2401 & 2402 Human 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.
3 Course may be taken during any semester as scheduled by college.
4 RNSG 1301 may be substituted for VNSG 1231, if student has taken it already.
5 Capstone course
Note: Students must meet TSI requirements. See LoneStar.edu/TSI for details.

NURSING SPECIALIZATION
(INTEGRATED CURRICULUM)
Associate of Applied Science degree
(AAS_AADN specialization offered at LSC-Kingwood, Montgomery, North Harris and 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 Credit
BIOL 2401 Human Anatomy & Physiology I 4
ENGL 1301 Composition & Rhetoric I 3
PSYC 2301 General Psychology 3

FIRST YEAR Credit
RNSG 1105 Nursing Skills I 1
ENGL 1301 Composition & Rhetoric I 3
PSYC 2301 General Psychology 3
SOCIO 1301 Principles of Sociology 3
BIOL 2402 Human Anatomy & Physiology II 4
RNSG 1301 Pharmacology 3
KINE Any physical activity course 1
BIOL 2420 Medical Microbiology 4
RNSG 1119 Integrated Nursing Skills I 1
RNSG 1361 Clinical - Nursing I 3
RNSG 1523 Intro to Professional Nursing 5
RNSG 1129 Integrated Nursing Skills II 1

SECOND YEAR Credit
RNSG 2361 Clinical - Nursing III 3
RNSG 2504 Integrated Care of the Patient with 5
Common Health Care Needs
PSYC 2314 Lifespan Growth & Development 3

TOTAL Credit Hours for Nursing Specialization 72

1 Meets multicultural requirement
2 Meets computer competency
3 Capstone course
Note: Students must meet TSI requirements. See LoneStar.edu/TSI for details.

* This text was revised (10/13). Please see addendum for details.
DEGREES AND CERTIFICATES

TRANSITION TO PROFESSIONAL NURSING FOR ARTICULATING STUDENTS

(Integrated Curriculum)
Associate of Applied Science degree
(AAS_PRNR specialization offered at LSC-Kingwood, Montgomery, North Harris and Tomball)

This program is designed for graduates of a LVN or paramedic program to become a registered nurse (RN).

Prerequisite

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
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<tbody>
<tr>
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<td>PSYC 2301 General Psychology</td>
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FIRST YEAR

<table>
<thead>
<tr>
<th>Course</th>
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<tr>
<td>KINE Any physical activity course</td>
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<td>RNSG 1301 Pharmacology</td>
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<td>SOCI 1301 Principles of Sociology</td>
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<td>BIOL 2402 Human Anatomy &amp; Physiology II</td>
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<td>BIOL 2420 Medical Microbiology</td>
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<tr>
<td>SPCH 1318 Interpersonal Communication OR</td>
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<td>SPCH 1311 Introduction to Speech Communication</td>
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<td>PSYC 2314 Lifespan Growth &amp; Development</td>
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<td>RNSG 1260 Clinical</td>
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<td>RNSG 1417 Concepts of Professional Nursing</td>
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SECOND YEAR

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<td>Elective Humanities/Fine Arts</td>
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<td>RNSG 2207 Adaptation to Role of Professional Nurse</td>
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<td>RNSG 2362 Clinical - Nursing IV</td>
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<td>RNSG 2535 Integrated Client Care Management</td>
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<tr>
<td>RNSG 2171 Role Transition for Articulating Students</td>
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</tbody>
</table>

TOTAL Credit Hours Transition to Professional Nursing AAS 60

1 Meets multicultural requirement
2 Capstone course
3 Meets computer competency

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

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.

Prerequisite

<table>
<thead>
<tr>
<th>Course</th>
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</thead>
<tbody>
<tr>
<td>BIOL 2401 Human Anatomy &amp; Physiology I</td>
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<td>ENGL 1301 Composition &amp; Rhetoric I</td>
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<td>PSYC 2301 General Psychology</td>
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FIRST YEAR

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<thead>
<tr>
<th>Course</th>
<th>Credit</th>
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<tbody>
<tr>
<td>SOCI 1301 Principles of Sociology</td>
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<td>KINE Any physical activity course</td>
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<tr>
<td>BIOL 2402 Human Anatomy &amp; Physiology II</td>
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<td>RNSG 1301 Pharmacology</td>
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<td>RNSG 1172 Preparation for Basic Care</td>
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<td>RNSG 1119 Integrated Nursing Skills I</td>
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<td>BIOL 2420 Medical Microbiology</td>
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<td>RNSG 1361 Clinical - Nursing I</td>
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<td>RNSG 1523 Intro to Professional Nursing</td>
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<td>PSYC 2314 Life Span Growth &amp; Development</td>
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<td>RNSG 1129 Integrated Nursing Skills II</td>
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<td>RNSG 1229 Integrated Nursing Skills II</td>
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<td>RNSG 1362 Clinical Nursing II</td>
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<td>RNSG 2504 Integrated Care of the Patient with Common Health Care Needs</td>
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SECOND YEAR

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<td>VNSG 1122 Vocational Nursing Concepts</td>
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<td>VNSG 2362 Clinical - Practical Nurse I</td>
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<tr>
<td>RNSG 2363 Clinical - Practical Nurse II</td>
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</table>

TOTAL Credit Hours for Vocational Nursing ADN to VN Certificate 55

1 Meets multicultural requirement
2 Capstone course

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

NURSING ASSISTANT CERTIFICATE

(C1_ANA1 certificate offered at LSC-Kingwood, Montgomery, North Harris and 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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<th>Course</th>
<th>Credit</th>
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<tr>
<td>BIOL 2401 Human Anatomy &amp; Physiology I</td>
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<td>KINE Any physical activity course</td>
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<td>PSYC 2301 General Psychology</td>
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LSCS Catalog 2013/2014
### DEGREES AND CERTIFICATES

**DEGREES AND CERTIFICATES**

<table>
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<th>Course Title</th>
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<td>RNSG 1119</td>
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<td>RNSG 1361</td>
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<tr>
<td>RNSG 1523</td>
<td>Intro to Professional Nursing</td>
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**TOTAL Credit Hours for Nursing Assistant Certificate** 28

1 Capstone course

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### 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.

#### FIRST YEAR

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<td>ENGL 1301</td>
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<td>SOCi 1301</td>
<td>Principles of Sociology</td>
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<td>RNSG 1105</td>
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<td>RNSG 1309</td>
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<td>RNSG 1115</td>
<td>Health Assessment</td>
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<td>RNSG 1144</td>
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<td>BIOL 2420</td>
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<td>RNSG 1341</td>
<td>Common Concepts of Adult Health</td>
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<td>RNSG 1261</td>
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<td>Clinical: Nursing - RN Training</td>
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<td>PSYC 2314</td>
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<td>RNSG 2201</td>
<td>Care of Children and Families</td>
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<td>Maternal/Newborn Nursing and Women’s Health</td>
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<td>KINE</td>
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<td>RNSG 2307</td>
<td>Adaptation to Role of Professional Nurse</td>
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<td>RNSG 2231</td>
<td>Advanced Concepts of Adult Health</td>
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<tr>
<td>RNSG 2560</td>
<td>Clinical: Registered Nursing</td>
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</table>

**TOTAL Credit Hours for Nursing Specialization Block Curriculum** 72

1 Meets computer competency
2 Meets multicultural requirement
3 Can be taken during 1st year, 3rd semester or 2nd year, 1st semester, depending on spring or fall enrollment.
4 See AAS requirements for options
5 Capstone course

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

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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. acoteonline.org

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.
Minimum Academic Requirements

1. Submit COMPASS scores or other LSC approved test scores showing placement into ENGL 1301 and MATH 0310. English and math placement may also be satisfied by successful completion of ENGL 0305 or ENGL 0365, ENGL 0307 or ENGL 0375 and MATH 0308.

2. Completion of a minimum of ten 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. Each applicant is responsible for contacting the OTA department to confirm that their application is complete. Applicants to the program will be ranked according to their level of achievement of the program admission criteria and will be accepted into the program on a competitive basis. Students must complete Level II fieldwork assignments within 18 months following completion of academic preparation. Additional information can be obtained from the occupational therapy assistant department at LSC-Kingwood and Tomball.

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 Tomball.

Admission Criteria

Applicants must meet the college’s general admission criteria as well as program admission criteria and submit all documentation to the Occupational Therapy Assistant office at LSC-Kingwood or Tomball.

Program Admission Criteria

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 of their admission status.
OCCUPATIONAL THERAPY ASSISTANT
Associate of Applied Science degree
(AAS_OCTA degree offered at LSC-Kingwood and Tomball)

Course sequence is for LSC-Tomball. Contact the LSC-Kingwood program director for details on its course sequence. 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

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>BIOL 2401 Human Anatomy &amp; Physiology I</td>
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<td>ENGL 1301 Composition and Rhetoric I</td>
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**FIRST YEAR**

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<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>OTHA 1 1301 Intro to Occupational Therapy</td>
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<tr>
<td>OTHA 1 1315 Therapeutic Use of Occupations</td>
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<td>or Activities I</td>
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<tr>
<td>PSYC 2301 General Psychology</td>
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<tr>
<td>BIOL 2402 Human Anatomy &amp; Physiology II</td>
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<tr>
<td>OTHA 1 1309 Human Structure &amp; Function in OT</td>
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<tr>
<td>OTHA 1 2301 Pathophysiology in OT</td>
<td>3</td>
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<tr>
<td>OTHA 1 2331 Physical Function in OT</td>
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<td>PSYC 2314 Life Span and Development</td>
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<tr>
<td>OTHA 1 1319 Therapeutic Interventions I</td>
<td>3</td>
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<td>OTHA 1 2302 Therapeutic Use of Occupations</td>
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<td>or Activities II</td>
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<td>OTHA 1 2309 Mental Health in OT</td>
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**SECOND YEAR**

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<td>OTHA 1 1341 Occupational Performance from</td>
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<td>Birth Through Adolescence</td>
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<td>OTHA 1 1353 Occupational Performance/Elders</td>
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<td>OTHA 1 2166 Practicum</td>
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<td>OTHA 1 2335 Management in Occup. Therapy</td>
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<td>SPCH 1318 Interpersonal Communications</td>
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<td>OTHA 1 2460Clinical</td>
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<td>OTHA 1 2461 Clinical</td>
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**TOTAL Credit Hours for AAS Degree**

65

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1 Combination of these courses meets multicultural requirement; OTHA 1301 meets wellness competency
2 Meets computer competency
3 See AAS core requirements for options
4 Capstone course

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

### 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**  
**Associate of Applied Science degree**  
(AAS_PLGL degree offered at LSC-North Harris)

### FIRST YEAR

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<td>MATH 1332</td>
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<td>ENGL 1301</td>
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<td>ITSC 1401</td>
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<td>LGLA 1307</td>
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<td>ACNT 1303</td>
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<tr>
<td>Elective¹</td>
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<tr>
<td>Elective²</td>
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### SECOND YEAR

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<td>LGLA 1345</td>
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<td>LGLA 2370</td>
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<td>LGLA 2303</td>
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<td>LGLA 2305</td>
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<td>LGLA³</td>
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LGLA⁴ Elective 3
LGLA 2388 Internship Paralegal/Legal Asst. OR 3
LGLA⁴ Elective 3
SPCH 1315 Public Speaking 3
LGLA 1171 Preparing for Legal Employment 1

**TOTAL Credit Hours for AAS Degree** 62

¹ Humanities course requirement must be selected from this list: ENGL 2332, 2333, HUMA 1301, 1302, PHIL 1304, FREN 2311, 2312, GERM 2311, 2312, SPAN 2311, 2312. These courses also meet the multicultural requirement.

² Select from general education requirements

³ Capstone course

⁴ LGLA 1317, 1323, 1341, 1343, 1349, 1353, 1355, 1359, 2323, 2301, 2309, 2311, 2313, 2315

**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.
### DEGREES AND CERTIFICATES

**FIRST YEAR**

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<td>ITSC 1401</td>
<td>Introduction to Computers</td>
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<tr>
<td>LGLA 1219</td>
<td>Paralegal Ethics</td>
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<tr>
<td>LGLA 1303</td>
<td>Legal Research</td>
<td>3</td>
</tr>
<tr>
<td>LGLA 1307</td>
<td>Intro to Law &amp; Legal Professions</td>
<td>3</td>
</tr>
<tr>
<td>LGLA 2303</td>
<td>Torts &amp; Personal Injury Law</td>
<td>3</td>
</tr>
<tr>
<td>LGLA 2370</td>
<td>Rules of Civil Procedure</td>
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<td>ACNT 1303</td>
<td>Introduction to Accounting</td>
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<td>LGLA 1345</td>
<td>Civil Litigation</td>
<td>3</td>
</tr>
<tr>
<td>LGLA 2305</td>
<td>Interviewing &amp; Investigating</td>
<td>3</td>
</tr>
<tr>
<td>LGLA 2331</td>
<td>Adv. Legal Research &amp; Writing</td>
<td>3</td>
</tr>
<tr>
<td>LGLA 2 Elective</td>
<td></td>
<td>3</td>
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<tr>
<td>LGLA 2388</td>
<td>Internship Paralegal/Legal Assist. <strong>OR</strong></td>
<td>3</td>
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</table>

**TOTAL Credit Hours for Paralegal Studies Advanced Technical Certificate** 35-36

1. Capstone course
2. LGLA 1317, 1323, 1341, 1343, 1349, 1353, 1355, 1359, 2323, 2301, 2309, 2311, 2313, 2315

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**PHARMACY TECHNOLOGY**

Pharmacy technicians are paraprofessionals who work under the supervision of a licensed pharmacist to assist with activities that do not require the professional judgment of the pharmacist. Pharmacy technicians assist with maintaining records, filling and dispensing routine prescriptions and medication orders, stocking supplies of patient care areas, maintaining inventories of drug supplies, preparing sterile compound products, accepting prescriptions and refill requests, and providing assistance to the customers and patients specific to the pharmacy practice setting. Exciting careers are available in traditional pharmacy settings, e.g. retail and hospital pharmacies, and non-traditional pharmacy settings, e.g. compounding and nuclear pharmacies.

The pharmacy technology 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/universities attended;
   b. Submit passing scores on the COMPASS, THEA, or ASSET tests as determined by LSCS;
   c. Complete an individualized learning plan that includes MATH 0308; ENGL 0305 or ENGL 0365; ENGL 0306 or ENGL 0374 with a minimum grade of C and cumulative GPA of 2.00 or above;
3. Schedule a personal interview with the program director. Applicants will be notified by mail or phone of the admission status. It is strongly recommended that application be made at least a month in advance of the semester for which the student would like to enroll.
4. Receive a high school diploma or GED before applying to the program.
5. Provide a copy of the TSBP-issued certificate to the program director.
6. Complete a drug screen prior to clinical affiliation if required by that facility or pharmacy. Students will be provided further information according to agency and/or college policy.
7. Complete the Hepatitis B immunization series prior to patient contact if required by clinical affiliates.

Upon admission to the program, students must have:

1. Recent verification of physical examination completed by a licensed physician.
2. Verification of an updated immunization record. Agencies may also require recent TB skin test results, MMR immunity, and/or varicella vaccine.
3. Student liability insurance (paid when student registers for the first semester).
4. Long-sleeve, short-length white lab jacket, scrub, program patch, and school-approved name tag.
5. Certificate of completion of CPR prior to the first internship assignment. Incomplete applications will not receive a complete departmental review. Each applicant is responsible for contacting the pharmacy technology office to confirm whether the application is complete. Additional information can be obtained from the pharmacy technology office at LSC-North Harris or LSC-Tomball.

Admission Criteria for the AAS Degree Program

The Associate of Applied Science degree in Pharmacy Technology requires an additional year of course work. The purpose of the program is to prepare graduates for managerial positions and customer service in hospital and community/retail pharmacies. An Associate 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 LSCS Student Success Initiative (SSI) requirements.

**PHARMACY TECHNOLOGY CERTIFICATE**
(C1_PHRT certificate offered at LSC-North Harris and Tomball)

**FIRST YEAR**

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<tr>
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<td>Pharmacy Law</td>
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<tr>
<td>PHRA 1305</td>
<td>Drug Classification</td>
<td>3</td>
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<tr>
<td>PHRA 1309</td>
<td>Pharmaceutical Mathematics I</td>
<td>3</td>
</tr>
<tr>
<td>PHRA 1361</td>
<td>Clinical - Community Pharmacy</td>
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<td>PHRA 1413</td>
<td>Community Pharmacy Practice</td>
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<tr>
<td>PHRA 1143</td>
<td>Pharm Tech Certification Review</td>
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<td>PHRA 1304</td>
<td>Pharmacotherapy &amp; Disease Proc.</td>
<td>3</td>
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<td>PHRA 1345</td>
<td>Compounding Sterile Preparations &amp; Aseptic Technique</td>
<td>3</td>
</tr>
<tr>
<td>PHRA 1347</td>
<td>Pharmaceutical Mathematics II</td>
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<td>PHRA 1449</td>
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<tr>
<td>PHRA1 2361</td>
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**TOTAL Credit hours for Pharmacy Technology Certificate**  
31

1 Capstone course

**PHARMACY TECHNOLOGY**

**Associate of Applied Science degree**

(AAS_PHRT degree offered at LSC-North Harris)

**FIRST YEAR**

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<td>Community Pharmacy Practice</td>
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<td>PHRA 1309</td>
<td>Pharmaceutical Mathematics I</td>
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<td>PHRA 1305</td>
<td>Drug Classification</td>
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<td>PHRA 1102</td>
<td>Pharmacy Law</td>
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<tr>
<td>PHRA 1361</td>
<td>Clinical</td>
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<td>PHRA 1347</td>
<td>Pharmaceutical Mathematics II</td>
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<td>Pharmacotherapy &amp; Disease Proc.</td>
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<td>Compounding Sterile Preparations &amp; Aseptic Technique</td>
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**SECOND YEAR**

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<td>Principles of Sociology</td>
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<td>Interpersonal Communication</td>
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<td>Computerized Drug Delivery Systems I</td>
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**TOTAL Credit hours for Pharmacy Technology AAS**  
65

1 The humanities/fine arts and kinesiology electives must be chosen from the list of approved core courses in those disciplines. See the core curriculum requirements in the catalog. Humanities or fine arts course must also meet multicultural requirements.

2 Capstone course

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

**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 Associates 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

PHRA 1449 Institutional Pharmacy Practice  
Elective1 Humanities/Fine Arts Elective  
KINE1 Kinesiology  
COSC 1401 Introduction to Computers OR  
ITSC 1401 Introduction to Computers  

DEGREES AND CERTIFICATES
DEGREES AND CERTIFICATES

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 and may require a screening for drug usage.

Graduates are prepared for employment as PTA's in acute care hospitals, rehabilitation centers, outpatient clinics, school systems, home health agencies and other places where physical therapy is licensed to practice. Upon completion of the program, graduates must pass the NBPTTE national licensing exam to receive a license in Texas.

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 college-level reading, writing, and math pre-requisites or LSCS Student Success Initiative (SSI) requirements. All associate degrees require completion of MATH 0308 or higher or placement at MATH 0310 on an approved exam. To determine your SSI status, see a college advisor.

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 BIOL 2401 and PTHA 1201 with a grade of "C" or better prior to application to the program. Additionally, BIOL 2401 must have been completed within the last 7 years.

Prior to the start of the program, students are required to provide proof of immunizations. A list of requirements is available on the program department website.

Final acceptance into the program is contingent upon other criteria as set by LSCS which may include background check and drug screening. Criteria and instructions will be provided to the successful candidate upon admission to the program.

Note: It is recommended that students complete as many of the general education core courses as possible prior to application to the PTA program.

Applications for admission will be received during the spring semester before the program starts. Because admission to the program is competitive, the students who will be accepted are most likely to be those who score highest on the criteria established by the admissions committee 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.

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. (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.

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**

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<tr>
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<td>Composition &amp; Rhetoric I</td>
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<td>2462</td>
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<td>PTHA 2-3</td>
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<td>Issues in Health Care</td>
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**TOTAL Credit Hours for Physical Therapy AAS Degree**: 67

1 Combination of courses meet multicultural requirement
2 Combination of courses meet communication competency; PTHA 2409 meets wellness competency
3 Meets computer competency
4 Capstone course

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

General Guidelines
Upon acceptance into the program, students must submit a record of current immunizations required by the Texas Department of Health. Criminal background checks may be required by clinical facilities. The background check will be processed through the Federal Bureau of Investigations (FBI).

Completion of the 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 summer or fall of 2014. 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 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 essay written on why the individual wishes to enter the field of polysomnography.
10. Submit an advising profile directly to the polysomnography 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 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 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 polysomnography program. The enrolling student must complete the series of three vaccinations

* This text was added (12/13). Please see addendum for details.
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 at 281.312.1708.

4. Attendance at a mandatory orientation session, after student selection is complete, will be scheduled prior to the first class meeting.

(AWAITING THECB APPROVAL)

POLYSOMNOGRAPHIC TECHNOLOGIST CERTIFICATE LEVEL 2 CERTIFICATE

(awarded at LSC-Kingwood)

PREREQUISITE SEMESTER

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<th>Course Name</th>
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<td>PSYC 2301</td>
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FIRST YEAR

FIRST SEMESTER

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<td>PSGT 1305</td>
<td>Neurophysiology of Sleep</td>
<td>3</td>
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<td>PSGT 1400</td>
<td>Polysomnography I</td>
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<td>Sleep Disorders</td>
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SECOND SEMESTER

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<td>Sleep Scoring &amp; Staging</td>
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<td>PSGT 2411</td>
<td>Polysomnography II</td>
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<td>RSPT 1310</td>
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SECOND YEAR

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<td>Infant Pediatric Polysomnography</td>
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<td>PSGT 1291</td>
<td>Special Topics</td>
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TOTAL Credit Hours for Polysomnographic Technologist Certificate Level 2 Certificate 53

1 Capstone course

(AWAITING THECB APPROVAL)

ADVANCED POLYSOMNOGRAPHIC TECHNOLOGIST CERTIFICATE

(AWAITING THECB APPROVAL)

(awarded at LSC-Kingwood)

PREREQUISITE SEMESTER

Student must have an associate of applied science degree or higher in a health occupations field. In addition, the student must have the appropriate, current credential for their occupation.

FIRST YEAR

FIRST SEMESTER

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<td>PSGT 1305</td>
<td>Neurophysiology of Sleep</td>
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SECOND SEMESTER

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THIRD SEMESTER

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<td>PSGT 2250</td>
<td>Infant Pediatric Polysomnography</td>
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SECOND YEAR

FIRST SEMESTER

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<td>PSGT 2661</td>
<td>Polysomnography Clinical III</td>
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<tr>
<td>PSGT 1291</td>
<td>Special Topics</td>
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TOTAL Credit Hours for Advanced Polysomnographic Technologist Certificate 38

1 Capstone course

(AWAITING THECB APPROVAL)

POLYSOMNOGRAPHY

(awarded at LSC-Kingwood)

Associate of Applied Science degree

(AAS_PSGT degree offered at LSC-Kingwood)

PREREQUISITE SEMESTER

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FIRST YEAR

FIRST SEMESTER

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### TOTAL Credit Hours for Polysomnography

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¹ Select a course from the AAS core that meets the multicultural requirement

² Capstone course
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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 Federal Bureau of Investigations (FBI).

Completion of the respiratory care program does not guarantee eligibility to take the CRT exam administered by the NBRC or certification by the Texas Department of Health. The Texas Department of Health Respiratory Care Certification will consider individuals with histories of convictions, mental illness and/or chemical dependency on an individual basis after review.

Admissions Criteria

The respiratory care program accepts new students in the spring and fall of every year. 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 0308 with eligibility to enter 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-four (24) 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)

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<td>RSPT 1201</td>
<td>Intro to Respiratory Care</td>
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<td>RSPT 1325</td>
<td>Respiratory Care Sciences</td>
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<td>RSPT 1429</td>
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<td>RSPT 1431</td>
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<td>RSPT 2414</td>
<td>Mechanical Ventilation</td>
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<tr>
<td>BIOL 2402</td>
<td>Human Anatomy &amp; Physiology II</td>
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<tr>
<td>RSPT 1241</td>
<td>Respiratory Home Care/Rehabilit.</td>
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<tr>
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<td>Introduction to Chemistry</td>
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<td>RSPT 2166</td>
<td>Practicum</td>
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<tr>
<td>RSPT 2325</td>
<td>Cardiopulmonary Diagnostics</td>
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<tr>
<td>RSPT 2353</td>
<td>Neonatal/Pediatric Cardiopulmonary Care</td>
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<td>KINE</td>
<td>Any physical activity course</td>
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<td>RSPT 2260</td>
<td>Clinical</td>
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<td>RSPT 2139</td>
<td>Advanced Cardiac Life Support</td>
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<td>RSPT 2243</td>
<td>Research Application</td>
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<td>Humanities/Fine Arts</td>
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<td>ENGL 1301</td>
<td>Composition &amp; Rhetoric I</td>
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<tr>
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<td>Examination Preparation</td>
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<td>RSPT 2366</td>
<td>Practicum</td>
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TOTAL Credit Hours for AAS Degree 67

1 Meets computer competency
2 Course meets communication competency
3 Course meets multicultural requirement
4 Capstone course

Note: Students must meet TSI requirements. See LoneStar.edu/TSI for details.
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 their 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 their website bls.gov/ooh/Healthcare/Surgical-technologists.htm

The surgical technology program at LSC-Tomball is a three semester, 42 credit hour (1344 contact hour) program that normally runs over a spring, summer, and fall semester. There are 11 workforce courses and one academic credit course (BIOL 2404). Our program is accredited by the Commission on Accreditation of Allied Health Education Programs (caahp.org), 1361 Park Street, Clearwater, FL, 33756, Tel. 727-210-2350, Fax 727-210-2354 upon the recommendation of the Accreditation Review Council on Education in Surgical Technology and Surgical Assisting (arcstsa.org), 6 West Dry Creek Circle, Suite 110, Littleton, CO 80112, Tel. 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 LSCS Student Success Initiative (SSI) requirements. To determine your SSI status, see a college advisor.
3. Maintain a cumulative grade point average of 2.0 in college level courses.
4. 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
   - Immunizations must be complete
   - Background Check results turned in with application
   - Official transcripts from colleges other than LSC
SURGICAL TECHNOLOGIST CERTIFICATE  
(C1_SGT1 certificate offered at LSC-Tomball)

**FIRST YEAR**  Credit
HITT  1305 Medical Terminology I  3  
BIOL  2404 Intro to Anatomy & Physiology  4  
SRGT  1405 Intro to Surgical Technology  4  
SRGT  1260 Clinical I – Surgical/Operating  2  
SRGT  1409 Fundamentals of Perioperative Concepts  4  
SRGT  1541 Surgical Procedures I  5  
SRGT  1460 Clinical II  4  
HPRS  2300 Pharmacology for Health Professions  3  
SRGT  1542 Surgical Procedures II  5  
SRGT  2462 Clinical III  4  
HPRS  2301 Pathophysiology  3  
SRGT  2130 Professional Readiness  1  

**TOTAL Credit Hours for Surgical Technologist Certificate**  42  
1 Capstone

---

**VETERINARY TECHNOLOGY**

The two-year Veterinary Technology Associate of Applied Science degree provides the graduate with information, skills and experience he/she will need to follow a fulfilling career in a veterinary hospital, a zoological garden, industry, a medical research laboratory, a governmental regulatory program or the Veterinary Medical Corp.

Gaining its accredited status in 1990, today the veterinary technology program boasts a 99.98% passage rate on the State and National Board Examination. This success rate is unparalleled in the State of Texas and is rated as one of the highest passage percentages of the 185 plus programs accredited by the American Veterinary Medical Association.

Because the veterinary technology program is fully accredited by the American Veterinary Medical Association, students are eligible to take all State and National Board examinations as well as work in all areas of animal health care. An individual spends time in laboratories working with cows, dogs, cats, horses, pigs, sheep, goats, exotics and even the more traditional laboratory animals like mice and rabbits. Upon graduation, the student is free to pursue any type of animal care situation they so desire.

Job opportunities for Registered Veterinary Technicians graduates have never been better. Today there are from 8 to 10 fulfilling and exciting jobs available to each graduate just in the immediate Harris-Montgomery County area. As well as the impressive job market, it should be mentioned that scholarships are also available while the student is enrolled.

The general education core will transfer to a variety of colleges and universities. The entire 72 hours of credit in the veterinary technology program will transfer to some traditional four year colleges so students may pursue a four year baccalaureate degree in either animal science or agricultural business. Contact an advisor or faculty member at any of the colleges for specific information and to obtain the recommended sequencing of courses.

**General Guidelines**

Any student anticipating entrance into the veterinary technology program should ensure that remediation is not required after admission examinations are completed and have been reviewed. If admission examinations indicate the student is in need of remediation in math, writing or reading, the student must successfully complete those requirements before applying for entry into the veterinary technology program.

**Admission Procedure**

In addition to the admission requirements of the LSCS, 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 yrs)
- SAT scores of: Math 520+, Writing 500+, Reading 500
- THEA scores of: Math 270+, Writing 220+, Reading 230+
- ASSET scores of: Math IA 45+ or CA 23+, Writing 45+ and 6 essay, or 7+ essay, Reading 41+
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

- 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.

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.
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 joyce.e.brod@LoneStar.edu for more information. View the website for more information: Tomball.LoneStar.edu/vettech

**VETERINARY ASSISTANT CERTIFICATE**

(C1_VET1 certificate offered at LSC-Tomball)

**FIRST YEAR**

<table>
<thead>
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<th>Course</th>
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<td>VTHT 1301 Intro to Veterinary Technology</td>
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<tr>
<td>VTHT 1205 Vet Medical Terminology</td>
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<td>BIOL 1406 Biology I</td>
<td>4</td>
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<tr>
<td>ENGL 1301 Composition and Rhetoric I</td>
<td>3</td>
</tr>
<tr>
<td>VTHT 2217 Exotic Animal Clinical Management</td>
<td>2</td>
</tr>
<tr>
<td>VTHT 1413 Veterinary Anatomy &amp; Physiology</td>
<td>4</td>
</tr>
<tr>
<td>VTHT 1209 Veterinary Nutrition</td>
<td>2</td>
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<td>ENGL 1302 Composition and Rhetoric II</td>
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<tr>
<td>MATH 1314 College Algebra</td>
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<td>VTHT 1125 Pharmacological Calculations</td>
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<td>VTHT 2421 Veterinary Parasitology</td>
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<td>PSYC 2301 General Psychology</td>
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**SECOND YEAR**

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<tr>
<td>VTHT 1205 Equine Clinical Management</td>
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<tr>
<td>VTHT 2201 Canine &amp; Feline Clinical Mgmt</td>
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<tr>
<td>VTHT 2323 Veterinary Clinical Pathology I</td>
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<td>VTHT 2213 Lab Animal Clinical Management</td>
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<tr>
<td>VTHT 1349 Veterinary Pharmacology</td>
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<td>VTHT 1441 Anesthesia &amp; Surgical Assistance</td>
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<tr>
<td>VTHT 2431 Veterinary Clinical Pathology II</td>
<td>4</td>
</tr>
<tr>
<td>VTHT 1345 Veterinary Radiology</td>
<td>3</td>
</tr>
<tr>
<td>VTHT 1140 Veterinary Jurisprudence and Ethics</td>
<td>1</td>
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<tr>
<td>VTHT 2360 Clinical</td>
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**TOTAL Credit Hours for AAS Degree**

72

1 Combination of courses meets communication competency
2 Course must meet the multicultural requirement. See AAS requirements in catalog.
3 Capstone course

Note: Students should not register for VTHT or any other classes from Monday-Friday 7:30 a.m.-9:00 a.m. These times must be left open for husbandry lab.

VTHT 1125 (Distance Learning available)

VTHT 1345, 2323, 2431, 1140, 1441 and 2360 should be completed within one calendar year prior to graduation. VTHT 1205, 1413 and 2360 are offered more than once a year.
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 65-67 credit hours that include a common core of academic and a selection of technical courses based on specialization.

This degree has five areas of specialization: graphic design, multimedia, video and post-production, web design, and 3-D 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, 3-D 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.

3D ANIMATION CERTIFICATE

(C2_ANI2 certificate offered at LSC-North Harris)

FIRST YEAR

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</table>

TOTAL Credit Hours for 3D Animation Certificate 43

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

GRAPHIC DESIGN CERTIFICATE

(C2_GRP2 certificate offered at LSC-CyFair, Kingwood and North Harris)

FIRST YEAR

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TOTAL Credit Hours for Graphic Design Certificate 45

1 Capstone course
Note: Students must meet TSI requirements. See LoneStar.edu/TSI for details.
### Motion Graphics Certificate

(C1_MTG1 certificate offered at LSC-CyFair, Kingwood and North Harris)

**First Year**

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**Total Credit Hours for Motion Graphics Certificate:** 37

1 Capstone course

### Multimedia Designer Certificate

(C1_MDE1 certificate offered at LSC-CyFair, Kingwood and North Harris)

**First Year**

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<th>Course</th>
<th>Credit</th>
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**Total Credit Hours for Multimedia Designer Certificate:** 37

1 Capstone course

### Video and Post Production Certificate

(C1_VPP1 certificate offered at LSC-CyFair, Kingwood and North Harris)

**First Year**

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<th>Course</th>
<th>Credit</th>
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**Total Credit Hours for Video and Post Production Certificate:** 37

1 Capstone course

### Web Design Certificate

(C1_MWD1 certificate offered at LSC-North Harris)

**First Year**

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<th>Course</th>
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**Total Credit Hours for Web Design Certificate:** 41

1 Capstone course
VISUAL COMMUNICATION
Associate of Applied Science degree
(degree offered at LSC-CyFair, Kingwood and North Harris)

FIRST YEAR
Credit
ARTS 1311 Design I 2-D 3
ARTS 1316 Drawing I 3
ARTC 1302 Digital Imaging I 3
ARTC 1317 Design Communication I 3
IMED 1301 Introduction to Digital Media 3
ITSC 1401 Introduction to Computers OR
COSC 1401 Introduction to Computers 4
Elective 1 Social/Behavioral Science 3
ENGL 1301 Composition and Rhetoric I 3
KINE Any physical activity course 1
Tech.Track Track (A, B, C, D, or E) 3
Tech.Track Track (A, B, C, D, or E) 3
Tech.Track Track (A, B, C, D, or E) 3-4

SECOND YEAR
Credit
SPCH 1311 Speech Elective 3
Tech.Track Track (A, B, C, D, or E) 3
Tech.Track Track (A, B, C, D, or E) 3
Tech.Track Track (A, B, C, D, or E) 3
Tech.Track Track (A, B, C, D, or E) 3
Tech.Track Track (A, B, C, D, or E) 3
Elective 2 Math/Natural Science 3-4
Capstone 4 Cooperative Education OR
Portfolio Development 3

TOTAL Credit Hours for Visual Communication AAS 65-67
1 Social/behavioral science course must meet multicultural requirement
2 Speech course from SPCH 1311, 1315, 1318 or 1321
3 See core requirements for AAS degree for options. Students must meet TSI requirements. See LoneStar.edu/TSI for details.
4 Capstone course. See Technical Track information to determine the appropriate capstone course.

Choose only one Technical Track A, B, C, D or E to follow from the corresponding tracks:

Track C-Video and Post-Production AAS_VSCV offered at LSC-CyFair, Kingwood and North Harris
ARTC 2305, ARTV 1351, ARTV 2341, IMED 1391, FLMC 1304, FLMC 1331, FLMC 2331 and RTVB 2337; take either RTVB 1321 or RTVB 1325; choose 1 additional course from ARTC, ARTV, IMED, FLMC or RTVB; For capstone course, choose 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 course, choose 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 course, choose IMED 2311 or IMED 2380

DIGITAL PHOTOGRAPHY
ENHANCED SKILLS CERTIFICATE
(C3_DPHT certificate offered at LSC-CyFair, Kingwood, and North Harris)

FIRST YEAR
Credit
PHTC 1311 Fundamentals of Photography 3
PHTC 2349 Photo Digital Imaging II 3
PHTC 2301 Intermediate Photography 3
PHTC 1345 Illustrative Photography I 3

TOTAL Credit Hours for Digital Photography Enhanced Skills Certificate 12

This program is for Visual Communication AAS graduates or students concurrently enrolled in the Visual Communication AAS degree who wish to develop skills in digital photography.

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 North Harris)

<table>
<thead>
<tr>
<th>FIRST YEAR</th>
<th>Credit</th>
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</thead>
<tbody>
<tr>
<td>WLDG 1413 Intro to Blueprint Reading for Welders 4</td>
<td></td>
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<tr>
<td>WLDG 1421 Intro to Welding Fundamentals 4</td>
<td></td>
</tr>
<tr>
<td>WLDG 1430 Intro to Gas Metal Arc Welding 4</td>
<td></td>
</tr>
<tr>
<td>WLDG¹ 2447 Advanced Gas Metal Arc Welding 4</td>
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</tbody>
</table>

1 Capstone course

**SHIELDED METAL ARC CERTIFICATE (SMAW)**
(C1_WSM1 certificate offered at LSC-CyFair and North Harris)

<table>
<thead>
<tr>
<th>FIRST YEAR</th>
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</thead>
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<tr>
<td>WLDG 1413 Intro to Blueprint Reading for Welders 4</td>
<td></td>
</tr>
<tr>
<td>WLDG 1421 Intro to Welding Fundamentals 4</td>
<td></td>
</tr>
<tr>
<td>WLDG 1428 Intro to Shielded Metal Arc Welding 4</td>
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</tr>
<tr>
<td>WLDG¹ 1457 Interm. Shielded Met. Arc Welding 4</td>
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</tbody>
</table>

1 Capstone course
DEGREES AND CERTIFICATES

GAS TUNGSTEN ARC WELDING CERTIFICATE (GTAW)
(C1_WGT1 certificate offered at LSC-CyFair and North Harris)

FIRST YEAR Credit
WLDG 1413 Intro to Blueprint Reading for Welders 4
WLDG 1421 Intro to Welding Fundamentals 4
WLDG 1434 Intro to Gas Tungsten Arc Welding 4
WLDG* 2451 Adv. Gas Tungsten Arc Welding 4

TOTAL Credit Hours for Gas Tungsten Arc Welding Certificate (GTAW) 16

1 Capstone course

LAYOUT AND FABRICATION WELDING CERTIFICATE
(C1_WLF1 certificate offered at LSC-CyFair and North Harris)

Students must complete the SMAW or GMAW certificate prior to enrolling in this award.

FIRST YEAR Credit
WLDG 1413 Intro to Blueprint Reading for Welders 4
WLDG 1421 Intro to Welding Fundamentals 4
WLDG 1417 Intro to Layout and Fabrication 4
WLDG 1453 Intermediate Layout and Fabrication 4
WLDG* 2435 Advanced Layout and Fabrication 4

TOTAL Credit Hours for Layout and Fabrication Welding Certificate 20

1 Capstone course

PIPE WELDING CERTIFICATE
(C1_WPI1 certificate offered at LSC-CyFair and North Harris)

Students must complete the SMAW, GMAW or GTAW certificate prior to enrolling in this award.

FIRST YEAR Credit
WLDG 1413 Intro to Blueprint Reading for Welders 4
WLDG 1421 Intro to Welding Fundamentals 4
WLDG 1417 Intro to Layout and Fabrication 4
WLDG 1453 Intermediate Layout and Fabrication 4
WLDG* 2435 Advanced Layout and Fabrication 4

TOTAL Credit Hours for Pipe Welding Certificate 16

1 Capstone course

WELDING TECHNOLOGY SPECIALIZATION
Associate of Applied Science degree
(AAS_WELD degree offered at LSC-CyFair and North Harris)

FIRST YEAR Credit
CHEM 1405 Introductory Chemistry 4
ENGL 1301 Composition & Rhetoric I 3
TECM 1303 Technical Calculations 3
WLDG 1421 Intro to Welding Fundamentals 4
WLDG 1428 Intro to Shielded Metal Arc Wldg 4
ITSC 1401 Introduction to Computers 4
WLDG* 1413 Intro to Blprnt Rdng for Welders 4
WLDG 1430 Intro to Gas Met. Arc Wldg OR 4
WLDG 1434 Intro to Gas Tungsten Arc Wldg 4
WLDG 1457 Interm. Shielded Met. Arc Wldg 4
Elective2 Social/Behavioral Science 3
KINE Any physical activity course 1

SECOND YEAR Credit
WLDG* Elective 3-4
SPCH4 Elective 3
WLDG 1435 Intro to Pipe Welding I 4
WLDG 2447 Adv. Gas Met. Arc Wldg OR 4
WLDG 2451 Adv. Gas Tungsten Arc Wldg 4
Elective2 Humanities 3
METL 1405 Welding Metallurgy I 4
QCTC 1446 Testing & Inspection Systems 4
WLDG 2453 Advanced Pipe Welding 4
WLDG* 2380 Cooperative Education 3

TOTAL Credit Hours for Welding Technology Specialization 70-71

1 Course only offered in spring semester.
2 Choose from the AAS core requirements. Social/behavioral science or humanities elective must also meet multicultural requirement.
3 Electives to be selected from the following: WLDG 1417, NDTE 2311, or QCTC 2331.
4 Choose a 3 credit hour SPCH course from the academic core.
5 A required capstone experience is completed by taking either WLDG 2380 or the AWS Entry-level Welder Certificate Exam.

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

INSPECTION CERTIFICATE
(C1_INS1 certificate offered at LSC-North Harris)

FIRST YEAR Credit
METL 1405 Welding Metallurgy I 4
NDTE 1410 Liq. Penetrant/Mag. Particle Testing 4
## DEGREES AND CERTIFICATES

### INSPECTION TECHNOLOGY SPECIALIZATION

**Associate of Applied Science degree**

(AAS_INSP degree offered at LSC-North Harris)

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
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<tr>
<td><strong>FIRST YEAR</strong></td>
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<tr>
<td>ITSC 1401</td>
<td>Introduction to Computers</td>
<td>4</td>
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<tr>
<td>NDTE 1410</td>
<td>Liq. Penetrant/Mag. Particle Testing</td>
<td>4</td>
</tr>
<tr>
<td>QCTC 1446</td>
<td>Testing and Inspection Systems</td>
<td>4</td>
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<tr>
<td>TECM 1303</td>
<td>Technical Calculations</td>
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<tr>
<td>CHEM 1405</td>
<td>Introductory Chemistry</td>
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</tr>
<tr>
<td>ENGL 1301</td>
<td>Composition &amp; Rhetoric I</td>
<td>3</td>
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<tr>
<td>NDTE 1454</td>
<td>Intermediate Ultrasonic Testing</td>
<td>4</td>
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<td>QCTC 2331</td>
<td>Standards</td>
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<tr>
<td>NDTE 2311</td>
<td>Prep. for Certified Welding Inspector Exam</td>
<td>3</td>
</tr>
<tr>
<td>Elective1</td>
<td>Social/Behavioral Science</td>
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</tr>
<tr>
<td>Elective2</td>
<td>Technical/Academic</td>
<td>3-4</td>
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<td>KINE</td>
<td>Any physical activity course</td>
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<tr>
<td><strong>SECOND YEAR</strong></td>
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<tr>
<td>ENGL 2311</td>
<td>Technical Communications</td>
<td>3</td>
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<tr>
<td>HUMA3 1301</td>
<td>Introduction to the Humanities I</td>
<td>3</td>
</tr>
<tr>
<td>METL 1405</td>
<td>Welding Metallurgy I</td>
<td>4</td>
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<tr>
<td>NDTE 2401</td>
<td>Advanced Ultrasonics</td>
<td>4</td>
</tr>
<tr>
<td>SPCH 1311</td>
<td>Intro to Speech Communication</td>
<td>3</td>
</tr>
<tr>
<td>Elective4</td>
<td>Technical/Academic</td>
<td>3-4</td>
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<tr>
<td>NDTE 1301</td>
<td>Film Interpretation of Weldments</td>
<td>3</td>
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<td>NDTE 1440</td>
<td>Eddy Current Testing</td>
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<tr>
<td>WLDG5 2380</td>
<td>Cooperative Education</td>
<td>3</td>
</tr>
</tbody>
</table>

**TOTAL Credit Hours for Inspection Technology Specialization** 69-71

1 Capstone course

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- Senior Welding Inspector (American Welding Society)
- Certified Welding Inspector (AWS)
- API 510 (American Petroleum Institute)
- API 570 (API)
- API 653 (API)
- Level II or III (ASNT-RP SNT-TC-1A)
- Radiographic Interpreter (AWS)
- Penetrant Testing, Magnetic Particle Testing, Ultrasonic Testing (AWS)

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

ACCT 2401 - PRINCIPLES OF ACCOUNTING I
4 Credits (3 hrs. lec., 2 hrs. lab.) An introduction to financial accounting including a study of financial statements of business entities and the measurement and reporting of assets, liabilities, equity, revenues, expenses and cash flows with emphasis on how business and economic information is generated in the accounting process. (5203015104) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing; MATH 0306

ACCT 2402 - PRINCIPLES OF ACCOUNTING II
4 Credits (3 hrs. lec., 2 hrs. lab.) An introduction to managerial accounting including a study of costs and cost behavior within business entities, the use of cost information for planning and control decisions, and product costing for purposes of inventory valuation and income determination. (5203015104) 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 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 proprietorships. This course meets the qualifying educational credit required for the CPA examination and is part of the Accounting Advanced Technical Certificate (ATC). 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 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: ACCT 2401; ENGL0305 or ENGL0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

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 for partnerships, 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: Enrollment in Professional Bookkeeper Certificate Program; completion of 15 credits in degree plan; approval of coordinator; 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 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. 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 2303.

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 revaluations. 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 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.) This course covers the evaluation of slaughtering and breeding livestock as related to growth and development, production efficiency, and carcass merit. Production records and visual evaluation are also discussed. (0109015201)
DESCRIPTION OF COURSES

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

AIRP 1347 - HUMAN FACTORS IN AVIATION

3 Credits (2 hrs. lec., 2 hrs. lab.) Instruction in flight physiology, the decision-making process, pilot health maintenance, psychological aspects of flight, human behavior as related to the aircraft flight deck, and aeromedical information of significance to flight crews. Instruction in human behavior and ergonomics as applied to workplace safety. 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 0115 AND ENGL 0307 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 punctuation, oral practice, conversation, development of listening comprehension, basic principles of grammar, simple exercises in composition, easy reading which includes cultural material. (1601015113) 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.

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. (1601015113) Prerequisites: ARAB 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.

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. (1601015123) Prerequisites: ARAB 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.

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. (1601015123) Prerequisites: ARAB 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.

ARCE 1352 - 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 0365 or ENGL 0115 AND ENGL 0307 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 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 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

ARTC 2305 - DIGITAL IMAGING II
3 Credits (2 hrs. lec., 3 hrs. lab.) Principles of digital image processing and electronic painting. Emphasis on bitmapped or raster-based image marking and the creative aspects of electronic illustration for commercial and fine art applications. Prerequisite: ARTC 1302

ARTC 2313 - DIGITAL PUBLISHING II
3 Credits (2 hrs. lec., 3 hrs. lab.) Includes layout procedures from thumbnails and roughs to final comprehensive and print output. Emphasis on design principles for the creation of advertising and publishing materials, and techniques for efficient planning and documenting projects. Prerequisite: ARTC 1313

ARTC 2335 - PORTFOLIO DEVELOPMENT FOR GRAPHIC DESIGN
3 Credits (2 hrs. lec., 4 hrs. lab.) Preparation of a portfolio comprised of completed graphic design class projects. Evaluation and demonstration of portfolio presentation methods based on the student’s specific area of study. Prerequisite: Departmental approval

ARTC 2347 - DESIGN COMMUNICATIONS II
3 Credits (2 hrs. lec., 4 hrs. lab.) An advanced study of the design process and art direction. Emphasis on form and content through the selection, creation, and integration of typographic, photographic, illustrative, and design elements. Prerequisites: ARTC 1317; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 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 and crafts) through an exploration of their purpose and processes. Occasional field trips are required. This course is for non-majors and art majors or minors who have little or no background in art. (5007035126) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 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 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) 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 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) 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 1311 - 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) Corequisites: Course may be taken with ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117; OR ENGL 0309 or ENGL 0310

ARTS 1312 - DESIGN II - 3-D
3 Credits (2 hrs. lec., 4 hrs. lab.) The construction of three-dimensional forms using a variety of compositional approaches and materials. (5004015326) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117
0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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. (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 Corequisites: Course may be taken with ENGL 0305 AND ENGL 0307

ARTS 1317 - DRAWING II
3 Credits (2 hrs. lec., 4 hrs. lab.) Expansion of Drawing I stressing the conceptual, expressive and compositional aspects of drawing in various media. (5007055226) Prerequisites: ARTS 1316; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 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 2311 - DESIGN III - COLOR
3 Credits (2 hrs. lec., 4 hrs. lab.) This course examines various theories in the use of color. Students apply their knowledge in creative compositions using such media as acrylics, colored pencil and collage. (5004015326) Prerequisites: 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

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 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 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 1312 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
DESCRIPTION OF COURSES

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 ENGL0307 or ENGL0375 or ENGL0117 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 ENGL0307 or ENGL0375 or ENGL0117 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 ENGL0307 or ENGL0375 or ENGL0117 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 AND ENGL 0307 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 advance techniques such as casting and stone setting. (5007135126) Prerequisites: ARTS 2341 or departmental approval; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL0307 or ENGL0375 or ENGL0117 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. Prerequisites: ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375 or ENGL 0117 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 ENGL0307 or ENGL0375 or ENGL0117 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.

* This text was revised (11/13). Please see addendum for details.
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. 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 the major functions of airport management including facilities and services, organization, human resources, maintenance, planning and zoning, operations, revenues and expenses, public relations, ecology, and safety. Prerequisites: AIRP 1313; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 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: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 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. Prerequi-
DESCRIPTION OF COURSES

sites: 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 - ADVANCED 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 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 1405 - BUSINESS COMPUTER APPLICATIONS

4 Credits (3 hrs. lec., 2 hrs. lab.) Computer terminology, hardware, software, operating systems, and information systems relating to the business environment. The main focus of this course is on business applications of software, including word processing, spreadsheets, databases, presentation graphics, and business-oriented utilization of the Internet. (1102025404) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 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 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. (1905015109) 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

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. (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 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. (2601015103) Prerequisites: BIOL 1406; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 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 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 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, AND departmental approval

BIOL 2389 - ACADEMIC COOPERATIVE IN THE BIOLOGICAL SCIENCE/LIFE SCIENCE

3 Credits (1 hr. lec., 6 hrs. lab.) An instructional program designed to integrate on-campus study with practical hands-on work experience in the biological sciences/life sciences. In conjunction with class seminars, the individual student will set specific goals and objectives in the study of living organisms and their systems. Students will work in conjunction with the faculty coordinator and the sponsor in the development of their goals and objectives. The external learning experiences must have faculty approval. 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

* This text was deleted (11/13). Please see addendum for details.
DESCRIPTION OF COURSES

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.

BIOL 2406 - ENVIRONMENTAL BIOLOGY
4 Credits (3 hrs. lec., 3 hrs. lab.) A one-semester survey of the interrelationships between the biotic and abiotic parts of the environment and how man affects them. Topics include: basic ecological principles; energy; human influences on ecosystems; and pollution and policy making. Laboratory experiences will reinforce these topics. Field trips required. (0301035103) 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 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

BIOL 2420 - MEDICAL MICROBIOLOGY
4 Credits (3 hrs. lec., 3 hrs. lab.) This course is designed for health science majors. This course is a study of microorganisms including a description of basic cell structure, biochemistry, metabolism, nutrition, reproduction and genetics. Mechanisms of transmission, microbial entry, pathogenesis, prophylaxis, epidemiology and microbial control of selected human pathogens will be explored. Basic body defense mechanisms and immunological responses to pathological conditions will be examined. Laboratory exercises will include aseptic techniques, microscopy, culture techniques, determination of bacterial morphology, staining, and biochemical differentiation. (2605015103) Prerequisites: BIOL 1406 or 2401; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 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 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 separatory 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. 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

**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

**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, 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
DESCRIPTION OF COURSES

**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. Prerequisite: 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. (5201015104)

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 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. [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

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., 3 hrs. lab.) Principles of electricity including proper use of test equipment, A/C and D/C circuits, and component theory and operation. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0367 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite Prerequisite: 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, Kirchoff’s laws and circuit analysis techniques. Emphasis on circuit analysis of resistive networks and DC measurements. Corequisite: MATH 1314

CETT 1405 - AC CIRCUITS
4 Credits (3 hrs. lec., 3 hrs. lab.) A study of the fundamentals of alternating current including series and parallel AC circuits, phasors, capacitive and inductive networks, transformers, and resonance. Prerequisites: CETT 1403; ENGL 0304 or ENGL 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, Kirchoff’s laws, networks, transformers, resonance, phasors, capacitive and inductive and circuit analysis techniques. Not intended for Engineering Technology A.A.S. majors. Prerequisite: None

CETT 1425 - DIGITAL FUNDAMENTALS
4 Credits (3 hrs. lec., 3 hrs. lab.) An entry level course in digital electronics 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

This text was revised (02/14) effective Summer 2014

This text was deleted (8/13). Please see addendum for details.
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 (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

CHEF 1305 - SANITATION AND SAFETY
3 Credits (3 hrs. lec.) A study of personal cleanliness; sanitary practices in food preparation; causes, investigation, control of illness caused by food contamination (Hazard Analysis Critical Control Points); and work place safety standards. 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

CHEM 1405 - INTRODUCTORY CHEMISTRY
4 Credits (3 hrs. lec., 3 hrs. lab.) This course is a preparatory course for students who have never had chemistry and covers the metric system, atoms and elements, bonding, solids, liquids, gases, stoichiometry, solutions, reactivity, and acids and bases. The lab includes experiments in inorganic chemistry. This course is appropriate for some nursing students, as well as students who will pursue higher level chemistry. (4005015103) Prerequisites: MATH 0308 OR 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

CHEM 1411 - GENERAL CHEMISTRY I
4 Credits (3 hrs. lec., 3 hrs. lab.) Topics include a mathematical introduction (metric system, significant figures and scientific notation), discussion of atoms, molecules and ions, stoichiometry, electronic structure, periodic relationships, bonding, molecular geometries and properties of gases, liquids, solids and solutions. Appropriate lab experiments are included. (4005015403) Prerequisites: CHEM 1405 or 1 year of high school chemistry taken within the last 3 years AND MATH 0310 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

CHEM 1412 - GENERAL CHEMISTRY II
4 Credits (3 hrs. lec., 3 hrs. lab.) A continuation of CHEM 1411, reviewing solutions and including studies in kinetics, equilibrium, acids and bases, thermodynamics, electrochemistry and an introduction to various other areas of chemistry. Appropriate laboratory experiments are included. (4005015703) Prerequisites: CHEM 1411 AND MATH 1314 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

CHEM 2449 - RESEARCH AND PROJECT DESIGN
4 Credits (3 hrs. lec., 3 hrs. lab.) Principles of electrical/electronic design encompassing schematics wiring diagrams, materials lists, operating characteristics, completion schedules, and cost estimates. Working with the instructor, the advanced student selects, develops an advanced design project or performs an advanced activity in a specific area of employment. This is a capstone experience. Prerequisites: Near program completion or departmental approval; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

CHEM 1411 - GENERAL CHEMISTRY I
4 Credits (3 hrs. lec., 3 hrs. lab.) Topics include a mathematical introduction (metric system, significant figures and scientific notation), discussion of atoms, molecules and ions, stoichiometry, electronic structure, periodic relationships, bonding, molecular geometries and properties of gases, liquids, solids and solutions. Appropriate lab experiments are included. (4005015403) Prerequisites: CHEM 1405 or 1 year of high school chemistry taken within the last 3 years AND MATH 0310 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

CHEM 1412 - GENERAL CHEMISTRY II
4 Credits (3 hrs. lec., 3 hrs. lab.) A continuation of CHEM 1411, reviewing solutions and including studies in kinetics, equilibrium, acids and bases, thermodynamics, electrochemistry and an introduction to various other areas of chemistry. Appropriate laboratory experiments are included. (4005015703) Prerequisites: CHEM 1411 AND MATH 1314 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)
CHEM 1419 - INTRODUCTORY ORGANIC AND BIOCHEMISTRY

4 Credits (3 hrs. lec., 3 hrs. lab.) This course covers a survey of atomic and molecular structure, organic nomenclature and functional group reactions, carbohydrates, lipids, proteins, nucleic acids, metabolism, and enzymes. The laboratory exercises include experiments in organic and biochemical analysis. This course is appropriate for some nursing students. (4005045103) Prerequisites: CHEM 1405 or 1411; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

CHEM 2389 - ACADEMIC COOPERATIVE

3 Credits (1 hr. lec., 6 hrs. ext.) Integrates campus classroom/laboratory instruction with an off-campus experience wherein the student works under the guidance of a sponsor whose academic/professional degree and career track match the student’s aspirations. The sponsor and faculty will determine specific qualifications for student placement in this course. Student, faculty, and sponsor will set specific goals before initiating the cooperative experience and will consult at regular intervals over the semester to plan and mark progress as these goals are achieved. (400015303) Prerequisites: minimum GPA 3.0; faculty approval; 20 hours in MATH/Science courses as required of physical/biological science majors, including CHEM 1411 and 1412. Liability insurance through LSCS’s insurer (fee approximately $18) and one semester’s advance notice to faculty are required in order to make arrangements for a suitable co-op experience.

CHEM 2423 - ORGANIC CHEMISTRY I

4 Credits (3 hrs. lec., 4 hrs. lab.) This 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.

CHEM 2425 - ORGANIC CHEMISTRY II

4 Credits (3 hrs. lec., 4 hrs. lab.) This continuation of CHEM 2423 includes topics on alcohols, aldehydes, ketones, carboxylic acids and derivatives, condensation reactions, amines, biochemistry and polymer chemistry. The laboratory program continues investigations into synthetic techniques with product purification and analysis including chromatography and infrared spectroscopy. (4005045203) Prerequisites: CHEM 2423; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

CHIN 1411 - BEGINNING CHINESE I

4 Credits (3 hrs. lec., 2 hrs. lab.) An introduction to modern spoken and written Mandarin Chinese. Beginners’ speaking, listening comprehension and basic principles in grammar along with simple exercises in compositions and reading which include cultural material. Students will write Chinese characters. (1603015113) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

CHIN 1412 - BEGINNING CHINESE II

4 Credits (3 hrs. lec., 2 hrs. lab.) A continuation of CHIN 1411 as an introduction to modern spoken and written Mandarin Chinese. Increased emphasis on speaking, listening comprehension, and basic principles in grammar along with simple exercises in compositions and reading which include cultural material. Students will write Chinese characters. (1603015113) Prerequisites: CHIN 1411; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

CHIN 2311 - INTERMEDIATE CHINESE I

3 Credits (3 hrs. lec.) A review and application of skills in listening comprehension, speaking, reading and writing Mandarin Chinese. This course will emphasize conversation, vocabulary acquisition, reading composition, and culture. Students will write Chinese characters. (1603015213) Prerequisites: CHIN 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.
DESCRIPTION OF COURSES

CHIN 2312 - INTERMEDIATE CHINESE II
3 Credits (3 hrs. lec.) A continuation of CHIN 2311 (1603015213) Prerequisites: CHIN 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

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

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

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: ENGL 0304 or ENGL 0364 AND ENGL 0306 or ENGL 0374 OR ENGL 0302 OR higher level course (ENGL 1301) OR placement by testing.

CMSW 1353 - FAMILY INTERVENTION STRATEGIES
3 Credits (3 hrs. lec.) Study of current family intervention strategies. Prerequisites: ENGL 0304 or ENGL 0364 AND ENGL 0306 or ENGL 0374 OR ENGL 0302 OR higher level course (ENGL 1301) OR placement by testing.

CMSW 1391 - SPECIAL TOPICS IN CLINICAL AND MEDICAL SOCIAL WORK
3 Credits (3 hrs. lec.) Topics address recently identified current events, skills, knowledge and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

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

CNBT 1342 - BUILDING CODES AND INSPECTIONS
3 Credits (3 hrs. lec.) An examination of the building codes and standards applicable to building construction and inspection processes. Prerequisites: CNBT 1311, DFTG 1305, and ENGL 1301

COMM 1129 - PUBLICATIONS PRODUCTION
1 Credit (4 hrs. lab.) Special course in content, layout and design. Work on campus publication using a computer for writing, editing and mechanical production, at prescribed periods under supervision. May be repeated for a maximum of four credit hours. (0904015406) Corequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 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 1309 - LOGIC DESIGN**
3 Credits (3 hrs. lec., 2 hrs. lab.) A discipline approach to problem solving with structured techniques and representation of algorithms using pseudocodes and graphical tools. Discussion of methods for testing, evaluation, and documentation. COSC 1401 is recommended prior to enrolling. (1102015107) [This course is recommended for four-year transfer students.] Prerequisites: ITSC 1401/ COSC 1401; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 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

**COSC 1401 - INTRODUCTION TO COMPUTERS**
4 Credits (3 hrs. lec., 2 hrs. lab.) Overview of computer information systems. Introduces computer hardware, software, procedures, and human resources. Explores integration and application in business and other segments in society. Fundamentals of computer problem-solving and programming may be discussed and applied. Examines applications and software relating to a specific curricular area. (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 with ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117; OR ENGL 0309 or ENGL 0310

**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 struc-
tured 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 1437 - PROGRAMMING FUNDAMENTALS II

4 Credits (3 hrs. lec., 2 hrs. lab.) Review of control structures and data types with emphasis on structured data types. Applies the object-oriented programming paradigm, focusing on the definition and use of classes along with the fundamentals of object-oriented design. Includes basic analysis of algorithms, searching and sorting techniques, and an introduction to software engineering. This course is part of the computer science field of study. (1102015607) Prerequisites: 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 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 2425 - COMPUTER ORGANIZATION AND MACHINE LANGUAGE

4 Credits (3 hrs. lec., 2 hrs. lab.) Basic computer organization; machine cycle, digital representation of data and instructions; assembly language programming, assembler, loader, macros, subroutines, and program linkages. This course is part of the computer science field of study. (1102015407) Prerequisites: COSC 1436; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 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 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 1401; 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 1449 - COMPUTER NETWORKING TECHNOLOGY
4 Credits (3 hrs. lec., 3 hrs. lab.) A beginning course in computer networks with focus on networking fundamentals, terminology, hardware, software, and network architecture. A study of local/wide area networking concepts and networking installations and operations. Prerequisites or corequisites: CPMT 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.

CPMT 2302 - HOME TECHNOLOGY INTEGRATION
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 1401.

CPMT 2433 - COMPUTER INTEGRATION
4 Credits (3 hrs. lec., 2 hrs. lab.) An advanced course in integration of hardware, software, and applications. Customization of computer systems for specific applications in engineering, multimedia, or data acquisition. Prerequisites: CPMT 1449; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 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 2445 - COMPUTER SYSTEMS TROUBLESHOOTING
4 Credits (3 hrs. lec., 2 hrs. lab.) Principles and practices involved in computer system troubleshooting techniques and repair procedures including advanced diagnostic test programs and the use of specialized test equipment. Prerequisites: CPMT 1445; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 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 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.) An overview of the criminal justice system. Topics include the history and philosophy of criminal justice, the definition of crime, and its nature and impact. (4301045124) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 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 1306 - COURT SYSTEMS AND PRACTICES
3 Credits (3 hrs. lec.) Examination of the role of the judiciary in the criminal justice system. Topics include the structure of the American court system, prosecution, right to counsel, pretrial release, grand jury process, adjudication process, types and rules of evidence, and sentencing concepts. (2201015424) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 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 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: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 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 1310 - FUNDAMENTALS OF CRIMINAL LAW
3 Credits (3 hrs. lec.) Study of the nature of criminal law. Topics include philosophical and historical development, major definitions and concepts, classification of crime, elements of crimes and penalties, and individual criminal responsibilities. (2201015324) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 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 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: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 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 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: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 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 2313 - CORRECTIONAL SYSTEMS AND PRACTICES**

3 Credits (3 hrs. lec.) A study of the role of corrections in the criminal justice system. Topics include organization and theory of correctional systems, institutional operations, management, alternatives to institutionalization, treatments and rehabilitation, and current and future issues. (4301045424) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 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 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: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 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 2323 - LEGAL ASPECTS OF CRIMINAL JUSTICE**

3 Credits (3 hrs. lec.) Exploration of police authority. Topics include responsibilities and constitutional restraints, laws of arrest, search and seizure, and police liability. (4301045624) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 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 2328 - POLICE SYSTEMS AND PRACTICES**

3 Credits (3 hrs. lec.) Exploration of the profession of police officer. Topics include organization of law enforcement systems, the police role, police discretion, ethics, police-community interaction, and current and future issues. (4301045724) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 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 1428 and 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
DESCRIPTION OF COURSES

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; Corequisite: CSME 1435 and 2414

CSME 1435 - ORIENTATION TO THE INSTRUCTION OF COSMETOLOGY
4 Credits (2 hrs. lec., 6 hrs. ext.) An overview of the skills and knowledge necessary for the instruction of cosmetology students. Requires LSCS liability insurance. Prerequisites: 3 years of field experience, Texas operator's license and 12 credit hours of academic work including ENGL 1301; Corequisite: CSME 1434 and 2414

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 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 cosmetology. 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 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 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 and CSME 2445
DESCRIPTION OF COURSES

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 technologies. Corequisite: CSME 1445 and CSME 1447

CSME 2444 - COSMETOLOGY INSTRUCTOR IV
4 Credits (2 hrs. lec., 6 hrs. lab.) Advanced concepts of instruction in a cosmetology program. Topics include demonstration and implementation of advanced evaluation and assessment techniques. Prerequisite: ENGL 1301; Corequisite: CSME 2415 and CSME 2445

CSME 2445 - INSTRUCTIONAL THEORY AND CLINIC OPERATION
4 Credits (2 hrs. lec., 6 hrs. lab.) An overview of the objectives required by the Texas Department of Licensing and Regulation, Instructor Examination. Prerequisite: ENGL 1301; Corequisites: CSME 2415 and CSME 2444

CSME 2501 - PRINCIPLES OF HAIR COLORING AND RELATED THEORY
5 Credits (3 hrs. lec., 8 hrs. lab.) Presentation of the theory and practice of hair color and chemistry. Topics include terminology, application, and workplace competencies related to hair color and chemistry. Prerequisites: ENGL 0304 or ENGL 0364 AND ENGL 0306 or ENGL 0374 OR ENGL 0302 OR higher level course (ENGL 1301) OR placement by testing; Corequisite: CSME 1553

CSME 2539 - ADVANCED HAIR DESIGN
5 Credits (3 hrs. lec., 8 hrs. lab.) Advanced concepts in the theory and practice of hair design. Requires LSCS liability insurance. Prerequisites: ENGL 0304 or ENGL 0364 AND ENGL 0306 or ENGL 0374 OR ENGL 0302 OR higher level course (ENGL 1301) OR placement by testing; Corequisite: CSME 2541

CSME 2541 - PREPARATION FOR THE STATE LICENSING EXAMINATION
5 Credits (3 hrs. lec., 8 hrs. lab.) Preparation for the Texas Department of Licensing and Regulation Examination. Prerequisites: CSME 2310 and 2337 with a “C” or better or departmental approval; ENGL 0304 or ENGL 0364 AND ENGL 0306 or ENGL 0374 OR ENGL 0302 OR higher level course (ENGL 1301) OR placement by testing; Corequisite: CSME 2539

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 - COMPUTED TOMOGRAPHY EQUIPMENT AND METHODOLOGY
3 Credits (3 hrs. lec.) Skill development in the operation of computed tomographic equipment, focusing on routine protocols, image quality, quality assurance, and radiation protection. Prerequisite: Departmental approval.

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. Prerequisite: 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: 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 1309 - ASSESSMENT SKILL OF ALCOHOL AND OTHER DRUG ADDICTIONS
3 Credits (3 hrs. lec.) Exploration of procedures and tools used to identify and assess a client’s problems, strengths, deficits, and needs. 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 1311 - COUNSELING THEORIES
3 Credits (3 hrs. lec.) An examination of the major theories and current treatment modalities used in the field of counseling. Prerequisites: ENGL 0304 or ENGL 0364 AND ENGL 0306 or ENGL 0374 OR ENGL 0302 OR higher level course (ENGL 1301) OR placement by testing

This text was added (11/13). Please see addendum for details.
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 - INTRODUCTION TO ALCOHOL AND OTHER DRUG ADDICTIONS
3 Credits (3 hrs. lec.) 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 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, 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, 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 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. 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 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: 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, 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 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. (5003015226) 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 1246 or instructor approval

DANC 2246 - MODERN DANCE IV
2 Credits (1 hr. lec., 2 hrs. lab.) This course is a continuation of DANC 2245. The development of modern dance technique is continued. More complex floor, center and locomotor exercises are included. Emphasis is on elements of modern dance movement including time, force and space. Longer and more complex series of movements are utilized. (5003015226) Prerequisite: DANC 2245 or instructor approval
DANC 2247 - JAZZ III
2 Credits (1 hr. lec., 2 hrs. lab.) This course is a continuation of DANC 1247. It is designed for the advanced level student. Skills include the performance and development of complex jazz rhythms, turns and jumps. (5003015226) Prerequisite: DANC 1248 or instructor approval

DANC 2248 - JAZZ IV
2 Credits (1 hr. lec., 2 hrs. lab.) This course is a continuation of DANC 2247. It is designed for the advanced level student. Skills include the performance and development of complex jazz rhythms, turns and jumps. (5003015226) Prerequisite: DANC 2247 or instructor approval

DANC 2303 - DANCE APPRECIATION
3 Credits (3 hrs. lec.) The cultural, historical and aesthetic qualities of dance are presented through lectures, films, videos, and dance productions. Primitive, classical and contemporary dance forms are included. (5003015426) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

DEM R 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

DEM R 1301 - SHOP SAFETY AND PROCEDURES
3 Credits (3 hrs. lec.) A study of shop safety, rules, basic shop tools, and test equipment. Prerequisites: None

DEM R 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

DEM R 1306 - DIESEL ENGINE I
3 Credits (3 hrs. lec.) An introduction to the basic principles of diesel engines and systems. Prerequisites: None

DEM R 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

DEM R 1313 - FUEL SYSTEMS
3 Credits (2 hrs. lec., 3 hrs. lab.) In-depth coverage of fuel injector pumps and injection systems. Prerequisites: None

DEM R 1316 - BASIC HYDRAULICS
3 Credits (2 hrs. lec., 3 hrs. lab.) Fundamentals of hydraulics including components and related systems. Prerequisites: None

DEM R 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

DEM R 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

DEM R 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

DEM R 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: DEM R 1306

DEM R 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: DEM R 1310

DEM R 2332 - ELECTRONIC CONTROLS
3 Credits (2 hrs. lec., 3 hrs. lab.) Advanced skills in diagnostic and programming techniques of electronic control systems. Prerequisites: None

DEM R 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: DEM R 1349

* This text was added (11/13). Please see addendum for details.
DESCRIPTION OF COURSES

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,
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DESCRIPTION OF COURSES

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 design and drafting. Prerequisite: DFTG 1305 AND MCHN 1319 or DFTG 1309

DFTG 2336 - COMPUTER AIDED DRAFTING PROGRAMMING
3 Credits (2 hrs. lec., 4 hrs. lab.) Use of programming language to enhance CAD Software. Prerequisites: DFTG 1305 and 1309 or 2319; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 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 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; 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 0307 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 1219

DHYG 1203 - PREVENTIVE DENTAL HYGIENE I
2 Credits (2 hrs. lec., 1 hr. lab.) The role of the dental hygienist as a therapeutic oral health care provider with emphasis on concepts of disease management, health promotion, communication and behavior modification. Requires LSCS liability insurance. Prerequisites: Accep-
DESCRIPTION OF COURSES

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 0307 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 1211, 1260 and 2201

DHYG 1211 - PERIODONTOLOGY

2 Credits (2 hrs. lec., 1 hr. lab.) A study of normal and diseased periodontium to include the structural, functional and environmental factors. Emphasis on etiology, pathology, treatment modalities and therapeutic and preventive periodontics in a contemporary private practice setting. 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 1211, 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 0307 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 1215 and 2363

DHYG 1219 - DENTAL MATERIALS

2 Credits (1 hr. lec., 4 hrs. lab.) Physical and chemical properties of dental materials including the application and manipulation of the various materials used in dentistry. Requires LSCS liability insurance. Prerequisites: DHYG 1207, 1211, 1260 and 2201; BIOL 2305; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 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, 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 1235, 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: BIOL 2305; DHYG 1207, 1211 and 2201
DESCRIPTION OF COURSES

**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 2402; DHYG 1203, 1304, and 1431

**DHYG 1304 - DENTAL RADIOLOGY**

3 Credits (2 hrs. lec., 4 hrs. lab.) Fundamentals of oral radiography, including techniques, interpretation, quality assurance, and ethics. 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: BIOL 2402; DHYG 1203, 1301, and 1431

**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: BIOL 2402; DHYG 1203, 1301, and 1304

**DHYG 2153 - DENTAL HYGIENE PRACTICE**

1 Credit (1 hr. lec.) Emphasis on the laws governing the practice of dentistry and dental hygiene, moral standards, and the ethical standards established by the dental hygiene profession. Practice settings for the dental hygienist, office operations, and preparation for employment. Prerequisites: DHYG 1235, 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 including 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. On-site clinical instruction, supervision, evaluation, and placement are the responsibility of the college faculty. Clinical experiences are unpaid learning experiences. Requires LSCS liability insurance. Prerequisites: DHYG 1160 and 1219; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 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 and 1239
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. On-site clinical instruction, supervision, evaluation and placement are the responsibility of the college faculty. Clinical experiences are unpaid learning experiences. Requires LSCS liability insurance. Prerequisites: DHYG 1235, 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 1210, DMSO 1302 and DMSO 1351, OR DMSO 1302, DSAE 1415 and DSAE 1360

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 1405, DMSO 1302 and DMSO 1351, OR DMSO 1302, 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 1367, 2342 and 2351

DMSO 1367 - 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: DMSO 1342, 1366, 2253 and 2405; Corequisites: DMSO 2342 and 2351

DMSO 1405 - SONOGRAPHY OF ABDOMINOPELVIC CAVITY

4 Credits (3 hrs. lec., 2 hrs. lab.) Normal and pathological abdominal and pelvic structures as related to scanning techniques, patient history and laboratory data, transducer selection, and scanning protocols. Prerequisite: Admission to diagnostic medical sonography program; Corequisites: DMSO 1210, 1302, 1351 and 1360

DMSO 2130 - ADVANCED ULTRASOUND REVIEW

1 Credit (3 hrs. lab.) Knowledge, skills, and professional values within a legal and ethical framework addressing emerging technologies and professional development. Prerequisites: DMSO 1367, 2342 and 2351 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 sono-graphic 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 2403, 1364 and 2404; Corequisites: DMSO 1367 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 make-up), performance work, or other participation as designated by departmental faculty. It may be taken for four credit hours maximum. (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

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

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. (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 0307
0365 or ENGL 0115 AND ENGL 0307 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. (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) 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) 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. (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: 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

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. (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. (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
DESCRIPTION OF COURSES

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. (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. (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 1415; Corequisites: DMSO 1342, DSAE 1364 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 (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 1364, DSAE 2403, DSAE 2404 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: DMSO 2351, DSAE 2437 and DSAE 2364; Corequisites: DSVT 2200, DMSO 2130 and DSAE 2235

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

* This text was revised (11/13). Please see addendum for details.

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of the sonographic appearances of cardiovascular disease is stressed. Prerequisites: DMSO 1210, DMSO 1302, DSAE 1360 and DSAE 1415; Corequisites: DMSO 1342, DSAE 1364 and DSAE 2403

**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 2403, 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
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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 1) research and theory in the psychology of learning, cognition, and motivation, 2) factors that influence learning, and 3) application of learning strategies. Theoretical models of strategic learning, cognition, and motivation serve as the conceptual basis for teaching and learning strategies used in the classroom. Students are ultimately expected to integrate and apply these theories and learning skills discussed. This course serves as the Lone Star College freshman experience course. (4227015125) Prerequisites: ENGL 0304 or ENGL 0364 AND ENGL 0306 or ENGL 0307 or ENGL 0374 or ENGL 0302 or higher level course OR placement by testing.

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. (1301015109) 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 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 1371 - VOICE OVER INTERNET PROTOCOL
3 Credits (2 hrs. lec., 3 hrs. lab.) This course addresses the knowledge and skills necessary to install, maintain and repair Voice Over Internet Protocol communications. Prerequisites: ITSC 1401 and 1425; ENGL0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 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 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.

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.
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

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 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 0340 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; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 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 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: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; RBTC 1401, CETT 1402 or CETT 1409

ELMT 2437 - ELECTRONIC TROUBLESHOOTING, SERVICE, AND REPAIR

4 Credits (3 hrs. lec., 3 hrs. lab.) In-depth coverage of electronic systems, maintenance, troubleshooting, and repair. Topics include symptom identification, proper repair procedures, repair checkout, and preventative maintenance. Emphasis on safety and use of test
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equipment. May be offered as a capstone course.  
Prerequisites: CETT 1403 and 1405

ELPT 1311 - BASIC ELECTRICAL THEORY
3 Credits (3 hrs. lec.) An overview of the theory and practice of electrical circuits including calculations as applied to alternating and direct current. Prerequisite: None

ELPT 1315 - ELECTRICAL CALCULATIONS I
3 Credits (3 hrs. lec.) Introduction to mathematical applications utilized to solve problems in the electrical field. Topics include fractions, decimals, percentages, simple equations, ratio and proportion, unit conversions, and applied geometry. Prerequisite: None

ELPT 1321 - INTRODUCTION TO ELECTRICAL SAFETY AND TOOLS
3 Credits (4 hrs. lec.) A comprehensive overview of safety rules and regulations and the selection, inspection, use and maintenance of common tools for electricians. Prerequisite: None

ELPT 1325 - NATIONAL ELECTRICAL CODE I
3 Credits (3 hrs. lec.) An introductory study of the National Electric Code (NEC) for those employed in fields requiring knowledge of the Code. Emphasis on wiring design, protection, methods, and materials; equipment for general use; and basic calculations. Prerequisite: None

ELPT 1364 - FIELD EXPERIENCE - ELECTRICAL AND POWER TRANSMISSION INSTALLATION/INSTALLER, GENERAL
3 Credits (21 hrs. ext.) Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student. Prerequisite: Departmental approval

ELPT 1429 - RESIDENTIAL WIRING
4 Credits (3 hrs. lec., 2 hrs. lab.) Wiring methods for single family and multi-family dwellings. Includes load calculation, service entrance sizing, proper grounding techniques, and associated safety procedures. Prerequisite: ELPT 1325

ELPT 1445 - COMMERCIAL WIRING
4 Credits (3 hrs. lec., 2 hrs. lab.) Commercial wiring methods. Includes overcurrent protection, raceway panel board installation, proper grounding techniques, and associated safety procedures. Prerequisite: None

ELPT 2325 - NATIONAL ELECTRICAL CODE II
3 Credits (3 hrs. lec.) In-depth coverage of the National Electrical Code (NEC) for those employed in fields requiring knowledge of the Code. Emphasis on wiring protection and methods, special conditions, and advanced calculations. Prerequisite: ELPT 1325

EMSP 1160 - CLINICAL - 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: ENGL0304 or ENGL0364 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 management. Includes specific care when dealing with pediatric, adult, geriatric, and special-needs patients. Prerequisites: EMSP 2160; ENGL0304 or ENGL0364 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; ENGL0304 or ENGL0364 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 2300 - 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 2160 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; ENGL0304 or ENGL0364 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: 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 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; Corequisite: EMSP 2143

EMSP 2434 - 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 Credits (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 Credits (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, Advanced Developmental Reading and Writing. 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: ENGL 0304 or 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

**ENGL 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. 

(3201085412) Prerequisite: Placement by testing

**ENGL 0309 - ADVANCED DEVELOPMENTAL READING AND WRITING**

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 OR instructor approval

**ENGL 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. 

(3201085412) Prerequisite: ENGL 0364 and ENGL 0374 or instructor approval or placement by exam

**ENGL 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.
Description of Courses

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

**ENGL 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

**ENGL 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. 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. (3201085612) Prerequisite: ENGL 0362 or placement by testing

**ENGL 0364 - ESOL Reading IV**

3 Credits (3 hrs. lec., 1 hr. lab.) 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 0365 - ESOL Reading V**

3 Credits (3 hrs. lec., 1 hr. lab.) 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 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. (3201085712) Prerequisite: Placement by testing

**ENGL 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. (3201085712) Prerequisite: ENGL 0371 or placement by testing

**ENGL 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. (3201085712) Prerequisite: ENGL 0372 or placement by testing

**ENGL 0374 - ESOL Writing IV**

3 Credits (3 hrs. lec., 1 hr. lab.) 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. (3201085412) Prerequisite: ENGL 0373 or placement by testing
ENGL 0375 - ESOL WRITING V
3 Credits (3 hrs. lec., 1 hr. lab.) 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. (3201085312) Prerequisite: ENGL 0374 or placement by testing.

ENGL 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: Placement by testing.

ENGL 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 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 0384 - ESOL ORAL COMMUNICATION IV
3 Credits (3 hrs. lec., 1 hr. lab.) 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. (3201095412) Prerequisite: ENGL 0383 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 0365 or ENGL 0115 AND ENGL 0307 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 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; Newton’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 2405 - ELECTRICAL CIRCUITS I
3 Credits (3 hrs. lec.) Principles of electrical circuits and systems. Basic circuit elements (resistance, inductance, mutual inductance, capacitance, independent and dependent controlled voltage, and current sources). Topology of electrical networks; 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

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

* This text was revised (10/13). ** This text was added (10/13). Please see addendum for details.
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)
DESCRIPTION OF COURSES

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

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. 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 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, start-up 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: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 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: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 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, VI, and VII to satisfy the Texas Commission on Fire Protection (TCFP) curriculum for Basic Structural Fire Suppression, Course #100. 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

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, 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: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 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, V, VI, and VII to satisfy the Texas Commission on Fire Protection (TCFP) curriculum for Basic Structural Fire Suppression, Course #100. 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

* This text was revised (02/14) effective summer 2014. Please see addendum for details.

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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: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 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. 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: 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 PREVENTION CODES

3 Credits (3 hrs. lec.) Study of local building and fire prevention codes. Emphasis on fire prevention inspections, practices, and procedures. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 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.

* This text was added (10/13). Please see addendum for details.
FIRT 1319 - FIRE FIGHTER HEALTH AND SAFETY

3 Credits (3 hrs. lec.) Study of firefighter occupational safety and health in emergency and non-emergency situations. 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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DESCRIPTION OF COURSES

FIRT 1327 - BUILDING CONSTRUCTION IN THE FIRE SERVICE
3 Credits (3 hrs. lec.) Components of building construction that relate to fire and life safety. Focuses on firefighter safety. Includes relationship of elements of construction and design of structures to inspecting buildings, preplanning fire operations, and operating at emergencies. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 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. 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 or ENGL 0365 or ENGL 0115 AND ENGL 0307 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 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, safety, and incident management systems. 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. It rigorously trains individuals in skills and techniques needed in typical entry level testing. 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.) 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. 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) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

**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; Completion of TCFP Basic Firefighter certificate; FIRT 1315 and FIRT 1345

**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 0307 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 2331 - VIDEO GRAPHICS AND VISUAL EFFECTS I**

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

**FIRMC 2331 - LIGHTING FOR FILM OR VIDEO**

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 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
**FREN 1300 - FRENCH CONVERSATION I**

3 Credits (3 hrs. lec.) This is a conversational French course for beginners. It includes extensive comprehension, oral practice, and use of multimedia materials. It is intended to develop basic communication skills for the student to apply these skills to everyday life and work situations. It is an alternate track for the student who needs immediate communicative experience in French. (1609015413) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375
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: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 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

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 or COSC 1420; Corequisite: ITSE 2431

GAME 1359 - GAME AND SIMULATION PROGRAMMING II
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 game play over the base game experience. Includes creation of original levels, characters, and content for a real-time multiplayer game applying skills learned in previous classes. 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 2342 - GAME DEVELOPMENT USING C++
3 Credits (2 hrs. lec., 3 hrs. lab.) Skill development in C++ programming for games and simulations. Examines real-world C++ development issues. Prerequisites: GAME 2419 and ITSE 2431

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
DESCRIPTION OF COURSES

GEOL 1403 - 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.

GEOL 1404 - HISTORICAL GEOLOGY
4 Credits (3 hrs. lec., 3 hrs. lab.) A geological history of the earth stressing fossils, stratigraphy and plate tectonics. Emphasis is placed on environments and the succession of geologic events since the origin of the earth. Labs review rocks and maps, with exercises in fossil identification, stratigraphic correlation and cross cutting relationships. Participation in field trips is highly recommended. (4006015403) Prerequisites: GEOL 1403 OR GEOL 1405 OR department approval; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 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

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, and groundwater pollution, air pollution, land-use planning, environmental law, and the determination of risk assessments based on remote sensing techniques, field observations and their economic impact. Lab exercises include groundwater flow, environmental pollution, geologic hazards, geologic resources and land use planning. Participation in field trips is highly recommended. (0301035301) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 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

GEOL 1407 - GEOLOGY OF TEXAS
4 Credits (3 hrs. lec., 3 hrs. lab.) The topography, physiography, structure, geologic history and mineral deposits of Texas. Plate tectonics regional correlations and local phenomena are emphasized. Participation in field trips is highly recommended. (4006015503) Prerequisites: 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; 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; MATH 0308

GEOL 2307 - GEOLOGY OF TEXAS
3 Credits (3 hrs. lec.) The topography, physiography, structure, geologic history and mineral deposits of Texas. Plate tectonics regional correlations and local phenomena are emphasized. Participation in field trips is highly recommended. (4006015503) Prerequisites: 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; MATH 0308

GEOL 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.

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ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; MATH 0308

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

GISC 1302 - UNDERSTANDING GEOGRAPHIC INFORMATION SYSTEMS

3 Credits (2 hrs. lec., 2 hrs. lab.) Theory and application of geographic information science (GIS). Includes an overview of the general principles of GIS and practical experience in its use. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 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 1401 - CARTOGRAPHY AND GEOGRAPHY IN GEOGRAPHICAL INFORMATION SYSTEMS (GIS) AND GLOBAL POSITIONING SYSTEMS (GPS)

4 Credits (3 hrs. lec., 3 hrs. lab.) Introduction to the principles of cartography and geography. Emphasis on global reference systems, and the use of satellites for navigation and measurements. Students learn basic concepts of GIS including mapping the earth in spatial terms, and populating the GIS to access data. Exercises include: create and access data in the GIS using ArcView, 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 1411 - INTRODUCTION TO GEOGRAPHIC INFORMATION SYSTEMS (GIS)

4 Credits (3 hrs. lec., 3 hrs. lab.) Introduction to basic concepts of vector GIS using several industry specific software programs including nomenclature of cartography and geography. Emphasis on the principles of cartography, standard global reference systems and the new technologies, using satellites for measurements and navigation, and map construction. Exercises include basic concepts of acquisition, accuracy, precision, and scale in GPS - global positioning systems, and the operating environment for GIS/GPS; creation of spatial data with real time GPS fieldwork; importing of GPS data into GIS; and evaluation of data for scale and accuracy. Students will measure and relate “real world” distance and area on maps. Final projects will include applications of these
DESCRIPTION OF COURSES

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 ENGL0365 or ENGL 0115 AND ENGL 0307 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 databases, 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 2381 - 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, 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. 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 team work skills, and effective communication skills to create success. Prerequisite: ENGL 2311; Corequisite: GISC 2411

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 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 GOVT 2306 (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. (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

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
DESCRIPTION OF COURSES

HAMG 1321 - INTRODUCTION TO HOSPITALITY INDUSTRY
3 Credits (3 hrs. lec.) Introduction to the elements of the hospitality industry. Topics include growth, development and organization of the lodging industry; growth, development, organization, and management of food service operations; human resources, marketing, security, information technology and career opportunities within the various fields of hospitality services. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

HAMG 1340 - HOSPITALITY LEGAL ISSUES
3 Credits (3 hrs. lec.) A course in legal and regulatory requirements that impact the hospitality industry. Topics include Occupational Safety and Health Administration (OSHA), labor regulations, tax laws, tip reporting, franchise regulations, and product liability laws. Prerequisites: HAMG 1321; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

HAMG 1342 - GUEST ROOM MANAGEMENT
3 Credits (3 hrs. lec.) A study of the working relationship among housekeeping, front office, and maintenance in the lodging 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; Corequisite: HAMG 1321.

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 also meets prerequisite.

HAMG 2301 - PRINCIPLES OF FOOD AND BEVERAGE OPERATIONS
3 Credits (3 hrs. lec.) An introduction to food and beverage management in various hospitality environments. Emphasizes cost controls from procurement to marketing and sales. Examines forecasting, menu planning and pricing, logistical support, production, purchasing, and quality assurance. Prerequisite: HAMG 1321.

HAMG 2305 - HOSPITALITY MANAGEMENT AND LEADERSHIP
3 Credits (3 hrs. lec.) An overview of management and leadership in the hospitality industry with an emphasis on management philosophy, policy formulation, communications, motivation and team building. Prerequisites: HAMG 1321; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

HAMG 2330 - CONVENTION AND GROUP MANAGEMENT
3 Credits (3 hrs. lec.) An application of the essential components of successful convention and meeting 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; Corequisite: HAMG 1321.

HAMG 2337 - HOSPITALITY FACILITIES MANAGEMENT
3 Credits (3 hrs. lec.) Identification of building systems, facilities and sustainability management, and security and safety procedures. Prerequisites: HAMG 1321; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

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 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. (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
DESCRIPTION OF COURSES

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. (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 2301 - TEXAS HISTORY
3 Credits (3 hrs. lec.) Survey of Texas history from the Spanish exploration to the present. (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 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
HITT 1166 - PRACTICUM - HEALTH INFORMATION TECHNOLOGY/TECHNICIAN
1 Credit (7 hrs. ext.) Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student. Requires LSCS liability insurance. Prerequisites: HITT 1401; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 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 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 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 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 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 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
3 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 - 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
DESCRIPTION OF COURSES

HITT 1355 - HEALTH CARE STATISTICS
3 Credits (2 hrs. lec., 2 hr. 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 - HEALTH DATA CONTENT AND STRUCTURE
4 Credits (3 hrs. lec., 3 hrs. lab.) Introduction to systems and processes for collecting, maintaining, and disseminating primary and secondary health related information including content of health record documentation requirements, registries, indices, licensing, regulatory agencies, forms and screens. Prerequisites: Admission to the Health Information Technology program; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 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 - CODING AND CLASSIFICATION SYSTEMS
4 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 - RHIT COMPETENCY REVIEW
2 Credits (2 hrs. lec.) Review Health Information Technology (HIT) competencies, skills, and knowledge. Prerequisites: Completion of all major courses on degree plan; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 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 - HEALTH INFORMATION ORGANIZATION AND SUPERVISION
3 Credits (3 hrs. lec.) Principles of organization and supervision of human, financial, and physical resources. Prerequisites: HITT 1401; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 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 1401 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 with a 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

HITT 2435 - CODING AND REIMBURSEMENT METHODOLOGIES
4 Credits (3 hrs. lec., 3 hrs. lab.) Advanced coding techniques with emphasis on case studies, health records, and federal regulations regarding prospective payment systems and methods of reimbursement. Prerequisites: HITT 1342 and 1441; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 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 text was revised (11/13). Please see addendum for details.
HITT 2460 - CLINICAL - MEDICAL RECORDS TECHNOLOGY TECHNICIAN

4 Credits (12 hrs. ext.) A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. Requires LSCS liability insurance. Prerequisites: Completion of all major program courses; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 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

HSPORT 301 - PHARMACOLOGY FOR HEALTH PROFESSIONALS

3 Credits (3 hrs. lec.) A study of drug classifications, actions, therapeutic uses, adverse effects, routes of administration, and calculation of dosages. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 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

HSPORT 302 - 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

HSPORT 303 - 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
DESCRIPTION OF COURSES

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 1401 or COSC 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.

HRPO 1311 - HUMAN RELATIONS
3 Credits (3 hrs. lec.) Practical application of the principles and concepts of the behavioral sciences to interpersonal relationships in the business and industrial environment. Prerequisite: None.

HRPO 2301 - HUMAN RESOURCE MANAGEMENT
3 Credits (3 hrs. lec.) Behavioral and legal approaches to the management of human resources organizations. Prerequisite: None.

HRPO 2307 - ORGANIZATIONAL BEHAVIOR
3 Credits (3 hrs. lec.) The analysis and application of organizational theory, group dynamics, motivation theory, leadership concepts, and the integration of interdisciplinary concepts from the behavioral sciences. Prerequisite: None.

HUMA 1301 - INTRODUCTION TO THE HUMANITIES I: PREHISTORY TO GOThic
3 Credits (3 hrs. lec.) A study of the interpretation of human experience through an introduction to music, literature, the visual arts, history and philosophy. Focus is on gaining practical experience in inquiry, recognition and assessment. (2401035112) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 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. (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. (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) 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) 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...
by using basic psychological principles. This course carries institutional credit but will not transfer nor be used to meet degree requirements. (3201015212) Prerequisite: None

**HYDR 1305 - BASIC HYDRAULICS**

3 Credits (2 hrs. lec., 2 hrs. lab.) Fundamentals of hydraulics including types of hydraulic pumps, cylinders, valves, motors, and related systems. Introduction to hydraulic schematic symbols as related to components. Prerequisite: None

**HYDR 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**

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
DESCRIPTION OF COURSES

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. Prerequisite: CETT 1402 or CETT 1409 or CETT 1403 AND CETT 1405

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...
DESCRIPTION OF COURSES

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: 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 1349 - FUNDAMENTALS OF SPACE PLANNING

3 Credits (2 hrs. lec., 4 hrs. lab.) The study of residential and light commercial spaces, including programming, codes, standards, space planning, drawings and presentations. Prerequisites: INDS 1311 and 1319; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 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 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 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 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 232; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher
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 0365 or ENGL 0115 AND ENGL 0307 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 2330 - INTERIOR DESIGN BUILDING SYSTEMS
3 Credits (2 hrs. lec., 4 hrs. lab.) An overview of building materials, mechanical systems, and construction techniques as applied to interior design. Discussion of codes, project sequencing and the interpretation of detailed working drawings. Prerequisites: INDS 1319; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 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 2486 - INTERNSHIP - INTERIOR DESIGN
4 Credits (16 hrs. ext.) A work-based learning experience that enables the student to apply specialized occupational theory, skills and concepts. A learning plan is developed by the college and the employer. Prerequisites: Student must have completed all first semester classes, or departmental approval; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 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 2487 - INTERNSHIP - INTERIOR DESIGN
4 Credits (16 hrs. ext.) A work-based learning experience that enables the student to apply specialized occupational theory, skills and concepts. A learning plan is developed by the college and the employer. This course is intended for facilities management students. Prerequisites: Student must have completed all first semester classes, or departmental approval; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite

INEW 2438 - ADVANCED JAVA PROGRAMMING
4 Credits (3 hrs. lec., 2 hrs. lab.) A continuation of Java programming techniques such as servlets and advanced graphical functions. Prerequisites: ITSE 2417; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 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 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: ENGL0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 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 experience. Includes a lecture component. Prerequisite: Departmental approval
DESCRIPTION OF COURSES

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

INTC 1341 - PRINCIPLES OF AUTOMATIC CONTROL

3 Credits (2 hrs. lec., 3 hrs. lab.) Basic measurements, automatic control systems and design, closed loop systems, controllers, feedback, control modes and control configurations. Prerequisite: RBTC 1401

ITAL 1411 - BEGINNING ITALIAN I

4 Credits (3 hrs. lec., 2 hrs. lab.) This course includes beginner’s pronunciation, oral practice, conversation, use of recordings for ear training, basic principles of grammar, simple exercises in composition, easy reading that includes cultural material. 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

ITAL 1412 - BEGINNING ITALIAN II

4 Credits (3 hrs. lec., 2 hrs. lab.) This course is a continuation of 1411 with increased emphasis on comprehension, speaking, reading, and writing. Intensive skills to increase vocabulary and knowledge of structure. Prerequisites: ITAL 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

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. 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. Continued reinforcement of grammatical principles and development of writing and oral skills are stressed. 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. Prerequisites: ITAL 1412

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 1401 or COSC 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
course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite.

**ITCC 1404 - CISCO EXPLORATION 2 - ROUTING PROTOCOLS AND CONCEPTS**

4 Credits (3 hrs. lec., 2 hrs. lab.) This course describes the architecture, components, and operation of routers, and explains the principles of routing and routing protocols. Students analyze, configure, verify, and troubleshoot the primary routing protocols RIPv1, RIPv2, EIGRP, and OSPF. Recognize and correct common routing issues and problems. Model and analyze routing processes. Prerequisites: ITCC 1401; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 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 1475 - INTRODUCTION TO NETWORKS**

4 Credits (3 hrs. lec., 2 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: ITCC 1401 or COSC 1401.

**ITCC 1476 - ROUTING AND SWITCHING ESSENTIALS**

4 Credits (3 hrs. lec., 2 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 and troubleshoot routers and switches and resolve common issues with RIPv1, RIPv2, single area and multi-area OSPF, virtual LANs, and inter-VLAN routing in both IPv4 and IPv6 networks. Prerequisites: ITCC 1401 or COSC 1401 and ITCC 1475.

**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 0115 AND ENGL 0307 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 2410 - CISCO EXPLORATION 4 - ACCESSING THE WAN**

4 Credits (3 hrs. lec., 2 hrs. lab.) How to implement, monitor, and maintain routing services in an enterprise network. How to plan, configure, and verify the implementation of complete enterprise LAN and WAN routing services 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.

**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 complete enterprise LAN and WAN routing services 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

**ITCC 2478 - SCALING NETWORKS**

4 Credits (3 hrs. lec., 2 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 the 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 1401 or COSC 1401 and ITCC 1475 and ITCC 1476

**ITCC 2479 - CONNECTING NETWORKS**

4 Credits (3 hrs. lec., 2 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 1401 or COSC 1401 and ITCC 1475 and ITCC 1476 and ITCC 2478

**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 (3 hrs. lec., 2 hrs. lab.) Managing accounts and resources, maintaining server resources, monitoring server performance, and safeguarding data in a Microsoft Windows Server 2003 environment. Prerequisites: ITMT 1400; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 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 INFRASTRUCTURE: NETWORK SERVICES**

4 Credits (3 hrs. lec., 2 hrs. lab.) Implementing routing; implementing, managing, and maintaining Dynamic Host Configuration Protocol (DHCP), Domain Name System (DNS), and Windows Internet Name Service (WINS); securing Internet Protocol (IP) traffic with Internet Protocol security (IPSec) and certificates; implementing a network access infrastructure by

* This text was added (8/13). Please see addendum for details.
configuring the connections for remote access clients; and managing and monitoring network access. Pre-requisites: 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; ENGL0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 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 1470 - WINDOWS 7 CLIENT CONFIGURATION 70-680
4 Credits (3 hrs. lec., 2 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 1425.

ITMT 1471 - WINDOWS SERVER 2008
4 Credits (3 hrs. lec., 2 hrs. lab.) This course provides an introduction to the core concepts of Microsoft Windows Server 2008 and lays the foundation for more advanced concepts and courses. Topics covered include installation, user and group accounts, authentication, an introduction to Active Directory, Server Manager Console, server software, security and policy management using Network Access Protection, automated and remote administration, basic network connectivity, and backup and recovery. Prerequisite: ITMT 1470.

ITMT 1472 - WINDOWS SERVER 2008 APPLICATIONS INFRASTRUCTURE 70-643
4 Credits (3 hrs. lec., 2 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 1471.

ITMT 1473 - WINDOWS SERVER 2008 NETWORK INFRASTRUCTURE 70-642
4 Credits (3 hrs. lec., 2 hrs. lab.) Covers planning, installation, configuration, administration, management, maintenance, monitoring, and troubleshooting of network infrastructure components. Prerequisite: ITMT 1471.

ITMT 2400 - PLANNING, IMPLEMENTING, AND MAINTAINING A MICROSOFT WINDOWS SERVER 2003 ACTIVE DIRECTORY INFRASTRUCTURE
4 Credits (3 hrs. lec., 2 hrs. lab.) Windows Server 2003 directory service environment. Includes forest and domain structure; Domain Name System (DNS); site topology and replication; organizational unit structure and delegation of administration; Group Policy; and user, group, and computer account strategies. Prerequisites: ITMT 1400, 1440; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 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 system 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 0310.
0365 or ENGL 0115 AND ENGL 0307 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.) 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 2470 - WINDOWS SERVER 2008 ACTIVE DIRECTORY 70-630**

4 Credits (3 hrs. lec., 2 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 1471.

**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;
DESCRIPTION OF COURSES

perform scheduled vulnerability-assessment scans; and monitor logs for firewalls and intrusion-detection systems. Prerequisites: ITMT 1473, ITMT 2470

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 1473, ITMT 2470

ITNW 1425 - FUNDAMENTALS OF NETWORKING TECHNOLOGIES

4 Credits (3 hrs. lec., 2 hrs. lab.) Instruction in networking technologies and their implementation. Topics include the OSI reference model, network protocols, transmission media, and networking hardware and software. Prerequisites: ITSC or COSC 1401; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 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 2405 - NETWORK ADMINISTRATION

4 Credits (3 hrs. lec., 2 hrs. lab.) Topics include network components, user accounts and groups, network file systems, file system security, and network printing. Novell Certified. Prerequisites: ITSC 1405 and ITNW 1425; 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

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 1405; 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; Corequisite: ITNW 2405

ITNW 2421 - NETWORKING WITH TCP/IP

4 Credits (3 hrs. lec., 2 hrs. lab.) Set up, configure, use, and support Transmission Control Protocol/Internet Protocol (TCP/IP) on networking operating systems. Prerequisites: ITNW 2413; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 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 2452 - ADMINISTERING SQL SERVER

4 Credits (3 hrs. lec., 2 hrs. lab.) Administering SQL Server is a skills development course in the installation, configuration, administration, and troubleshooting of SQL Servers client/server database management system version. Prerequisite: None

ITNW 2454 - INTERNET/INTRANET SERVER

4 Credits (3 hrs. lec., 2 hrs. lab.) Designing, installing, configuring, maintaining, and managing an Internet/Intranet server. Prerequisites: ITSE 2433; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 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 1315 - PROJECT MANAGEMENT SOFTWARE

3 Credits (2 hrs. 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 1401 - INTRODUCTION TO COMPUTERS

4 Credits (3 hrs. lec., 2 hrs. lab.) Overview of computer information systems. Introduces computer hardware, software, procedures, and human resources. Explores integration and application in business and other segments in society. Fundamentals of computer problemsolving and programming may be discussed and applied. Examines applications and software relating to a specific curricular area. This course is equivalent to COSC 1401. Prerequisites/Corequisites: 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

ITSC 1405 - INTRODUCTION TO PC OPERATING SYSTEMS

4 Credits (3 hrs. lec., 2 hrs. lab.) A study of personal computer operating systems. Topics include installation and configuration, file management, memory and storage management, control of peripheral devices, and use of utilities. Prerequisites: ITSC or COSC 1401; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 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 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 1401 or COSC 1401 AND ITSC 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.

ITSC 1425 - PERSONAL COMPUTER HARDWARE
4 Credits (3 hrs. lec., 2 hrs. lab.) Current personal computer hardware including assembly, upgrading, setup, configuration, and troubleshooting. Prerequisite: ITSC 1401 or COSC 1401.

ITSC 2331 - INTEGRATED SOFTWARE APPLICATIONS III
3 Credits (1 hr. lec., 4 hrs. lab.) Advanced use of business productivity software including complex assignments that require advanced formatting and functionality. ITSW 1301 and ITSW 1404 are recommended prior to enrolling in the course. Prerequisites: ITSC 1401 or COSC 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.

ITSC 2335 - APPLICATION SOFTWARE PROBLEM SOLVING
3 Credits (2 hrs. lec., 4 hrs. lab.) Utilization of appropriate application software to solve advanced problems and generate customized solutions. This is a capstone course for the E-Business Web Developer AAS degree. Prerequisites: IMED 1316; ITSW 1407; ITSE 1407 or 1432 or 1445 or 2417; ITSC 1407.

ITSC 2380 - COOPERATIVE EDUCATION - COMPUTER AND INFORMATION SCIENCES, GENERAL
3 Credits (1 hr. lec., 20 hrs. ext.) Career-related activities encountered in the student’s area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component. This course may be used as the capstone course in the Computer Information Technology programs. Prerequisites: Enrollment in the Computer Information Technology AAS degree or certificate program; completion of 15 credits in degree plan; approval of computer information technology program chair.

ITSC 2381 - COOPERATIVE EDUCATION
3 Credits (1 hr. lec., 20 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 1356 - EXTENSIBLE MARKUP LANGUAGE (XML)
3 Credits (2 hrs. lec., 2 hrs. lab.) Introduction of skills and practice related to the Extensible Markup Language. Topics to be covered will include: elements, attributes, namespaces, entities, and what constitutes a well-formed document. Prerequisite: ITSE 1402.

ITSE 1402 - COMPUTER PROGRAMMING
4 Credits (3 hrs. lec., 2 hrs. lab.) Introduction to computer programming including design, development, testing, implementation, and documentation. Prerequisites: ITSC/COSC 1401 or departmental approval; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 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.
DESCRIPTION OF COURSES

ITSE 1407 - INTRODUCTION TO C++ PROGRAMMING

4 Credits (3 hrs. lec., 2 hrs. lab.) Introduction to computer programming using C++. Emphasis on the fundamentals of object-oriented design with development, testing, implementation, and documentation. Includes language syntax, data and file structures, input/output devices, and files. Prerequisites: ITSE 1402; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 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 1418 - INTRODUCTION TO COBOL PROGRAMMING

4 Credits (3 hrs. lec., 2 hrs. lab.) Introduction to computer programming using COBOL. Emphasis on the fundamentals of structured design, development, testing, implementation, and documentation. Includes language syntax, data and file structures, input/output devices, and files. ITSC 1401 is recommended prior to enrolling. Prerequisites: ITSE 1402; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 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 - INTRODUCTION TO C# PROGRAMMING

4 Credits (3 hrs. lec., 2 hrs. lab.) A study of C# syntax including data types, control structures, functions, syntax, and semantics of the language, classes, class relationships, and exception handling. Prerequisites: ITSC 1401, ITSE 1402; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 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 1445 - INTRODUCTION TO ORACLE SQL

4 Credits (3 hrs. lec., 2 hrs. lab.) An introduction to the design and creation of relational databases using Oracle. Topics include storing, retrieving, updating, and displaying data using Structured Query Language (SQL). Prerequisites: ITSE 1402; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 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 1450 - SYSTEMS ANALYSIS AND DESIGN

4 Credits (3 hrs. lec., 2 hrs. lab.) Comprehensive introduction to the planning, design, and construction of computer information systems using the systems development life cycle and other appropriate design tools. Prerequisites: ITSE 1402 and one programming language; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 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. This course was designed to be repeated multiple times to improve student proficiency. Prerequisite: ITSE 1430

ITSE 2380 - COOPERATIVE EDUCATION - COMPUTER PROGRAMMING

3 Credits (1 hr. lec., 20 hrs. ext.) Career-related activities encountered in the student’s area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes lecture component. 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 2417 - JAVA PROGRAMMING**

4 Credits (3 hrs. lec., 2 hrs. lab.) Introduction to object-oriented Java programming including the fundamental syntax and semantics of Java for applications and web applets. Prerequisites: ITSE 1402; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 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 2429 - ORACLE NETWORK ADMINISTRATION AND PERFORMANCE TUNING**

4 Credits (3 hrs. lec., 2 hrs. lab.) Introduction to Oracle client/server connectivity and distributed databases including configuring, administering, tuning, troubleshooting Oracle SQL*Net and related tools. Prerequisite: ITSE 2456

**ITSE 2431 - ADVANCED C++ PROGRAMMING**

4 Credits (3 hrs. lec., 2 hrs. lab.) Further application of C++ programming techniques including file access, abstract data structures, class inheritance, and other advanced techniques. Designed to strengthen the student’s knowledge of computer programming. The student will develop correct, well-documented programs containing complex data structures; incorporate complex input/output file handling techniques; create classes and objects in programs; and incorporate advanced C++ techniques using a current personal computer C++ compiler. Prerequisites: ITSE 1407; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 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 2433 - IMPLEMENTING A DATABASE ON MICROSOFT SQL SERVER**

4 Credits (3 hrs. lec., 2 hrs. lab.) Skills development in the implementation of a database solution using Microsoft SQL Server client/server database management system. Prerequisites: ITSW 1407 and ITSE 1402

**ITSE 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

**ITSE 2449 - ADVANCED VISUAL BASIC PROGRAMMING**

4 Credits (3 hrs. lec., 2 hrs. lab.) Advanced Visual Basic programming including file access methods, data structures, modular programming, program testing and documentation. Prerequisites: ITSE 1432; 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; MATH 0310

**ITSE 2453 - ADVANCED C# PROGRAMMING**

4 Credits (3 hrs. lec., 2 hrs. lab.) Continuation of C# programming using advanced features of the .NET Framework Class Library. Prerequisite: ITSE 1430

**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 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; 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 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; 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 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; MATH 0308

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* Text was added to this page (8/13). Please see addendum for details.
DESCRIPTION OF COURSES

ITSE 2459 - ADVANCED COMPUTER PROGRAMMING

4 Credits (3 hrs. lec., 2 hrs. lab.) Further applications of programming techniques. Topics include file access methods, data structures and modular programming, program testing and documentation. Prerequisites: ITSE 1402 or COSC 1309; one lower-level programming course; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 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 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 1404 - INTRODUCTION TO SPREADSHEETS

4 Credits (3 hrs. lec., 2 hrs. lab.) Instruction in the concepts, procedures, and application of electronic spreadsheets. Prerequisites: ITSC or COSC 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

ITSW 1407 - INTRODUCTION TO DATABASE

4 Credits (3 hrs. lec., 2 hrs. lab.) Introduction to database theory and the practical applications of a database. Prerequisites: ITSC or COSC 1401; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 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; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 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 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

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; 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
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; ENGL0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 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; ENGL0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 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; ENGL0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 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. Prerequisites: JAPN 2311 or instructor approval

KINE 1111 - FITNESS AND WELLNESS I *
1 Credit (1 hr. lec., 2 hrs. lab.) Fitness for Life I is a cardiorespiratory fitness course in which students participate in a self-paced walking, jogging, or stationary cycling program. Muscular endurance and

* This text was added (10/13). Please see addendum for details.
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/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.
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**DESCRIPTION OF COURSES**

**KINE 1112 - WEIGHT TRAINING I**
1 Credit (3 hrs. lab.) This course emphasizes the development of muscular strength and endurance, cardiovascular fitness and flexibility. Current information and research in the areas of nutrition, proper training techniques, workout organizations, complementary exercises and additional wellness principles are presented and integrated into this physical activity course. (3601085123) Prerequisites/Corequisite: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 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 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 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 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 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 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 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 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 1123 - GOLF I**
1 Credit (3 hrs. lab.) Golf I emphasizes basic golf skills, rules, scoring, etiquette, and terminology. (3601085123) Prerequisite: None

**KINE 1124 - RACQUETBALL I**
1 Credit (3 hrs. lab.) Racquetball I is a beginning course designed to teach the novice player the basic strokes, strategies, and the rules of the game. (3601085123) Prerequisite: None

**KINE 1125 - TENNIS I**
1 Credit (3 hrs. lab.) Tennis I introduces the student to the rules, scoring, and fundamental techniques for beginners. The course includes participation by skill levels for singles and doubles play. (3601085123) Prerequisite: None

**KINE 1127 - KARATE I**
1 Credit (3 hrs. lab.) This beginning course allows students to safely practice the physical and mental aspects of martial arts. Students are presented with the history, etiquette, meditation and self-defense techniques. (3601085123) Prerequisite: None

**KINE 1128 - YOGA I**
1 Credit (3 hrs. lab.) This introductory course offers practice in basic Yoga. Students study history and basic terms along with philosophical and physiological principles and the movements of Yoga. (3601085123) Prerequisite: None

**KINE 1130 - TAI CHI I**
1 Credit (3 hrs. lab.) This introductory course offers practice in the simplified styles and forms of Tai Chi. Students study history and basic terms along with philosophical and physiological principles and the movements of Tai Chi. (3601085123) Prerequisite: None
KINE 1131 - BASKETBALL I *
1 Credit (3 hrs. lab.) This course includes the fundamental skills and strategies, history, rules and terminology of basketball. The course includes participation in game situations. (3601085123) Prerequisite: None

KINE 1132 - VOLLEYBALL I *
1 Credit (3 hrs. lab.) Volleyball I includes instruction and practice of beginning volleyball techniques and skills, with introduction to the rules, offensive and defensive strategy, and safety aspects. (3601085123) Prerequisite: None

KINE 1133 - SOFTBALL I *
1 Credit (3 hrs. lab.) Students will receive instruction in the following fundamental skill areas: throwing, batting, fielding, and base running. The rules, safety, offense and defense strategies and basic terminology will be emphasized through game play. (3601085123) Prerequisite: None

KINE 1134 - SOCCER I *
1 Credit (3 hrs. lab.) Covers fundamental skills and strategies, history, rules and terminology of soccer. The course includes participation in game situations. (3601085123) Prerequisite: None

KINE 1135 - BASEBALL I *
1 Credit (3 hrs. lab.) Baseball I emphasizes instruction and practice of beginning baseball skills, with introduction to the rules, scorekeeping, and offensive and defensive strategies. The course includes participation in game situations. (3601085123) Prerequisite: None

KINE 1141 - BALLET I *
1 Credit (3 hrs. lab.) This dance technique course introduces students to beginning ballet techniques at barre and center. Students learn basic terms, general history of this classical dance form and create original combination steps. Not transferable as a fine arts credit. (3601145123) Prerequisite: None

KINE 1143 - MODERN DANCE I *
1 Credit (3 hrs. lab.) This beginning level of modern dance technique includes basic terms, history and technique of this creative style of dance. Using artistic free form movements, the students create an original combination of steps. Not transferable as a fine arts credit. (3601145123) Prerequisite: None

KINE 1145 - JAZZ DANCE I *
1 Credit (3 hrs. lab.) Students learn and practice beginning jazz techniques. Students will be introduced to basic terms and general history of jazz dance forms. Movement patterns and concepts are used from various styles including lyrical, musical, comedy, fun, street, and Afro-Haitian dance styles. Not transferable as a fine arts credit. (3601145123) Prerequisite: None

KINE 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 1147 - SOCIAL AND POPULAR DANCE
1 Credit (3 hrs. lab.) Instruction and practice in dances that are currently popular. Basic steps and variations, techniques of leading and following are included. Emphasis on “traditional”: fox trot, waltz, jitterbug, and polka in fall semester. Emphasis on Latin dances: salsa, tango, samba, meringue in the spring semester. (3601145123) Prerequisite: None

KINE 1151 - BASIC SCUBA DIVING *
1 Credit (3 hrs. lab.) Basic SCUBA Diving is an aquatic activity skill course with emphasis on instruction and practice of basic techniques of SCUBA. It includes an introduction to the safety aspects and concepts of SCUBA. Certification is included in the course, but not required for completion of the course for credit. (3601085423) Prerequisite: Ability to swim

KINE 1152 - ADVANCED SCUBA DIVING *
1 Credit (3 hrs. lab.) Advanced SCUBA Diving involves participation in and demonstration of advanced SCUBA techniques, including specialty training in compass and natural navigation, 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

* This class satisfies the requirements of the wellness core. This core will emphasize the health-related components of fitness, wellness for a lifetime, and disease prevention.
KINE 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 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.

KINE 1171 - VENTURE DYNAMICS I *
1 Credit (3 hrs. lab.) Venture Dynamics I is an outdoor adventure course with emphasis on instruction and practice of basic skills in a variety of outdoor adventure activities, during which the student learns the basic skills of interpersonal and intrapersonal dynamics. (3601085128) Prerequisite: None.

KINE 1172 - BACKCOUNTRY EXPEDITIONING I *
1 Credit (3 hrs. lab.) This is an experiential outdoor adventure course with emphasis on the instruction in and practical aspects of extended travel and living in wilderness environments. Topics include expedition behavior, group dynamics, nutrition, health and sanitation, navigation, and specialized travel techniques. (3601085128) Prerequisite: None.

KINE 1173 - ROCK CLIMBING I *
1 Credit (3 hrs. lab.) Rock Climbing I is an outdoor activity course designed to teach the basic skills, safety techniques, concepts, and equipment used in beginning rock climbing. (3601085128) Prerequisite: None.

KINE 1174 - HORSEMANSHIP *
1 Credit (3 hrs. lab.) Horsemanship is a beginning course that guides the student through the proper execution of horseback riding techniques, safety principles for horse and rider, and proper care of the horse and equipment. (3601085128) Prerequisite: None.

KINE 1180 - SWIMMING I *
1 Credit (3 hrs. lab.) Swimming I is an aquatic skill course that teaches the basic swimming skills, strokes, and safety techniques to instill confidence in the beginning swimmer. (3601085128) Prerequisite: None.

KINE 1181 - CANOEING I *
1 Credit (3 hrs. lab.) Canoeing is an aquatic activity course with emphasis on instruction, safety, and practice of beginning canoeing techniques. (3601085128) Prerequisite: None.

KINE 1301 - FOUNDATIONS OF PHYSICAL EDUCATION/KINESIOLOGY
3 Credits (3 hrs. lec.) Foundations of Physical Education/Kinesiology is an orientation lecture course for physical education/kinesiology majors and minors. It includes information about the nature and foundations of the discipline, history of the field, career preparation and opportunities, and issues and challenges confronting the profession. This course is intended for majors and will not fulfill the KINE activity requirement. (3105015223) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 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 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 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) Prerequisite/Corequisite: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course.
KINE 1308 - SPORTS OFFICIATING I

3 Credits (2 hrs. lec., 2 hrs. lab.) Sports Officiating I is designed to teach the rules and mechanics of umpiring or officiating one of the following sports: baseball; softball; or volleyball. Certification to umpire or officiate in the Texas Association of Sports Officials or comparable associations is a major objective of this course. (3101015123) Prerequisites: ENGL 0305 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.

KINE 1309 - SPORTS OFFICIATING II

3 Credits (2 hrs. lec., 2 hrs. lab.) Sports Officiating II is designed to teach the rules and mechanics of officiating one of the following sports: basketball or football. Certification to officiate in the Texas Association of Sports Officials or comparable associations is a major objective of this course. (3101015123) Prerequisites: ENGL 0305 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.

KINE 1331 - KINESIOLOGY FOR ELEMENTARY EDUCATION MAJORS

3 Credits (3 hrs. lec.) Kinesiology for elementary education majors is a state required three-hour course for Kinesiology (physical education) majors and minors. Theoretical principles, including the four domains of movement, school observations, recognizing the different approaches needed for teaching movement to children vs. adults and understanding the realistic issues confronting the contemporary elementary educator are discussed. (3105015223) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 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 1336 - OUTDOOR LEADERSHIP I

3 Credits (3 hrs. lec.) Outdoor Leadership I is designed to enhance the skills and understanding of outdoor pursuits through an examination of the role and responsibilities of an outdoor leader. Topics include risk management, trip planning, emergency plans/prevention, decision making and judgment. This course is intended for majors and will not fulfill the KINE activity requirement. (3101015123) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 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 1337 - OUTDOOR LEADERSHIP II

3 Credits (3 hrs. lec.) This course is an extension of KINE 1336 designed for the development of advanced outdoor leadership skills. This course is intended for majors and will not fulfill the KINE activity requirement. (3101015123) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 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 2111 - FITNESS AND WELLNESS II *

1 Credit (1 hr. lec., 2 hrs. lab.) Continuation of KINE 1111. Muscular endurance and flexibility are assessed. Students apply concepts of wellness principles, including nutrition, diet, and weight control, and fitness concepts of cardio respiratory endurance, muscular strength, muscular endurance, and flexibility. (3601085123) Prerequisites: KINE 1111; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 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 2112 - WEIGHT TRAINING II *

1 Credit (3 hrs. lab.) Weight Training II is a continuation of KINE 1112, in which students apply muscular strength, flexibility, endurance and wellness concepts learned in KINE 1112. (3601085123) Prerequisites: KINE 1112; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 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 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

* This class satisfies the requirements of the wellness core. This core will emphasize the health-related components of fitness, wellness for a lifetime, and disease prevention.
KINE 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 1114

KINE 2115 - BICYCLING II *
1 Credit (3 hrs. lab.) Bicycling II is a continuation of Bicycling I involving advanced cycling techniques. Wellness principles are presented and integrated into this physical activity course. (3601085123) Prerequisite: KINE 1115

KINE 2116 - AQUA AEROBICS II *
1 Credit (3 hrs. lab.) Aqua Aerobics II is a continuation of Aqua Aerobics I. (3601085123) Prerequisite: KINE 1116

KINE 2122 - BOWLING II *
1 Credit (3 hrs. lab.) This intermediate bowling course is designed to increase students skill level through drills, skills, and practice. There are applications of intermediate skill level strategies. (3601085123) Prerequisite: KINE 1122

KINE 2123 - GOLF II *
1 Credit (3 hrs. lab.) Golf II is an advanced course emphasizing golf techniques, skills, and mental preparation in competitive situations. (3601085123) Prerequisite: KINE 1123

KINE 2124 - RACQUETBALL II *
1 Credit (3 hrs. lab.) Racquetball II is a continuation of Racquetball I involving advanced techniques and strategies of the game needed for a higher level of competition. (3601085123) Prerequisite: KINE 1124

KINE 2125 - TENNIS II *
1 Credit (3 hrs. lab.) Tennis II is designed to develop and improve skill levels in serving, forehand and backhand drives, lobs, and volleys. Performance strategies for both singles and doubles are drilled. (3601085123) Prerequisite: KINE 1125

KINE 2127 - KARATE II *
1 Credit (3 hrs. lab.) Students will work on intermediate karate skills and techniques and participate in the leadership aspects of this sport. (3601085123) Prerequisite: KINE 1127

KINE 2128 - YOGA II *
1 Credit (3 hrs. lab.) This course is a continuation of Yoga I. The course will offer intermediate level practice of Yoga. Students will study the history and intermediate terms along with philosophical principles of the movements and Yoga as a concept. (3601085123) Prerequisite: KINE 1128 or instructor approval

KINE 2130 - TAI CHI II *
1 Credit (3 hrs. lab.) This course builds upon the styles and forms of Tai Chi I. Students are introduced to Tai Chi sword. Students will apply the physiological principles and philosophies of Tai Chi. (3601085123) Prerequisite: KINE 1130

KINE 2131 - BASKETBALL II *
1 Credit (3 hrs. lab.) Basketball II emphasizes instruction and practice of intermediate basketball techniques and skills. The course includes extensive participation in game situations to increase knowledge of offensive and defensive strategy, teamwork, and safety aspects of the game. (3601085123) Prerequisite: KINE 1131

KINE 2132 - VOLLEYBALL II *
1 Credit (3 hrs. lab.) Volleyball II is a continuation of Volleyball I with emphasis on the instruction and practice of intermediate volleyball techniques and skills. The course includes extensive practice of intermediate skills and participation in game situations with application of rules, offensive and defensive strategy, teamwork, and safety aspects. (3601085123) Prerequisite: KINE 1132

KINE 2133 - SOFTBALL II *
1 Credit (3 hrs. lab.) Students will receive instruction at the intermediate level of skill development in throwing, batting, fielding, and base running. Students will apply knowledge of offense and defense strategies through teamwork and competitive interclass play. (3601085123) Prerequisite: KINE 1133

KINE 2134 - SOCCER II *
1 Credit (3 hrs. lab.) Soccer II is a continuation of Soccer I focusing on skills for individual improvement. Students practice officiating games utilizing knowledge of game rules, history of the game, and rules of tournament play. (3601085123) Prerequisite: KINE 1134

KINE 2135 - BASEBALL II *
1 Credit (3 hrs. lab.) Students will receive instruction at the intermediate level of skill development in throwing, batting, fielding, and base running. Students will apply knowledge of baseball strategies through teamwork.
and competitive play. (3601085123) Prerequisite: KINE 1135

KINE 2141 - BALLET II *
1 Credit (3 hrs. lab.) This course is a continuation of Ballet I. The course will be intermediate level ballet technique at the barre and center. Students will learn advanced terms and history of this classical form and create an original piece of choreography. Not transferable as a fine arts credit. (3601085123) Prerequisite: KINE 1141 or instructor approval

KINE 2143 - MODERN DANCE II
1 Credit (3 hrs. lab.) This course is a continuation of Modern Dance 1143. It provides intermediate instruction and practice in Modern dance technique. Emphasis continues to be upon placement, alignment, technique, and terminology. The history of Modern dance is studied more thoroughly. (3601145123) Prerequisite: KINE 1143 or instructor approval

KINE 2145 - JAZZ DANCE II
1 Credit (3 hrs. lab.) This course is a continuation of Jazz Dance 1145. It provides intermediate instruction and practice in jazz dance technique. Emphasis continues to be upon placement, alignment, technique, and terminology. The history of jazz dance is studied more thoroughly. (3601145123) Prerequisite: KINE 1145 or instructor approval

KINE 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 1146

KINE 2147 - SOCIAL AND POPULAR DANCE II *
1 Credit (3 hrs. lab.) This course is a continuation of Social and Popular Dance I. The course will offer intermediate level of instruction and practice in dances that are currently popular. Intermediate steps, variations, techniques of leading and following are included. Emphasis will be on fox trot, waltz, jitterbug, polka, salsa, tango, and merengue. (3601145123) Prerequisite: KINE 1147 or instructor approval

* This class satisfies the requirements of the wellness core. This core will emphasize the health-related components of fitness, wellness for a lifetime, and disease prevention.

KINE 2171 - VENTURE DYNAMICS II *
1 Credit (3 hrs. lab.) Venture Dynamics II is an extension of Venture Dynamics I with emphasis on instruction and practice of a variety of different outdoor adventure activities. (3601085128) Prerequisite: KINE 1171

KINE 2172 - BACKCOUNTRY EXPEDITIONING II *
1 Credit (3 hrs. lab.) This course is an extension of KINE 1172, with an emphasis on advanced concepts and theories associated with traveling and living in the outdoor environment. (3601085128) Prerequisite: KINE 1172

KINE 2173 - ROCK CLIMBING II *
1 Credit (3 hrs. lab.) Rock Climbing II is a continuation of Rock Climbing I, designed to teach advanced topics and techniques of rock climbing. (3601085128) Prerequisite: KINE 1173

KINE 2174 - ADVANCED HORSEMANSHIP *
1 Credit (3 hrs. lab.) This course will provide instruction on advanced execution of horseback riding techniques, detailed knowledge of horseback riding, equine training, care, and safety aspects needed to enjoy a more advanced level of horsemanship. (3601085128) Prerequisite: KINE 1174

KINE 2180 - SWIMMING II *
1 Credit (3 hrs. lab.) Swimming II is a continuation of Swimming I in which the student learns advanced strokes with an emphasis on lap swimming. (3601085128) Prerequisite: KINE 1180

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 standard and/or computer assisted legal research techniques in a law library 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 1401.

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, martial 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 are presented with emphasis on the paralegal’s role in tort and personal injury 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 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.
DESCRIPTION OF COURSES

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
3 Credits (18 hrs. ext.) The internship is a work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. A learning plan is developed by the college, the student, and the employer. Prerequisites: 15 LGLA credits, Enrollment in paralegal AAS or certificate program, approval of instructor; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 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 1319 - INTRODUCTION TO BUSINESS LOGISTICS
3 Credits (3 hrs. lec.) A systems approach to managing activities associated with traffic, transportation, inventory management and control, warehousing, packaging, order processing, and materials handling. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite. 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. 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. 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. Prerequisite: None.

LMGT 1425 - WAREHOUSE AND DISTRIBUTION CENTER MANAGEMENT
4 Credits (3 hrs. lec., 2 hrs. lab.) Emphasis on physical distribution and total supply chain management. Includes warehouse operations management, hardware and software operations, bar codes, organizational effectiveness, just-in-time manufacturing, continuous replenishment, and third party logistics providers. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite. Prerequisite: MATH 0306.; Corequisite: LMGT 1319. 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.) 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. 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. 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. Prerequisite: Placement by testing

**MATH 1314 - COLLEGE ALGEBRA**

3 Credits (3 hrs. lec.) In-depth study and applications of polynomial, rational, radical, absolute value, piece-wise-defined, exponential and logarithmic functions, equations, inequalities, graphing and skills and systems of equations using matrices. Additional topics such as sequences, series, probability, conics, and inverses may be included. (2701015419) Prerequisites: MATH 0310 or placement by testing; Course may be taken as a corequisite with ENGL 0305 or ENGL 0365 AND ENGL 0307

**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 (ENG 1301), OR placement by testing; Corequisite: ENGL 0307

**MATH 1324 - FINITE MATHEMATICS**

3 Credits (3 hrs. lec.) Matrices, systems of equations, linear programming, the simplex method, probability, and mathematics of finance. Primarily for business majors and liberal arts students. (2703015219) Prerequisites: MATH 1314 OR placement by testing; ENGL 0305 or ENGL 0365 OR higher level course (ENG 1301), OR placement by testing; Corequisite: ENGL 0307

**MATH 1325 - ELEMENTS OF CALCULUS WITH APPLICATIONS**

3 Credits (3 hrs. lec.) A one-semester calculus course for non-science majors. Topics include limits, continuity, rates of change, differentiation and integration techniques and applications, calculus of the logarithmic and exponential functions and partial derivatives. (2703015319) Prerequisites: MATH 1314 or placement by testing; ENGL 0305 or ENGL 0365 OR higher level course (ENG 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 1314 OR placement by testing; ENGL 0305 or ENGL 0365 OR higher level course (ENG 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 (ENG 1301), OR placement by testing; Corequisite: ENGL 0307

**MATH 1350 - FOUNDATIONS OF MATHEMATICS I**

3 Credits (3 hrs. lec.) This is designed specifically for students who seek elementary and middle school teacher certification. Topics include set theory, functions, numerations systems, number theory, emphasis on problem solving and critical thinking. (2701015619) Prerequisite: MATH 1314 OR placement by testing; ENGL 0305 or ENGL 0365 OR higher level course (ENG 1301), OR placement by testing; Corequisite: ENGL 0307
DESCRIPTION OF COURSES

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) Prerequisites: MATH 2414; ENGL 0305 or ENGL 0365 OR higher level course (ENGL 1301), OR placement by testing; Corequisite: ENGL 0307

MATH 2320 - DIFFERENTIAL EQUATIONS
3 Credits (3 hrs. lec. OR 3 hrs. lec., 1 hr. lab.) Linear equations, solutions in series, solutions using Laplace transforms, systems of differential equations and applications to problems in engineering and allied fields. (2703015119) 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 (2703015819) 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) 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) 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: 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 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

* This text was deleted (02/14) effective summer 2014. Please see addendum for details.
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 1343 - MACHINE SHOP MATHEMATICS
3 Credits (2 hrs. lec., 2 hrs. lab.) Designed to prepare the student with technical, applied mathematics that will be necessary in future machine shop-related courses. Prerequisite: Departmental approval

MCHN 1352 - INTERMEDIATE MACHINING I
3 Credits (2 hrs. lec., 2 hrs. lab.) Operation of drilling machines, milling machines, lathes, and power saws. Select and use appropriate precision measuring tools. Prerequisite: MCHN 1338 or departmental approval

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 1426 - INTRODUCTION TO COMPUTER-AIDED MANUFACTURING (CAM)
3 Credits (1 hrs. lec., 7 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. Prerequisite: None

MCHN 2305 - MILLWRIGHT III
3 Credits (2 hrs. lec., 2 hrs. lab.) An introduction to bearings and seals. Identification of common bearings and seals. Emphasis on design and installation of bearings and seals, and couplings. Prerequisite: None

* This text was deleted (02/14) effective summer 2014. Please see addendum for details.
DESCRIPTION OF COURSES

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. Prerequisite: MCHN 1338

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. Prerequisite: None

MCHN 2335 - ADVANCED CNC MACHINING
3 Credits (2 hrs. lec., 2 hrs. lab.) The study of advanced CNC operation with an emphasis on programming and operations of machining and turning centers. Prerequisite: None

MCHN 2341 - ADVANCED MACHINING I
3 Credits (2 hrs. lec., 2 hrs. lab.) A study of advanced lathe and milling operations. Emphasis on advanced cutting operations of the lathe and milling machines, including the use of special tooling, bench assembly, and materials identification. Prerequisite: MCHN 1352 or departmental approval

MCHN 2381 - COOPERATIVE EDUCATION - MACHINE TOOL TECHNOLOGY/MACHINIST
3 Credits (1 hr. lec., 20 hrs. ext.) Career-related activities encountered in the student’s area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component. Prerequisite: MCHN 1338 or departmental approval

MCHN 2438 - ADVANCED COMPUTER-AIDED MANUFACTURING (CAM)
4 Credits (2 hrs. lec., 6 hrs. lab.) A study of advanced techniques in Computer-Aided Manufacturing (CAM). Prerequisite: INMT 1443

MDCA 1154 - MEDICAL ASSISTING CREDENTIALING EXAM REVIEW
1 Credit (1 hr. lec.) A preparation for the Certified Medical 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
DESCRIPTION OF COURSES

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 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; MATH 0306.

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.
**DESCRIPTION OF COURSES**

**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 2330 - PRINCIPLES OF MAGNETIC RESONANCE**
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 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 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 profession. 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 profession. 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 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

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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

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 - HARPSICHORD
1 Credit (One 1/2 hour lesson per week)

MUAP 1201 - STRINGS
2 Credits (Two 1/2 hour lessons per week; two credit hours per semester)

MUAP 1221 - WOODWINDS
2 Credits (Two 1/2 hour lessons per week; two credit hours per semester)

MUAP 1241 - BRASS
2 Credits (Two 1/2 hour lessons per week; two credit hours per semester)

MUAP 1257 - PERCUSSION
2 Credits (Two 1/2 hour lessons per week; two credit hours per semester)

MUAP 1261 - GUITAR
2 Credits (Two 1/2 hour lessons per week; two credit hours per semester)

MUAP 1265 - ORGAN
2 Credits (Two 1/2 hour lessons per week; two credit hours per semester)

MUAP 1269 - KEYBOARD
2 Credits (Two 1/2 hour lessons per week; two credit hours per semester)

MUAP 1281 - VOICE
2 Credits (Two 1/2 hour lessons per week; two credit hours per semester)

MUAP 1287 - HARPSICHORD
2 Credits (Two 1/2 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)
DESCRIPTION OF COURSES

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 - HARPSCICHORD
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 - HARPSCICHORD
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

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
DESCRIPTION OF COURSES

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). 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 1181, 1182, 2181, 2182 - CLASS PIANO
1 Credit (3 hrs. lab.) Beginning keyboard instruction for the general music major as well as the nonmusic major who wishes to learn piano. The use of electronic pianos permits individual instruction. A maximum of four credit hours may be earned. (5009075126) Prerequisite: None

MUSI 1183, 1184, 2183, 2184 - CLASS VOICE
1 Credit (3 hrs. lab.) Beginning voice instruction for the student who has little or no experience. A maximum of four credit hours of voice classes may be earned. (5009085126) Prerequisite: None

MUSI 1192, 1193, 2192, 2193 - CLASS GUITAR
1 Credit (3 hrs. lab.) Beginning guitar instruction for the general music major as well as the non-music major who wishes to learn guitar. A maximum of four credit hours may be earned. (5009115126) Prerequisite: None

MUSI 1192, 1193, 2192, 2193 - CLASS GUITAR
1 Credit (3 hrs. lab.) Beginning guitar instruction for the general music major as well as the non-music major who wishes to learn guitar. A maximum of four credit hours may be earned. (5009115126) Prerequisite: None

MUSI 1192, 1193, 2192, 2193 - CLASS GUITAR
1 Credit (3 hrs. lab.) Beginning guitar instruction for the general music major as well as the non-music major who wishes to learn guitar. A maximum of four credit hours may be earned. (5009115126) Prerequisite: None

MUSI 1211 - THEORY I
2 Credits (3 hrs. lec.) A study of elementary harmony and part writing up to and including diatonic seventh chords. Analysis and writing of small compositional forms. Correlated study at the keyboard. (5009045126) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 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 1181

MUSI 1212 - THEORY II
2 Credits (3 hrs. lec.) A continuation of MUSI 111 including modulation, secondary dominants and secondary leading-tone chords. (5009045126) Prerequisites: MUSI 1211; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 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 1182 and 1217

MUSI 1216 - EAR TRAINING AND SIGHT SINGING I
2 Credits (1 hr. lec., 2 hrs. lab.) An aural study (including dictation) of rhythm, melody and diatonic harmony. Singing tonal music in treble, bass, alto and tenor clefs. (5009045626) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 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 1211 and 1181

MUSI 1217 - EAR TRAINING AND SIGHT SINGING II
2 Credits (1 hr. lec., 2 hrs. lab.) A continuation of MUSI 1216. (5009045626) Prerequisites: MUSI 1216; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 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 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. 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. 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 - MUSIC APPRECIATION
3 Credits (3 hrs. lec.) A nontechnical course designed to provide the layperson with the understanding necessary for greater enjoyment of music. (5009025126)
Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 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)
Corequisites: may be taken with ENGL 0305 or ENGL 0365 AND ENGL 0307 or ENGL 0375

MUSI 2160 - GERMAN DICTON
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
DESCRIPTION OF COURSES

0365 or ENGL 0115 AND ENGL 0307 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 rule 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 2181

MUSI 2217 - EAR TRAINING AND SIGHT SINGING IV

2 Credits (1 hr. lec., 2 hrs. lab.) A continuation of MUSI 2216. (5009045726) Prerequisites: MUSI 2216; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 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.) Fundamentals of welding and inspection, code interpretation, and the practical portion in preparation for the certified welding inspector examination. 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. 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. 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. 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 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 or ENGL 0310 also meets prerequisite

OTHA 1341 - OCCUPATIONAL PERFORMANCE FROM BIRTH THROUGH ADOLESCENCE
3 Credits (2 hrs. lec., 3 hrs. lab.) Occupational performance of newborns through adolescents. Includes frames of reference, evaluation tools and techniques, and intervention strategies. 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

* This text was revised (02/14) effective summer 2014. Please see addendum for details.
OTHA 1353 - OCCUPATIONAL PERFORMANCE FOR ELDERS

3 Credits (2 hrs. lec., 3 hrs. lab.) Occupational performance of elders. Includes frames of reference, evaluation tools and techniques, and intervention strategies. 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 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

OTHA 2460 - CLINICAL - OCCUPATIONAL THERAPY ASSISTANT

4 Credits (20 hrs. ext.) A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. Requires LSCS liability insurance. Prerequisites: OTHA 1319, 1341, 1353, 2335, and 2166; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 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 2461 - CLINICAL - OCCUPATIONAL THERAPY ASSISTANT

4 Credits (20 hrs. ext.) A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. Requires LSCS liability insurance. Prerequisites: OTHA 1319, 1341, 1353, 2335, and 2166; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 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 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. ENGL 0309 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 AND ENGL 0307 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 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 medieval periods. (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 2317 - 17TH AND 18TH CENTURY PHILOSOPHY

3 Credits (3 hrs. lec.) A study of major philosophers and philosophical themes from the seventeenth 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 AND ENGL 0307 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

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 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 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0374 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 computer information systems and technology within the health care system. Includes specialized skills in the production of pharmaceutical documentation using selected pharmacy software packages. Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 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 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., 2 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., 2 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., 2 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 drug distribution systems, continuous quality improvement and inventory control. 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 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
DESCRIPTION OF COURSES

PHTC 1311 - FUNDAMENTALS OF PHOTOGRAPHY
3 Credits (2 hrs. lec., 4 hrs. lab.) An introduction to camera operation and image production, composition, supplemental lighting, and use of exposure meters and filters. This course covers the operation of a digital camera and the proper use of photographic equipment. Corequisite: ARTC 1302

PHTC 1345 - ILLUSTRATIVE PHOTOGRAPHY I
3 Credits (2 hrs. lec., 4 hrs. lab.) Instruction in the technical aspects involved in commercial photography. Topics include lighting equipment, techniques of production photography, reproduction principles, illustrative techniques, and advertising. Corequisite: ARTC 1302

PHTC 2301 - INTERMEDIATE PHOTOGRAPHY
3 Credits (2 hrs. lec., 4 hrs. lab.) Continuation of “Fundamentals of Photography.” Emphasizes social, portrait, studio, fashion, theatrical, publicity, and event photography. Covers some aspects of photojournalism. Prerequisite: PHTC 1311 or departmental approval

PHTC 2349 - PHOTO DIGITAL IMAGING II
3 Credits (2 hrs. lec., 4 hrs. lab.) Advanced concepts in the use of the computer and software for photographic manipulation and output. Prerequisites: ARTC 1302 and ARTC 1317

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 or 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 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

This text was revised (9/13) effective Spring 2014. Please see addendum for details.
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 gravita-
tional 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 test-
ing; 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 ap-
propriate laboratory program illustrating the principles
learned in lecture. This course is primarily for physical
science and engineering majors. (4001015703) Prere-
quisites: 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.

POFI 1270 - FIELD REPORTS AND DATA TRANSFER
2 Credits (2 hrs. lec., 2 hrs. lab.) Essential computer
application, writing, and computational skills required
by the energy industry for completion of reports.
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.

POFL 1303 - LEGAL OFFICE PROCEDURES I
3 Credits (2 hrs. lec., 3 hrs. lab.) Fundamental ad-
ministrative 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 admin-
istrative 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 assis-
tants. Prerequisite: POFL 1305

POFL 2380 - COOPERATIVE EDUCATION - LEGAL
ADMINISTRATIVE ASSISTANT/SECRETARY
3 Credits (1 hr. lec., 20 hrs. ext.) Career-related activi-
ties encountered in the student’s area of specialization
offered through an individualized agreement among
the college, employer, and student. Under the super-
vision of the college and the employer, the student
combines classroom learning with work experience.
Includes a lecture component. Prerequisites: Enrollment
in Legal Office Specialization 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 ap-
plication 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
level course (ENGL 1301) OR placement by testing.
ENGL 0309 or ENGL 0310 also meets prerequisite
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: HITT 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; 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.

POFM 2333 - MEDICAL DOCUMENT PRODUCTION
3 Credits (2 hrs. lec., 3 hrs. lab.) Create, format and produce publishable medical documents. Prerequisites: HITT 1305, ITSC 1401, 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: HITT 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.
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 1401 or COSC 1401 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

POFT 2380 - COOPERATIVE EDUCATION - ADMINISTRATIVE ASSISTANT/SECRETARIAL SCIENCE GENERAL
3 Credits (1 hr. lec., 20 hrs. ext.) Career-related activities encountered in the student’s area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component. Prerequisites: Enrollment in Professional Office Technology AAS degree or certificate program; completion of 15 credits in degree plan; approval of coordinator

POFT 2381 - COOPERATIVE EDUCATION - ADMINISTRATIVE ASSISTANT/SECRETARIAL SCIENCE GENERAL II
3 Credits (1 hr. lec., 20 hrs. ext.) Career-related activities encountered in the student’s area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component. Prerequisites: POFT 2380; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 or ENGL 0375 or ENGL 0117 OR higher level course (ENGL 1301) OR placement by testing; ENGL 0309 or ENGL 0310 also meets prerequisite

POFT 2386 - INTERNSHIP - ADMINISTRATIVE ASSISTANT
3 Credits (9 hrs. ext.) A work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. A learning plan is developed by the college and the employer. Prerequisite: POFT 2331

POFT 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

PGST 1160 - POLYSOMNOGRAPHY CLINICAL I *
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. Prerequisites: PGST 1115 and PGST 1305 and PGST 1400 and PGST 1310 and PGST 1340

PGST 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: PGST 1305, PGST 1400, PGST 1310, and PGST 1340 and department approval

PGST 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: PGST 1360 and PGST 2250 and department approval

PGST 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

PGST 1310 - NEUROANATOMY & PHYSIOLOGY
3 Credits (2 hrs. lec., 3 hrs. lab.) Basic neuroanatomy and physiology. Includes neurologic history, neurologic exam, and diagnostic tests applied to the study of various neurologic disorders. Prerequisite: department approval

PGST 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

* This text was added (9/13).

** This text was added (1/13). Please see addendum for details.
**DESCRIPTION OF COURSES**

* 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

* This text was added (1/13). Please see addendum for details.
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DESCRIPTION OF COURSES

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 also meets prerequisite.

PSYC 2316 - PSYCHOLOGY OF PERSONALITY
3 Credits (3 hrs. lec.) An examination of the major personality theories and ideas within the field of psychology. Includes, but not limited to, psychoanalytic, Neo-Freudian, humanistic and behavioral ideas and methods of personality measurement. (4201015725) Prerequisites: PSYC 2301; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 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. (4201015225) 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. (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.

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 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 1260, 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 2462 and 1291

PTHA 2462 - CLINICAL - PHYSICAL THERAPY ASSISTANT
4 Credits (12 hrs. ext.) A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. Prerequisite: None; Corequisites: PTHA 2461 and 1291

PTHA 2563 - CLINICAL - PHYSICAL THERAPY ASSISTANT
5 Credits (15 hrs. ext.) A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. 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 of drilling, production and reservoir. Prerequisites: ENGL 0309 and MATH 0308 and PTRT 1371

**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 pumphers, and geological classifications. Prerequisites: ENGL 0309 and MATH 0308 and PTRT 1373

**PTRT 1391 - PETROLEUM TROUBLESHOOTING**

3 Credits (3 hrs. lec.) 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 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 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 1424 - PETROLEUM INSTRUMENTATION**

4 Credits (3 hrs. lec., 3 hrs. lab.) Study of instruments, instrument systems, terminology, process variables, and control loops as used in a petroleum environment. Prerequisite: 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, formation 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 - WELL COMPLETIONS**

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. Prerequisites: ENGL 0309 and MATH 0308 and department consent.

**PTRT 2380 - COOPERATIVE EDUCATION - PETROLEUM TECHNOLOGY/TECHNICIAN**

3 Credits (1 hr. lec., 20 hrs. ext.) Career-related activi-
ties 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 qual-
ity control principles and applications. Designed to
introduce the student to the quality control profession.
The student will be introduced to the use of statistical
analysis of data to establish control systems for use
in product manufacturing. Prerequisites: MATH 1314
and MCHN 1319; ENGL 0305 or ENGL 0365 or
ENGL 0115 AND ENGL 0307 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 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 develop-
ment of the student. A course in the requirements of
inspection of pressure vessels including ASME Code
Structure, function and requirements, Nondestructive
Examination, Maintenance Inspection, Repairs and
Alterations and Pressure Vessel Inspection Code.
Prerequisites: ENGL 0305 or ENGL 0365 or ENGL
0115 AND ENGL 0307 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
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 profes-

sional. 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 ex-
posure 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 profes-

sional. Requires LSCS liability insurance. Prerequisite:
RADR 1260

RADR 1409 - INTRODUCTION TO RADIOGRAPHY
AND PATIENT CARE
4 Credits (3 hrs. lec., 2 hrs. lab.) An overview of
the historical development of radiography, basic
radiation protection, an introduction to medical
terminology, ethical and legal issues for health care
professionals, and an orientation to the 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 ma-
ipulation 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 profes-

sional. Requires LSCS liability insurance. Prerequisite:
RADR 1360

LSC-CyFair and LSC-Montgomery offer these courses
in different semesters so the weekly hours may differ
(12 hrs/wk in the fall and 16 hrs/wk in the summer.)

* This text was added (10/13). Please see addendum for details.
DESCRIPTION OF COURSES

RADR 2217 - RADIOGRAPHIC PATHOLOGY
2 Credits (2 hrs. lec.) A presentation of disease processes and their appearance on radiographic images. Prerequisite: RADR 2331

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 2313

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 1460

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

* LSC-CyFair and LSC-Montgomery offer these courses in different semesters so the weekly hours may differ (12 hrs/wk in the fall and 16 hrs/wk in the summer.)
DESCRIPTION OF COURSES

RADR 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 1411

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 1119 - INTEGRATED NURSING SKILLS I
1 Credit (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: 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 (6 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 1119, RNSG 1301, RNSG 1523, BIOL 2402 Corequisites: RNSG 1362 and RNSG 2504

* LSC-CyFair and LSC-Montgomery offer these courses in different semesters so the weekly hours may differ (12 hrs/wk in the fall and 16 hrs/wk in the summer.)

* This text was revised (10/13). Please see addendum for details.
**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 1260 - CLINICAL-NURSING FOR ARTICULATING STUDENTS**

2 Credits (6 hrs. ext.) A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. Requires LSCS liability insurance. Prerequisites: Admission to nursing RN transition program and PSYC 2301 and 2314; BIOL 2401 and 2402; ENGL 1301, RNSG 1301; Corequisite: RNSG 1417

**RNSG 1261 - CLINICAL - COMMON CONCEPTS OF ADULT HEALTH**

2 Credits (6 hrs. ext.) A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. Requires LSCS liability insurance. Prerequisites: RNSG 1144 and BIOL 2402; Corequisites: RNSG 1261 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 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 1119 and 1523

**RNSG 1362 - CLINICAL - NURSING II**

3 Credits (9 hrs. ext.) A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. Requires LSCS liability insurance. Prerequisites: RNSG 1119, 1361, 1523, 1301; BIOL 2402; Corequisites: RNSG 1129 and 2504
DESCRIPTION OF COURSES

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; ENGL 1301, PSYC 2301, 2314, RNSG 1301; Corequisite: RNSG 1260

RNSG 1523 - INTRO TO PROFESSIONAL NURSING FOR INTEGRATED PROGRAMS

5 Credits (4 hrs. lec., 2 hrs. lab.) Introduction to the profession of nursing including the roles of the 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 and 1361

RNSG 2162 - CLINICAL: MENTAL HEALTH NURSING

1 Credit (3 ext. hrs.) A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. Requires LSCS liability insurance. Prerequisites: RNSG 1362; RNSG 1343, PSYC 2314, SOCI 1301; Corequisites: RNSG 2213 and SPCH 1318

RNSG 2171 - ROLE TRANSITION FOR ARTICULATING STUDENTS

1 Credit (1 hr. lec.) This is the third course in the sequence for licensed vocational nurses in preparation for transition to the professional nursing role. It includes exploration of the role of the professional nurse as a provider of care, coordinator of care, member of a profession, application of knowledge, judgment, skills and professional values within a legal/ethical framework. The focus is on role transition, including assessment, analysis of data, nursing process, pharmacology, interdisciplinary team process, communication process, and legal/ethical responsibilities. Prerequisites: RNSG 1260, 1301, 1417, 2173, 2361, 2514; Corequisites: RNSG 2207, 2362 and 2535

RNSG 2173 - ADVANCED NURSING SKILLS

1 Credit (3 hrs. lab.) Study of the concepts and principles necessary to perform advanced nursing skills. Topics include knowledge, judgment, skills, critical decision-making, and professional values within a legal/ethical framework. Skills include venipuncture, intravenous medication administration, care of the violent patient, advanced EKG interpretation, ventilator care, chest tubes, problem-solving, phlebotomy, tracheostomy care, suctioning, central line dressing changes, and total parenteral nutrition. Prerequisites: RNSG 1129, 1260, 1417, 2504; BIOL 2420, PSYC 2314, SOCI 1301; Corequisites: RNSG 2361 and 2514

RNSG 2201 - CARE OF CHILDREN AND FAMILIES

2 Credits (2 hrs. lec.) Study of concepts related to the provision of nursing care for children and their families, emphasizing judgment and professional values within a legal/ethical framework. Prerequisites: PSYC 2314; RNSG 1362; Corequisites: RNSG 2260, 2261

RNSG 2207 - ADAPTATION TO ROLE OF PROFESSIONAL NURSE

2 Credits (2 hrs. lec.) 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 2173, RNSG 2361, and RNSG 2514; Corequisites: RNSG 2362 and RNSG 2535

RNSG 2208 - MATERNAL/NEWBORN NURSING AND WOMEN'S HEALTH

2 Credits (2 hrs. lec.) 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; Corequisites: RNSG 2201, 2261, and SPCH 1318

RNSG 2213 - MENTAL HEALTH NURSING

2 Credits (2 hrs. lec.) Principles and concepts of mental health, psychopathology, and treatment modalities related to the nursing care of patients and their families. This course lends itself to a blocked approach.
Prerequisites: RNSG 1362; SOCI 1301; Corequisites: RNSG 2162

RNSG 2231 - ADVANCED CONCEPTS OF ADULT HEALTH

2 Credits (2 hrs. lec.) Application of advanced concepts and skills for the development of the professional nurse’s 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; Corequisites: RNSG 2307

RNSG 2260 - CLINICAL - CARE OF CHILDREN AND FAMILIES

2 Credits (6 hrs. ext.) A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. Work based instruction that allows the student to synthesize and apply theoretical concepts learned in caring for the pediatric client and family to the community, clinical, and acute care setting. Close and/or direct supervision is provided by the clinical professional (faculty or preceptor), generally in a clinical setting. Requires LSCS liability insurance. Prerequisites: RNSG 1362, PSYC 2314; Corequisite: RNSG 2201

RNSG 2261 - CLINICAL - MATERNAL/NEWBORN NURSING

2 Credits (6 hrs. lec.) A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. Requires LSCS liability insurance. Prerequisites: RNSG 1362; Corequisite: RNSG 2208

RNSG 2307 - ADAPTATION TO ROLE OF PROFESSIONAL NURSE

3 Credits (3 hrs. lec.) 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, RNSG 2261, RNSG 2260; Corequisite: RNSG 2231

* This text was revised (11/13). Please see addendum for details.

RNSG 2361 - CLINICAL - NURSING III

3 Credits (9 hrs. ext.) A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. Requires LSCS liability insurance. Prerequisites: RNSG 1129, 1260, 1362, 1417, 2504; BIOL 2420; PSYC 2314; SOCI 1301; Corequisites: RNSG 2173 and 2514

RNSG 2362 - CLINICAL - NURSING IV

3 Credits (9 hrs. ext.) A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. Requires LSCS liability insurance. Prerequisites: RNSG 2173, 2361, 2514; Corequisites: RNSG 2207 and 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 1119, 1301, 1361, 1523; BIOL 2402; Corequisites: RNSG 1129 and 1362

RNSG 2514 - INTEGRATED CARE OF THE PATIENT WITH COMPLEX 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 comprehensive nursing care to diverse patients and families across the life span with complex health care needs including, but not limited to, complex childhood/adolescent diseases, complicated perinatal care, acute mental illness, complex perioperative care, serious adult health problems and health issues related to aging. Emphasis on tertiary disease prevention, health maintenance/restoration and collaboration with members of the interdisciplinary health care team. Content includes the 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 1129, 1260, 1362, 1417, 2504; BIOL 2420; PSYC 2314; SOCI 1301; Corequisites: RNSG 2173 and 2361

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 2173, 2361, 2514; Corequisites: RNSG 2207 and 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 2162, 2260, 2261; Corequisites: RNSG 2307

RSPT 1167 - PRACTICUM RESPIRATORY CARE THERAPY/ThERAPlIST

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 1431

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. 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 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. 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 1167

**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; Corequisite: RSPT 1167

**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 profes-
DESCRIPTION OF COURSES

sional. This course may be offered only by a college
with a program approved by the Commission on Ac-
creditation 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 pro-
gram 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 Ac-
creditation 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 2414 - MECHANICAL VENTILATION

4 Credits (2 hrs. lec., 6 hrs. lab.) The study of
mechanical ventilation with emphasis on ventilator
classification, methods, principles, and operational
characteristics. This course may be offered only by
a college with a program approved by the Commiss-
on Accreditation for Respiratory Care Education
(CoARC) or successor organizations.
Prerequisite: None; Corequisite: RSPT 1167

RSTO 1313 - HOSPITALITY SUPERVISION

3 Credits (3 hrs. lec.) Fundamentals of recruiting,
selection, and training of food service and hospitality
personnel. Topics include job descriptions, schedules,
work improvement, motivation, and applicable person-
nel laws and regulations. Emphasis on leadership de-
velopment. Prerequisites: HAMG 1321; ENGL 0305
or ENGL 0365 or ENGL 0115 AND ENGL 0307 or
ENGL 0375 or ENGL 0117 OR higher level course
(ENGL 1301) OR placement by testing. ENGL 0309
or ENGL 0310 also meets prerequisite

RSTO 1325 - PURCHASING FOR HOSPITALITY
OPERATIONS

3 Credits (3 hrs. lec.) Study of purchasing and inventory
management of foods and other supplies to include
development of purchase specifications, determination
of order quantities, formal and informal price
comparisons, proper receiving procedures, storage
management, and issue procedures. Emphasis on
product cost analysis, yields, pricing formulas, controls,
and record keeping at each stage of the purchasing
cycle. Prerequisites: HAMG 1321; ENGL 0305 or
ENGL 0365 or ENGL 0115 AND ENGL 0307 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

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 2337 - TV PRODUCTION WORKSHOP I

3 Credits (2 hrs. lec., 4 hrs. lab.) Design and pro-
duction 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 Communica-
tion 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 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: 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 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, 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, 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: 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, 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

**SGNL 1401 - BEGINNING AMERICAN SIGN LANGUAGE I**

4 Credits (3 hrs. lec., 2 hrs. lab.) Manual and receptive proficiency on a basic level. Signed conversation, use of CD-ROM for visual training, basic principles of grammar, simple exercises, easy reading which includes cultural material. (1616035113) Prerequisite: None

**SGNL 1402 - BEGINNING AMERICAN SIGN LANGUAGE II**

4 Credits (3 hrs. lec., 2 hrs. lab.) Continuation of SGNL 1401 with increased emphasis on comprehension, signing and receptive skills. Intensive drills to increase vocabulary and knowledge of ASL structure. (1616035113) Prerequisite: SGNL 1401

**SGNL 2301 - INTERMEDIATE AMERICAN SIGN LANGUAGE I**

3 Credits (2 hrs. lec., 3 hrs. lab.) Review and application of conversational skills in American Sign Language. Introduction to American Sign Language literature and folklore. (1616035213) Prerequisite: SGNL 1402

**SGNL 2302 - INTERMEDIATE AMERICAN SIGN LANGUAGE II**

3 Credits (2 hrs. lec., 3 hrs. lab.) Continuation of SGNL 2301 with increased emphasis on conversational skills. (1616035213) Prerequisite: SGNL 2301

**SLNG 1211 - FINGERSPELLING**

2 Credits (2 hrs. lec., 2 hrs. lab.) Develops expressive and receptive fingerspelling skills. Receptive skills focus on whole word and phrase recognition as well as reading fingerspelling in context. Expressive skills focus on the development of speed, clarity, and fluency. Additionally, this course develops expressive skills in signing numbers and skills in receptively interpreting numbers in a variety of areas including sports, mathematics, weights, and measures. Prerequisite: None
DESCRIPTION OF COURSES

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 oriented course to strengthen skills in the integration and application of processing more complex selections. Continued exposure to simulated interpreting experience through the use of multimedia material. This course
will also include the use of computer laboratories, multimedia equipment and video equipment to assess and enhance sign-to-voice and voice-to-sign skill development. Prerequisites: SLNG 2402; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 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 experience that enables the student to apply specialized occupational theory, skills and concepts. A learning plan is developed by the college and the employer. Requires LSCS liability insurance. Prerequisites: Successful completion of all SLNG courses within the AAS degree plan; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 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 1306 - SOCIAL PROBLEMS**

3 Credits (3 hrs. lec.) The emphasis in this course is on the identification and analysis of contemporary social problems. An analysis of the problems of social planning and of the conventional solutions to these problems is included in the course. (4511015225) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 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 cultures and subcultures. Second, this course examines some of the problems and possible solutions that have developed in courtship, marriage and parenthood in a society undergoing rapid social change. (4511015425) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 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 comprehension, oral practice, and use of multimedia materials. It is intended to develop basic communication skills for the student to apply these skills to everyday life and work situation. It is an alternate track for the student who needs immediate communicative experience in Spanish. (1609055413) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 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 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
DESCRIPTION OF COURSES

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 advance to the next level and receive credit. (1609055213) Prerequisites: SPAN 1412 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 2312 - INTERMEDIATE SPANISH II

3 Credits (3 hrs. lec.) This course is a continuation of SPAN 2311, with emphasis on works by Spanish-speaking authors. Continued reinforcement of grammatical principles and development of writing skills are stressed. (1609055213) Prerequisites: SPAN 2311 or placement 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) 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: ENGL0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 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.
(2313045412) 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 (2313045212) 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 (2313045812) 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 2333 - DISCUSSION AND SMALL GROUP COMMUNICATION
3 Credits (3 hrs. lec.) Designed to promote a better understanding of how communication is used in the small group. More specifically, it will focus on both the theoretical principles and practical application of skills appropriate to effective small group interaction. Such a focus will entail active participation in groups, both in and out of class. (2313045612) 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. (23130415912) 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. (2313045712) 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 (ENGL 1301) 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 (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; MATH 0306
DESCRIPTION OF COURSES

SRGT 1409 - FUNDAMENTALS OF PERIOPERATIVE CONCEPTS AND TECHNIQUES
4 Credits (3 hrs. lec., 4 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 hrs. lec., 2 hrs. lab.) Introduction to surgical procedures and related pathologies with emphasis on surgical procedures related to general, obstetrics/gynecology, genitourinary, otolaryngology, 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 hrs. lec., 2 hrs. lab.) Introduction to surgical procedures and related pathologies with emphasis on surgical procedures related to thoracic, peripheral vascular, plastic/reconstructive, ophthalmology, cardiac, 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.) An introduction to the mathematics used in surveying and mapping, including algebra, plane trigonometry, and plane, solid, and analytical geometry. 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 land surveying and mapping 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 - PLANE SURVEYING
4 Credits (3 hrs. lec., 2 hrs. lab.) An introductory overview of surveying equipment and measurement techniques with emphasis on leveling and traversing. Prerequisite: None; Corequisite: SRVY 1301

SRVY 1441 - LAND SURVEYING
4 Credits (3 hrs. lec., 3 hrs. lab.) A study of the measurement and determination of boundaries, areas, shapes, location through traversing techniques. Instruction in a variety of adjustment methods using programmed and non-programmed hand-held calculators and computers. Methods of traversing and adjustment of errors according to prevailing and applicable professional standards. Prerequisite: None; Corequisite: SRVY 1301

SRVY 2313 - CONTROL SURVEYING
3 Credits (3 hrs. lec.) Emphasis on field astronomy calculations, state plane coordinates and the reduction of information received from Global Positioning System receivers. Prerequisite: SRVY 1301

SRVY 2309 - COMPUTER AIDED MAPPING
3 Credits (3 hrs. lec., 1 hr. lab.) An intermediate to advanced level course designed to teach the student how to produce a survey map using appropriate software and coordinate geometry. Production of survey maps and plats, civil engineering design drawings and topographic maps utilizing coordinate geometry. 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, record search of public and private land records and preparation of a deed record sketch. Prerequisites: SRVY 1301; ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL0307 or ENGL0375 or ENGL0117 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
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 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 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 1354 - CHILD GROWTH AND DEVELOPMENT
3 Credits (3 hrs. lec.) A study of the physical, emotional, social, and cognitive factors impacting growth and development of children through adolescence. (1312025209) Prerequisites: ENGL 0305 or ENGL 0365 or ENGL 0115 AND ENGL 0307 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

TRVM 1201 - CUSTOMER SALES & SERVICE
2 Credits (2 hrs. lec.) Practical information and techniques to create excellent customer sales and service unique to the travel public and the hospitality 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

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 also meets prerequisite

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

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 1231, 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 OR higher level course (ENGL 1301) OR placement by testing. ENGL 0309 or ENGL 0310 also meets prerequisite; Corequisite: VNSG 1262

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, 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 2361

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, 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 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 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 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 ENGL 0117 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 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, 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 1441 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 parental pharmaceutical applications. Prerequisites: VTHT 1125, VTHT 1209, VTHT 1413, and VTHT 2209 AND departmental approval
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. Prerequisite: 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 and VTHT 1205

VTHT 2421 - VETERINARY PARASITOLOGY
4 Credits (3 hrs. lec., 2 hrs. lab.) Study of parasites common to domestic animals including zoonotic diseases. This course will include the study of both ectoparasites and endoparasites with discussions on control measures of public health importance and the pharmaceuticals appropriate for the parasite’s elimination. Prerequisites: VTHT 1209, VTHT 1413, and VTHT 2209

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, 1441, 1140, and 2431

VTHT 2431 - VETERINARY CLINICAL PATHOLOGY II
4 Credits (3 hrs. lec., 3 hrs. lab.) In-depth study of urinalysis and cytology. Survey of microbiological techniques. Emphasis of laboratory procedures. A continuation of VTHT 2323 with a more technologically oriented evaluation of body fluids including blood chemistry and cytology.
Microbiology, bacteriology and virology are also presented in detail. Prerequisite: VTHT 2323; Corequisites: VTHT 1140, 1345, and 1441

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. 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. 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. Prerequisites: WIND 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; MATH 0306. Prerequisite: None

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 industry standards. Also includes interpretation of plans and drawings used by industry to facilitate field application and production. Prerequisite: None

WLDG 1417 - INTRODUCTION TO LAYOUT AND FABRICATION
4 Credits (3 hrs. lec., 3 hrs. lab.) A fundamental course in layout and fabrication related to the welding industry. Major emphasis on structural shapes and use in construction. Prerequisites: WLDG 1413 and WLDG 1421

This text was revised (2/14) effective summer 2014. Please see addendum for details.
**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 fabrication of layout, tools, and processes. Emphasis on application of fabrication and layout skills. Prerequisite: WLDG 1453

**WLDG 2440 - STUDIO PROBLEMS IN ART METALS**

4 Credits (3 hrs. lec., 3 hrs. lab.) Project development in an open-studio atmosphere. Individualized instruction to encourage skill combinations and experimentation. Topics include portfolio preparation and presentation.

**WLDG 2447 - ADVANCED METAL ARC WELDING (MIG)**

4 Credits (3 hrs. lec., 3 hrs. lab.) Advanced topics in Gas Metal Arc Welding (GMAW). Includes welding in various positions and directions. Prerequisite: WLDG 1430

**WLDG 2451 - ADVANCED GAS TUNGSTEN ARC WELDING (TIG)**

4 Credits (3 hrs. lec., 3 hrs. lab.) Advanced topics in GTAW welding, including welding in various positions and directions. Prerequisite: WLDG 1434

**WLDG 2453 - ADVANCED PIPE WELDING**

4 Credits (3 hrs. lec., 3 hrs. lab.) Advanced topics involving welding of pipe using the shielded metal arc welding process. Topics include electrode selection, equipment setup, and safe shop practices. Emphasis on weld positions 5G and 6G using various electrodes. Prerequisite: WLDG 1435
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<table>
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<tr>
<th>Name</th>
<th>Field</th>
<th>Education Details</th>
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| Ryan N. Craig             | Developmental Studies              | M.S., University of Texas–San Antonio  
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<th>Title</th>
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<tr>
<td>Laura Taggett</td>
<td>English</td>
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<td>Hui Tan</td>
<td>Chemistry</td>
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<td>Todd Thomas</td>
<td>Mathematics</td>
<td>M.S., Purdue University</td>
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<td>Denise S. Thompson</td>
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<td>Kisha L. Thompson</td>
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<tr>
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<td>Gholam-Hossein Toutounchi</td>
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<td>Matthew G. Turner</td>
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<td>Amy S. Uribe</td>
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<td>Ann E. Van Heerden</td>
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<td>Victoria E. Van Wie</td>
<td>Psychology</td>
<td>Ph.D., University of Mississippi</td>
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<tr>
<td>Kristoffer G. Villarreal</td>
<td>Welding Technology</td>
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<td>Rosemarie F. Visconti</td>
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<td>Melanie S. Wachsmann</td>
<td>Library</td>
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<td>Jeffrey Wax</td>
<td>Drama</td>
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<td>Toby Welch</td>
<td>Interpreter Training</td>
<td>M.S., Lamar University</td>
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<td>Julie M. Wells</td>
<td>Computer Graphic Arts</td>
<td>B.F.A., Texas State University–San Marcos</td>
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<td>Clay J. White</td>
<td>Biology</td>
<td>M.S., Texas State University–San Marcos</td>
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<td>Julie L. Wilbur</td>
<td>Developmental Studies</td>
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<td>Tracy L. Williams</td>
<td>Library</td>
<td>M.L.S., University of Texas–Austin</td>
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<td>Julie R. Wilson</td>
<td>Counseling</td>
<td>Ph.D., Capella University</td>
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<td>John C. Wolfskill</td>
<td>Music</td>
<td>D.M.A., University of Houston</td>
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<td>Landra D. Young</td>
<td>Developmental Studies</td>
<td>M.S., Prairie View A&amp;M University</td>
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<td>Ramir B. Yulatic</td>
<td>Sonography</td>
<td>B.S., University of Houston</td>
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B.S.N., Texas Woman’s University

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M.Div., Southwestern Baptist Theological Seminary
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B.A., Southern Methodist University

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LONE STAR COLLEGE–MONTGOMERY

FACULTY

David H. Zimmermann, English
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   M.A., St. Mary's University
   M.T.S., Oblate School of Theology
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LONE STAR COLLEGE–NORTH HARRIS
ADMINISTRATION

Stephen C. Head, President, Lone Star College –
North Harris
Ph.D., Texas Tech University
M.A., Lamar University
B.A., Lamar University

Anne Albarelli, Dean, Academic Affairs
M.A., National Autonomous University of
Mexico

Johanna M. Boley, Vice President, Administrative
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B.B.A., Texas Tech University

Lisa C. Cordova, Director, Business Operations
B.A., Texas State University–San Marcos

Dorothy Dixon, Dean, Extended Learning Center
M.B.A., St. Ambrose University
B.S., Alabama State University

William F. Drees, Dean, Health and Human Services
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M.A., University of Texas–San Antonio
B.S., Texas A&M University–College Station

Terry Erwin, Director, Center Facilities

Melissa Gonzalez, Dean, Instruction
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M.A., University of Kansas
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PERSONNEL

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Beverly Theiss, Enrollment Services
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M.B.A., University of Phoenix

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M.A., University of Utah
B.A., University of Utah
<table>
<thead>
<tr>
<th>Name</th>
<th>Degree</th>
<th>Institution</th>
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<tbody>
<tr>
<td>Diana M. Cooley, Speech</td>
<td>Ph.D., Antioch University</td>
<td>M.A., Western Michigan University</td>
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<td>B.A., Western Michigan University</td>
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<tr>
<td>Buford D. Cooper, HVAC &amp; Refrigeration Technology</td>
<td>A.A.S., Lone Star College System</td>
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<tr>
<td>Brandi Crawford, Associate Degree Nursing</td>
<td>M.S.N., University of Phoenix</td>
<td>B.S.N., Louisiana State University Health Sciences Center</td>
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<td>Brian J. Crawford, Computer Information Technology</td>
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<td>A.S., Pierce College</td>
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<tr>
<td>Carol S. Crowder, Biology</td>
<td>M.A., Sam Houston State University</td>
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<td>B.A., University of Texas–Austin</td>
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<tr>
<td>David D. Dahnke, English As a Second Language</td>
<td>M.A., University of Texas–San Antonio</td>
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<tr>
<td>Michael E. Darlan, Computer Information Technology</td>
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<td>B.S., Baylor University</td>
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<tr>
<td>Carolyn J. Davis, Political Science</td>
<td>M.A., Southern Illinois University–Carbondale</td>
<td>B.S., Southern Illinois University–Carbondale</td>
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<tr>
<td>David L. Davis, History</td>
<td>Ph.D., Rice University</td>
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<td>M.A., Rice University</td>
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<td>B.A., University of Southern Mississippi</td>
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<td>Linda C. Davis, Associate Degree Nursing</td>
<td>M.S., Texas Woman’s University</td>
<td>B.S., Texas Woman’s University</td>
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<td>Jacqueline K. Davis-Gilmore, Speech</td>
<td>M.A., Texas Southern University</td>
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<td>Marcy Delessandri, Paralegal Studies</td>
<td>B.A., San Diego State University</td>
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<td>Jack Dixon, English &amp; Developmental Studies</td>
<td>M.A., University of Oklahoma–Norman</td>
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<td>B.A., University of Oklahoma–Norman</td>
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<tr>
<td>Lynda J. Dodgen, Sociology</td>
<td>M.A., Sam Houston State University</td>
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<tr>
<td>Oswaldo Donoso Naranjo, Economics</td>
<td>M.S., National University of Tucuman</td>
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<td>B.S., Pontifical Catholic University of Ecuador</td>
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<tr>
<td>Mignette Dorsey, English</td>
<td>M.A., University of Houston</td>
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<tr>
<td>Norma A. Drepaul, Reference Librarian</td>
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<td>B.A., Texas A&amp;M University–Commerce</td>
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<td>Mary A. Durant, Biology</td>
<td>M.S., Stephen F. Austin State University</td>
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<td>B.S., Texas A&amp;M University, Kingsville</td>
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<tr>
<td>David M. Durdin, Mathematics</td>
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<td>Denise G. Durham, Biology</td>
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<tr>
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<tr>
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<td>M.A., Truman State University</td>
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<tr>
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<td>M.Tech., University of Houston</td>
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<tr>
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<td>B.A.T., Sam Houston State University</td>
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<tr>
<td>John D. Faber, Music</td>
<td>Ph.D., West Virginia University</td>
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<tr>
<td>Karl E. Fernandes, Psychology</td>
<td>Ph.D., Iowa State University</td>
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<td>William J. Ferris, Auto Technician Nissan/Procap</td>
<td>B.S., St. Edward’s University</td>
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<tr>
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<td>B.B.A., University of Houston–Downtown</td>
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<td>Megan D. Franks, Kinesiology</td>
<td>M.A., Sam Houston State University</td>
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<td>B.A., California State University–Chico</td>
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<td>Ginger Fray, Faculty, English</td>
<td>M.A., Sam Houston State University</td>
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<td>B.A., Sam Houston State University</td>
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<td>Angela M. Gant, English &amp; Developmental Studies</td>
<td>J.D., Southern University A&amp;M College</td>
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<td>M.Ed., Prairie View A&amp;M University</td>
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<td>B.S., Southern University A&amp;M College</td>
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</tbody>
</table>
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B.A., Southern University–New Orleans

Carolyn L. DeFlanders, Advising and Counseling
M.S., Loyola University
B.S., Southern University and A&M College
Robert B. Eubank, Political Science
Ph.D., Rice University
M.A., Rice University
B.A., Texas A&M University

Patricia M. Falbo, Mathematics/Developmental Math
M.S., University of Houston
B.S., University of Maryland-College Park

Janie Filoteo, Sociology
Ph.D., Texas A&M University-College Station
M.A., Our Lady of the Lake University
B.A., Our Lady of the Lake University

Clifton R. Fox, History
M.A., Michigan State University
B.A., Michigan State University

Steffani A. Frideres, Art
M.F.A., Washington State University

Clark W. Friesen, Speech
M.A., Texas A&M University-College Station
B.A., California Polytechnic State University

Patrick Gilbert, Political Science
M.S., Capella University
B.A., Prairie View A&M University
A.A., Blinn College

Vanessa Gilbert-Cronen, Sociology
Ph.D., University of North Texas Health Science Center
M.P.H., University of North Texas Health Science Center
B.A.A.S, University of North Texas

Leslie W. Grunden, Associate Degree Nursing
M.S.N., Texas A&M University-Corpus Christi

Mark Hammerbacher, Mathematics/Developmental Math
M.A., Sam Houston State University
B.A., Towson University

Latoya Hardman, English
M.A., City University of New York
B.A., University of Houston-Downtown

Megan Harper, Associate Degree Nursing
M.S.N., University Of Texas Medical Branch
B.S.N., McNeese State University

Virginia M. Haysley, Political Science
Ph.D., University of New Orleans
M.A., University of New Orleans
B.Journ., University of Texas–Austin

Barbara J. Hayward, History
Ph.D., University of Houston
M.A., Brigham Young University
B.A., University of Louisiana–Monroe

Mary Hood, Biology
E.D.S., Auburn University–Montgomery
M.Ed., Auburn University–Montgomery
B.S., Auburn University–Montgomery

Caroline Jamroz, Developmental English
M.Ed., Boston University
B.A., Drew University

Roger L. Jay, Mathematics/Developmental Math
M.A., Texas Tech University
B.A., Texas Tech University

Margaret S. Jelinek Lewis, Psychology
Ph.D., Ohio State University
M.A., Ohio State University
B.A., Rice University

Stephanie D. Johnston, Occupational Therapy
M.A., Texas Woman’s University
B.S., Texas Woman’s University

Jean L. Joublanc, Associate Degree Nursing
M.S., Texas Woman’s University
B.S.N., Ohio State University

Jaimee Kastler, Associate Degree Nursing
M.S.N., Walden University
A.S., Excelsior College

Michael T. Lappe, Management
M.S., National-Louis University

Thomas Lescarbeau, Surgical Technology
B.S.Ed., Westfield State University
A.S., Berkshire Community College

Marvin B. Lowery, Biology
M.S., Sam Houston State University
B.S., Sam Houston State University

Barbara M. Lujan, Advising and Counseling
M.S., Arizona State University
B.A., Arizona State University

Patricia R. Lyon, Computer Information Systems
M.Ed., University of Texas–El Paso
B.S., University of Texas–El Paso

William H. May, Computer Information Systems
B.A., Baylor University

Amber N. Mestayer, Mathematics/Developmental Math
M.S., Texas State University–San Marcos
B.S., Texas State University–San Marcos

Miroslawa Moryson, Professional Office Technology
D.C., Texas Chiropractic College
B.S., Texas Chiropractic College

Victor Moussoki, Economics
Ph.D., State University of New York-Buffalo
M.A., State University of New York-Buffalo
B.A., Université Marien Ng’ouabi
LONE STAR COLLEGE-TOMBALL

FACULTY

John Nevins, Library
  M.S., Simmons College

Jeffrey A. Norem, English
  M.Ed., Georgia State University
  B.S., University of Colorado at Boulder

Maria Del Carmen M. Ocana, English
  Ph.D. University of Zaragoza
  M.A., University of Zaragoza
  B.A., University of Granada

Catherine H. Olson, English
  M.A., University of North Carolina–Chapel Hill
  M.L.I.S., University of Texas–Austin
  B.A., University of Texas–Austin

Debra Parish, Psychology
  M.S., University of Wyoming
  B.S., University of Houston

Vaheribhai C. Patel, Mathematics/Developmental Math
  M.S., University of Indore
  B.Ed., Vikram University
  B.S., Vikram University

James A. Pelezo, Chemistry
  Ph.D., University of Southern Mississippi
  M.S., Delta State University
  M.S., University of Southern Mississippi
  B.S., Delta State University

Van A. Piercy, English
  Ph.D., Indiana University–Bloomington
  M.A., University of California–Berkeley
  B.A., University of California–Berkeley

Steven W. Prewitt, History
  Ph.D., University of Houston
  M.A., University of Houston
  B.S., Phillips University

Cynthia Reese, Vocational Nursing
  M.S.N., Walden University
  B.S.N., University of Texas Health Science Center at Houston

John B. Rollins, English
  Ph.D., University of Houston
  M.A., University of Houston
  B.A., University of Houston

Kimberly A. Rumsey, Associate Degree Nursing
  M.S.N., University of Texas Health Science Center at San Antonio

Terra Ruppert, Occupational Therapy
  Ph.D., Texas Woman’s University
  M.S., Johns Hopkins University
  B.S., University of Texas Medical Branch

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  M.L.S., Sam Houston State University

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  M.B.A., Texas Woman’s University
  B.B.A., Texas Woman’s University

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  M.L.S., Sam Houston State University
  B.A., University of Vermont

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  M.A., University of Wyoming
  B.A., University of Wyoming

William J. Simcik, Biology
  Ph.D., University of Texas Health Science Center–Houston
  M.A., Sam Houston State University
  B.S., Sam Houston State University
  A.A., Wharton County Junior College

Jane D. Simons, Medical Office (POFM)
  B.S., University of Phoenix
  A.S., Nicholls State University

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  Ph.D., University of Pennsylvania
  M.A., Rice University

Kyle Solak, English
  Ph.D., University of Houston
  M.A., University of New Orleans

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  M.A., Stephen F. Austin State University
  B.S., Texas A&M University–College Station

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  M.F.A., University of Arkansas
  B.F.A., Illinois Wesleyan University

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  M.A., University of Houston–Clear Lake
  B.A., University of Houston

Melissa Studdard, English
  M.F.A., Sarah Lawrence College
  M.A., University of Houston
  B.A., University of Houston
  A.A., Lone Star College System

Rebecca L. Tate, English
  Ph.D., Texas Tech University
  M.A., Texas Tech University
  B.A., Wayland Baptist University

Jackie Thomas, Education
  M.S., Florida State University
  B.S., University of Houston

Sean Tiffee, Speech
  B.A., Texas State University–San Marcos
  M.A., Texas State University–San Marcos
PERSONNEL

LONE STAR COLLEGE–TOMBALL

FACULTY

Mary P. Trenkle, Foreign Languages
Ph.D., University of Alabama
M.A., University of Alabama
B.A., University of Alabama

Gerry C. Tsoi, Computer Information Systems
M.S., University of Houston
B.B.A., Texas A&M University–College Station

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M.S., Texas A&M University–College Station
B.S., Texas A&M University–College Station

John R. Vancamp, Vocational Nursing
M.S.N., University of Phoenix
B.A., Eastern Washington University
A.A., Spokane Community College
A.A.S., Peirce College

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M.A., Texas State University–San Marcos
B.A., Texas A&M University

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M.L.I.S., University of Oklahoma–Norman
B.A., Wichita State University

Sherri R. White, Drama
M.A., Texas State University–San Marcos
B.S., Texas A&M University–Commerce
A.A., Texarkana College

Rachel N. Whitten, Mathematics/Developmental Math
M.S., Baylor University
B.A., Baylor University

Eric Wildman, Mathematics/Developmental Math
Ph.D., University of Texas–Austin
M.A., Central Michigan University
B.S., Central Michigan University

Donna D. Willingham, Developmental Studies
Ed.D., Sam Houston State University
M.Ed., Stephen F. Austin State University
B.A., Houston Baptist University

Francis Willingham, Biology
Ph.D., Wake Forest University
M.A., Wake Forest University
B.A., University of North Carolina

Pamela C. Womack, Developmental Studies
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B.A., Houston Baptist University

Tracie J. Wood, Associate Degree Nursing
M.S.N., University of New Mexico
B.S.N., Texas Tech University Health Sciences Center

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M.B.A., Sam Houston State University
B.A., Baylor University

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D.V.M., Tuskegee University
B.S., Northwestern State University

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D.V.M., Auburn University
B.A., Ohio Wesleyan University

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B.A., University of Texas–Arlington

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B.S., Texas A&M University–College Station
A.A., Temple College

LONE STAR COLLEGE–TOMBALL
LONE STAR COLLEGE–UNIVERSITY PARK
ADMINISTRATION

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  M.S., North Carolina A&T State University
  B.S., University of North Carolina–Greensboro

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  Ph.D., University of Texas–Austin
  M.A., Prairie View A&M University
  B.A., Prairie View A&M University

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Blerta Banushi, International Programs & Services
  B.S.F.S., Georgetown University
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Frances Bellaftato, Disability Services
  A.A.S., Lone Star College System
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  M.Ed., Texas Southern University
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  M.A., San Francisco State University
  B.A., University of Washington
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  B.A., University of Texas–Austin
Johnnie Christine, Facilities
Ethana D’Annunzio, Customized Training
Barbara De Benedictis, Student Services
Ryan Denson, Facilities
Diana Diaz-Chavez, Veterans Services
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Cindy Duron, Conference Center
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Ketra Lincoln, Corporate College
  M.B.A., University of Phoenix
Misael Luna, Facilities
Nathan Lynn, Student Services
  M.A., Baylor University
  B.A., Baylor University
Susana Martinez, Facilities
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  B.S., Southern Illinois University – Carbondale
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Ian Pham, Student Information Services
Deborah Polk, Center Assessment
  A.A.S., Lone Star College System
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Rudolph Quiroga, Facilities
Cheryl Rader, Student Services
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Su-Sun Reza, Office of the CEO
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Cynthia Schopppa, Continuing Education
  A.A., Lone Star College System
Shawnatae Scranton, Student Services
Kim Starck, Student Services
  B.B.M., LeTourneau University
Eugene St. Pierre, Facilities
Camillia Tillis, Student Services
Lisel Tucker, Student Activities
Renata Tyree, Campus Solutions
  B.A., University of Phoenix
Lauren Weber, Student Accounting
Jeannie Welch, Disability Services
  B.S., University of Montevallo
Rosalyn Wylie, Center Operations
  B.A., University of Texas–Austin
LONE STAR COLLEGE–UNIVERSITY PARK
FACULTY

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   Ph.D., University of Pittsburgh
Martha Donnelly, Mathematics
   M.A., Sam Houston State University
   B.S., Lamar University
Abraham Haje, Mathematics
   M.S., University of Houston–Clear Lake
   B.S., University of Houston–Clear Lake
Mary Ann Jackson, Education
   M.Ed., University of Houston
   B.S., Texas A&M University–College Station
Fonda Johnson, Counseling
   M.A., Prairie View A&M University
Cassandra Khatri, Political Science
   M.A., Seton Hall University
   B.S., Seton Hall University
Devika Lalsinghani, Mathematics
   M.S., Gujarat University
   B.S., Gujarat University
Jason LaPres, Biology
   M.H.S., Grand Valley State University
   B.S., Grand Valley State University
Leslie LaPres, English
   M.A., Our Lady of the Lake University
   B.S., Texas A&M University–College Station
Philip Lee, Computer Information Technology
   M.S., University of California–Irvine
   B.A., University of California–Santa Barbara
   B.A., University of California–Santa Barbara
Walden H. Lewis, Economics
   M.S., Baylor University
   B.A., University of Mississippi
Joseph Margoitta, Biology
   M.S., Stephen F. Austin State University
   B.S., Stephen F. Austin State University
David Miller, English
   M.A., University of Houston–Clear Lake
   B.A., University of Houston–Downtown
Sharon Miller, Developmental English
   M.Ed., University of Georgia
   B.Journ., University of Georgia
Irina Nizova, English
   M.A., California State University–Northridge
   M.A., Sverdlovsk State Pedagogical
   B.A., Sverdlovsk State Pedagogical
Gregory Oaks, English
   Ph.D., University of Houston
   M.F.A., Texas State University–San Marcos
   B.A., University of Texas at San Antonio
Brian Reeves, English
   M.A., New York University
   B.A., Prairie View A&M University
Frank Rodriguez, Mathematics
   M.S., Texas A&M University–College Station
   B.S., Texas A&M University–College Station
Thomas Rogers, History
   M.A., University of Leicester
   B.B.A., Texas Christian University
Richard Smalley, Mathematics
   M.S., University of Houston
   M.B.A., University of Houston
   B.S., University of Houston
Gina Sprowl, Accounting
   M.S., University of North Texas
   B.S., University of North Texas
Jennifer Thompson, Political Science
   M.A., Mississippi State University
   B.A., Louisiana State University
Scott Travis, Mathematics
   M.S., University of Houston
   B.S., University of Texas–Tyler
   A.A., Trinity Valley Community College
Suzanne Weatherly, English
   Ed.D., Baylor University
   M.Ed., University of St. Thomas
   B.A., Houston Baptist University
Laura Weinberg, English
   M.A., Purdue University
   B.A., Purdue University
Jessica Weisel, Speech
   M.S., Texas Christian University
   B.S., University of Texas–Austin
Daria Willis, History
   Ph.D., Florida State University
   M.A.S.S., Florida A&M University
   B.A., Florida A&M University
PERSONNEL

LONE STAR COLLEGE–UNIVERSITY CENTER
AT MONTGOMERY

ADMINISTRATION
Kurt Czupryn, Executive Director
Ph.D., University of Nebraska–Lincoln
Debra Britton, Director, Student Services
Ed.D., Texas Southern University
M.A., Texas Southern University

PROFESSIONAL AND SUPPORT STAFF
Veronica Rivas, Student Services
B.B.A., University of Houston
Maria Valenzuela, Administration

FACULTY
Scott Gilbert, Library Services
M.S., University of North Texas
APPENDIX: 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.

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.

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.

Carol Bary Memorial Endowment - Enrolled in LVN program and must demonstrate financial need.

Dr. Joe A. Airola Endowment - Minimum part-time student and minimum 2.5 GPA.

Dr. Nockie Zizelmann Endowment - Enrolled in either LVN or ADN program, student to be selected by director of nursing, and second year of scholarship available.

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 - 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 Scholarships Endowments - Minimum part-time student, minimum 2.0 GPA, must be “first time in college” student, must be enrolled in Math 0306, Math 0308 or Math 0310, must demonstrate financial need with an EFC of $3500 or above, and funds to be used for tuition, fees and books.

Hauke Endowment - Student must have graduated from 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 volunteer opportunities will be available for the recipients during that event.

Humble Police Association: Carley Summer McNutt Endowment - Graduate of Atascocita High School.

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: 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: Gary and Daniel Lee Endowment** - 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** - 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.

**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 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.

**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.

**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** - Must be enrolled in a work force 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.

**Patricia Harless Endowment** - Must demonstrate financial need and funds to be used for all education related expenses including childcare.

**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.

Seth and Dianne Sharr Endowment - Attend any LSCS College.

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 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, books, fees,

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 ENDOURED 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.

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 3.0 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, preference 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.

Exchange Club of FM 1960 Endowment - Must attend LSC-CyFair.

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.

Gilbane Building Company 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, 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 for Robert McGehee - Must attend LSC-CyFair and academic discipline is art.

LSC-CyFair Friends of the Library - 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 - 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, and must demonstrate financial need.

**The Feldman Family in Memory of Krysta Rodriguez** - Must attend LSC-CyFair, minimum full-time student, enrolled in fire science program, 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.

**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 ENDOWED 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** - 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 full-time student, 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.

**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 Auxiliary Endowment - Must attend LSC-Kingwood, minimum part-time student, minimum 2.5 GPA, academic disciplines are health care, health science or medical/dental, must demonstrate financial need, and funds to be used for tuition, fees and books.

LSC-Kingwood Continuing Education Administration Endowment - Must attend LSC-Kingwood and academic discipline is continuing education.

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, minimum 3.0 GPA, has at least 80% 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 Endowment - Must attend LSC-Kingwood, minimum part-time student, and minimum 2.5 GPA.

Rotary Club of Humble Intercontinental: In Recognition of Dr. and Mrs. Gene Caldcleugh 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.

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 ENDOWED 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.

Brandon Michael Schiltz Memorial Endowment - Must attend LSC-Montgomery, minimum 2.75 GPA, must demonstrate financial need, 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.

Brandon Michael Schiltz Memorial Endowment - Must attend LSC-Montgomery, minimum 2.75 GPA, a preference is given to a HEB employee or dependent preferred, 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.

Dr. Bill Law Jr. Endowment - Must attend LSC-Montgomery and minimum 2.5 GPA.

Donna McVeigh Memorial Endowment - Must attend LSC-Montgomery, minimum part-time student, 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 - Must attend LSC-Montgomery, minimum 3.0 GPA in PTA courses taken during previous semester, 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, minimum 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 Endowment - 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 or LSC-Conroe Center, minimum full-time student, minimum 3.25 GPA, enrolled in nursing, radiology technician, PTA, biotechnology, 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.

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.

**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.

**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 Associates of Science degree or an Associates 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.

**LSC-NORTH HARRIS ENDOVED 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.

**Brian Ray Olson Memorial Endowment** - Must attend LSC-North Harris, minimum part-time student, minimum 2.5 GPA, enrolled in paramedic program, must demonstrate financial need, and funds to be used for tuition, fees and books.

**Bob and Darcy Mingoia** - Must attend LSC-North Harris, minimum 2.5 GPA, 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.

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.

John R. Zizelmann Memorial Endowment - “Enrolled in technical fields such as welding, CNC or engineering technology, and preference given to MATT-CO employee.”

John R. Zizelmann Memorial Endowment - Enrolled in technical fields such as welding, CNC or engineering technology, and recipient must be a MATT-CO employee.

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.

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.

Wells Fargo Endowment - Must attend LSC-North Harris, must demonstrate financial need, and funds to be used for tuition, fees and books.

LSC-TOMBALL ENDOwed SCHOLARSHIPS

Ann Glazier McStravick Nursing Endowment - Must attend LSC-Tomball and enrolled in the ADN program.

Bill Lawler Memorial Endowment - Must attend LSC-Tomball and academic discipline is Business.

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 - 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, and must be a U.S. Citizen.

Houston Livestock Show and Rodeo Endowment - Must attend LSC-Tomball, enrolled in the veterinary
technology program, reside in Texas, and must be a U.S. Citizen.

**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, academic disciplines are Math, Computer Science or Biology, and funds to be used for all education related expenses.

**Performing Fine Arts Scholarship** - 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. This is a $4,000 scholarship.

**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 ENDOWED SCHOLARSHIPS**

**Anonymous Endowment** - Must attend LSC-University Park, minimum part-time student, and minimum 2.5 GPA.

**Bob and Darcy Mingoia** - 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 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.

**LSC-University Park President’s Endowment** - Must attend LSC-University Park, minimum part-time student, minimum 2.5 GPA, and must demonstrate financial need.
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. - Must attend LSC-University Park, minimum 2.5 GPA, must be committed to pursuing an associates degree, must demonstrate financial need, and funds to be used for tuition, fees and books.

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 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.

Precision Task Group - Must attend LSC-University Park and must demonstrate financial need.

The Foreman Family - 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 demonstrated 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.