Welcome to North Harris Montgomery Community College District (NHMCCD) and welcome to your future. I congratulate you for your decision to pursue higher education opportunities and appreciate that you have chosen NHMCCD to help you achieve your goals. As the District marks its 30th year of service to students and the community, the need for higher education and training has never been greater. Whether your future includes earning an associate’s degree, training for a new career, updating current job skills or transferring to a four-year university, you have come to the right place.

The college district includes five comprehensive colleges - North Harris College, Kingwood College, Tomball College, Montgomery College, and Cy-Fair College. In addition, with seven satellite centers – Carver Center, Parkway Center, Career and Technology Educational Center, EMCID Center, Center for Business and Technology Training, Willow Chase Center, and Fairbanks Center – we have a site convenient to you. Our colleges and centers offer a wide variety of technical programs ranging from computer and engineering technology to nursing and veterinary technology to help you meet your career goals. Other programs newly available include alternative teacher certification and fire science technology. If a bachelor’s degree is your goal, hundreds of transfer courses are available that fulfill the requirements of your first two years of coursework. In addition, numerous noncredit courses are offered to help you update your job skills and acquire new technology proficiencies or, through leisure learning classes, to satisfy many personal interests. Moreover, NHMCCD offers many financial aid programs that will help to reduce financial barriers.

We are committed to helping you succeed in whatever life, academic or career goal you choose, and I am confident that you will find that at North Harris Montgomery Community College District, you can “Make It Happen!”

John E. Pickelman, Ph.D.
Chancellor

The college district chancellor is the chief executive officer of the NHMCCD Board of Trustees.
A district of comprehensive, public, two-year colleges, North Harris Montgomery Community College District offers academic, workforce development, continuing education, and general programs and services, as well as customized contract training. Residents in the following independent school districts have voted to join the college district and qualify for in-district tuition rates: Aldine, Conroe, Cypress-Fairbanks, Humble, Klein, Magnolia, New Caney, Splendora, Spring, Tomball and Willis.
<table>
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<tr>
<th>Department</th>
<th>North Harris College</th>
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<th>Tomball College</th>
<th>Montgomery College</th>
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All phone numbers have a 281 area code unless otherwise noted.

Metro: 936.321.5161
# Academic Calendar

## Fall Semester 2003

**Registration begins**..........................May 5  
**Faculty returns**..............................Aug. 18  
**Last day to register**..........................Aug. 23  
**Weekday classes begin**.........................Aug. 25  
**Labor Day holiday**............................Aug. 30-Sept. 1  
**Friday evening, Saturday & Sunday classes begin**..........................Sept. 5-7  
**Official day of record**.........................Sept. 8  
**TASP test**......................................Sept. 13  
**ACT test**.......................................Sept. 27  
**Last day to file for Dec. graduation**........Oct. 1  
**Mid-semester**....................................Oct. 17  
**ACT test**.......................................Oct. 25  
**TASP test**......................................Nov.  8  
**Last day to drop class & receive “W”**........Nov. 10  
**Thanksgiving holidays**.........................Nov. 27-30  
**ACT test**.......................................Dec. 13  
**Final Exams**....................................Dec. 8-14  
**End of semester**.................................Dec. 14  
**Faculty grades due at college (noon)**....Dec. 22-Jan. 4

## Spring Semester 2004

**Registration begins**..........................Nov. 11  
**College offices reopen**.........................Jan. 5  
**Faculty returns**...............................Jan. 5  
**Last day to register**............................Jan. 10  
**Weekday classes begin**.........................Jan. 12  
**Friday evening, Saturday & Sunday classes begin**..........................Jan. 16-18  
**M.L. King Jr. holiday (colleges closed)**....Jan. 19  
**Official day of record**.........................Jan. 26
### Registration for Fall, 2004

**Weekday classes begin Aug. 23**

**Weekend classes begin Aug. 27-29**

Consult Class Schedules for registration dates.

### SUMMER TERMS 2004

Registration begins ....................... March 8
Mini-term begins .......................... May 10
Mini-term ends ............................. May 28
Memorial Day holiday
(office closed) ............................. May 29-31
Regular summer term begins .......... June 1
(1st summer term June 1-July 7)
(2nd summer term July 8-Aug. 12)

Weekend classes begin .................... June 4
ACT test ...................................... June 12
TASP test ..................................... June 19
Independence Day holiday ............... July 2-5
TASP test ..................................... July 31
End of summer terms ..................... Aug. 15
Faculty returns ........................... Aug. 16

Registration for Fall, 2004 begins April 12
Weekday classes begin Aug. 23
Weekend classes begin Aug. 27-29
Consult Class Schedules for registration dates.
North Harris Montgomery Community College District is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools, 1866 Southern Lane, Decatur, GA 30033-4097, phone 404.679.4501, to award the associate of arts degree, the associate of science degree, the associate of applied science degree and certificates.

MEMBERSHIP IN
- Alliance for Community College Innovation
- American Association of Collegiate Registrars and Admissions Officers
- American Association of Community Colleges
- American Association of Intensive English Programs
- American Association for Paralegal Educators
- American Health Information Management Association
- American Federation of Art Museums
- American Institute for Foreign Study
- Association of Community College Trustees
- Association of International Education
- Association of Texas Colleges and Universities
- Association of Texas Leadership Programs
- Community Colleges for International Development
- Houston Legal Assistants Association
- International Association for Continuing Education and Training
- International Community Development Council
- League for Innovation
- Learning Resource Network
- Microsoft IT Academy
- National Alliance of Business
- National Association of Collegiate Veterans Program Officials
- National Association of Instructional Administrators
- National Association of Legal Assistants
- National Association of Student Financial Aid Administrators
- National Automotive Education Foundation
- National Council for Workforce Education
- National Council of Instructional Administrators
- National Council on Student Development
- National Federation of Paralegal Associations
- National Institute for Staff and Organizational Development
- Southern Association of Collegiate Registrars and Admissions Officers
- Southern Economic Development Council
- Texas Administrators of Continuing Education
- Texas Association of College Technical Educators
- Texas Association of Business
- Texas Association of Collegiate Registrars and Admissions Officers
- Texas Association of Collegiate Veterans Program Officials
- Texas Association of Community Colleges
- Texas Association of School Boards
- Texas Association of Schools of Art
**RECOGNITIONS & MEMBERSHIPS**

- Texas Association of Student Financial Aid Administrators
- Texas Campus Compact
- Texas Common Course Numbering
- Texas Community College Association
- Texas Community College Teachers Association
- Texas Healthcare and Bioscience Institute
- Texas Higher Education Coordinating Board
- Texas State Cosmetology Commission
- Texas Workforce Commission for Veteran’s Training
- Western Association of Veterans Education Specialists

**PROGRAMS APPROVED BY**

- Accrediting Council for Occupational Therapy Education
- American Society of Health-System Pharmacists Commission on Credentialing
- American Veterinary Medical Association
- BICSI
- Board of Nurse Examiners for the State of Texas
- Board of Vocational Nurse Examiners for the State of Texas
- Cisco Regional Academy
- Commission on Accreditation for Physical Therapy Education
- Commission on English Language Program Accreditation
- Joint Review Commission for Education in Radiologic Technology
- Joint Review Committee for Respiratory Therapy Education in conjunction with the Commission on Accreditation for Allied Health Education Programs
- MACTE: Montessori Accreditation Council for Teacher Education
- Microsoft Academy
- Microsoft MOS Certification Test Center
- National League for Nursing Accrediting Commission
- Oracle Academic Initiative
- Texas Commission on Alcohol and Drug Abuse
- Texas Commission on Law Enforcement Officer Standards and Education
- Texas Department of Health
- Texas Education Agency
- Texas Consortium for Study Abroad
- Texas Council of Arts in Education
- Texas Distance Learning Association
- Texas Economic Development Council
- Texas Education Theatre Association
- The Community College Speech and Theatre Association
- The Community Leadership Association

**STUDENT RIGHTS**

**STUDENT RIGHT-TO-KNOW**

North Harris Montgomery Community College District does not discriminate on the basis of race, color, religion, gender, national or ethnic origin, disability, age or veteran status in provisions of educational opportunities or employment opportunities and benefits.

NHMCCD 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.
NHMCCD 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.

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

NHMCCD colleges report campus crime statistics.

Please contact the office of student and organizational development at any college or access the district's homepage (www.nhmccd.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. North Harris Montgomery Community College District 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 North Harris Montgomery Community College District 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 district reserves the right to act as final interpreter of this catalog. Additionally, the district reserves the right to change, without prior notice, tuition, fees, requirements and regulations, as obligated by district or legislative action.

The district 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. NHMCCD 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 North Harris Montgomery Community College District may do so by making an appointment with the chief student-affairs officer.

**EQUAL OPPORTUNITY STATEMENT**

The North Harris Montgomery Community College District is committed to the principle of equal opportunity in education and employment. The district does not discriminate against individuals on the basis of race, color, gender, religion, disability, age, veteran status, national origin, or ethnicity in the administration of its educational policies, admissions policies, employment policies, scholarship and loan programs, and other district or college administered programs and activities.

Inquiries concerning the district's policies, compliance with applicable laws, statutes, and regulations (such as Title VI, Title IX, and Section 504), and complaints may be directed to the Vice Chancellor for Human Resources, 832.813.6655. The Vice Chancellor for Human Resources is designated as the district's Equal Opportunity Officer and Title IX Coordinator. Inquiries about the laws and about compliance may also be directed to the Assistant Secretary for Civil Rights, U.S. Department of Education.

**ADA STATEMENT**

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

North Harris Montgomery Community College District as a publicly-supported, two-year, comprehensive community college system involves diverse individuals, businesses, and the community in quality education opportunities for the successful development of knowledge, skills, and attitudes for a rapidly changing world.

Through its colleges and centers, NHMCCD develops learning communities for:

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

VALUE STATEMENTS

Learning Communities

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

Access with Quality

We believe that the North Harris Montgomery Community College District provides an enriching learning environment which meets the needs of its diverse communities through outreach, access, student support systems and a diverse faculty and staff.

Building Communities and Partnerships

We believe that the North Harris Montgomery Community Colleges are catalysts for promoting a seamless educational journey and for nurturing the intellectual and cultural life of the community.

Economic and Workforce Development

We believe that the North Harris Montgomery Community College District serves as the critical link for economic and workforce development to improve the prosperity of our region through partnerships with business, government, and community organizations.

Human Resources

We believe that the most important resources of the North Harris Montgomery Community College District are the individual faculty and staff.
members, who are entitled to a supportive collegial work environment which rewards excellence, provides opportunities for professional development, encourages meaningful involvement in the decision-making process, and provides excellent compensation.

Technology

We believe that students achieve their learning goals best as the North Harris Montgomery Community Colleges provide responsive and effective support services, learning resources, current technologies and information systems.

Information

We believe that the achievement of the mission and purpose of the North Harris Montgomery Community College District requires an effective system of communication to both internal and external constituencies.

Leadership

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

Stewardship

We believe that the North Harris Montgomery Community College District is committed to rigorous stewardship of the resources entrusted to its care to assure maximum benefit for the community.

Evaluation

We believe that it is essential that the North Harris Montgomery Community Colleges - working separately for local effectiveness and working cooperatively as a single district for efficiency - must regularly assess the impact and outcomes of our efforts for continuous improvement.

NORTH HARRIS MONTGOMERY COMMUNITY COLLEGE DISTRICT

AT A GLANCE

www.nhmccd.edu

Once a student enrolls in North Harris Montgomery Community College District, that person is making a decision to join one of the finest community colleges in the country. Offering a wide range of academic and occupational courses for recent high school graduates and community residents of all ages, NHMCCD is among the five largest and fastest growing community colleges in Texas.

Over 35,000 students register for credit courses each semester, with an additional 15,000 in workforce training and community education courses. The College District serves an area over 1,400 square miles, encompassing the school districts of Aldine, Conroe, Cypress-Fairbanks, Humble, Klein, Magnolia, New Caney, Splendora, Spring, Tomball and Willis, and the surrounding communities.

NHMCCD comprises North Harris College, Kingwood College, Tomball College, Montgomery College, and Cy-Fair College as well as satellite centers near your home-Carver, Parkway, CATE, EMCID, Fairbanks, Willow Chase and the Center for Business & Technology Training. The University Center, a partnership with NHMCCD and six Texas universities, provides over 50 bachelor’s and master’s degree programs.

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

• obtain an associate’s degree or certificate;
• transfer to a university;
• gain new job skills;
• change careers;
• attain personal development goals; or
• prepare for college level work.
The staff in our extended learning centers will provide you with seminars, tutoring computer services, Internet access, study groups and personal assistance to aid in your success. Student groups and organizations will welcome your participation and encourage your involvement at your college.

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

Through the satellite centers, distance learning, concurrent education for high school juniors and seniors, and class offerings when and where students need them, NHMCCD believes that an education is possible for all. Some of the 60 programs of study offered in the district, in addition to university general education transfer program, include:

- Accounting
- Computer graphic arts technology
- Computer information technology
- Cosmetology
- Engineering technology
- Emergency medical services
- Human services
- Management
- Nursing
- Occupational therapy assistant
- Welding and machining technology
- A wide variety of workforce development certifications

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

Degree programs unique to North Harris College include:

- Automotive technology
- Child development and family studies
- Health information technology
- Interpreter training technology
- Paralegal studies
- Pharmacy technology

In addition to the 200-acre campus, North Harris College serves students with two satellite centers. Parkway Center is located off Beltway 8 near I-45 at 16416 Northchase Drive in the Greenspoint area and Carver Center is located at 2330 S. Victory in Acres Homes.

For more information, contact:

North Harris College 281.618.5400
Parkway Center 281.618.1100
Carver Center 281.618.5800
Kingwood College

Located within the Kingwood community off Highway 59, Kingwood College serves Kingwood, Humble, Atascocita and east Montgomery County on 264 beautifully landscaped acres.

Students of all ages register at Kingwood College to take part in programs such as:

- Computer graphic technology
- Computer information technology
- Cosmetology
- Management
- Occupational therapy assistant
- Respiratory care
- Vocational nursing
- Teacher Education Certificate

Kingwood College offers credit and continuing education classes at two satellite locations—the Career and Technology Education Center (CATE) at 9155 Will Clayton Parkway and the East Montgomery County Improvement District Center (EMCID) at Highway 59 and Community Drive in New Caney. For more information contact:

- Kingwood College 281.312.1600 or 1.800.883.7939
- CATE Center 281.312.1660 or 1.800.883.7939
- EMCID Center 281.312.1660 or 1.800.883.7939

Tomball College

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

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

- Accounting
- Engineering technology
- Management
- Nursing
- Occupational therapy assistant
- Veterinary technology

Several local high schools are used for Tomball College night classes, and the Willow Chase Center is the primary satellite. Located at 249 and Grant Road, the Willow Chase Center offers over 50,000 square feet for classes and computer labs.

For more information, contact:

- Tomball College 281.351.3300
- Willow Chase Center 281.401.5300
Home of the guaranteed annual schedule, Montgomery College provides an array of services to demonstrate that NHMCCD is truly student-centered. Located off I-45 between Conroe and The Woodlands, the college provides students “one-stop-shop” approach to student advising, registration and financial aid.

The state-of-the-art library and Extended Learning Center—a trademark of all NHMCCD campuses—helps promote advanced, computerized learning for the growing student population as they explore degrees and courses in:

- Biotechnology
- Computer information technology
- Computer-aided design
- Human services
- Medical radiologic technology
- Nursing
- Physical therapist assistant

The Center for Business and Technology Training (CBTT) in Conroe serves as the satellite center for Montgomery College, providing business, computer and manufacturing-oriented classes.

For more information, contact:

Montgomery College 936.321.5161
CBTT 936.271.6000

In August 2000, residents of the Cypress-Fairbanks Independent School District voted to join the college district. Our Board of Trustees promised to build a comprehensive community college for that community following a successful vote. A bond referendum was called and passed to secure funding for the creation of Cy-Fair College. Plans are underway to open the main college campus to the community in 2003.

Cy-Fair College is located at Barker Cypress/West Road. It houses state-of-the-art classrooms for associate’s degrees and university transfer courses, computer-based classrooms and labs, specialized labs for technology skills training, fine arts and performing arts facilities and a theater for student and community enjoyment, and indoor and outdoor wellness facilities.

Cy-Fair College also offers classes at Fairbanks Center located at 290 and Beltway 8.

For more information, contact:

Cy-Fair College 281.290.3200
Fairbanks Center 832.782.5000
Once you have completed your first two years of college coursework at one of the campuses in NHMCCD, you may want to continue at The University Center (TUC) to earn your Bachelor's or Master's degree. A partnership with NHMCCD and six Texas universities, TUC provides programs in over 50 areas of concentration. The partnering universities are:

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

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

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

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

For more information, contact:

The University Center 281.618.7140 or 936.273.7510

DISTANCE LEARNING
eCampus.nhmccd.edu.

Distance learning allows students to obtain college credit without the need for traveling to one of NHMCCD's campuses. The content and transferability of these courses are the same as traditional on campus courses. In a manner similar to courses offered on-campus, instructors in distance learning courses use a variety of learning activities via distance such as discussion, class projects, exams or presentations and many courses require written papers. All such courses are offered under the guidance of a qualified instructor and many will require students to complete orientation activities at the beginning of the course. These courses are delivered using a variety of technologies: print, video, audio, internet, teleweb, and computer. Colleges provide all courses required to obtain the AA degree in a distance learning format. Students taking these courses have the same rights and responsibilities as they do in traditional campus-based courses.
GENERAL INFORMATION

For more information on distance learning offerings, call 936.273.7600 or 936.765.7765 during normal office hours, or e-mail distance.learning@nhmccd.edu, or on the web, go to http://eCampus.nhmccd.edu.

CONTINUING EDUCATION

The North Harris Montgomery Community College District (NHMCCD) encourages individuals to engage in lifelong learning through participation in workforce and leisure education programs, seminars, workshops, forums and activities. The major focus of continuing education is workforce and economic development. By focusing on preparing individuals for jobs as well as enabling them to continuously improve their skills, employers can more effectively compete in the global marketplace resulting in an enhanced local economy.

Continuing education courses include those offerings that address the learning needs of a community, including workforce development, ESL, literacy and recreation/leisure pursuits. Certificates are awarded for all workforce development programs and courses, some of which lead to industry skills certification. Students earn Continuing Education Units (CEUs) for each workforce development course completed. The CEU is an internationally recognized credit unit for successful completion of course outcomes in a continuing education course/program whose standards are maintained by the International Association for Continuing Education and Training (IACET). NHMCCD is an approved IACET provider for CEUs. Students taking CEU credit courses/programs have a permanent transcript available on request. One CEU is defined as “ten (10) contact hours of participation in an organized continuing education experience under responsible sponsorship, capable direction and qualified instruction.” One unit is awarded for each ten (10) clock hours of successful learning, with decimal units given for fewer than ten (10) hours. The Continuing Education/Corporate Training divisions are responsible for assuring that all workforce development courses meet criteria established by the Texas Higher Education Coordinating Board, IACET, and the Southern Association of Colleges and Schools.

CORPORATE TRAINING

Each college within the NHMCCD offers specialized and customized training for business and industry. A wide variety of employee training is available ranging from basic skills to computer software and technology to leadership and organization development. Business training representatives at each college will work with businesses to develop course/programs and related employee support activities to help employees improve productivity and service. Flexibility in class scheduling allows courses to be offered at the business site, on campus, or other locations suitable to meet client needs. Classes are led by experienced instructors/facilitators who can develop successful learning environments.

NHMCCD is actively involved in many community-based partnerships, which allow all workforce and economic development activities to function as a market-driven enterprise. Such partnerships encompass business consortiums, economic development, institutional/government, and education/business partnerships.

COMMUNITY PARTNERSHIPS

In addition, the NHMCCD’s Office of External Affairs helps coordinate economic and small business development activities with each NHMCCD college. Paramount among these activities are the Small Business Development Center (SBDC) and the North Houston Economic Development Alliance—providing a central contact point for 11 area chambers of commerce and the North Houston Association.
GENERAL INFORMATION

For more information, contact the Continuing Education/Corporate Training office at any of the five NHMCCD colleges, or the NHMCCD Office of External Affairs at 832.813.6620.

CLERY ACT

NHMCCD complies with the federal reporting standards in regard to criminal activity, and more information can be found at www.nhmccd.edu under the "Campus Safety" link.

RACIAL PROFILING

NHMCCD Police Department does not condone or engage in racial profiling and more information can be found at www.nhmccd.edu under the "Campus Safety" link.

SEX OFFENDER DATA

Information concerning registered sex offenders can be accessed from the Texas DPS Web site at http://records.txdps.state.tx.us/soSearch/

INCLEMENT WEATHER

In the event of inclement weather or emergency closing, the Location Executive Officer (LEO) 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 all local radio/television stations.

You can sign up to receive instant e-mail notifications by clicking on “Emergency Notices” in the NEWS section of the homepage, www.nhmccd.edu. Clicking on the mailbox will allow you to register for closing information for any or all of our locations.
HOW TO ENROLL

Continuing Education
CEU and Non-Credit Courses

1. Obtain a class schedule and admissions/registration form by phoning, writing, or visiting the continuing education office at any NHMCCD college. Registration forms are also available online at www.nhmccd.edu

2. Select classes and register in person or by mail, phone or fax.

3. Payment for courses is due upon registration.

College Credit Courses

1. Obtain a class schedule and admission forms by visiting, phoning or writing the admissions office at any NHMCCD college. Admissions forms are also available online at www.nhmccd.edu

2. Submit ACT, SAT, TAAS, COMPASS, ASSET, or TASP scores if required. See page 24 for details.

3. Make arrangements with the counseling or advising office for assessment, orientation and advising.

4. Refer to the schedule of classes for each term to obtain specific registration procedures and dates.

Once admitted to North Harris Montgomery Community College District, you may elect to attend any college within the district. Admission, however, does not guarantee admission to a specific limited-enrollment program. You may be admitted to the district on any one of the following conditions:

1. Graduate from a high school accredited by a state department of education and/or a recognized regional accrediting association.

2. Transfer from another college or institution.

3. Obtain GED Certificate (General Education Development). Pass test as certified by a state education agency.

4. Meet international student criteria. If you reside in the United States but are not a citizen, you must present proper documentation for an appropriate visa category (A-L). 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 22 for further information.

5. Obtain individual approval. If you do not meet any of the above requirements, and are 18 years or older, you may be admitted with special individual approval, provided sufficient evidence is presented that you can do college work. This may include, but is not limited to, a standardized written test, other measurement instruments or a non-written examination for practical course work.

6. Meet exceptional admission criteria. If you are under 18 years of age and do not have a GED certificate or a diploma from a regionally accredited high school, you may qualify for exceptional admission. Exceptional admission at NHMCCD is designed for students whose academic needs can best be met by the inclusion of college-level instruction.
The following must be submitted to the college admissions office prior to or when registering:

1. Completed college admission application
2. Copy of official test scores
3. TASP exemption score or qualifying TASP score from appropriate test.
4. Qualifying placement scores
5. College registration form with college classes authorized by high-school counselor
6. Exceptional admission form signed by student, parents, high school principal or designee with the college classes and high school classes if concurrent enrollment.

Additionally, students 15 years or younger must receive approval for exceptional admission by the following criteria:

1. Student must meet college-level readiness in writing, reading, and mathematics according to NHMCCD placement scores;
2. Student’s parent (or a designated responsible adult) agrees to be available at the campus location to monitor the student’s activities outside of class while on a NHMCCD college campus and to be immediately available in case of an emergency.

**Concurrent Credit Class Load and Grades**

State regulations allow a student to take a maximum of two (2) college credit courses per semester. However, when indicators such as grade point average, or assessment scores indicate a student may have the academic abilities to handle more than two courses, exceptions may be granted by the college’s chief academic officer or designee. Students qualifying for the exceptional admission program must complete each college course attempted with a grade of “C” or better in order to continue in the program.

**TASP-waived Certificate Program Requirement**

High school students must pass all sections of the exit-level TAAS test (or TASP/TASP alternative) to be eligible for exceptional admission at NHMCCD. Verification of the passing TAAS scores is to be indicated by the high school representative on the exceptional admission form.

**State TASP Requirement and College Placement Requirements**

To qualify for exceptional admission, students must meet both the state TASP requirement and the college-level placement requirements.

**TASP Requirement**

Students can meet the TASP requirement by being exempted from the TASP test based on ACT, SAT, or TAAS scores or by achieving a passing score on the TASP or one of the approved alternative assessment tests (i.e. ASSET, COMPASS, MAPS, ACCUPLACER).

**College Placement**

In addition to passing the TASP or alternative test, students are required to meet college-level placement scores (writing, reading, mathematics) for individual courses as indicated by pre-requisites requirements.

- A student must pass both the reading and writing portions of the test for most college-level courses.*
- Students are required to meet math pre-requisite skills in science-based math courses (ex. physics and chemistry).
- Students are required to pass the math portion to enroll in math courses.

* Exceptions: (1) level one certificate programs in technical areas, and (2) college prep courses.
Non-accredited Schools

Students from non-accredited schools must receive approval by the college student development administrator or designee.

Notes: Participation in the exceptional admission program may make some students ineligible for University Interscholastic League competition in certain academic areas, depending on the course taken. English and history courses do not affect eligibility. Students should contact their high school advisor for specific Interscholastic League requirements.

Exceptional Admissions

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 further information.

High school students who are admitted under the exceptional admission program may be eligible for a tuition waiver if concurrent credit (high school and college credit) is awarded for the course(s) taken.

Please note that college-level placement scores and TASP scores are different. The TASP passing scores and the qualifying college placement scores must be noted on the Exceptional Admission form.

ADMISSION PROCEDURES

The procedures for admission into a college credit program of study are as follows:

1. Complete an application form available from the admissions office at any college or go online at www.nhmccd.edu. Any subsequent changes (i.e., name, address, major) should be promptly reported. Official verification of in-district residence will be required. (See resident status, page 32.) Should a student wish to use the provisions of the Fresh Start program, this must be done at the time that an application for admission is submitted. Deliver the completed forms to the admissions office at any college or center.

2. Take the TASP test or approved alternate assessment test (see a college advisor for specific information).

3. Make arrangements to take an assessment test, if needed, by contacting the counseling or advising office at any college. Test results are used for placement in certain courses and for advising purposes.

4. Students whose native language is not English may need to take an English language test.

5. High school transcripts may be required for advising and verification of test scores. A high school transcript is useful to counselors and advisors in assisting students with appropriate course placement.

6. Official transcripts from all previous institutions attended should be transmitted before admission to college but MUST be submitted before subsequent registration will be permitted.

7. An application must be submitted for the semester of enrollment. Official transcripts of students who do not enroll will be maintained for three years.

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 an NHMCCD college or to any specialized admission program at NHMCCD 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 com-
pletes 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 makes the decision 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 NHMCCD 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 and may not be used to meet prerequisite requirements. However, students who have had three or more credit hours awarded prior to fall 1989 are exempt from the Texas Academic Skills Program regardless of any election of academic fresh start.

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

### ADMISSION PROCEDURES FOR SUMMER STUDENTS

A student from another college enrolling only for summer sessions may enter North Harris Montgomery Community College District by following the admission procedures outlined above. Transfer students should bring a copy of their previous academic work and TASP scores for advising and registration. An official transcript and TASP scores report MUST be submitted to the college during the first semester (fall or spring) enrollment in any degree or certificate program.

### ADMISSION PROCEDURES FOR INTERNATIONAL STUDENTS

NHMCCD is authorized under federal law to enroll non-immigrant students carrying valid visas. NHMCCD adheres strictly to INS guidelines. It is the responsibility of the student to have knowledge of INS regulations on international students, including academic, enrollment, and out-of-status policies. Students failing to comply with these regulations risk deportation.

International students must comply with NHMCCD guidelines for international students. NHMCCD guidelines are available in the admissions packets for international students and are also available on the web.

The North Harris Montgomery Community College District enrolls approximately 1000 international students each semester. Enrollment involves three processes: admission, advisement and course enrollment. Visit our web site at [http://www.nhmccd.edu](http://www.nhmccd.edu) to learn more about the colleges in our district and the programs each college offers. Once you have decided on a location, contact the International Student Advisor at that college. Submit your admissions form by mail or on line. Once you have been accepted for admission into a college, you will receive a welcome packet containing an I-20 form.

A TOEFL (Test of English as a Foreign Language) score of 530 or higher on the written test and 197 or higher on the computerized version will meet English proficiency requirements. Check with your International Student Advisor for exceptions. Placement testing is required and you will be placed in classes according to your abilities in English and math. Our mission is to create successful college students and if your test scores indicate a need for these programs, it will be time well invested. All NHMCCD students are subject to the requirements of the Texas Academic Skills Program (TASP). International students should be prepared to
pay all expenses, both educational and living. Transfer credit from a foreign college or university will be evaluated when you submit a course-by-course evaluation by a service that maintains current membership in the National Association of Credential Evaluation Services, Inc. (NACES).

Contact the International Student Advisor at any NHMCCD college for appropriate forms and current admission information for the specific visa for which you are applying and for any additional information.

**ADMISSION TO THE INTENSIVE ENGLISH PROGRAM**

The intensive English Program is authorized to issue the I-20 form that the student needs to obtain an F-1 student visa for full-time intensive English study. Students desiring an I-20 must submit the following documents:

1. A complete Application for Admissions form.
2. A nonrefundable application fee of $50 (U.S.) in the form of a check or international money order made payable to NHMCCD.
3. A notarized letter indicating evidence of sufficient financial support for the academic year.
4. The most recent academic transcript.

These documents must be received no later than the following dates:

- **Fall semester** – July 1
- **Spring semester** – November 1
- **Summer semester** – April 1

When accepted into the English as a Second Language Program, the student will receive a letter of acceptance and a Certificate of Eligibility [Form I-20] which must be taken to a United States embassy or consulate to apply for a student visa [F-1]. In accordance with U.S. immigration law, I-20 forms can be issued to people who will be full-time students. Consequently, a student admitted on visa category I-20 must enroll and maintain a minimum of 12 credit hours each of the fall and spring semesters.

International students will be considered for admission only after the previous steps are completed. Applications will be processed when all of the above items have been received.

**TEXAS ACADEMIC SKILLS PROGRAM (TASP)**

The Texas Academic Skills Program (TASP) requires all students to take the TASP test or an approved alternative test if they entered college for the first time during or after the Fall 1989 semester. Evidence of such testing must be presented before a student will be permitted to enroll. The purpose of the testing is to determine whether a student has the academic skills to succeed in college courses. The tests assess skills in reading, writing, and mathematics. The payment of the TASP test fee is the responsibility of the student. Kingwood College, Montgomery College, North Harris College, Tomball College, and Cy-Fair College are designated test sites.

Since passing all components of the test is a requirement for graduation with some certificates, an associate’s degree, entering teacher education programs, or enrolling in courses classified as upper level, students failing any section(s) of an approved test must begin specified developmental work immediately and must subsequently pass the corresponding sections(s) of the TASP Test. Students enrolled in developmental classes must attend classes regularly and be actively involved in remediation, or be subject to withdrawal from all classes.

Contact your college counseling or advising office for further cost information and testing dates.
ADMISSION POLICIES & PROCEDURES

ARTICULATION

Articulation is a planned process linking educational institutions and experiences to assist students in making a smooth transition from one level of education to another without experiencing delays or duplication in learning outcomes.

North Harris Montgomery Community College District seeks to provide an educational environment that meets the needs of students entering or leaving the community college learning environment. Articulation agreements are in effect between the district and various universities, independent school districts, proprietary schools, community education courses, and other training/certification entities which allow students to earn college credit for competencies mastered outside of the traditional community college classroom.

University articulation for transfer can be for single courses, a group of courses (as listed on transfer planning guides) or entire 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 NHMCCD will transfer to a university. Contact the Articulation University Relations department at The University Center.

Many of the high school articulated courses are in the career and technology area and are included in Tech Prep associate of applied science degree programs. Articulation agreements contain special conditions that must be met for the specific program or course prior to the award of articulated credit. Check with a college counselor prior to registration to determine if you are entitled to college credit from your high school course.

Since fall 2001, NHMCCD voluntarily adopted the following statewide articulation guidelines:

- Students must earn a passing grade of at least 80 percent in a high school course before the course is eligible for articulation.
- Students have 15 months after graduation from high school to apply for college credit for an articulated course taken in high school.

ASSESSMENT

The following scores indicate college readiness and are used to determine college level skills in English (reading and writing) and mathematics. Low scores may require placement in developmental courses. College level readiness in reading and writing is required for entrance into most college-level courses.

<table>
<thead>
<tr>
<th></th>
<th>Writing</th>
<th>Reading</th>
<th>Math</th>
<th>Verbal</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACT:</td>
<td>19</td>
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<tr>
<td>SAT:</td>
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<td></td>
<td>520</td>
<td>500</td>
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<tr>
<td>TAAS</td>
<td>1770</td>
<td>TLI 89</td>
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<td></td>
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<tr>
<td>TASP</td>
<td>220</td>
<td>230</td>
<td>270</td>
<td></td>
</tr>
<tr>
<td>ASSET:</td>
<td>45</td>
<td>41</td>
<td>45 (Intermediate Algebra Test)</td>
<td></td>
</tr>
<tr>
<td>COMPASS:</td>
<td>85</td>
<td>82</td>
<td>60</td>
<td></td>
</tr>
</tbody>
</table>

Note: Test score information is subject to change. Confirm scores at the college admissions office.
Statewide articulation is designed to assist students to transfer articulated credit freely from Texas high schools to and among Texas public community colleges. For more information on articulation visit www.nhmccd.edu and click on “Articulation,” or visit techpreptexas.org.

For more information about articulation and how to apply for articulated credit, contact the counseling or advising office at any college, the district website or the Curriculum and Instruction department located in the District Services and Training Center.

**STATEWIDE ARTICULATION COURSE CROSSWALK**

This section contains a high school statewide articulation course crosswalk. It does not include courses articulated by local agreements. For updates of this listing, visit www.techpreptexas.org.

<table>
<thead>
<tr>
<th><strong>High School</strong></th>
<th><strong>College</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Accounting I</td>
<td>ACNT 1303</td>
</tr>
<tr>
<td>AC/DC Electronics/Computer Systems</td>
<td>CETT 1409</td>
</tr>
<tr>
<td>Administrative Procedures Career Preparation</td>
<td>POFT 1309</td>
</tr>
<tr>
<td>Alternating Current Electronics</td>
<td>CETT 1405</td>
</tr>
<tr>
<td>Automotive Technician II</td>
<td>AUMT 1416</td>
</tr>
<tr>
<td>AND ASE Certification in Steering &amp; Suspension</td>
<td></td>
</tr>
<tr>
<td>Automotive Technician II</td>
<td>AUMT 1410</td>
</tr>
<tr>
<td>AND ASE Certification in Brakes</td>
<td></td>
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<tr>
<td>Business Computer Information System I</td>
<td>ITSC 1401</td>
</tr>
<tr>
<td>Business Computer Programming I</td>
<td>ITSE 1402</td>
</tr>
<tr>
<td>Business Management</td>
<td>BMGT 1303</td>
</tr>
<tr>
<td>AND Business Ownership</td>
<td></td>
</tr>
<tr>
<td>Child Development</td>
<td>CDEC 2341</td>
</tr>
<tr>
<td>AND Ready, Set, Teach I</td>
<td></td>
</tr>
<tr>
<td>AND Ready, Set, Teach II</td>
<td></td>
</tr>
<tr>
<td>Computer Maintenance Technician I</td>
<td>ITSC 1425</td>
</tr>
<tr>
<td>Computer Cabling and Design</td>
<td>EECT 1440</td>
</tr>
<tr>
<td>Computer Multimedia/Animation Technology</td>
<td>IMED 1301</td>
</tr>
<tr>
<td>High School</td>
<td>College</td>
</tr>
<tr>
<td>-------------</td>
<td>---------</td>
</tr>
<tr>
<td>Computer Applications</td>
<td>ITSC 1401</td>
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<tr>
<td>Direct Current Electronics</td>
<td>CETT 1403</td>
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<td>Electricity/Electronics Technology</td>
<td>INTC 1307</td>
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<td>Engineering Computer-Aided Drafting I</td>
<td>DFTG 1309</td>
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<td>Engineering Computer-Aided Drafting II</td>
<td>DFTG 2319</td>
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<tr>
<td>Fundamentals of the Internet</td>
<td>ITSC 1313</td>
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<tr>
<td>Intergenerational Professions I</td>
<td>CDEC 1313</td>
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<tr>
<td><strong>AND</strong> Intergenerational Professions II</td>
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<td>International Business</td>
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<td>Internetworking Technologies I (Non-Cisco Curriculum)</td>
<td>ITNW 1425</td>
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<tr>
<td>Internetworking Technologies I (Cisco Curriculum)</td>
<td>ITCC 1402 and ITCC 1406</td>
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<tr>
<td><strong>OR</strong> Networking Essentials</td>
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<tr>
<td>Internetworking Technologies II (Cisco Curriculum)</td>
<td>ITCC 1442 and ITCC 1446</td>
</tr>
<tr>
<td>Introduction to Computer Maintenance</td>
<td>CPMT 1403</td>
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<tr>
<td>Media Technology I</td>
<td>IMED 1301</td>
</tr>
<tr>
<td>Medical Terminology</td>
<td>HITT 1305</td>
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<tr>
<td><strong>AND</strong> any Statewide-Articulated Tech Prep Health Science Technology Course</td>
<td></td>
</tr>
<tr>
<td>Networking Essentials (Non-Cisco curriculum)</td>
<td>ITNW 1425</td>
</tr>
<tr>
<td>Technical Introduction to Computer-Aided Drafting</td>
<td>DFTG 1305</td>
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<tr>
<td>Telecommunications Technology IV</td>
<td>EECT 1403</td>
</tr>
<tr>
<td>Word Processing Applications</td>
<td>ITSW 1301 or GRPH 1329</td>
</tr>
</tbody>
</table>
**TECH PREP**

Upon satisfactory completion of the high school component of the Tech Prep program, students are entitled to enter the community college program with articulated credit from the high school. They may also continue their education beyond the associate of applied science degree by completing the enhanced skills certificates.

North Harris Montgomery Community College District in partnership with several local independent school districts and business/industry has developed a number of Tech Prep associate of applied science degrees.

Tech Prep associate of applied science degree programs include a sequence of courses cooperatively developed by high schools, community colleges, and business/industry which begin in the ninth grade and continue to an appropriate level of postsecondary study for employment with multiple entry/exit points. They include the same high quality and standards of a traditional college preparatory plan. These Tech Prep programs also develop the sophisticated work force skills required for employment in today’s internationally competitive marketplace.

For more information about Tech Prep programs or articulated credit at NHMCCD, visit our website or contact the counseling or advising office at any college or the Tech Prep office at the district services and training center. Please use our website at http://eps.nhmccd.edu/student/ to review information if you plan to transfer to another college or university.

**CONCURRENT CREDIT**

NHMCCD colleges have agreements with several high school districts which permit eligible high school students to earn college credit while concurrently satisfying high school graduation requirements.

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 NHMCCD. Students may enroll in a maximum of two college-level courses per semester. Exceptions require approval by the vice president of educational programs or assigned officer.

For more information regarding the concurrent credit program, contact the vice president of educational programs and resources at any of the colleges.

**CONTINUING EDUCATION OPTION**

Continuing Education works closely with the semester credit hour (SCH) program to offer linked classes in which both credit and continuing education students attend the same section. These classes may last the entire semester or any portion thereof. Students who register for these classes must meet the requirements as established by the instructor to satisfactorily complete the class. Students registered through Continuing Education may earn Continuing Education Units (CEUs), not SCH. If you wish to receive SCH, you must enroll through the credit registration process rather than through Continuing Education. To qualify, students must have a high school diploma, successful completion of GED, or be in the early admissions program. Linked courses are noted by asterisks (*) throughout continuing education schedules.
REGISTRATION INFORMATION

Registration for classes occurs several times throughout the year. Registration dates, procedures and other pertinent information are printed each semester in the class schedule booklet. Additional registration, assessment testing and advising information may also be obtained at the college where the student plans to register. New students who have never attended college are required to attend a new student information session prior to registration.

AUDITING A COURSE

Approval to visit or audit a course may be granted by the vice president for educational programs and resources or designee during the last week of registration for the class. The charges for auditing courses are the same as charges for credit enrollment. Credit will not be granted for an audited course. Approval to audit a class or change from audit to credit will not be permitted after 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 classes during that semester or term.

ACADEMIC OVERLOAD (RECOMMENDED ACADEMIC LOAD)

An overload is defined as attempting more than 18 credit hours in the fall or spring terms. A college advisor can provide specific information about overloads in summer and other non-traditional length terms. An overload during any term must be approved by the vice president for educational programs and resources or designee.

PREREQUISITE OR COREQUISITE COURSES

Before registering for certain courses, a student must complete designated prerequisites. Such requirements are always indicated as part of the course description. 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 concur-
Currently in the listed corequisite unless the course has been taken previously.

Under special circumstances, the vice president for educational programs and resources 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

Requests for change of schedule should be made before any classes to be added have met. Changes are allowed only when space is available in the class(es) the student wishes to add. The change action is not completed until it has been received and accepted by the admissions office.

CLASS WITHDRAWAL POLICY

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

Prior to the withdrawal date, faculty members may initiate requests for withdrawal of students for circumstances that the faculty member believes is appropriate. Any circumstances under which the student may be withdrawn by the faculty member will be included in the class syllabus.

Satisfactory academic progress is required for continuing eligibility for financial aid. Consult with the college’s financial aid office regarding the course completion requirements.
# 2003–2004 Tuition & Fee Schedule

TUITION AND FEES ARE SUBJECT TO CHANGE

## COST PER CREDIT HOUR

<table>
<thead>
<tr>
<th>Credit Hours</th>
<th>In-District Resident ¹</th>
<th>Out-of-District Resident ²</th>
<th>International/Out-of-State ³</th>
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<tbody>
<tr>
<td>1</td>
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<td>2</td>
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<td>10</td>
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<td>812</td>
<td>962</td>
</tr>
<tr>
<td>11</td>
<td>452</td>
<td>892</td>
<td>1057</td>
</tr>
<tr>
<td>12</td>
<td>492</td>
<td>972</td>
<td>1152</td>
</tr>
<tr>
<td>13</td>
<td>532</td>
<td>1052</td>
<td>1247</td>
</tr>
<tr>
<td>14</td>
<td>572</td>
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<td>15</td>
<td>612</td>
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<td>1532</td>
</tr>
<tr>
<td>17</td>
<td>692</td>
<td>1372</td>
<td>1627</td>
</tr>
<tr>
<td>18</td>
<td>732</td>
<td>1452</td>
<td>1722</td>
</tr>
<tr>
<td>19</td>
<td>772</td>
<td>1532</td>
<td>1817</td>
</tr>
<tr>
<td>20</td>
<td>812</td>
<td>1612</td>
<td>1912</td>
</tr>
</tbody>
</table>

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

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 NHMCCD Board of Trustees. Effective fall 2003, the waiver for concurrent students has been eliminated. This results in concurrent students being subject to regular tuition and fees.

¹ Includes tuition at the rate of $32 per credit hour, a $6 per credit hour technology fee, a $2 per credit hour student services fee and a registration fee of $12. Applies to U.S. citizens who are residents of Aldine, Conroe, Cypress-Fairbanks, Humble, Klein, Magnolia, New Caney, Splendora, Spring, Tomball and Willis Independent School Districts.

² Applies to U.S. citizens who are residents of Texas but do not reside in the college district. Includes tuition at a rate of $32 per credit hour, a $6 per credit hour technology fee, a $2 student services fee and a registration fee of $12. Additionally, these sums include a $40 per credit hour out-of-district fee.

³ Applies to all other students. By legislative action the tuition may not be less than $200 (minimum tuition). Includes tuition at the rate of $32 per credit hour plus an additional international/out-of-state tuition of $55 per credit hour, in addition to a $6 per credit hour technology fee, a $2 student services fee and a registration fee of $12.
FINANCIAL INFORMATION

RESIDENT STATUS

The legal residence of each applicant to NHM-CCD will be determined by the college admissions office. The taxing district for NHMCCD coincides with the boundaries of Aldine, Conroe, Cypress-Fairbanks, Humble, Klein, Magnolia, New Caney, Splendora, Spring, Tomball and Willis Independent School Districts. For tuition purposes, the students who enroll will be classified as follows:

1. In-district resident – An in-district resident shall be defined as a person younger than 18 years of age whose parents have been residents of Texas for the 12 months preceding enrollment and are physically residing within the taxing district boundaries of North Harris Montgomery Community College District as of the official enrollment reporting date, or a person 18 years of age or older, who has been a resident of Texas for the 12 months preceding enrollment and is physically residing within the taxing district of NHMCCD as of the official enrollment reporting date.

2. Out-of-district resident – An out-of-district resident is defined as a person younger than 18 years of age whose parents or legal guardians have been residents of Texas for the 12 months preceding enrollment and are physically residing outside the taxing district boundaries of the North Harris Montgomery Community College District as of the official enrollment reporting date, or a person 18 years of age or older who has been a resident of Texas for the 12 months preceding enrollment and is physically residing outside the taxing district boundaries of NHMCCD, as of the official enrollment reporting date.

3. Out-of-state resident – An out-of-state resident is defined as a person younger than 18 years of age who lives away from his/her family and whose family physically resides outside of the state of Texas or whose family has not physically resided in Texas for the 12 months preceding the term of enrollment, or a person 18 years of age or older who has not established residency.

Required Documentation for State Resident/In-District Resident Status

Individuals registering as residents of Texas must provide valid documentation of Texas residency as defined by the rules and regulations of the Texas Higher Education Coordinating Board. People registering as in-district residents must provide documentation which substantiates in-district residency. Items valid for documentation of in-district status will be determined by the admissions office.

It is the responsibility of the student to register under the proper residence classification. If there is any 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. Deliberate falsification of residence documentation may subject a student to immediate dismissal.
The refund policy for North Harris Montgomery Community College District 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 the district 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. Class cancellation: If the college cancels or discontinues a scheduled course, a 100 percent refund is granted.

2. Students who drop a course or who totally withdraw will have their tuition and fees (EXCEPT for the registration fee) refunded according to the following schedule:

   Note: Title IV (Federal Pell Grant, FSEOG, FFE Loans) aid recipients are subject to a different policy upon complete withdrawal of classes (Refer to page 55.)
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 table below.

DROPS AND WithdrawALS*

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

*Refer to class schedule for exact dates.
REGULATIONS CONCERNING CHECKS

1. A returned check charge of $25 will be assessed if a check presented in payment of a student’s obligation to the college is returned for any reason.
2. Checks returned unpaid for any reason must be promptly redeemed, or registration in the college may be cancelled and all records withheld.
3. No check presented in payment of fees, deposit or tuition or for the purchase of books or equipment will be accepted for a sum larger than the total amount due the college in the transaction.
4. No postdated checks will be accepted by the college.

REGULATIONS CONCERNING CHARGE CARDS

1. VISA, MasterCard, American Express, and Discover will be accepted for payment of tuition and fees.
2. Refunds will be processed as a credit to the charge card.

ESTIMATED COSTS PER SEMESTER

The following estimates are based on an average, full-time course load of 12 hours. Books are estimated at $25 per credit hour, and lab fees are based on an average fee.

### IN-DISTRICT RESIDENT

<table>
<thead>
<tr>
<th>Item</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tuition (@ $32 per hour, plus $6 per hour Technology Fee, plus $2 per hour Student Activity Fee)</td>
<td>$480</td>
</tr>
<tr>
<td>Registration Fee</td>
<td>12</td>
</tr>
<tr>
<td>2 Lab Fees (@ $10 per course)</td>
<td>20</td>
</tr>
<tr>
<td>Books</td>
<td>300</td>
</tr>
<tr>
<td>Total Per Semester</td>
<td>$812</td>
</tr>
</tbody>
</table>

### OUT-OF-DISTRICT RESIDENT

<table>
<thead>
<tr>
<th>Item</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tuition (@ $32 per hour, plus $6 per hour Technology Fee, plus $2 per hour Student Activity Fee)</td>
<td>$480</td>
</tr>
<tr>
<td>Out-of-District (@ $40 per hour)</td>
<td>480</td>
</tr>
<tr>
<td>Registration Fee</td>
<td>12</td>
</tr>
<tr>
<td>2 Lab Fees (@ $10 per course)</td>
<td>20</td>
</tr>
<tr>
<td>Books</td>
<td>300</td>
</tr>
<tr>
<td>Total Per Semester</td>
<td>$1,292</td>
</tr>
</tbody>
</table>

### INTERNATIONAL / OUT-OF-STATE RESIDENT

<table>
<thead>
<tr>
<th>Item</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tuition (@ $32 per hour, plus $6 per hour Technology Fee, plus $2 per hour Student Activity Fee)</td>
<td>$480</td>
</tr>
<tr>
<td>Out-of-state (@ $55 per hour)</td>
<td>660</td>
</tr>
<tr>
<td>Registration Fee</td>
<td>12</td>
</tr>
<tr>
<td>2 Lab Fees (@ $10 per course)</td>
<td>20</td>
</tr>
<tr>
<td>Books</td>
<td>300</td>
</tr>
<tr>
<td>Total Per Semester</td>
<td>$1,472</td>
</tr>
</tbody>
</table>
they did!

"My schedule is hectic. Currently, I'm working full time in criminal justice, but Montgomery College's flexible class schedule gives me the ability to continue taking classes. It may take a few years, but eventually I'll earn a bachelor's degree by taking classes at The University Center."

Lee Hobbs
Montgomery College
Criminal Justice Major
Transfer of Credit
From Other Institutions

Equivalent college course credits earned at other accredited institutions may apply to degrees awarded by North Harris Montgomery Community College District if at least a grade of "D" was earned. Official transcripts from all previous institutions attended are needed before admission and registration. Official transcripts MUST be received before subsequent registration or before a student is admitted to any degree or certificate program. NHMCCD has a commitment to evaluate official transcripts or transfer work during a student's first semester of enrollment.

This policy also applies to 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 NHMCCD, a course by course evaluation from an evaluation service which is a member of the National Association of Credential Evaluation Services Inc. (NACES) must be provided in addition to the official transcripts of credit. A list of evaluation providers affiliated with NACES is available from the admissions office. This evaluation must be mailed directly from the agency to the college or student information services (SIS).

If requested by the student, SIS will microfilm the transcript and return the original to the student.

Transcripts of Credit From North Harris Montgomery Community College District

The transcript of credit earned is an official copy of the student's complete academic record accumulated at North Harris Montgomery Community College District. Upon written request to NHMCCD, copies are available from the admissions office. 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 North Harris Montgomery Community College District. 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 district have not been paid or if official transcripts have not been received from previously attended institutions.

Registration in subsequent semesters will not be allowed until all outstanding debts with the district are cleared and/or official transcripts received.
**Tuition Rebates**

Tuition rebates that may be as much as $1000 are available to students if they complete their bachelor’s degree with having attempted no more than three (3) 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.

Please contact the admissions office at the university where you intend to enroll after completing your work at NHMCCD.

**Grade Reports**

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

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

**Repetition of Courses**

When a student repeats a course, all grades remain on the record with a notation for the course no longer used in GPA calculation. It is the student’s responsibility to fill out a course repeat form and to request an adjustment of the cumulative grade point average. The highest grade received is the permanent grade for the course. Repeated courses may also be designated by college officials with the GPA being adjusted accordingly. 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.”

**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. For additional information concerning certification of enrollment status, students should contact the admissions office.

Veteran’s status must be verified with the veteran services office.
RELEASE OF STUDENT RECORDS POLICY

In compliance with the “Family Educational Rights and Privacy Act of 1974,” North Harris Montgomery Community College District 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; 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; enrollment status; student classification; and the most recent previous educational agency or institution attended by the student.

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

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

Students who are currently enrolled may complete a degree plan request in the admissions office at each college. Official transcripts of all previous work, bearing the college seal and appropriate official’s signature, are required before the request is processed. Many transfer guides are available online at www.nhmccd.edu or on site at NHMCCD campuses.

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 field of study at the four-year institution. A careful study 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 for a selected group of majors: See the advising/counseling office for additional 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. The student should consult with the counseling/advising office for information regarding transferability of course work. In addition, the student should contact the director of admissions of the college to which the transfer is planned for specific admission requirements and evaluation of transfer work. The Texas Higher Education Coordinating Board has enacted specific steps to resolve transfer disputes involving first- or second-year courses.

DEGREE PLANS AND TRANSFER GUIDES

Counselors and faculty advisors 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.
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 Board 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 Board 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.

3. 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.

4. Students who transfer to public colleges or universities in Texas must have taken and passed the TASP test before enrolling in junior- or senior-level courses.
5. An official transcript of credit earned at NHMCCD will be forwarded only upon the student’s written request. Transcripts of credit earned at other colleges or universities must be requested from that school by the student.

COMMON COURSE NUMBERING SYSTEM

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

The Texas Common Course Numbering System is designed to help identify the courses needed when planning to transfer to another member institution after completion of course work at NHMCCD. Courses contained in the Texas Common Course Numbering System are general academic courses (does not include remedial courses and technical/vocational courses). This will be of assistance in planning future educational endeavors.

More information about the Texas Common Course Numbering System at NHMCCD may be obtained from the admissions office. Students currently enrolled at another institution should contact the appropriate departments at that institution for information.
COURSE NUMBERING SYSTEM

Courses numbered from 1000 to 2999 are college-level courses.

Courses numbered 0000 to 0999 are considered 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 North Harris Montgomery Community College District. One semester credit hour is generally defined as one hour of class per week for a 16-week semester lecture course. The number of semester hours for a course which includes a laboratory, practicum, or internship component varies.

It is the student’s responsibility to take courses in sequence and at the proper level.

FLEXIBLE SCHEDULE OPTIONS

The colleges of NHMCCD offer a number of alternatives which require fewer student trips to campus and allow more flexible ways of learning than traditional semester-length college credit courses.

Flexible Schedule Classes:

Flexible schedule credit classes are those that provide flexible arrangements for meeting times between a faculty member and student and which require visits by the student to campus during the semester or term. These courses are offered through several delivery systems including:

- Teleweb
- Internet (Web)
- Video
- Computer

Distance Education:

Distance learning credit classes require no visits by the student to campus during the semester or term for orientation, testing, labs, or review sessions. These courses are offered through several delivery systems including:

- Teleweb
- Internet (Web)
- Video
- Computer

Weekend College:

Classroom credit courses are scheduled Friday night, Saturday and Sunday, normally meeting once a week.

Minicourses:

Minicourses are credit courses offered in a condensed time frame but with 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 responsibility of each student to consult with faculty members regarding absences and the possibility of make up work.
STUDENT ABSENCE ON RELIGIOUS HOLY DAYS

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. The student must give written notice to the faculty member, preferably prior to the anticipated absence, of the intent to be absent due to a religious holy day.

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 is 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 dean.

GRADING STANDARDS

There are four grades indicating that 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 a grade of “C” or above is required to meet degree requirements.

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

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

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

ACADEMIC ACCOUNTABILITY

The academic standards of NHMCCD 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 college staff can intervene and explore options to assist students who have difficulty meeting minimum requirements for successful course or program completion.

Academic standing is computed at the end of each enrollment period and is based upon all grades and marks (A, B, C, D, F, I, IP, W) earned by the student at NHMCCD. Different grade point average calculations are used in determining academic standing:
- Semester GPA - includes grades earned in all courses at NHMCCD during the most recent semester.
- Cumulative Credit GPA - includes grades earned in all college-level classes at NHMCCD.

Good Standing - A student will be considered to be in good academic standing if all the following conditions are satisfied:
1. The student maintains a semester GPA of at least 2.0.
2. The student maintains a cumulative credit GPA of at least 2.0.

ACADEMIC POLICIES, PROCEDURES & SERVICES

3. The student has successfully completed at least 70 percent attempted NHMCCD credit and developmental coursework for the last year.

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

Academic Warning - The first time a student fails to maintain good academic standing while at NHMCCD, he or she will be placed on academic warning. Students placed on academic warning are expected to take advantage of the many college resources (such as learning labs, advisors, and tutors) that are available on each campus. Students on academic warning may be required to register for a reduced course load, to register for specific courses, or to participate in specially designated programs.

Academic Probation - A student who establishes a pattern of academic problems (failing to maintain good academic standing for two semesters while at NHMCCD) will be placed on academic probation. Academic probation is a serious warning that the student's academic performance and/or progress must improve in order for the student to continue enrollment in the college. Students on academic probation are required to meet with a counselor or advisor prior to registration and are not allowed to register for a subsequent semester until current semester grades are posted. Students on academic probation may be required to register for a reduced course load or for specific courses; in addition, they must participate in the required probation program at the college where they are taking the majority of their hours.

Academic Suspension - A student currently on academic probation will be suspended if he or she fails to achieve a good standing in the semester immediately following the probationary semester. Students who are on suspension must appeal as follows:
• Student submits an appeal for readmittance to the college’s Office of Student Development.
• Once readmittance has been granted, the student submits an appeal for reinstatement of financial aid.
• Readmittance does not guarantee reinstatement of financial aid.

A student who re-enters the college after having been suspended will be placed on academic probation status and will be subject to the minimum requirements governing academic probation (see above).

Financial Aid Students receiving financial assistance must make satisfactory academic progress in accordance with district policy. A copy of this policy is available in the financial aid office at each college.

ACADEMIC ACHIEVEMENT RECOGNITION

There are several ways that outstanding academic achievement by students is recognized at NHMCCD colleges. Graduates are recognized as follows:

• Students who earn a degree from a NHMCCD college with a cumulative GPA of 3.9-4.0 will be acknowledged by Summa Cum Laude on the diploma.
• Students who attain a cumulative GPA of 3.7 - 3.899 will be acknowledged by Magna Cum Laude on the diploma.
• Students who attain a cumulative GPA of 3.5 - 3.699 will be acknowledged by Cum Laude on the diploma.
• Students receiving a certificate with a cumulative 4.0 GPA will be acknowledged by With Distinction on the diploma in recognition of this achievement.

Currently enrolled students are acknowledged each semester through the President’s List if they have accumulated at least 12 credit hours (including Developmental Studies hours) and have a semester grade point average of 3.30 or above for 6 or more credit hours taken that semester. All “I” grades must be changed to a letter grade prior to computing the cumulative GPA for President’s List status.

HONORS PROGRAM

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

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

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

• Students successfully completing an honors course will receive appropriate designation on their transcripts.
• Students who complete 15 hours of honors credit with a 3.5 GPA will be recognized at commencement and will receive the designation of Honors Program Graduate on their transcript.
• Students completing 9 hours of honors credit with a 3.5 GPA and 25 hours of community service will 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 district all have active chapters of Phi Theta Kappa International Honor Society. In addition to emphasizing academic excellence, Phi Theta Kappa International Honor Society promotes the hallmarks of leadership, service, and fellowship among its members. In recent years, members from the colleges’ chapters have held several leadership positions within both the international and the Texas region of
this society and have been recognized with numerous awards. Graduating students belonging to the local and national Phi Theta Kappa International Honor Society will be recognized in the commencement program and wear the Phi Theta Kappa International Honor Society stole with their regalia.

AWARD OF CREDIT FOR NON-TRADITIONAL EXPERIENCES

ADVANCED STANDING

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

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

CREDIT BY INTERNAL CHALLENGE EXAMS

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

1. Students receiving credit by examination must be fully admitted to NHMCCD at the time credit is awarded.
2. All credit by examination must be equated with an NHMCCD course number and description.
3. Credit by examination will be recorded on the student’s official transcript without grade equivalent or inclusion in the student’s GPA.
4. 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, contact the program area of interest at one of our campuses, or click on http://eps.nhmccd.edu/PLA/InternalExams.htm

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Code</th>
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<tr>
<td>AUMT 1405</td>
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<tr>
<td>AUMT 1407</td>
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<td>CSME 1250</td>
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<td>CSME 1310</td>
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</table>

Competency Challenge Exams are developed and approved by NHMCCD Curriculum teams. For more information, contact the counseling/advising office.

CREDIT BY EXTERNAL EXAMINATION

The purpose of the credit by examination program is to provide college credit for work experience and/or educational work without transcript credit. This allows a student to complete undergraduate requirements in less time and at lower cost and to enrich educational experience by taking courses other than those that merely repeat previously learned material.
<table>
<thead>
<tr>
<th>Subject Area</th>
<th>Examination</th>
<th>NHMCCD Course</th>
<th>Min. Score</th>
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<tr>
<td>English Usage</td>
<td>ACT</td>
<td>ENGL 1301</td>
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<td>English Language &amp; Composition</td>
<td>AP College Board</td>
<td>ENGL 1301</td>
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<td>American Literature</td>
<td>CLEP</td>
<td>ENGL 2327, 2328</td>
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<tr>
<td>American Literature I</td>
<td>PEP</td>
<td>ENGL 2327</td>
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<tr>
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<td>German*</td>
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<td>FREN 1411</td>
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</tr>
<tr>
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<tr>
<td>Spanish (Credit upon completion of SPAN 1412)</td>
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<td>SOCIAL &amp; BEHAVIORAL SCIENCE</td>
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<tr>
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<td>American History II**</td>
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<td>Western Civilization I**</td>
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<td>Introductory Accounting</td>
<td>CLEP</td>
<td>ACCT 2401, 2402</td>
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<td>Principles of Management</td>
<td>PEP</td>
<td>MGMT 1301</td>
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<tr>
<td>Production &amp; Operations Mgmt</td>
<td>PEP</td>
<td>MGMT 2303</td>
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<td>MATH AND SCIENCE</td>
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<td>MATH 1316</td>
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<td>Anatomy and Physiology</td>
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<td>AP College Board</td>
<td>MATH 2412</td>
<td>3(AB)</td>
</tr>
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<td>3(BC)</td>
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<td>Chemistry</td>
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</tbody>
</table>

*Continued next page*
NHMCCD offers course credit to academically qualified entering students. Such credit may be obtained by different methods in certain subject areas.

1. Achievement Test (ACT)
2. College Level Examination Program (CLEP)
   - Specific subject areas only. No general examinations will be accepted.
3. Proficiency Examination Program (PEP)
4. Advanced Placement Program by the College Board.

The CLEP and PEP examinations are not administered at NHMCCD. These examinations may be taken at universities in the area. Scores made on the CLEP or PEP should be submitted to the counseling office four weeks prior to enrollment.

### ACADEMIC INTEGRITY

NHMCCD is committed to a high standard of academic integrity in the academic community. In becoming a part of the academic community, students are responsible for honesty and independent effort. Failure to uphold these standards includes, but is not limited to, the following: plagiarizing written work or projects, cheating on exams or assignments, collusion on an exam or project, and misrepresentation of credentials or prerequisites when registering for a course. Cheating includes looking at or copying from another student’s exam, orally communicating or receiving answers during an exam, having another person take an exam or complete a project or assignment, using unauthorized notes, texts, or other materials for an exam, and obtaining or distributing an unauthorized copy of an exam or any part of an exam. Plagiarism means passing off as one's own the ideas or writings of another (that is, without giving proper credit by documenting sources). Plagiarism includes submitting a paper, report or project that someone else has prepared, in whole or in part. Collaboration on assignments designed to be completed independently. These definitions are not exhaustive.

When there is clear evidence of cheating, plagiarism, collusion or misrepresentation, a faculty member will take disciplinary action including but not limited to: requiring the student to retake or resubmit an exam or assignment, assigning a grade of zero or “F” for an exam or assignment, or assigning a grade of “F” for the course. Additional sanctions including being withdrawn from the course/program or being expelled from school may be imposed on a student who violates the standards of academic integrity.

### 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 twelve 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.

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 district 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 may bring 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 Chief Academic Officer. If the Chief Academic Officer determines that the appeal does not meet the requirements of this policy, he/she shall communicate this in writing to the student. If the Chief Academic Officer determines that the appeal is appropriate under this policy, he/she will convene the Academic Appeals Committee to consider the complaint. The Chief Academic Officer will notify the student regarding the Academic Appeals Committee meeting date, his/her rights, and next steps in the process.

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

1. Four full-time faculty members who will be appointed by the Chief Academic Officer. One of the four faculty members will be appointed by the Chief Academic Officer as Chairperson of the committee.
2. Two students who will be nominated by the Chief Student Affairs Officer.
3. Members will be replaced or added by the Chief Academic Officer if conflict of interest is apparent or specific expertise is required in regard to the circumstances of an appeal.

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

The committee will not be bound by rules of evidence and will conduct its hearing in an informal manner. The student or faculty member may have a representative present but that person is not allowed to participate during the hearing. A two-thirds majority vote of the full committees shall be required to change the grade, penalty or academic action at issue.

The committee will inform the Chief Academic Officer of its decision in writing. The Chief Academic Officer will notify the student and faculty member in writing of the committee’s decision. The decision of the Academic Appeals Committee is final.

REQUESTS FOR COURSES

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

If the course is listed in the catalog, a student may present a request to either the dean or the vice president for educational programs and resources that the course be placed on the schedule.

If the course or program is not listed in the catalog, a written request may be made to the dean or through the vice president’s office for the course or program to be added to the curriculum.
LIBRARY

The library at each college provides print and nonprint resources and services for students and faculty. The materials have been selected to serve the curricular, vocational and recreational needs of the college community.

In addition, NHMCCD belongs to TexShare, the state-wide academic library cooperative program that allows reciprocal borrowing privileges at all participating college and university libraries in Texas.

The libraries maintain a common electronic catalog of title holdings, so that students at any college have on-line access to the district-wide collection. Each college library also provides computer access to a variety of information in electronic form including bibliographic indexes to journals, Internet resources, and multimedia publications.

In addition, the district is a member of an international library, bibliographic and loan network, On-line Computer Library Center Inc. (OCLC). This affiliation enables the district to supplement the collection by cooperative arrangements for sharing resources with other institutions in the community, region, state and nation through affiliation with the OCLC Interlibrary Loan Subsystem. The district library program maintains consortia agreements with other area libraries. Further information on both intra- and interlibrary loans is available from the library at any college. Library facilities and privileges are made available to high school and adult citizens of the community.

Students are responsible for clearing their library records before the end of each semester. Official transcripts will not be released and registration for subsequent semesters may not be allowed until all obligations with the library are cleared.

LEARNING CENTERS

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

THE DEVELOPMENTAL STUDIES PROGRAM

The function of the developmental program is to involve students in building relevant skills necessary for success in college-level courses and programs. The program includes courses, lab assignments, tutorials, seminars, learning activities, and a referral system. Developmental courses are offered in English, English as a Second Language (ESL), Human Development, and Math. Developmental course numbers begin with a zero; the Course Description section of this catalog provides specific information about these courses.

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

GED, HIGH SCHOOL EQUIVALENcy

The district offers a high school equivalency preparation and examination program. The GED exam is administered on a regular schedule. Consult the continuing education office or Web site at www.nhmccd.edu for further information and for registration.
A wide range of student development programs are provided by North Harris Montgomery Community College District. 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 coursework at NHMCCD and those that are designed for an extended academic education in four-year institutions.

Counselors and advisors are available for day and evening appointments. Students are encouraged to contact a counselor or advisor when any of the following services are needed:

Educational-Academic Counseling/Advising - Students find help in selecting a major, resolving academic difficulties and planning for further educational pursuits.

Career Exploration - Students are able to acquire information concerning their abilities, interests and personality traits, the knowledge of which is essential in making an informed and intelligent career choice. Occupational information is available in the counseling/advising office, the career exploration services office, the library, and online.

Human Enrichment Seminars - Group counseling gives support in values clarification, goals, life adjustments and other concerns.

New Student Information Sessions - Students enrolling in college for the first time are required to attend a New Student Information Session (NSIS) prior to registering. The NSIS is designed to orient new students to the college experience, and to help them succeed. This information can be obtained via lecture or online at www.nhmccd.edu.

Referral Services - When requested, the counseling/advising office refers students to specialized services in the geographical area.

Transfer Planning - Students desiring a program of study requiring transfer to another institution will be assisted in selecting coursework that transfers and fulfills degree requirements.

Faculty Advisement - Faculty members work with counselors and advisors to assist students with course selection and career decision-making.

Testing - A wide variety of tests such as vocational interest inventories, aptitude tests, study habits, inventories and intelligence measures are available. NHMCCD is an official test center for American College
Testing program - ACT, a college entrance examination. The code for Kingwood College is 4260; for North Harris College, 4139; and for Tomball College, 4261. NHMCCD is also an official test center for Texas Academic Skills Program - TASP, a test to determine whether a student has the academic skills to succeed in college-level courses. The code for Kingwood College is 219; for North Harris College, 221; for Tomball College, 222; and for Montgomery College, 226.

Services For Students With Disabilities - Support services for students with special needs are provided upon request. Requests for these services should be made through the counseling/advising office.

CAREER AND EMPLOYMENT SERVICES

Employment services are available to students and graduates for both part-time and full-time on-campus and off-campus employment. Each college offers the following services:

1. Current job openings (posted on the placement opportunities bulletin board);
2. Referral service to employers for interviews;
3. On-campus interviews with visiting employer representatives;
4. Career information regarding specific careers, employment trends, pay scales and job search skills, such as resume writing and interviewing techniques.

FINANCIAL ASSISTANCE

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

GRANTS/APPLICATION PROCESSING

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

2. Complete and mail the Free Application for Federal Student Aid (FAFSA) or apply through the web at www.fafsa.ed.gov. Complete your FAFSA application according to your previous year Tax Return. If you need assistance in completing the form, contact a financial aid advisor at the college you plan to attend. Pick up NHMCCD financial aid applications and information at any of the financial aid offices throughout the district.

3. Allow four to six weeks after submitting the application to the federal processing center to receive a response. You will receive a Student Aid Report (SAR) and the institution will receive an Institutional Student Information Record (ISIR).

4. Complete the additional NHMCCD forms and submit them to the college financial aid office along with your student aid report. The financial aid office staff will begin verification of your paperwork as soon as they receive your SAR or ISIR.

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

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

NEED-BASED (TITLE IV) PROGRAMS

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

Federal Pell Grant (PELL) - A federal grant designed to help students with financial need obtain their first undergraduate degree. The maximum annual grant for the 2003-04 year is $4,050.

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 NHMCCD will range from $500 to $4,000 per year.

Leveraging Educational Assistance Partnership (LEAP) - A federal- and state-matched need-based grant designed to assist students who have a high financial need. Awards at NHMCCD are for $500 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. Awards in this program at NHMCCD range from $2,000 to $3,200 per year. Diverse positions are available at the campuses.

Texas College Work Study Program (TCWS) - A state- and institutionally-matched work study program similar to the federal work study program. Awards at NHMCCD range from $2,000 to $3,200 per year. Program participation is limited to fall and spring terms only.

Texas Public Education Grant (TPEG) - A grant fund made available from tuition revenues to assist NHMCCD 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 campus the student will be attending. Students must enroll in at least 9 hours. Enrollment has to be within 16 months after the month of high school graduation. The maximum award is $1270 per year for fall and spring only.

Towards Excellence and Success Grant II (TGII) - A state grant made available to students who demonstrate high financial need and who are enrolled in at least 6 hours. The student may not qualify for TEXAS Grant in order to qualify for TG II. The maximum award of TG II is $1,270 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 www.nhmccd.edu for a copy of the NHMCCD award guidelines.
REFUND POLICY FOR STUDENTS RECEIVING FINANCIAL AID

Any student attending NHMCCD and receiving Title IV (PELL, FSEOG, FFE loans) assistance is treated differently for refund purposes effective October 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 will be notified by the Financial Aid office of the amount he/she owes to the Department of Education (ED). The student will be allowed 45 days to pay in full to NHMCCD the debt they owe to ED. After the 45 day period, the debt will be referred to the Department of Education for collection.

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

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

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 Stafford Student Loans
   - Subsidized Stafford Student Loans
   - Plus Loan program
   - Pell Grant program
   - SEOG Grant program
   - Robert C. Byrd Honor Scholarship

OTHER FINANCIAL INFORMATION

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

Federal Stafford (subsidized & non-subsidized) - Students must complete the grants application process on page 54 and attend an entrance counseling session in order to be processed for a loan. Students who qualify for the Stafford subsidized or non subsidized may borrow up to $2,625 for their first year of a two-year program of education and up to $3,500 for their second year of a two-year program of education. All federal student loans are disbursed no earlier than 30 days after classes begin.

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

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

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

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

1. was a resident of the state of Texas at the time of entry into active duty, and
2. was honorably discharged from the military (this does not include general or dishonorable discharges), and
3. has exhausted or is not entitled to any VA or federal educational benefits (i.e., Pell Grant, etc.), and
4. is classified as a Texas resident for tuition purposes.

Students who wish to use this program for this academic year must have a completed Hazlewood application, a VA form DD214 indicating “Honorable Discharge,” a non-entitlement letter from the VA, and a prior year federal income tax return on file in the college financial aid office no later than two weeks prior to registration for that term. Students who are determined eligible for reimbursements after registration must have a completed file received in the financial aid office prior to the official day of record for that term. Applications can be picked up at any of the financial aid offices.

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

**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 their tuition and fees.

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

The actual amount of the credit depends on the family’s income, the amount of qualified tuition and fees paid, and the amount of certain scholarships, grants and exemptions subtracted from tuition. The total maximum credit also is based on the number of eligible dependents. Form 1098T will be mailed to the IRS and the students reporting enrollment for the previous fiscal year by January 31.

**Veterans Benefits**

Veterans requesting educational benefits should contact the veterans affairs office of NHMCCD at 832.813.6574 for assistance in following approved degree and certificate programs that will
**STUDENT DEVELOPMENT**

meet VA requirements. Information is also available at each college financial aid office and at the website www.nhmccd.edu/veterans.html. Requests for benefits are paid directly to the veteran after the application and certification process is complete. Veterans are required to provide a copy of their registration statement to the NHMCCD veterans affairs office each semester for which benefits are requested. All costs for attending NHMCCD are a matter between the individual veteran and the college.

NOTE: Information and applications for educational benefits under the State of Texas Hazlewood Act may be obtained from the Financial Aid Office of the college.

**Certification Procedures** - Transcripts of all previous college work must be on file and evaluated toward a specific degree objective before the enrollment can be certified. Only courses that are required for the selected degree objective will be certified for benefits. Classes will be certified each semester after the receipt of a registration statement for that semester.

**Standards of Progress For Receipt of Veterans Benefits** - Veteran regulations require that a student receiving veteran educational benefits select an approved degree objective and make satisfactory progress toward completion of that objective or face the possible suspension of benefits.

Veteran students must make satisfactory progress and comply with the “Academic Policies” section of the NHMCCD catalog.

**Tutorial Assistance** - Additional financial assistance is available for veterans who are enrolled on at least a half-time basis and need tutorial help in certain academic and vocational courses. Veteran services personnel will help the veteran make the necessary arrangements for the use of these benefits.

**STUDENT ORGANIZATIONS**

The district recognizes that student organizations provide a framework for students to develop their own special talents and interests. Objectives of organizations include assisting students in developing leadership qualities and providing profitable use of leisure time. Information about current organizations and guidelines for starting a new organization may be obtained from the college student and organizational development office.

Examples of organizations (may not be available at each college):

- African American Cultural Association
- African American Student Association
- Ambassadors
- American Society of Interior Designers, Kingwood College Student Chapter
- Art Forum/League
- Art League
- Baptist Student Union
- Black Student Alliance
- Christian Student Alliance
- College Baseball Club
- College Democrats
- College Republican Club
- Collegiate Secretaries International
- Cultural Awareness Club
- Computer Club
- CREED
- Criminal Justice Club
- DisAbility Awareness
- Drama Club
- Early Childhood Professionals Association
- Earth Alliance
- Economic College Organization
- Gay, Lesbian and Other Students in Support
- Hispanic Student Forum
- Honors Program
Human Services Organization
International Student Organization
Intramural Sports
Latter Day Saints Club
LASO (Latin American Student Organization)
Legal Assistants Association
Martial Arts
Newman Club (Catholic Student Club)
NHC Student Affiliate of Institute of Management Accountants
North Harris College News Club
PC Users
Phi Theta Kappa (National Junior College Honor Society)
Photography Club
Psychology Club/PSI Beta National Honor Society
SCI-PHILES
Soccer Club
Show of Hands
Student Government
Student Nurses Association
Students of Diverse Abilities
Veterinary Technicians’ Student Organization
Vietnamese Student Association
Volunteer Action League
The Writer’s Club

**STUDENT ACTIVITIES**

Student activities are coordinated through the campus office of student and organizational development. Suggestions for activities and programs may be submitted to this office by students and faculty.

**STUDENT PUBLICATIONS**

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

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

**INTRAMURAL SPORTS**

Intramurals 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 and special events are scheduled throughout the semester with individual and team competition for men, women and coed groups. Athletic activities include flag football, basketball, tennis, frisbee, golf, softball, fun-runs, racquetball and more. Recreational activities include backgammon, chess, eight-ball, canoe trips, open recreation in the gym, etc. Intramural offices are located at some colleges.

**BULLETINS AND POSTERS**

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

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 district 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 district 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 NHMCCD buildings are tobacco free.

The possession of firearms, illegal knives and prohibited weapons on district 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 the NHMCCD; further, the administration is charged with the responsibility of keeping the district 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 district. Students whose conduct casts an unfavorable reflection upon the district, and thereby upon all students, are subject to disciplinary action.

STUDENT DISCIPLINE PROCEDURES

Any alleged violation or flagrant disregard of NHMCCD rules and regulations shall be brought to the attention of the college dean or vice president, who will initiate an investigation of the situation. After a complete and thorough investigation, the dean or vice president will determine the course to be followed.

The decision of this administrator may be appealed to the college discipline committee.

EMERGENCY PROCEDURES

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

North Harris Montgomery Community College District does not provide insurance coverage for its students. Section 101.051 of Texas Civil Practice and Remedies Code expressly exempts junior college districts 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 NHMCCD. Information regarding personal insurance for students is available from the office of student and organizational development.

CONTAGIOUS/COMMUNICABLE DISEASES

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

Bacterial Meningitis is a serious, potentially deadly disease that can progress extremely fast. It is an inflammation of the membranes that surround the brain and spinal cord. More information concerning this disease and its treatment can be found in the office of student and organizational development at the colleges and at www.nhmccd.edu/goto/meningitis.htm

COLLEGE POLICE

The police officers of the North Harris Montgomery Community College District Police Department 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 district 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 on campus safety and security is available from the student development office.

LOST AND FOUND

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

PARKING

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

Parking permits are required only for handicapped parking spaces.

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

STUDENT CENTER/FOOD SERVICE

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

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

STUDENT HOUSING

North Harris Montgomery Community College District serves only commuting students. There are no dormitories available.

COLLEGE BOOKSTORE

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

PROGRAMS OF INSTRUCTION

North Harris Montgomery Community College District offers courses and programs to suit the needs of individual students. In keeping with the mission of a community college, the college offers university-parallel or transfer courses, occupational/technical or career programs, and continuing education courses for lifelong learning opportunities.

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

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

- **Associate of Arts Degree (AA)** - A collegiate degree related to the baccalaureate degree. This is not a degree with a declared major; rather it is a program of first and second year courses which will generally transfer to a four-year college or university. Requirements are on page 68.

- **Associate of Science (AS)** - A collegiate degree related to the baccalaureate degree. This is not a degree with a declared major; rather it is a program of first and second year courses which will generally transfer to a four-year college or university. Requirements are on page 69.

- **Associate of Applied Science Degree (AAS)** - A degree in an occupational/technical field for students who wish to begin a career after completing this program of study. Requirements are on page 77.

- **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 for the field of study into which the student transfers. Requirements are on pages 70-73.

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

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

**NHMCCD CORE LEARNING VALUES**

The North Harris Montgomery Community College District has defined 19 core learning values for student outcomes and skill development as students complete their degree or certificate program. When appropriate and applicable to the course content, the faculty will integrate course activities and assignments that reflect these values, behaviors, and skills.

**FOUNDATIONS**

1. Retrieve, organize, interpret, and analyze information
GRADUATION REQUIREMENTS

2. Use oral and written communication as appropriate to audience
3. Solve problems using qualitative and quantitative strategies
4. Appreciate and respect differing points of view/philosophies
5. Formulate hypotheses and evaluate arguments logically
6. Understand how disciplines are interrelated
7. Develop the ability to make aesthetic judgments

INTRAPERSONAL
8. Set realistic personal and career goals including the ability to prepare for career choices and assess individual strengths/capabilities
9. Continually expand and renew knowledge base
10. Accept responsibility for self
11. Value self and others
12. Establish a work ethic
13. View learning as a life long process
14. Manage personal time and resources effectively

INTERPERSONAL
15. Interact with others: cooperate, collaborate, and communicate
16. Recognize and attend to ideas, needs, and biases of self and others
17. Practice responsible citizenship in a multicultural world

TECHNOLOGICAL LITERACY
18. Use technologies as tools at school, work, and home

WELLNESS
19. Live and maintain a healthy lifestyle

NHMCCD EDUCATIONAL SKILLS AND COMPETENCIES

Critical/Creative Thinking Skills and Competencies:
• Identifies and challenges assumptions.
• Takes multiple perspectives with a problem.
• Thinks logically, analytically, and systematically to enhance thinking and understanding skills.
• Thinks in a generative, divergent, intuitive manner to enhance or obtain understanding.
• Shows interest in a wide range of related and divergent subjects.
• Demonstrates critical thinking skills in discipline specific to employment situations.
• Applies qualitative and quantitative skills in order to evaluate arguments and construct alternative strategies.

Reading Skills and Competencies:
• Retrieves, organizes, interprets and analyzes information from a variety of sources (i.e., printed text, discipline specific terminology, etc.)
• Manipulates information to accomplish cognitive and/or affective changes in the learner.
• Integrates new information into existing body of knowledge in the learner.
• Accesses sources of information, including computer-based technology, visual and graphic representations, and discipline-specific material.

Writing Skills and Competencies:
• Produces clear, correct and coherent written material adapted to purpose, occasion, and audience i.e., work and discipline situations and academic settings.
• Demonstrates understanding of writing as a process which includes pre-writing, revision, editing, and proofreading.
• Demonstrates understanding and application of basic principles of critical thinking in the development of written topics.
• Demonstrates ability to research and write a documented paper, using correct spelling, phrasing, punctuation, and grammar.

Oral, Listening and Nonverbal Communication Skills and Competencies:
• Communicates orally in clear, coherent, and persuasive language, appropriate to purpose, occasion and audience (i.e., work situations and academic settings).
• Selects and uses appropriate support material and tools to enhance oral presentations, both to small and large groups.
• Demonstrates understanding of self and relationship to others through oral communication, observation, and listening skills.
• Demonstrates understanding and importance of nonverbal communications.

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

Basic Computer Skills and Competencies:
• Uses technologies as tools at home, work, and school for communicating, solving problems, and acquiring information.
• Demonstrates understanding of concepts of basic computer technologies, including hardware, software, management of information systems, and the impact of these technologies on the social context.
• Associates basic computer concepts to reason out and create inferences.
• Demonstrates basic understanding of theory and application of database, information management, and word processing.
• Applies concepts and logic of computer technology to discipline-specific demands in the workplace.
• Evaluates and learns new technology as appropriate.

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.

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 NHMCCD, 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. 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 vice president for educational programs and resources.

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.
GRADUATION REQUIREMENTS

1. At least 61 semester hours of earned credit, 18 of which must be courses taken at NHMCCD 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.
2. Satisfy core competency requirements.
3. Students must have at least a 2.0 cumulative GPA for NHMCCD courses applying toward their degree requirements.
4. Students must have a cumulative 2.0 GPA on all credit courses earned at NHMCCD (graduation GPA).
5. Pass all three areas of the TASP test, if entering college for the first time after summer 1989.
6. Complete formal application for graduation in admissions office on or before the announced deadline.
7. All transcripts must be on file and all financial obligations to the college complete, including all records cleared in the learning resource center.

ADDITIONAL ASSOCIATE DEGREES

A student who has received an associate degree from NHMCCD 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 NHMCCD. 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.

GRADUATION

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

Associate of Arts (AA) and Associate of Science (AS) Degrees - Students will graduate from the NHMCCD 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 NHMCCD 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.

An annual commencement exercise will be 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 commencement exercise. An application for graduation should be submitted prior to the semester that all course work is completed.

ASSOCIATE OF ARTS DEGREE AND ASSOCIATE OF SCIENCE DEGREE

The programs in this section are designed primarily for students who desire to continue their education at a four-year college/university. At North Harris Montgomery Community College District, 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 following programs of study will be eligible to receive the associate of arts degree or the associate of science degree from North Harris Montgomery Community College District.
GRADUATION REQUIREMENTS

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>COMMUNICATION</td>
<td>ENGL 1301 and 1302 and 3 hours of Speech: SPCH 1145, 1146, 1311, 1315, 1318, 1321, 2144, 2145</td>
<td>9 hours</td>
</tr>
<tr>
<td>MATHEMATICS</td>
<td>MATH 1314, 1316, 1324, 1325, 1332, 1342, *1350, *1351, 2318, 2320, †2412, †2413, †2414, †2415</td>
<td>3 hours</td>
</tr>
<tr>
<td>NATURAL SCIENCES</td>
<td>BIOL 1406 OR 1408, 1407 OR 1409, 2401, 2402, 2406, 2416, 2420, 2421; CHEM 1405, 1411, 1412, 1419, 2423, 2425; GEOL 1403, 1404, 1405, 2307, 2415, PHYS 1401, 1402, 1410, 1411, 1412, 2425, 2426</td>
<td>8 hours</td>
</tr>
<tr>
<td>VISUAL &amp; PERFORMING ART</td>
<td>ARTS 1301, 1303, 1304, 1311, 1312, 1316, 1317, 1325, 2311, 2313, 2314, 2316, 2317, 2323, 2326, 2327, 2333, 2334, 2341, 2342, 2346, 2347, 2356, 2357, 2366; DANC 1151, 1152, 1241, 1242, 1245, 1246, 1247, 1248, 1301, 2151, 2152, 2241, 2242, 2245, 2246, 2247, 2248, 2303; DRAM 1120, 1121, 1161, 1162, 1310, 1330, 1351, 1352, 2120, 2121, 2331, 2336, 2351, 2366; MUEN 1127, 1132, 1141, 1151, 1154, 2124, 2133, 2134, 2135; MUSI 1157, 1158, 1159, 1181, 1182, 1183, 1184, 1192, 1193, 1211, 1212, 1216, 1217, 2192, 2193, MUSI 1301, 1306, 1307, 1308, 1309, 1310, 1386, 1390, 1391, 2157, 2158, 2159, 2181, 2182, 2183, 2184, 2211, 2212, 2216, 2217, 2386; MUAP courses</td>
<td>3 hours</td>
</tr>
<tr>
<td>HUMANITIES</td>
<td>ENGL 2307, 2322, 2323, 2327, 2328, 2332, 2333, 2341, 2342, 2346, 2347, 2356, 2357, 2366; HIST 2311, 2312, 2321, 2322; HUMA 1301; PHIL 1301, 1304, 2306, 2316, 2317, 2321; SPCH 2341; FREN 2311, 2312; GERM 2311, 2312; SPAN 2311, 2312; ITAL 2311, 2312</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>KINESIOLOGY</td>
<td>GOVT 2301 and 2302</td>
<td>6 hours</td>
</tr>
<tr>
<td>MULTICULTURAL REQUIREMENT</td>
<td>ANTH 2346; CRJ 1301, 1307; ECON 2301, 2302; GEOG 1300, 1303; GOVT 2304; PSYC 1301, 2301, 2302, 2306, 2308, 2314, 2315, 2316, 2317, 2319; SOCI 1301, 1306, 2301, 2319, 2326</td>
<td>3 hours</td>
</tr>
<tr>
<td></td>
<td>Select any activity course 1111-2184 excluding 3 credit-hour KINE classes</td>
<td>1 hour</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.

NOTE: NHMCCD requires students to meet the computer literacy competency [ITSC 1401, COSC 1401 or equivalent (if course or competency challenge exams are not chosen and successfully completed)].
**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>
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<tr>
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<th>Course Options</th>
<th>Semester credit hours</th>
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<td><strong>COMMUNICATION</strong></td>
<td><strong>ENGL 1301, 1302</strong></td>
<td>9 hours</td>
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<td></td>
<td>And 3 hours of Speech: <strong>SPCH 1145, 1146, 1311, 1315, 1318, 1321, 2144, 2145</strong></td>
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<tr>
<td><strong>LITERATURE</strong></td>
<td><strong>ENGL 2322, 2323, 2327, 2328, 2332, 2333, 2341, 2342, 2343</strong></td>
<td>3 hours</td>
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<tr>
<td><strong>MATHEMATICS</strong></td>
<td>**MATH 1314, 1316, 1324, 1325, 1332, 1342, <em>1350, <em>1351, 2320, 2412, 2413, 2414, 2415</em></em></td>
<td>3 hours</td>
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<tr>
<td><strong>NATURAL SCIENCES</strong></td>
<td><strong>BIOL 1406 OR 1408, 1407 OR 1409, 2401, 2402, 2406, 2416, 2420, 2421; CHEM 1405, 1411, 1412, 1419, 2423, 2425; GEOL 1403, 1404, 1405, 2307, 2415, PHYS 1401, 1402, 1410, 1411, 1412, 2425, 2426</strong></td>
<td>8 hours</td>
</tr>
<tr>
<td><strong>VISUAL &amp; PERFORMING ART</strong></td>
<td><strong>ARTS 1301, 1302, 1303, 1304, 1311, 1312, 1316, 1317, 1325, 2311, 2313, 2314, 2315, 2316, 2317, 2323, 2326, 2327, 2333, 2334, 2341, 2342, 2346, 2347, 2356, 2357, 2366; DANC 1151, 1152, 1241, 1242, 1245, 1246, 1247, 1248, 1301, 2151, 2152, 2241, 2242, 2245, 2246, 2247, 2248, 2303; DRAM 1120, 1121, 1161, 1162, 1310, 1330, 1351, 1352, 2120, 2121, 2331, 2336, 2351, 2366; MUE1 1127, 1132, 1141, 1151, 1154, 2124, 2133, 2134, 2135; MUSI 1157, 1158, 1159, 1181, 1182, 1183, 1184, 1192, 1193, 1211, 1212, 1216, 1217, 2192, 2193, 1301, 1306, 1307, 1308, 1309, 1310, 1386, 1390, 1391, 2157, 2158, 2159, 2181, 2182, 2183, 2184, 2211, 2212, 2216, 2217, 2386; MUAP courses</strong></td>
<td>3 hours</td>
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<tr>
<td><strong>HUMANITIES</strong></td>
<td><strong>ENGL 2307, 2322, 2323, 2327, 2328, 2332, 2333, 2341, 2342, 2343</strong></td>
<td>3 hours</td>
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<tr>
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<td><strong>HIST 2311, 2312, 2321, 2322; HUMA 1301; PHIL 1301, 1304, 2306, 2316, 2317, 2321; SPCH 2341; FREN 2311, 2312; GERM 2311, 2312; ITAL 2311, 2312; SPAN 2311, 2312</strong></td>
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<tr>
<td><strong>SOCIAL/BEHAVIORAL SCIENCES</strong></td>
<td><strong>HIST 1301, 1302, or 2301 (select 6 hours with 3 hours in U.S. History)</strong></td>
<td>6 hours</td>
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<td><strong>GOVT 2301, 2302</strong></td>
<td>6 hours</td>
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<td><strong>ANTH 2346; CRJ1 1301, 1307; ECON 2301, 2302; GEOG 1300, 1303; GOVT 2304; PSYC 1301, 2301, 2302, 2306, 2308, 2314, 2315, 2316, 2317, 2319; SOCI 1301, 1306, 2301, 2319, 2326</strong></td>
<td>3 hours</td>
</tr>
<tr>
<td><strong>KINESIOLOGY</strong></td>
<td>Select any activity course: 1111-2184 excluding 3 credit-hour KINE classes</td>
<td>1 hour</td>
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<tr>
<td><strong>ELECTIVES</strong></td>
<td><strong>ITSC 1401; COSC 1401 or equivalent (if course or competency challenge exams are not chosen and successfully completed).</strong></td>
<td>16 hours</td>
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* Students must take one of the above underlined courses or one of the following to meet the multicultural requirement of this degree:
  - EDUC 1325; ENGL 2342, 2343; FREN 1300, 1310, 1411, 1412, 2304, 2306;
  - GERM 1411, 1412; ITAL 1411, 1412; JAPN 1411, 1412; SPAN 1401, 1402, 2301, 2302; SPAN 1300, 1310, 1411, 1412, 2306

TOTAL 61 hours

* Specifically designed for elementary and middle school teachers.
### REQUIREMENTS FOR THE ASSOCIATE OF SCIENCE:

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

<table>
<thead>
<tr>
<th>Component</th>
<th>Course Options</th>
<th>Semester credit hours</th>
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<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 1145, 1146, 1311, 1315, 1318, 1321, 2145</td>
<td></td>
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<tr>
<td><strong>MATHEMATICS</strong></td>
<td>MATH 1314, 1316, 1324, 1325, 1332, 1342, *1350, *1351, 2320, 2412, 2413, 2414, 2415</td>
<td>6 hours</td>
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<tr>
<td><strong>NATURAL SCIENCES</strong></td>
<td>BIOL 1406 OR 1408, 1407 OR 1409, 2401, 2402, 2406, 2416, 2420, 2421</td>
<td>16 hours</td>
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<tr>
<td></td>
<td>CHEM 1405, 1411, 1412, 1419, 2423, 2425, GEOL 1403, 1404, 1405, 2307, 2415, PHYS 1401, 1402, 1410, 1411, 1412, 2425, 2426</td>
<td></td>
</tr>
<tr>
<td><strong>VISUAL &amp; PERFORMING ART</strong></td>
<td>ARTS 1301, 1303, 1304, 1311, 1312, 1316, 1317, 1325, 2311, 2312, 2314, 2315, 2316, 2317, 2323, 2326, 2327, 2333, 2334, 2341, 2342, 2346, 2347, 2356, 2357, 2366, DANC 1151, 1152, 1241, 1242, 1245, 1246, 1247, 1248, 1301, 1302, 2151, 2152, 2241, 2242, 2245, 2246, 2247, 2248, 2303, DRAM 1120, 1121, 1161, 1162, 1310, 1330, 1351, 1352, 2120, 2121, 2331, 2336, 2351, 2366; MUEI 1127, 1132, 1141, 1151, 1154, 2124, 2133, 2134, 2135; MUSI 1157, 1158, 1159, 1181, 1182, 1183, 1184, 1192, 1193, 1211, 1212, 1216, 1217, 2192, 2193, 1301, 1306, 1307, 1308, 1309, 1310, 1386, 1390, 1391, 2157, 2158, 2159, 2181, 2182, 2183, 2184, 2211, 2212, 2216, 2217, 2386; MUAP courses</td>
<td>3 hours</td>
</tr>
<tr>
<td><strong>HUMANITIES</strong></td>
<td>ENGL 2307, 2322, 2323, 2327, 2328, 2332, 2333, 2341, 2342, 2343; HIST 2311, 2312, 2321, 2322; HUMA 1301; PHIL 1301, 1304, 2306, 2311, 2312, 2321; SPCH 2341; FREN 2311, 2312; GER M 2311, 2312; ITAL 2311, 2312; SPAN 2311, 2312</td>
<td>3 hours</td>
</tr>
<tr>
<td><strong>SOCIAL/BEHAVIORAL SCIENCES</strong></td>
<td>HIST 1301, 1302, or 2301 (Select 6 hours with 3 hours in U. S. History)</td>
<td>6 hours</td>
</tr>
<tr>
<td><strong>KINESIOLOGY</strong></td>
<td>GOVT 2301 and 2302</td>
<td>6 hours</td>
</tr>
<tr>
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<td>ANTH 2346; CRJ 1301, 1307; ECON 2301, 2302; GEOG 1300, 1303; GOVT 2304; PSYC 1301, 2301, 2302, 2306, 2308, 2314, 2315, 2316, 2317, 2319; SOCI 1301, 1306, 2301, 2319, 2326</td>
<td>3 hours</td>
</tr>
<tr>
<td><strong>ELECTIVES</strong></td>
<td>ITSC 1401, COSC 1401 or equivalent (if course or competency challenge exams are not chosen and successfully completed).</td>
<td>8 hours</td>
</tr>
</tbody>
</table>

Students must take one of the above underlined courses or one of the following to meet the multicultural requirement of this degree:

EDUC 1325; ENGL 2342, 2343; FREN 1300, 1310, 1411, 1412, 2304, 2306; GER M 1411, 1412; ITAL 1411, 1412; JAPN 1411, 1412; SGNL 1401, 1402, 2301, 2302; SPAN 1300, 1310, 1411, 1412, 2306

**TOTAL 61 hours**

* Specifically designed for elementary and middle school teachers.
GRADUATION REQUIREMENTS

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 NHMCCD must incorporate the degree requirements listed above 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.

GRADUATE GUARANTEE

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

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

These guarantees apply to students whose first enrollment was during fall 1992 or thereafter. For information related to the guarantee, please contact the vice presidents of educational programs and resources at any of the colleges.

FIELD OF STUDY

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 for the field of study into which the student transfers.

A student who transfers from one institution of higher education to another without completing the field of study curriculum of the sending institution shall receive academic credit in the field of study curriculum of the receiving institution for each of the courses that the student has successfully completed in the field of study. The field of study curricula which have been approved are: Business, Child Development/Early Childhood Education, Grade 4-8 Certification, Criminal Justice and Music.

Field of Study Curriculum in Business

Business

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

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

(offered at Cy-Fair, Kingwood, Montgomery, North Harris, and Tomball College)

FIRST YEAR

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 1301 Composition &amp; Rhetoric I</td>
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<td>COSC 1401 Intro to Computers (or higher)</td>
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<tr>
<td>HIST 1 Elective</td>
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<tr>
<td>SPCH 2 Elective</td>
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<td>Elective Visual and Performing Arts Elective</td>
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SECOND SEMESTER

<table>
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<tr>
<th>Credit</th>
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<tbody>
<tr>
<td>HIST 1 Elective</td>
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<tr>
<td>ACCT 2401 Principles of Accounting I</td>
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<tr>
<td>MATH 1314 College Algebra</td>
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<tr>
<td>ECON 2301 Macroeconomics</td>
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<tr>
<td>ENGL 1302 Composition &amp; Rhetoric II</td>
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SECOND YEAR

First Semester

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<th>Course</th>
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<tr>
<td>ECON 2302</td>
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<td>GOVT 2301</td>
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Second Semester

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<td>ENGL 1111</td>
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<tr>
<td>SEMESTER TOTAL</td>
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Total Credit Hours for Field of Study: 66

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

Field of Study Curriculum in Child Development/Early Childhood Education

Child Development/Early Childhood Education

Leading to the bachelor of science in human sciences or bachelor of science in interdisciplinary studies concentration: Early childhood grade 4 generalist.

Associate of Arts with Field of Study Transfer Curriculum for Child Development/Early Childhood Education (degree offered at North Harris College)

FIRST YEAR

First Semester

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
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<td>ENGL 1301</td>
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<td>TECA 1311</td>
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<td>TECA 1354</td>
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Second Semester

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<td>HIST 1301</td>
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SECOND YEAR

First Semester

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<td>GOVT 2301</td>
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<tr>
<td>HIST 1302</td>
<td>3</td>
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<tr>
<td>ENGL ³</td>
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Second Semester

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<tr>
<td>SPCH 1315</td>
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<td>PSYC 2301</td>
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<td>SEMESTER TOTAL</td>
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Total Credit Hours for Field of Study: 67

1 Select from: BIOL 1406, 1408 or 2401
2 Meets multicultural requirement
3 Select from: ENGL 2322, 2323, 2327, 2328, 2332, 2333 or 2354

Field of Study Curriculum in Criminal Justice

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 (degree offered at Cy-Fair, Kingwood, Montgomery, North Harris, and Tomball College)

FIRST YEAR

First Semester

<table>
<thead>
<tr>
<th>Course</th>
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<tr>
<td>ENGL 1301</td>
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<td>HIST</td>
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<td>CRIJ 1301</td>
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<td>ITSC 1401</td>
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<td>COSC 1401</td>
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GRADUATION REQUIREMENTS

Second Semester

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<td>ENGL 1302</td>
<td>Composition and Rhetoric II</td>
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<td>HIST1</td>
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<td>Science2</td>
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<td>CRIJ 1306</td>
<td>Court Systems &amp; Practices</td>
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<td>MATH2</td>
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SECOND YEAR

First Semester

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<td>ENGL2</td>
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<td>CRIJ 1310</td>
<td>Fundamentals of Criminal Law</td>
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<td>CRIJ 2313</td>
<td>Correctional Systems &amp; Practices</td>
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<td>SEMESTER TOTAL</td>
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<td>Total Credit Hours for Field of Study Criminal Justice</td>
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Second Semester

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<td>GOVT 2302</td>
<td>Amer Govt: Natl, State &amp; Local II</td>
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<tr>
<td>SPCH2</td>
<td>Visual &amp; Performing Arts</td>
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<td>Elective2</td>
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<tr>
<td>CRIJ 2328</td>
<td>Police Systems &amp; Practices</td>
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<tr>
<td>Humanities2</td>
<td>Elective</td>
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Total Credit Hours for Field of Study 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 Grade 4-8 Certification

Grade 4-8 Certification

Leading to the bachelor of science with a major in mathematics or science or mathematics/science composite or social sciences/language arts composite or interdisciplinary studies (generalist and bilingual generalist).

Associate of Arts with Field of Study Transfer Curriculum for Grade 4-8 Certification (degree offered at Kingwood, Montgomery, North Harris, and Tomball College)

FIRST YEAR

First Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDUC 1300</td>
<td>Learning Frameworks</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 1301</td>
<td>Composition &amp; Rhetoric I</td>
<td>3</td>
</tr>
<tr>
<td>Elective1</td>
<td>Social/Behavioral Science</td>
<td>3</td>
</tr>
<tr>
<td>MATH 1314</td>
<td>College Algebra</td>
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</tr>
<tr>
<td>COSC 1401</td>
<td>Introduction to Computers</td>
<td>4</td>
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Second Semester

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<tr>
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<tbody>
<tr>
<td>EDUC 1301</td>
<td>Introduction to Education</td>
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<tr>
<td>ENGL 1302</td>
<td>Composition &amp; Rhetoric II</td>
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</tr>
<tr>
<td>MATH 1350</td>
<td>Foundations of Mathematics I</td>
<td>3</td>
</tr>
<tr>
<td>HIST2</td>
<td>Elective</td>
<td>3</td>
</tr>
<tr>
<td>Elective3</td>
<td>Science</td>
<td>4</td>
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</table>

SECOND YEAR

First Semester

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<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credit</th>
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<tbody>
<tr>
<td>MATH 1351</td>
<td>Foundations of Mathematics II</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 2332</td>
<td>Survey of World Lit. I OR</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 2333</td>
<td>Survey of World Lit. II</td>
<td>3</td>
</tr>
<tr>
<td>Elective3</td>
<td>Science</td>
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<tr>
<td>GOVT 2301</td>
<td>Amer Govt: Natl, State &amp; Local I</td>
<td>3</td>
</tr>
<tr>
<td>PSYC1  2308</td>
<td>Child Growth &amp; Development OR</td>
<td>3</td>
</tr>
<tr>
<td>TECA 1354</td>
<td>Child Growth &amp; Development</td>
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</tr>
<tr>
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Second Semester

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<tbody>
<tr>
<td>HIST2</td>
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<td>3</td>
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<td>GOVT 2302</td>
<td>Amer Govt: Natl, State &amp; Local II</td>
<td>3</td>
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<tr>
<td>SPCH4</td>
<td>Elective</td>
<td>3</td>
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<tr>
<td>MUSI 1301</td>
<td>Music Fundamentals OR</td>
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<tr>
<td>ARTS 1311</td>
<td>Design I 2-D</td>
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<tr>
<td>Elective5</td>
<td>Humanities/Fine Arts</td>
<td>3</td>
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<tr>
<td>KINE</td>
<td>Physical Activity</td>
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</table>

Total Credit Hours for Field of Study 64

1 If PSYC 2308 is selected, PSYC 2301 must be taken for social/behavioral science elective.
2 Select from HIST 1301, 1302, 2301 (6 hrs with 3 hrs in U.S. History)
3 Select from GEOL 1401; BIOL 1406, 1407, 2406; CHEM 1405, CHEM 1419; GEOL 1403
4 Select from Speech 1311, 1315, 1318 or 1321
5 Select course to meet multicultural requirement.

Field of Study Curriculum in Music

Music

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

Associate of Arts with Field of Studies Transfer Curriculum in Music (degree offered at Kingwood, Montgomery, North Harris, and Tomball College)
## GRADUATION REQUIREMENTS

### FIRST YEAR

**First Semester**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUSI1 1211</td>
<td>Theory I</td>
<td>2</td>
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<tr>
<td>MUSI1 1216</td>
<td>Ear Training &amp; Sight Singing I</td>
<td>2</td>
</tr>
<tr>
<td>MUSI1 1181</td>
<td>Class Piano I</td>
<td>1</td>
</tr>
<tr>
<td>MUAP</td>
<td>Elective</td>
<td>2</td>
</tr>
<tr>
<td>ENGL 1301</td>
<td>Composition &amp; Rhetoric I</td>
<td>3</td>
</tr>
<tr>
<td>HIST 1301</td>
<td>United States History I</td>
<td>3</td>
</tr>
<tr>
<td>MUEN3</td>
<td>Major Performance Ensemble Elective</td>
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**Second Semester**

<table>
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<th>Course Title</th>
<th>Credit</th>
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<tbody>
<tr>
<td>MUSI1 1212</td>
<td>Theory II</td>
<td>2</td>
</tr>
<tr>
<td>MUSI1 1217</td>
<td>Ear Training &amp; Sight Singing II</td>
<td>2</td>
</tr>
<tr>
<td>MUSI1 1182</td>
<td>Class Piano II</td>
<td>1</td>
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<tr>
<td>MUAP</td>
<td>Elective</td>
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<tr>
<td>ENGL 1302</td>
<td>Composition &amp; Rhetoric II</td>
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</tr>
<tr>
<td>HIST 1302</td>
<td>U.S. History II</td>
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<td>MATH 1314</td>
<td>College Algebra or higher</td>
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</tr>
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<td>MUEN3</td>
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<td><strong>SEMESTER TOTAL</strong></td>
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### SECOND YEAR

**First Semester**

<table>
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<th>Course Title</th>
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<tbody>
<tr>
<td>MUSI1 2211</td>
<td>Theory III</td>
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<td>MUSI1 2216</td>
<td>Ear Training &amp; Sight Singing III</td>
<td>2</td>
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<td>MUSI1 2181</td>
<td>Class Piano III</td>
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<td>MUSI 1308</td>
<td>Music Literature I</td>
<td>3</td>
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<tr>
<td>MUAP</td>
<td>Elective</td>
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<tr>
<td>GOVT 2301</td>
<td>Amer Govt: Natl, State &amp; Local I</td>
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</tr>
<tr>
<td>ENGL2</td>
<td>Elective</td>
<td>3</td>
</tr>
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<td>MUEN3</td>
<td>Major Performance Ensemble Elective</td>
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<tr>
<td><strong>SEMESTER TOTAL</strong></td>
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**Second Semester**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit</th>
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</thead>
<tbody>
<tr>
<td>MUSI1 2212</td>
<td>Theory IV</td>
<td>2</td>
</tr>
<tr>
<td>MUSI1 2217</td>
<td>Ear Training and Sight Singing IV</td>
<td>2</td>
</tr>
<tr>
<td>MUSI1 2182</td>
<td>Class Piano IV</td>
<td>1</td>
</tr>
<tr>
<td>MUSI 1309</td>
<td>Music Literature II</td>
<td>3</td>
</tr>
<tr>
<td>MUAP</td>
<td>Elective</td>
<td>2</td>
</tr>
<tr>
<td>GOVT 2302</td>
<td>Amer Govt: Natl, State &amp; Local II</td>
<td>3</td>
</tr>
<tr>
<td>SPCH 1315</td>
<td>Public Speaking</td>
<td>3</td>
</tr>
<tr>
<td>MUSI</td>
<td>Major Performance Ensemble Elective</td>
<td>1</td>
</tr>
<tr>
<td><strong>SEMESTER TOTAL</strong></td>
<td></td>
<td><strong>17</strong></td>
</tr>
</tbody>
</table>

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

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

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

2 ENGL 2322, 2323, 2327, 2328

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

### AREA OF CONCENTRATION IN CRIMINAL JUSTICE

Students desiring to work toward a major in criminal justice can complete the requirements for the associate of arts degree and the area of concentration (AOC) hours for criminal justice. There is a 15-hour minimum for this area of concentration. Students must complete at least 9 hours of the 15-hour minimum within the colleges of the NHMCCD to receive this AOC designation. The following is the breakdown of the 15-hour minimum. For advising assistance, contact one of the criminal justice faculty members. Upon successful completion, graduates will receive an AA degree with an AOC in criminal justice.

### REQUIRED COURSES:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRIJ 1301</td>
<td>Introduction to Criminal Justice</td>
</tr>
<tr>
<td>CRIJ 1306</td>
<td>Court Systems &amp; Practices</td>
</tr>
<tr>
<td>CRIJ 1310</td>
<td>Fundamentals of Criminal Law</td>
</tr>
</tbody>
</table>

Suggested Specialty Areas for the remaining 6 hours (up to a maximum of 12 additional hrs.)

**Police:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRIJ 2323</td>
<td>Legal Aspects of Criminal Justice</td>
</tr>
<tr>
<td>CRIJ 2328</td>
<td>Police Systems &amp; Practices</td>
</tr>
<tr>
<td>CRIJ 2314</td>
<td>Criminal Investigations</td>
</tr>
</tbody>
</table>

**Juvenile Justice:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRIJ 1307</td>
<td>Crime in America</td>
</tr>
<tr>
<td>CRIJ 1313</td>
<td>Juvenile Justice Systems</td>
</tr>
</tbody>
</table>

**Corrections:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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</thead>
<tbody>
<tr>
<td>CRIJ 1307</td>
<td>Crime in America</td>
</tr>
<tr>
<td>CRIJ 2301</td>
<td>Community Resources in Corrections</td>
</tr>
<tr>
<td>CRIJ 2313</td>
<td>Correctional Systems &amp; Practices</td>
</tr>
</tbody>
</table>

**Law & Justice Studies:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>CRIJ 1307</td>
<td>Crime in America</td>
</tr>
<tr>
<td>CRIJ 2323</td>
<td>Legal Aspects in Criminal Justice</td>
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**Criminal Justice Systems:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>CRIJ 1313</td>
<td>Juvenile Justice Systems</td>
</tr>
<tr>
<td>CRIJ 2313</td>
<td>Correctional Systems &amp; Practices</td>
</tr>
<tr>
<td>CRIJ 2328</td>
<td>Police Systems &amp; Practices</td>
</tr>
</tbody>
</table>
DEGREES OFFERED

BACHELOR’S DEGREES
(undergraduate programs)

Accounting
  Sam Houston State University
Applied Arts and Sciences
  Sam Houston State University
Biological and Physical Sciences
  University of Houston-Downtown
Biology
  Sam Houston State University
Biotechnology
  University of Houston-Downtown
Computer Information Systems
  University of Houston-Downtown
Consumer Science and Merchandising
  University of Houston
Criminal Justice
  Sam Houston State University
Earth Science
  University of Houston
English
  University of Houston
Finance
  University of Houston-Downtown
General Business Administration
  Sam Houston State University
History
  University of Houston
Hotel and Restaurant Management
  University of Houston
Human Performance
  Texas Southern University
Interdisciplinary Academic Studies in
  Elementary Certification
  Sam Houston State University
  Texas Southern University
Interdisciplinary Studies
  University of Houston-Downtown
Management
  Sam Houston State University
Marketing
  University of Houston-Downtown
Mechanical Technology-Computer Drafting Design
  University of Houston
Nursing
  Prairie View A&M University
Political Science
  Sam Houston State University
Psychology
  Sam Houston State University
Social Work
  Prairie View A&M University
Sociology
  Prairie View A&M University
Technology Leadership and Supervision
  University of Houston
MASTER’S DEGREES
(graduate programs)

Business Administration
  Sam Houston State University
  Business Administration-Executive
    MBA (2-Year)
    Texas A&M University
Computer Science
  University of Houston
Counselor Education
  Texas Southern University
Criminal Justice
  Sam Houston State University
Curriculum and Instruction
  (Gifted & Talented)
    University of Houston
Education Administration
  Prairie View A&M University
Educational Human Resource Development
  Texas A&M University
Educational Leadership: Administrators/
  Supervisors Certificate
  Sam Houston State University
Educational Technology
  Texas A&M University
Electrical Engineering
  University of Houston
Elementary/Early Childhood
  Prairie View A&M University
Elementary Education
  Sam Houston State University
Engineering
  Prairie View A&M University

Engineering Management
  University of Houston
Engineering Systems Management
  Texas A&M University
English
  Sam Houston State University
History
  Sam Houston State University
Hospitality Management
  University of Houston
Petroleum Engineering
  Texas A&M University
Political Science
  Sam Houston State University
Psychology
  Sam Houston State University
Reading and Language Arts/
  Reading Specialist Certificate
    University of Houston
Secondary Education
  Sam Houston State University
Sociology
  Sam Houston State University
Training and Development
  University of Houston

SPECIAL PROGRAMS

Pharmacy Doctorate
  Texas Southern University
Post Baccalaureate Teacher Certification
  Prairie View A&M University
  Sam Houston State University
ASSOCIATE OF APPLIED SCIENCE DEGREE

The associate of applied science degree is issued to students who complete a career-education curriculum of college level and character. 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 occupational 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. (see chart on following page.)

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

3. In addition, graduates are expected to master the NHMCCD Core Learning Values and the Educational Skills and Competencies (pages 63-65). These requirements can be fulfilled through successful completion of identified courses or attainment of identified competencies in a specific certificate or program. Program administrators, faculty, or advisors will provide specific information.

CERTIFICATE PROGRAMS AND GENERAL REQUIREMENTS

Certificates are awarded upon the completion of specific courses which have been industry-validated and sequenced for the purpose of developing and upgrading skills in an occupation. The programs vary in length and are designed to prepare the student for employment. Students will receive their certificate from the NHMCCD 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 North Harris Montgomery Community College District, a student must:

1. Have fulfilled all the course requirements for a Certificate Program, completing at least 50 percent of course work at NHMCCD.

2. Earn a cumulative grade point average of 2.00 in all courses required for the certificate.

3. Students MUST APPLY FOR GRADUATION before a certificate can be awarded.

4. Students desiring an Enhanced Skills Certificate must complete the related NHMCCD AAS degree.
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 (General Education courses)</th>
<th>Course Options</th>
<th>Semester credit hours</th>
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</thead>
<tbody>
<tr>
<td><strong>Composition</strong></td>
<td>ENGL 1301</td>
<td>3 hours</td>
</tr>
<tr>
<td><strong>Math/Natural Sciences</strong></td>
<td>BIOL 1322, 1406 or 1408, 1407 or 1409, 2401, 2402, 2406, 2416, 2420, 2421; CHEM 1405, 1411, 1412, 1419, 2423, 2425; GEOL 1403, 1404, 1405, 2307, 2415; MATH 1314, 1316, 1324, 1325, 1332, 1342, *1350, *1351, 2320, 2412, 2413, 2414, 2415; PHIL 2303; PHYS 1401, 1402, 1410, 1411, 2415, 2426; Minimum of 1 course.</td>
<td>3 hours</td>
</tr>
<tr>
<td><strong>Social/Behavioral Sciences</strong></td>
<td>ANTH 2346; CRIJ 1301, 1307; ECON 2301, 2302; GEOG 1300, 1303; GOVT 2301, 2302, 2304; PSYC 1301, 2301, 2302, 2306, 2308, 2314, 2315, 2316, 2317, 2319, 2340; SOCI 1301, 1306, 2301, 2319, 2326; Minimum of 1 course.</td>
<td>3 hours</td>
</tr>
<tr>
<td><strong>Humanities/Fine Arts</strong></td>
<td>ARTS 1301, 1303, 1304, 1311, 1312, 1316, 1317, 1325, 2311, 2313, 2314, 2316, 2317, 2323, 2326, 2327, 2333, 2334, 2341, 2342, 2346, 2347, 2356, 2357, 2366; COMM 1318; DANC 1151, 1152, 1241, 1242, 1245, 1246, 1247, 1248, 1301, 2151, 2152, 2241, 2242, 2245, 2246, 2247, 2248, 2303; DRAM 1120, 1121, 1161, 1162, 1310, 1330, 1351, 1352, 2120, 2121, 2331, 2336, 2351, 2366; ENGL 1302, 2307, 2322, 2323, 2327, 2328, 2332, 2333, 2341, 2342, 2343; HIST 1301, 1302, 2301, 2311, 2312, 2321, 2322; HUMA 1301; MUAP courses; MUCN 1127, 1132, 1141, 1151, 1154, 2124, 2133, 2134, 2135; MUSI 1157, 1158, 1159, 1181, 1182, 1183, 1184, 1192, 1193, 1211, 1212, 1216, 1217, 2192, 2193, 2301, 1306; 1307, 1308, 1309, 1310, 1386, 1390, 1391, 2157, 2158, 2159, 2181, 2182, 2183, 2184, 2211, 2212, 2216, 2217, 2306; PHIL 1301, 1304, 2306, 2316, 2317, 2321; SPCH 2341; FREN 2311, 2312; GER M 2311, 2312; ITAL 2311, 2312; SPAN 2311, 2312; Minimum of 1 course</td>
<td>3 hours</td>
</tr>
<tr>
<td><strong>Elective</strong></td>
<td>To meet NHHMCCD core requirements (general education courses), see individual program degree plans for specific course.</td>
<td>3 hours</td>
</tr>
<tr>
<td><strong>Specific Occupational/Technical or Support Program Courses</strong></td>
<td></td>
<td>45-57 hours</td>
</tr>
</tbody>
</table>

Note: The **Core Component** of this degree is 15 semester hours.

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: EDUC 1325; ENGL 2342, 2343; FREN 1300, 1310, 1411, 1412, 2304, 2306; GER M 1411, 1412; ITAL 1411, 1412; JAPN 1411, 1412; SGNL 1401, 1402, 2301, 2302; SPAN 1300, 1310, 1411,1412, 2306.

* Specifically designed for elementary and middle school teachers.
## GRADUATION REQUIREMENTS

### ASSOCIATE OF APPLIED SCIENCE (AAS) DEGREES AND CERTIFICATES

<table>
<thead>
<tr>
<th>PAGE #</th>
<th>DEGREES AND CERTIFICATES</th>
<th>PROGRAM CODES</th>
<th>NHC</th>
<th>KC</th>
<th>TC</th>
<th>MC</th>
<th>CFC</th>
<th>DL</th>
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<tbody>
<tr>
<td>87</td>
<td>Accounting</td>
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</tr>
<tr>
<td></td>
<td>AAS Degree (AAS. ACCS)</td>
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<td>★</td>
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<tr>
<td></td>
<td>Accounting Certificate (C1. ACC1)</td>
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<tr>
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<td>Professional Bookkeeper Certificate (C1. BKR1)</td>
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<td>★</td>
<td>★</td>
<td>★</td>
<td>★</td>
<td></td>
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<tr>
<td>88</td>
<td>Automotive Technology</td>
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<tr>
<td></td>
<td>AAS Degree, Tech Prep (AAS. AUTO)</td>
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<td></td>
<td>Certificate, Body and Chassis Technician Specialization (C1. ABC1)</td>
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* Enhanced Skills Certificate is available with all specialization options other than selected AAS Degree specialization.
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### GRADUATION REQUIREMENTS

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# COURSE REVISION CROSSWALK

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<tr>
<td>ARTS 1325 Introduction to Computer</td>
<td>ARTS 2348 Digital Art I</td>
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<td>BMGT 1302 Principles of Retailing</td>
<td>MRKG 1302 Principles of Retailing</td>
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<td>BMGT 1333 Principles of Selling</td>
<td>MRKG 2333 Principles of Selling</td>
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<td>BMGT 1371 Information &amp; Project Management</td>
<td>BMGT 1309 Information &amp; Project Management</td>
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<td>EMSP 2143 Assessment Based Management</td>
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<td>ARTC 1313 Digital Publishing I</td>
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<td>ARTC 2305 Digital Imaging II</td>
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<td>GRPH 1359 Object Oriented Computer Graphics</td>
<td>ARTC 1353 Computer Illustration</td>
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<td>GRPH 2341 Electronic Publishing III</td>
<td>ARTC 2348 Electronic Publishing III</td>
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<td>HART 1442 Commercial Refrigeriation</td>
<td>HART 2442 Commercial Refrigeration</td>
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<td>HART 1449 Heat Pumps</td>
<td>HART 2449 Heat Pumps</td>
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<td>HIST 2341 Selected Studies in History</td>
<td>HIST 2351 Advanced Historical Analysis</td>
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<td>MUSI 1127, 1131, 1132, 1133, 1141, 1151, 1154, 2124, 2133, 2134, 2135</td>
<td>MUEN 1127, 1131, 1132, 1133, 1141, 1151, 1154, 2124, 2133, 2134, 2135</td>
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<td>POFT 1301 Business English</td>
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<tr>
<td>RNSG 2121 Management of Client</td>
<td>RNSG 2272 Nursing Review</td>
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DEGREES AND CERTIFICATES

ACCOUNTING

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

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

The associate of applied science degree is awarded for successful completion of at least 61 credit hours as outlined. Students desiring a less comprehensive program should consider one of the Accounting Certificate programs also listed below.

The general education core courses and several individual accounting courses will transfer to a variety of universities. Contact the counselor or advisor at any college for specific information and to obtain the recommended sequencing of courses. The sequence of courses can also be found at: www.nhmccd.edu/catalog/.

ACCOUNTING CERTIFICATE

(certified offered at Cy-Fair College, Montgomery College, North Harris College and Tomball College)

TASP Exempt

FIRST YEAR

<table>
<thead>
<tr>
<th>First Semester</th>
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<td>ACCT 2401</td>
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<td>ITSC 1401</td>
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TOTAL Credit Hours for Accounting Certificate 30-31

1 Electives to be selected from ACNT 1347, 2333, 2372, 2373, 2380, 2381; BUSI 1301, 2301, 2304; ITSU 1404, 1407. Other electives may be chosen with Accounting department approval.

2 Capstone course
### DEGREES AND CERTIFICATES

#### PROFESSIONAL BOOKKEEPER CERTIFICATE
(certificate offered at Cy-Fair College, Kingwood College, North Harris College, Montgomery College, and Tomball College)
TASP Exempt

<table>
<thead>
<tr>
<th>First Year</th>
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<tbody>
<tr>
<td><strong>First Semester</strong></td>
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<tr>
<td>ITSC 1401 Introduction to Computers</td>
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<tr>
<td>ACNT 1303 Introduction to Accounting I</td>
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<tr>
<td>POFM 1325 Busi. Math &amp; Machine Applications</td>
</tr>
<tr>
<td>BUSI 1301 Business Principles</td>
</tr>
<tr>
<td>BMGT 1303 Principles of Management OR</td>
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<tr>
<td>HRPO 1311 Human Relations</td>
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<tbody>
<tr>
<td>ACCT 2401 Principles of Accounting I</td>
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<tr>
<td>ACNT 1311 Intro. to Computerized Accounting</td>
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<tr>
<td>ITSC 1404 Introduction to Spreadsheets</td>
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<tr>
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**TOTAL Credit Hours for Professional Bookkeeper Certificate**: 33

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#### ACCOUNTING

**Associate of applied science degree**
(degree offered at Cy-Fair College, North Harris College, Montgomery College, and Tomball College)

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<td>ACCT 2401 Principles of Accounting I</td>
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<td>ACNT 1331 Federal Income Tax: Individual</td>
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<td>HRPO 1311 Human Relations OR</td>
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<td>PSYC 2301 General Psychology</td>
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<td>ITSC 1401 Introduction to Computers</td>
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<td>KINE 1401 Physical Activity</td>
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<thead>
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<td>ACCT 2402 Principles of Accounting II</td>
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<td>ACNT 1347 Federal Income Tax for Partnerships &amp; Corp.</td>
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<td>BMGT 1303 Principles of Management</td>
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<td>BUSI 2301 Business Law I</td>
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**TOTAL Credit Hours for AAS Degree**: 61-62

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#### AUTOMOTIVE TECHNOLOGY

The automotive technology associate of applied science degree, 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 Body and Chassis Technician Certificate program prepares the individual for basic, entry-level, employment in the automotive service industry. The essentials of the mechanical, electrical and environmental systems of the contemporary automobile and light truck are major components of the program. Courses completed in this certificate program may be applied toward the associate degree in Automotive Technology.

The Tune-Up and Driveability Certificate program prepares the individual for basic, entry-level, employment in the automotive service industry. The program provides course work specializing in the mechanical and electrical systems of the contemporary automobile and light truck that affect optimum operation and driveability.

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. The sequence of courses can also be found at: www.nhmccd.edu/catalog/.

### BASIC AUTOMOTIVE SERVICE TECHNOLOGY CERTIFICATE
(certificate offered at North Harris College)  
TASP Exempt

#### FIRST YEAR

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<td>AUMT 1407 Automotive Electrical Systems</td>
<td>4</td>
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<tr>
<td>AUMT 1410 Automotive Brake Systems</td>
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<tr>
<td>AUMT 1416 Suspension and Steering</td>
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**TOTAL Credit Hours for Basic Automotive Service Technology Certificate**: 19

1. Capstone course

### BODY AND CHASSIS TECHNICIAN SPECIALIZATION CERTIFICATE
(certificate offered at North Harris College)  
TASP Exempt

#### FIRST YEAR

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<td>AUMT 1407 Automotive Electrical Systems</td>
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<tr>
<td>AUMT 1410 Automotive Brake Systems</td>
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<tr>
<td>AUMT 1416 Suspension and Steering</td>
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<tr>
<td>AUMT 2425 Auto Transmission &amp; Transaxles</td>
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<tr>
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<td>AUMT 2425 Auto Transmissions &amp; Transaxles</td>
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<tr>
<td>AUMT 1419 Automotive Engine Repair</td>
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<tr>
<td>AUMT 2434 Engine Performance Analysis II</td>
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<td>AUMT 2437 Automotive Electronics</td>
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**TOTAL Credit Hours for Tune-Up and Driveability Technician Certificate**: 32

1. To be selected from the remaining AUMT courses for which prerequisites have been met.

Note: The required Capstone experience will be completed by taking a departmental exam. It is strongly suggested that the following A.S. E exams be taken by the student: the Electrical exam, and one elective exam.
### DEGREES AND CERTIFICATES

#### AUTOMOTIVE TECHNOLOGY

**Associate of applied science degree, Tech Prep**  
(degree offered at North Harris College)

#### FIRST YEAR

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<td>AUMT 1407</td>
<td>Automotive Electrical Systems</td>
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<td>ENGL 1301</td>
<td>Composition and Rhetoric I</td>
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<td>SPCH 1311</td>
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<td>Engine Performance Analysis II</td>
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<td>HUMA 1301</td>
<td>Introduction to the Humanities</td>
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#### SECOND YEAR

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| **TOTAL Credit Hours for Automotive Technology Specialization** | 69 |

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1. Meets Multicultural Requirement  
2. Automotive electives to be selected from AUMT 1416, 2413, 2425  
   The required Capstone experience will be completed by taking a departmental exit exam. It is strongly suggested that the following A.S.E. exams be taken by the student: the Engine Repair exam, Engine Performance exam, Electrical exam, and one elective exam.

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#### BIOTECHNOLOGY

The biotechnology associate of applied science degree program is designed to prepare graduates for employment as biotechnicians. Skills in cell culture, laboratory methods, molecular biology, and laboratory instrumentation are included in the courses that make up the specialized portion of this degree plan. Additionally, there is a sequence of basic sciences that is included in the plan – biology, chemistry, and microbiology. The internship experience occurs in the final semester of the program and students will be placed in area biotechnology companies or medical center research labs to complete their training. The biotechnology associate of applied science degree is awarded for successful completion of the 71 semester credit hours required in the degree plan.

The biotechnology program also offers qualified students the opportunity to take individual courses within the biotechnology core courses. Students with the appropriate level of prior training may elect, for example, to take only the Molecular Biology - BITC 2401 course to gain skills in that area.

Graduates of the biotechnology program are prepared to enter the rapidly growing biotechnology industry. Opportunities exist in the pharmaceutical industry, medical research industry, and agricultural industry, among others, for graduates of the program.

Alternatively, graduates may choose to transfer to a neighboring university to participate in a “2+2” program that would result in earning a bachelor's degree in biotechnology. Currently, such a program exists with the University of Houston--Downtown and more articulations are being developed with the medical center area and other universities.

The general education courses in the biotechnology degree plan will transfer to a variety of colleges and universities. For more specific information and to obtain the recommended sequencing of courses, contact the Biotechnology Institute at 936.273.7060. The sequence of courses can be found at: www.nhmccd.edu/catalog/.

In 2001, the Montgomery College Biotechnology Institute was created to establish a point of contact for all biotechnology training inquiries. MCBI aims to prepare students for all levels of entry into the biotechnology industry and to meet the industry's workforce and continuing education needs. The institute functions to identify and meet biotechnology industry training needs, recruit high school students, create shorter certificate programs and partner with The University Center to articulate
with four-year programs. For more information about MCBI, please e-mail mcbiotech@nhmccd.edu or call 936.273.7060.

**BIOTECHNOLOGY**

*Associate of applied science degree*  
(degree offered at Montgomery College)

**FIRST YEAR**

<table>
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1. Recommended that BIOL 2416 and PHIL 2306 be taken as linked courses  
2. Capstone course  
3. Meets multicultural requirement

**CHILD DEVELOPMENT AND FAMILY STUDIES**

The child development and family studies program prepares individuals for employment as program directors/administrators of child care centers and/or early childhood programs, preschool teachers, public school aides (lower pre-K, kindergarten, first and second grades usually), and teachers in Headstart programs. The State of Texas, Protective and Regulatory Services, requires criminal background checks for employment. Candidates with concerns about their background in this regard should choose an alternate career option. Certificates are available for individuals seeking preparation as preschool teachers and teaching assistants in child care centers, child care providers (in the home), and potential child care center directors. This program provides pre-service and in-service training for employees of licensed child care centers through contract courses, workshops and short-term CEU classes. These classes meet the state requirements for required clock hours for all employees of licensed centers.

The child development and family studies AAS degree is available with two specializations: child care or montessori infant/toddler. The AA field of study is available (see page 71).

The montessori certificate is available for the student who enters the program with a related bachelor's degree or advanced degree. This certificate stands alone to offer the option of achieving the advanced skills necessary for the American Montessori Society certification as an infant and toddler specialist without completing the AAS montessori infant and toddler degree program.

The CDA (Child Development Associate) is awarded by the Council for Early Childhood Professional Recognition. It is available with a specific setting and age level endorsement: center-based preschool (3 to 5 years old), center-based infant toddler (birth to age 3) and family daycare (birth through age 5). The CDA preparation certificate allows the student to prepare for the credentialing process and is available with two options: preschool center based or infant and toddler.

The general education core courses and several child care courses will transfer to a variety of universities. Students may have earned some college credit while in high school through articulation if they enroll within one year of graduation. Contact a program administrator or a counselor or child development faculty member at any college for specific informa-
DEGREES AND CERTIFICATES

In order to obtain the recommended sequencing of courses, the sequence of courses can also be found at: www.nhmccd.edu/catalog/.

### MONTESSORI INFANT AND TODDLER CERTIFICATE

(certificate offered at North Harris College)

Prerequisite: Related bachelors or advanced degree

**TASP Exempt**

**FIRST YEAR**

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<th>Course Title</th>
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**TOTAL Credit Hours for Montessori Infant and Toddler Certificate** 22

1 Capstone Course

### CDA PREPARATION CERTIFICATE

**with Specializations**

(certificate offered at North Harris College)

**TASP Exempt**

**Infant and Toddler Certification Specialization**

**FIRST YEAR**

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**TOTAL Credit Hours for Infant and Toddler Certification Specialization** 17

1 Capstone course

### CDA PREPARATION CERTIFICATE

**with Specializations**

(certificate offered at North Harris College)

**Preschool Center-Based Certification Specialization**

**FIRST YEAR**

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**TOTAL Credit Hours for Preschool Center-Based Certification Specialization** 17

1 Capstone course
### CHILD CARE SPECIALIZATION

*Associate of applied science degree, Tech Prep with Specializations*

(degree offered at North Harris College)

#### FIRST YEAR

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**TOTAL Credit Hours for Child Care Specialization**

67-68

¹ Select course to meet multicultural course requirement
² Capstone course

Note: Students interested in transferring to an early childhood education degree should consider the field of studies AA degree for early childhood/education (see page 71).

### MONTESSORI INFANT AND TODDLER SPECIALIZATION

(degree offered at North Harris College)

#### FIRST YEAR

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<td>CDEC 1492</td>
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**TOTAL Credit Hours for Montessori Infant and Toddler Specialization**

64-65

¹ Select course to meet multicultural course requirement
² Capstone course

Note: Students interested in transferring to an early childhood education degree should consider the field of studies AA degree for early childhood/education (see page 71).
This program is designed to prepare students for careers in commercial art and design with state-of-the-art technology in a fast paced field. Graduates of this program use the computer to generate imagery in marketing pieces and other forms of visual communication. Specific applications incorporate extensive problem solving from initial concept to the final product using layout, paste up, copy sizing, type, drawing, image manipulation, scanning, color separations, motion graphics, video and animation. Graphic creation, illustration and design principles are taught for multiple mediums including Internet publishing.

The computer graphic arts technology associate of applied science degree is awarded for successful completion of at least 68 credit hours as outlined below. Students completing the program are prepared for an entry-level position as an advertising designer, design studio artist, production artist, illustrator, freelance artist, graphic designer, fine artist, broadcast designer, or web publisher. Students completing the degree also have an opportunity to earn an advanced certificate - enhanced skills graphics communications certificate. Individuals also have an opportunity to complete less comprehensive certificates - computer graphics design specialist certificate, digital publishing certificate, and motion graphics for television and video certificate.

The general education core courses will transfer to a variety of universities, along with articulation agreements with area universities. Please see department chair, faculty, or advisor for specific information. The sequence of courses can also be found at: www.nhmccd.edu/catalog/.

**COMPUTER GRAPHIC DESIGN SPECIALIST CERTIFICATE**

(certificate offered at Cy-Fair College, Kingwood College, North Harris College and Tomball College)  
TASP Exempt

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<tr>
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<tbody>
<tr>
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</tr>
<tr>
<td>ARTC 2347</td>
<td>Design Communications II</td>
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<tr>
<td>ARTC 2335</td>
<td>Portfolio Development for Graphic Arts</td>
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TOTAL Credit Hours for Computer Graphic Design Specialist Certificate 40

1 Capstone course

**DIGITAL PUBLISHING CERTIFICATE**

(certificate offered at Cy-Fair College, Kingwood College, North Harris College and Tomball College)  
TASP Exempt

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<td>ITSC 1401</td>
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<td>Introduction to Computers</td>
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<tbody>
<tr>
<td>ENGL 1301</td>
<td>Composition &amp; Rhetoric I</td>
</tr>
<tr>
<td>ARTC 1313</td>
<td>Digital Publishing I</td>
</tr>
<tr>
<td>ARTC 1302</td>
<td>Digital Imaging I</td>
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<tbody>
<tr>
<td>ARTC 1317</td>
<td>Design Communications I</td>
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<td>GRPH 1370</td>
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SECOND YEAR

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<tbody>
<tr>
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<td>ARTC 2305</td>
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<td>GRPH 1395</td>
<td>Special Topics OR</td>
</tr>
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<td>GRPH 2380</td>
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</table>

TOTAL Credit Hours for Digital Publishing Certificate 34

1 Capstone course
### MOTION GRAPHICS FOR TELEVISION AND VIDEO CERTIFICATE

(certificate offered at Cy-Fair College and Kingwood College)  
TASP Exempt

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<td>COSC 1401</td>
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<tr>
<td>ARTC 1302</td>
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<td>IMED 1301</td>
<td>Introduction to Multimedia 3</td>
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<td>Web Page Design I 3</td>
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<td>Interactive Multimedia I 3</td>
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<td>FLMC 1331</td>
<td>Computers in Video Production I 3</td>
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<td>ARTC 2305</td>
<td>Digital Imaging II 3</td>
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<td>Digital Video 3</td>
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<td>TV Studio Production 3</td>
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<td>FLMC 2331</td>
<td>Computers in Video Production II 3</td>
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1 Capstone course

### COMPUTER GRAPHIC ARTS TECHNOLOGY

**Associate of applied science degree, Tech Prep**  
(degree offered at Cy-Fair College, Kingwood College and North Harris College)

<table>
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<tbody>
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<td><strong>First Semester</strong></td>
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<tr>
<td>ITSC 1401</td>
<td>Introduction to Computers OR 4</td>
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<tr>
<td>COSC 1401</td>
<td>Introduction to Computers 4</td>
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<tr>
<td><strong>Second Semester</strong></td>
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<tr>
<td>ARTS 1311</td>
<td>Design I-2D 3</td>
</tr>
<tr>
<td>ARTS 1316</td>
<td>Drawing I 3</td>
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<td>Composition &amp; Rhetoric I 3</td>
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<td>ARTC 1302</td>
<td>Digital Imaging I 3</td>
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<tr>
<td>ARTC 1313</td>
<td>Digital Publishing I (TP) 3</td>
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<td><strong>KINE</strong></td>
<td>Physical Activity 1</td>
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<tr>
<td>ARTS 1317</td>
<td>Drawing II 3</td>
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<tr>
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<td>Composition &amp; Rhetoric II 3</td>
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<td>Digital Publishing II 3</td>
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<tr>
<td>ARTC 2305</td>
<td>Digital Imaging II 3</td>
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<td>MATH 1314</td>
<td>College Algebra (or higher level) 3</td>
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<td><strong>SECOND YEAR</strong></td>
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<tr>
<td>ARTC 1317</td>
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<td>ARTC 2348</td>
<td>Digital Publishing III 3</td>
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<tr>
<td>SPCH 1315</td>
<td>Public Speaking OR 3</td>
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<td>SPCH 1321</td>
<td>Business Speech 3</td>
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1 Electives from ARTS 1301, 1303, 1304, 2316, 2317; FLMC 1331; GRPH 1329, 1395, 2380.

### DEGREES AND CERTIFICATES

**DEGREES AND CERTIFICATES**

- **MOTION GRAPHICS FOR TELEVISION AND VIDEO CERTIFICATE**  
  (certificate offered at Cy-Fair College and Kingwood College)  
  TASP Exempt

- **COMPUTER GRAPHIC ARTS TECHNOLOGY**  
  **Associate of applied science degree, Tech Prep**  
  (degree offered at Cy-Fair College, Kingwood College and North Harris College)

  **FIRST YEAR**
<table>
<thead>
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<tbody>
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<td>COSC 1401 Introduction to Computers 4</td>
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  **SECOND YEAR**
<table>
<thead>
<tr>
<th>Credit</th>
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<tbody>
<tr>
<td>ARTC 1317 Design Communications I 3</td>
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<td>ARTC 1353 Computer Illustration 3</td>
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<tr>
<td>ARTC 2348 Digital Publishing III 3</td>
</tr>
<tr>
<td>SPCH 1315 Public Speaking OR 3</td>
</tr>
<tr>
<td>SPCH 1321 Business Speech 3</td>
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<tr>
<td>Elective1 Technical/Academic 3</td>
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</table>

**TOTAL Credit Hours for AAS Degree** 68

1 Electives from ARTS 1301, 1303, 1304, 2316, 2317; FLMC 1331; GRPH 1329, 1395, 2380.

2 Capstone course

3 Meets multicultural requirement
DEGREES AND CERTIFICATES

Graphic Communications, Tech Prep Enhanced Skills Certificate

The Tech Prep Enhanced Skills Certificate is considered to be a continuum of the associate of applied science degree, Tech Prep program.

FIRST YEAR

First Semester Credit

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credit</th>
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<tbody>
<tr>
<td>ARTC 1349</td>
<td>Art Direction I</td>
<td>3</td>
</tr>
<tr>
<td>GRPH 1305</td>
<td>Intro to Graphic Arts &amp; Printing</td>
<td>3</td>
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<tr>
<td>TOTAL Credit Hours for Enhanced Skills Certificate</td>
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</table>

GRAND TOTAL for AAS Degree with Enhanced Skills Certificate | 77 |

*Electives selected from ARTS 1301, 1303, 1304, 2316, 2317; FLMC 1331; GRPH 1370 (TP), 1395, 2380; Approved IMED courses.

INFORMATION TECHNOLOGY

The computer information technology department offers educational programs designed to provide students with current technological skills needed for the workplace. Working closely with local business and community leaders, several certificates and degrees have been developed for many workforce needs, including advancing career or college transfer goals. The program is suitable for:

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

The information technology certificate is designed for those with little or minimal computer training and allows students to choose an area of concentration from the more advanced specialty certificates. The computer core courses allow students to explore technology software, hardware and telecommunication before deciding on an area of specialization. The specialty certificates designed for those who want advanced skills include:

- Personal Computer Desktop Support
- Microsoft Networking
- Programming Specialist
- Novell Networking
- Database Administration
- Mid-range Computing (AS/400)
- E-Business Web Developer

In reviewing student placement, consideration is also given for significant work experience. Some of the job market titles addressed by these certificates are:

- PC Desktop Support Technician
- Network Technician
- Network Operator
- Network Administrator
- Programmer (Visual BASIC, C++, RPG, COBOL, ACCESS database, JAVA)
- AS/400 System Operator/Programmer
- Microcomputer Specialist
- E-Commerce Application Specialist
- Internet Developer

Students seeking a degree may follow a plan which combines academic courses with two levels of certificates resulting in an associate of applied science degree. Tech Prep in computer information technology with an area of specialization corresponding to one of the advanced certificates. Students who have degrees or who have articulated courses from high school may receive additional training and a tech prep enhanced skills certificate. These include Visual BASIC Programming, C Programming, RPG Programming, COBOL Programming, and Network Certification. Students are advised to consult with the individual colleges regarding appropriate certificates and courses leading to professional certification from vendors such as Microsoft and Novell.

The general education core courses transfer to a variety of universities. Contact the counselor or advisor at any college for specific information and to obtain the recommended sequencing of courses. The sequence of courses can also be found at: www.nhmccd.edu/catalog/

INFORMATION TECHNOLOGY CERTIFICATE

(certificate offered at Cy-Fair College, Kingwood College, Montgomery College, North Harris College and Tomball College)

TASP Exempt

FIRST YEAR

First Semester Credit

<table>
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<th>Course</th>
<th>Title</th>
<th>Credit</th>
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<tbody>
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<td>COSC 1401</td>
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SEMESTER TOTAL | 4 |
### DEGREES AND CERTIFICATES

#### SECOND SEMESTER

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<td>ITSC 1405</td>
<td>Intro to PC Operating Systems</td>
<td>4</td>
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<tr>
<td>ITNW 1425</td>
<td>Fundamentals of Networking Technologies</td>
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**SEMMESTER TOTAL** 14

**TOTAL Credit Hours for Information Technology Certificate** 18

1 Capstone course

---

### MICROSOFT OFFICE SPECIALIST CERTIFICATE

(certificate offered at Cy-Fair, Kingwood College, Montgomery College, North Harris College, and Tomball College)

**TASP Exempt**

#### FIRST YEAR

**First Semester**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credit</th>
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<tbody>
<tr>
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<td>ITSW 1301</td>
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**SEMMESTER TOTAL** 10

**Second Semester**

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<td>Integrated Software Appl. III OR</td>
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<td>ITSC 2380</td>
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<tr>
<td>ITSW 1404</td>
<td>Introduction to Spreadsheets</td>
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<td>ITSW 1407</td>
<td>Introduction to Databases</td>
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**SEMMESTER TOTAL** 11

**TOTAL Credit Hours for Microsoft Office Specialist Certificate** 21

1 Capstone course

---

### MID-RANGE COMPUTING SPECIALIZATION

*Associate of applied science degree, Tech Prep*

(specialization offered at North Harris College)

#### FIRST YEAR

**First Semester**

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<td>Introduction to Accounting I</td>
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<td>ENGL 1301</td>
<td>Composition &amp; Rhetoric I</td>
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<tr>
<td>ITSC 1401</td>
<td>Introduction to Computers (TP)</td>
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<td>ITSE 1411</td>
<td>AS/400 Operating System I</td>
<td>4</td>
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<td>ITSE 1402</td>
<td>Computer Programming</td>
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**SEMMESTER TOTAL** 18

**Second Semester**

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<td>Elective</td>
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<td>ITSC 1402</td>
<td>Computer Control Language</td>
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<td>Intro to RPG Programming</td>
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**SEMMESTER TOTAL** 17-18

**SECOND YEAR**

**First Semester**

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<td>Intro to PC Operating Systems</td>
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<td>System Analysis and Design</td>
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<td>Intro to COBOL Programming OR</td>
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<td>ITSE 1414</td>
<td>Intro to RPG Programming</td>
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<td>ITSE 2451</td>
<td>Advanced COBOL Programming OR</td>
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<tr>
<td>ITSE 2435</td>
<td>Advanced RPG Programming OR</td>
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**SEMMESTER TOTAL** 18
### DEGREES AND CERTIFICATES

#### MICROSOFT NETWORK SPECIALIST CERTIFICATE

(Vendor-Specific certificate offered at Cy-Fair College, Kingwood College, Montgomery College, North Harris College and Tomball College)

**TASP Exempt**

<table>
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**FIRST YEAR**

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<tbody>
<tr>
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**Third Semester**

**Classroom:**

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**TOTAL Credit Hours for Enhanced Skills Certificate:**

#### AS/ 400 CERTIFICATION, TECH PREP ENHANCED SKILLS CERTIFICATE

The Tech Prep Enhanced Skills Certificate is considered to be a continuum of the associate of applied science degree, Tech Prep program.

**FIRST YEAR**

<table>
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<tbody>
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<td>ITSC 2442</td>
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**TOTAL Credit Hours for Enhanced Skills Certificate:**

**GRAND TOTAL for AAS Degree with Enhanced Skills Certificate:**

#### MICROSOFT NETWORKING SPECIALIZATION

**Associate of applied science degree, Tech Prep**

(degree offered at Cy-Fair College, Kingwood College, Montgomery College, North Harris College and Tomball College)

**FIRST YEAR**

<table>
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<tr>
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<tr>
<td>COSC 1401</td>
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**Second Semester**

<table>
<thead>
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<tr>
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</table>

**TOTAL Credit Hours for Microsoft Network Specialist Certificate:**

#### GRAND TOTAL for AAS Degree with Enhanced Skills Certificate:

80-82
DEGREES AND CERTIFICATES

NOVELL NETWORKING SPECIALIZATION
Associate of applied science degree, Tech Prep
(specialization offered at Kingwood College)

First Year
Credit

First Semester
Elective¹ Technical 3-4
ITSC 1401 Introduction to Computers 4
SPCH 1318 Interpersonal Communications 3
SEMESTER TOTAL 10-11

Second Semester
Elective¹ Technical 3-4
ITNW 1425 Fundamentals of Networking Technlgs 4
ITSC 1405 Intro to PC Operating Systems 4
ITSC 1425 PC Hardware 4
SEMESTER TOTAL 15-16

Third Semester
ITNW² 2405 Network Administration 4
ITNW 2413 Networking Hardware 4
ITSC 2439 PC Helpdesk 4
ITSC 2401 PC Problem Solving 4
SEMESTER TOTAL 16

TOTAL Credit Hours for Novell Network Specialist Certificate 41-43

¹ Electives to be chosen from ITNW or ITSC courses
² Capstone course

SECOND YEAR

First Semester
Credit

ITSC 1405 Introduction to Computers 4
ITSC 1401 Composition & Rhetoric I 3
ITNW 1425 Fundamentals of Networking Technlgs 4
ITSC 1401 Introduction to Computers 4
SEMESTER TOTAL 15-16

Second Semester
Credit

ITNW 2405 Network Administration 4
ITNW 2413 Networking Hardware OR 3-4
ITNW 2330 Fundamentals of Networking 4
ITSC 1405 Intro to PC Operating Systems 4
ITSC 1425 PC Hardware 4
KINE 1 Physical Activity 1
SEMESTER TOTAL 16-17

TOTAL Credit hours for Microsoft Networking Specialization 64-67

¹ Choose electives from general education requirements. Select one course to meet multicultural requirement.
² Choose from POFT 1329; BMGT 1303; BUSI 1301; IMED; or ITNW 2417
³ Capstone course

NOVELL NETWORK SPECIALIST CERTIFICATE
(certificate offered at Kingwood College)
TASP Required

First Year
Credit

First Semester
Elective¹ Technical 3-4
ITSC 1401 Introduction to Computers 4
SEMESTER TOTAL 11-12

Second Semester
Elective¹ Technical 3-4
ITNW 1425 Fundamentals of Networking Technlgs 4
ITSC 1405 Intro to PC Operating Systems 4
ITSC 1425 PC Hardware 4
SEMESTER TOTAL 15-16

Third Semester
ITNW² 2405 Network Administration 4
ITNW 2413 Networking Hardware 4
ITSC 2439 PC Helpdesk 4
ITSC 2401 PC Problem Solving 4
SEMESTER TOTAL 16

TOTAL Credit Hours for Novell Network Specialist Certificate 41-43

¹ Electives to be chosen from ITNW or ITSC courses
² Capstone course

SECOND YEAR

First Semester
Credit

Elective¹ General Education 3
ITNW 2439 Advanced Network Admin for Novell Netware 4
ITNW 2479 Integrating Novell Netware and Windows NT OR 4
ITNW 1492 Special Topics OR 3-4
ITSC 2401 PC Problem Solving 4
MATH² Elective 3-4
SEMESTER TOTAL 18-19

Second Semester
Credit

Elective¹ Humanities/Fine Arts 3
ITNW 2347 Novell IntraNetW. Des. and Implement. 3
ITNW³ 2431 Novell Service and Support 4
ITSC 2439 PC Helpdesk OR 3-4
ITSC³ 2380 Cooperative Education 4
POFT 1301 Business English OR 3
BUSI 2304 Business Communications 4
SEMESTER TOTAL 16-17

TOTAL Credit hours for Novell Networking Specialization 67-70

¹ Choose electives from general education requirements. Select one to meet multicultural requirement.
² Choose electives from Math general core requirements
³ Capstone course
### PC Desktop Specialist Certificate
(certificate offered at Cy-Fair College, Kingwood College, Montgomery College, North Harris College and Tomball College)

**TASP Exempt**

#### First Year

<table>
<thead>
<tr>
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<th>Course</th>
<th>Title</th>
<th>Credit</th>
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<tbody>
<tr>
<td>First</td>
<td>ITSC 1401</td>
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<tr>
<td>Second</td>
<td>BMGT 1309</td>
<td>Information &amp; Project Management</td>
<td>3</td>
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<td>Second</td>
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<td>Fundamentals of Networking Technologies</td>
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<td>Second</td>
<td>ITSC 1405</td>
<td>Intro to PC Operating Systems</td>
<td>4</td>
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<tr>
<td>Second</td>
<td>POFT 1301</td>
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**Semester Total: 14**

#### Third Year

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<td>Third</td>
<td>ITSW 1404</td>
<td>Introduction to Spreadsheets</td>
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<td>Third</td>
<td>POFT 1325</td>
<td>Business Math &amp; Machine Applications</td>
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<td>POFT 2331</td>
<td>Administrative Systems</td>
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**Semester Total: 16**

**Total Credit Hours for PC Desktop Specialist Certificate: 34**

1. Capstone course

### PC Support Specialist Certificate
(certificate offered at Cy-Fair College, Kingwood College, Montgomery College, North Harris College and Tomball College)

**TASP Required**

#### First Year

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<tr>
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<td>ITSC 1401</td>
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<tr>
<td>Second</td>
<td>BMGT 1309</td>
<td>Information &amp; Project Management</td>
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<tr>
<td>Second</td>
<td>ITNW 1425</td>
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<td>Second</td>
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<td>Second</td>
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**Semester Total: 14**

#### Second Year

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<td>ENGL 1301</td>
<td>Composition &amp; Rhetoric</td>
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<td>ITSC 1425</td>
<td>Personal Computer Hardware</td>
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<td>Intro to PC Operating Systems</td>
<td>3-4</td>
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<td>First</td>
<td>ITSC 2380</td>
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<td>First</td>
<td>ITWS 1407</td>
<td>Introduction to Database</td>
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</table>

**Semester Total: 17-19**

**Total Credit Hours for PC Support Specialist Certificate: 51-53**

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

### Computer Application Support Specialization

Associate of applied science degree, Tech Prep
(specialization offered at Cy-Fair College, Kingwood College, Montgomery College, North Harris College and Tomball College)

#### First Year

<table>
<thead>
<tr>
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<th>Course</th>
<th>Title</th>
<th>Credit</th>
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<tr>
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<td>Second</td>
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<td>Second</td>
<td>ITNW 1425</td>
<td>Fundamentals of Networking Technologies</td>
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<tr>
<td>Second</td>
<td>ITSC 1405</td>
<td>Intro to PC Operating Systems</td>
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<td>ITSC 1313</td>
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**Semester Total: 14**

#### Second Year

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<td>3-4</td>
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<tr>
<td>First</td>
<td>ENGL 1301</td>
<td>Composition &amp; Rhetoric</td>
<td>3</td>
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<tr>
<td>First</td>
<td>POFT 1301</td>
<td>Business English OR BUSI 2304</td>
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<tr>
<td>First</td>
<td>BUSI 2304</td>
<td>Business Communications</td>
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</table>

**Semester Total: 16**

**Total Credit Hours for Computer Application Support Specialization: 51-53**
### DEGREES AND CERTIFICATES

<table>
<thead>
<tr>
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<th>Course Title</th>
<th>Credit</th>
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<tbody>
<tr>
<td>ITSC 1425</td>
<td>PC Hardware</td>
<td>4</td>
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<tr>
<td>ITSC 2439</td>
<td>PC Help Desk OR</td>
<td>3-4</td>
</tr>
<tr>
<td>ITSC 2380</td>
<td>Cooperative Education</td>
<td>4</td>
</tr>
<tr>
<td>ITSW 1407</td>
<td>Introduction to Database</td>
<td>4</td>
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</table>

**Second Semester**

| Elective 2 | Humanities/Fine Arts              | 3      |
| Elective 1 | General Education                 | 3      |
| Elective 1 | Math/Natural Science              | 3-4    |
| Elective 2 | Social/Behavioral Science         | 3      |
| KINE       | Physical Activity                 | 1      |
| ITSC 2371  | Methods & Techniq. for Trainers OR| 3      |
| ITSC 2380  | Cooperative Education             | 3      |
| ITSC 2381  | Cooperative Education             | SEMESTER TOTAL | 16-17 |

**TOTAL Credit for Computer Application Support Specialization**

| Credit | 67-69 |

1. Choose electives from general education requirements
2. Choose elective to meet the multicultural requirement
3. Capstone course
4. Take any ITCC, ITSC, ITSE, ITSW, ITNW, ITMC, IMED, GRPH, or CPMT course

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### PROGRAMMING SPECIALIST CERTIFICATE

(Certificate offered at Cy-Fair College, Kingwood College, Montgomery College, North Harris College and Tomball College)

#### FIRST YEAR

**First Semester**

<table>
<thead>
<tr>
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<tr>
<td>ITSE 1402</td>
<td>Computer Programming</td>
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<tr>
<td>SPCH 1318</td>
<td>Interpersonal Communications</td>
<td>3</td>
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</tbody>
</table>

**SEMESTER TOTAL**

| Credit | 11 |

**Second Semester**

| Elective 3 | Programming Language              | 4      |
| Elective 2 | Programming Language              | 4      |
| ITNW 1425  | Fundamentals of Networking Technlgs| 4      |
| ITSC 1405  | Intro to PC Operating Systems     | 4      |

**SEMESTER TOTAL**

| Credit | 16 |

---

#### SECOND YEAR

**First Semester**

| Elective 2 | Programming Language              | 4      |
| Elective 1 | Programming Language              | 4      |
| ITNW 1425  | Fundamentals of Networking Technlgs| 4      |
| ITSC 1405  | Intro to PC Operating Systems     | 4      |

**SEMESTER TOTAL**

| Credit | 11 |

**Second Semester**

| Elective 3 | Programming Language              | 4      |
| Elective 3 | Programming Language              | 4      |
| KINE       | Physical Activity                 | 1      |
| SPCH 1318  | Interpersonal Communications      | 3      |

**SEMESTER TOTAL**

| Credit | 15 |

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#### TOTAL Credit Hours for Programming Specialist Certificate

| Credit | 41-42 |

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1. ITSE 1431, 1407, 1418, 1414
2. ITSE 2449, 2431, 2451, 2435

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### PROGRAMMING SPECIALIST SPECIALIZATION

 Associate of applied science degree, Tech Prep

(Specialization offered at Cy-Fair College, Kingwood College, Montgomery College, North Harris College and Tomball College)

#### FIRST YEAR

**First Semester**

<table>
<thead>
<tr>
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<th>Course Title</th>
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<td>ENGL 1301</td>
<td>Composition &amp; Rhetoric I</td>
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<tr>
<td>ITSC 1401</td>
<td>Introduction to Computers</td>
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<td>ITSE 1402</td>
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<tr>
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**Second Semester**

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<td>ACCT 2401</td>
<td>Principles of Accounting I</td>
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<tr>
<td>Elective 2</td>
<td>Programming Language</td>
<td>4</td>
</tr>
<tr>
<td>Elective 3</td>
<td>Programming Language</td>
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<tr>
<td>ITSC 1405</td>
<td>Intro to PC Operating Systems</td>
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**SEMESTER TOTAL**

| Credit | 15-16 |

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#### SECOND YEAR

**First Semester**

<table>
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<th>Course Code</th>
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<tbody>
<tr>
<td>Elective 3</td>
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<td>Programming Language</td>
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<tr>
<td>KINE</td>
<td>Physical Activity</td>
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<tr>
<td>SPCH 1318</td>
<td>Interpersonal Communications</td>
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</table>

**SEMESTER TOTAL**

| Credit | 15-16 |

**Second Semester**

| Elective 4 | Technical                           | 4      |
| Elective 3 | Humanities/Fine Arts                | 3      |
| ITNW 1425  | Fundamentals of Networking Technlgs| 4      |
| ITSE 1350  | System Analysis and Design          | 3      |
| ITSE 2459  | Adv. Computer Programming OR        | 3-4    |
| ITSE 2380  | Cooperative Education               | SEMESTER TOTAL | 17-18 |

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DEGREES AND CERTIFICATES

TOTAL Credit hours for Programming Specialist Specialization 64-67

1. Choose from MATH 1314 or higher level course
2. Choose from General education course requirement
3. ITSE 1431, 1407, 1418, 1414 or 1491
4. To meet multicultural requirement, choose an approved course from either social/behavioral science or humanities/fine art elective.
5. ITSE 2417, 2449, 2431, 2451, 2435
6. Choose from ITSE, ITSW, ITNW, ITSC, IMED, GRPH, INEW 2438
7. Capstone course

C++ Programming, Tech Prep Enhanced Skills Certificate
(certificate offered at Cy-Fair College, Kingwood College, and North Harris College)
The Tech Prep Enhanced Skills Certificate is considered to be a continuum of the Associate of applied science degree, Tech Prep program.

FIRST YEAR
First Semester
ITSE\(^1\) 1407 Intro to C++ Programming 4

Second Semester
ITSE\(^1\) 2431 Adv. C++ Programming 4
ITSE\(^1\) 2459 Adv. Computer Programming 4

TOTAL Credit Hours for Enhanced Skills Certificate 12
GRAND TOTAL for AAS Degree with Enhanced Skills Certificate 76-79

Visual Basic, Tech Prep Enhanced Skills Certificate
(certificate offered at Cy-Fair College, Kingwood College, Montgomery College, North Harris College and Tomball College)
The Tech Prep Enhanced Skills Certificate is considered to be a continuum of the Associate of applied science degree, Tech Prep program.

FIRST YEAR
First Semester
ITSE\(^1\) 1418 Intro Visual BASIC Programming 4

Second Semester
ITSE\(^1\) 2449 Adv. Visual BASIC Programming 4
ITSE\(^1\) 2459 Adv. Computer Programming 4

TOTAL Credit Hours for Enhanced Skills Certificate 12
GRAND TOTAL for AAS Degree with Enhanced Skills Certificate 76-79

COBOL Programming, Tech Prep Enhanced Skills Certificate
(certificate offered at North Harris College)
The Tech Prep Enhanced Skills Certificate is considered to be a continuum of the Associate of applied science degree, Tech Prep program.

FIRST YEAR
First Semester
ITSE\(^1\) 1418 Intro to COBOL Programming 4

E-BUSINESS WEB DEVELOPER CERTIFICATE
(certificate offered at Cy-Fair College, Kingwood College, Montgomery College, North Harris College and Tomball College)
TASP Exempt

FIRST YEAR
First Semester (summer)
ITSC 1401 Introduction to Computers 4
SEMESTER TOTAL 4
SECOND YEAR

First Semester

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SEASONAL TOTAL 17

Second Semester

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<td>ITSE^6 2380</td>
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<td>IMED^6 2309</td>
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<td>ITSC^6 2335</td>
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SEASONAL TOTAL 14-15

TOTAL Credit hours for E-Business Web Developer Specialization 71-72

1 Choose MATH 1314 or higher level course
2 Choose from ITSE 1431, 1407, 1445
3 To meet the multicultural component for the AAS degree, you must 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
4 ITSE 2433, 2456, or ITSW 2437 depending on concentration
5 Choose from ITSC 2449, 2431, 2454 or 2417
6 Capstone course
7 Choose from general education electives.

ADVANCED DATABASE ADMINISTRATION CERTIFICATE

(certificate offered at Tomball College)

TASP Exempt

FIRST YEAR

First Semester

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<td>ITSE^1 2444</td>
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<td>ITSE 2452</td>
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TOTAL Credit Hours for Advanced Database Administration Certificate 16

1 Capstone course
**DEGREES AND CERTIFICATES**

**DATABASE ADMINISTRATION CERTIFICATE**
(certificate offered at Tomball College)  
TASP Exempt

<table>
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<td>ITSE 2454</td>
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<td>ITSE 2456</td>
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<td>ITSE 2458</td>
<td>Oracle Database Administration II</td>
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<td>Oracle Distributed Database and Client Server Systems</td>
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<tr>
<td><strong>TOTAL Credit Hours for Database Administration Certificate</strong></td>
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1 Select from general education requirements  
2 To meet the multicultural component for the Associate of applied science degree, you must choose from these courses: ARTS 1301, HUMA 1301, or PHIL 1304  
3 Capstone Course

**DATABASE ADMINISTRATION SPECIALIZATION**

Associate of applied science degree, Tech Prep  
(specialization offered at Tomball College)

<table>
<thead>
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<th>Credit</th>
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<td>General Education</td>
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<td>Composition &amp; Rhetoric I</td>
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<td>Introduction to Computers</td>
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<td>ITSE 1402</td>
<td>Computer Programming</td>
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<td>KINE</td>
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<tr>
<td>ITSC 1405</td>
<td>Intro to PC Operating Systems</td>
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<tr>
<td>ITSW 1407</td>
<td>Introduction to Database</td>
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<td>Information &amp; Project Management</td>
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<td>POFT 1301</td>
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<tr>
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<td>Intro to Oracle SQL and PL/SQL</td>
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<tr>
<td>ITSE 2456</td>
<td>Oracle Database Administration I</td>
</tr>
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</table>

**Second Semester**

<table>
<thead>
<tr>
<th>Credit</th>
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<tbody>
<tr>
<td>Elective2</td>
</tr>
<tr>
<td>MATH 1314</td>
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<tr>
<td>ITSC1 2380</td>
</tr>
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<td>ITSE 2458</td>
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<tr>
<td>ITSE1 2471</td>
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<td><strong>SEMESTER TOTAL</strong></td>
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<tr>
<td><strong>TOTAL Credit hours for Database Administration Specialization</strong></td>
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The Tech Prep Enhanced Skills Certificate is considered to be a continuum of the Associate of applied science degree, Tech Prep program.

<table>
<thead>
<tr>
<th>Credit</th>
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<tbody>
<tr>
<td><strong>FIRST YEAR</strong></td>
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<tr>
<td>ITSE 1452</td>
</tr>
<tr>
<td>ITSE 2452</td>
</tr>
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<td><strong>Second Semester</strong></td>
</tr>
<tr>
<td>ITSE 2454</td>
</tr>
<tr>
<td>ITSE 2444</td>
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<tr>
<td><strong>TOTAL Credit Hours for Enhanced Skills Certificate</strong></td>
</tr>
<tr>
<td><strong>GRAND TOTAL for AAS Degree with Enhanced Skills Certificate</strong></td>
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ADVANCED ROUTER TECHNOLOGY
SPECIALIZATION
(specialization offered at Kingwood College,
Montgomery College, North Harris College
and Tomball College)
TASP Exempt

FIRST YEAR
First Semester

<table>
<thead>
<tr>
<th>Credit</th>
<th>Course Code</th>
<th>Course Name</th>
<th>Semester Credits</th>
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</thead>
<tbody>
<tr>
<td>ITCC 2432</td>
<td>Adv. Routing Configuration: Cisco V</td>
<td>4</td>
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<tr>
<td>ITCC 2436</td>
<td>Bldg Remote Access Networks: Cisco VI</td>
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SEMESTER TOTAL 8

Second Semester

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<th>Semester Credits</th>
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<td>ITCC 2440</td>
<td>Configuring LAN Switches: Cisco VII</td>
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<tr>
<td>ITCC 2444</td>
<td>Internetwork Troubleshooting: Cisco VIII</td>
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SEMESTER TOTAL 8

TOTAL Credit Hours for Advanced Router Technology Specialization 16

1 Capstone course

BASIC ROUTER TECHNOLOGY
SPECIALIZATION
(specialization offered at Kingwood College,
Montgomery College, North Harris College
and Tomball College)
TASP Exempt

FIRST YEAR
First Semester

| Credit | Course Code | Course Name
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<tbody>
<tr>
<td>CPMT 1403</td>
<td>Intro to Computer Technology OR</td>
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<tr>
<td>ITSC 1401</td>
<td>Introduction to Computers</td>
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SEMESTER TOTAL 4

Second Semester

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<th>Semester Credits</th>
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<tr>
<td>ITCC 1402</td>
<td>LANs Design &amp; Protocols: Cisco I</td>
<td>4</td>
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<td>ITCC 1406</td>
<td>Basic Router Configuration: Cisco II</td>
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SEMESTER TOTAL 8

Third Semester

<table>
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<th>Semester Credits</th>
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<tr>
<td>ITCC 1442</td>
<td>Local Area Mgmt (LAN): Cisco III</td>
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<td>ITCC 1446</td>
<td>Wide Area Mgmt (WAN): Cisco IV</td>
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SEMESTER TOTAL 8

TOTAL Credit Hours for Basic Router Technology Specialization 20

1 Capstone course

COSMETOLOGY

The professional field of cosmetology is very diverse with regard to training requirements and areas of employment. The program offers certificates for an operator’s license, facial specialist, nail technician or cosmetology instructor license along with an associates of applied science degree. All of the cosmetology certificate programs are approved by the Texas Cosmetology Commission and prepare students for their respective state licensing examinations. Upon successful completion of the program requirements, graduate students are eligible to take their state exam. Upon passing their state exam, program graduates become licensed to practice in the state of Texas.

The cosmetology certificate program is a full time, 12 month program. Graduates have many employment opportunities including becoming a stylist, skin care specialist, make-up artist, or hair coloring and chemical technician. Other areas may be to become a research assistant in the cosmetology industry, a sales representative for a beauty product, or beauty editor for newspapers and magazines. Salaries vary depending upon the place of employment and the graduate’s skills and number of work hours.

The facial specialist certificate will prepare an individual to perform all aspects of skin care and make-up. The nail technician certificate is designed to prepare an individual for all aspects of the nail profession. Each one of these certificates are approximately half of the length of the cosmetology certificate program.

The AAS degree is designed to train operators with the option to specialize as an instructor, facial specialist or nail technician. The instructor program is for the individual who wishes to teach cosmetology in either a public school, college, technical school or private cosmetology school.

The general education core courses will transfer to a variety of universities. Contact the counselor or advisor at any college for specific information and to obtain the recommended sequencing of courses. The sequence of courses can also be found at: www.nhmcc.edu/catalog/.

Admission Criteria

In addition to the district admission requirements, the following are requirements for admission to the cosmetology program.

1. ASSET minimum scores of 39 in reading and 35 in writing (or CELT reading of 60 and CELT
DEGREES AND CERTIFICATES

writing of 60) , OR the COMPASS minimum scores of 65-70 in writing and 76-78 in reading, OR passed reading and writing section of TASP, OR complete ENGL 0305 and ENGL 0306 with a grade of A or B, OR completion of college-level English with a grade of C or better verified by official transcript, OR an earned college degree.

2. Minimum age of 17 years.

3. Mandatory attendance at a scheduled orientation session or Departmental approval.

4. 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 should have the registration form approved by the cosmetology faculty or dean.

Applicants who have completed hours in cosmetology in other educational programs may apply for placement by examination. Official verification of the hours completed is required. To receive a certificate in cosmetology, a transfer student must complete a minimum of two full semesters in cosmetology at NHMCCD.

Progression Requirements
Once admitted to the cosmetology program, a student must attain a grade of “C” or better in each cosmetology course in order to progress in the program.

Readmission Policy
A student who withdraws from the Cosmetology Program may be readmitted only once with the recommendation of the department faculty.

Cosmetology Instructor Certificate
In addition to the district admission requirements, the following are requirements for admission to the cosmetology instructor certificate.

1. High school diploma or GED.
2. Current Texas operator’s license.
3. Within the past five years applicants must have a minimum of three years work experience as a licensed cosmetologist versed in all phases of cosmetology. Verification will be required.
4. Completion of 12 semester hours in general education including ENGL 1301.

COSMETOLOGY INSTRUCTOR CERTIFICATE
(certificate offered at Kingwood College and North Harris College)
TASP Exempt

FIRST YEAR

First Semester

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit</th>
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<tbody>
<tr>
<td>CSME 1434</td>
<td>Cosmetology Instructor I</td>
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<tr>
<td>CSME 1435</td>
<td>Orientation to the Instruction of Cosmetology</td>
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Second Semester

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<tbody>
<tr>
<td>CSME 2414</td>
<td>Cosmetology Instructor II</td>
<td>4</td>
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<tr>
<td>CSME 2415</td>
<td>Cosmetology Instructor III</td>
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<td>CSME 2444</td>
<td>Cosmetology Instructor IV</td>
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TOTAL Credit Hours for Cosmetology Instructor Certificate 20

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

COSMETOLOGY OPERATOR CERTIFICATE
(certificate offered at Kingwood and North Harris College)
TASP Exempt

FIRST YEAR

First Semester

<table>
<thead>
<tr>
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<tbody>
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<td>CSME 1250</td>
<td>Artistry of Hair, Theory, &amp; Practice</td>
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<tr>
<td>CSME 1310</td>
<td>Intro to Haircutting &amp; Related Theory</td>
<td>3</td>
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<tr>
<td>CSME 1501</td>
<td>Orientation to Cosmetology</td>
<td>5</td>
</tr>
<tr>
<td>CSME 1505</td>
<td>Fundamentals of Cosmetology</td>
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Second Semester

<table>
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<th>Course Title</th>
<th>Credit</th>
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<tbody>
<tr>
<td>CSME 1553</td>
<td>Chemical Reformation and Related Theory</td>
<td>5</td>
</tr>
<tr>
<td>CSME 2310</td>
<td>Intermediate Haircutting and Related Theory</td>
<td>3</td>
</tr>
<tr>
<td>CSME 2337</td>
<td>Advanced Cosmetology Techniques</td>
<td>3</td>
</tr>
<tr>
<td>CSME 2501</td>
<td>Principles of Hair Coloring and Related Theory</td>
<td>5</td>
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### Third Semester

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<tbody>
<tr>
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<td>Advanced Hair Design</td>
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<td>CSME 2541</td>
<td>Preparation for Texas Cosmetology</td>
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<td></td>
<td>Commission Examination</td>
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**TOTAL Credit Hours for Cosmetology Operator Certificate:** 41

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

---

### FACIAL SPECIALIST CERTIFICATE

*certificate offered at North Harris College*

**TASP Exempt**

#### FIRST YEAR

**First Semester**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credit</th>
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<tbody>
<tr>
<td>CSME 1421</td>
<td>Principles of Facial/Esthetic Technology I</td>
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<tr>
<td>CSME 1520</td>
<td>Orientation to Facial Specialist</td>
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<tr>
<td>CSME 1545</td>
<td>Principles of Facial/Esthetic Technology II</td>
<td>5</td>
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<tr>
<td>CSME 2431</td>
<td>Principles of Facial/Esthetic Technology III</td>
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**TOTAL Credit Hours for Facial Specialist Certificate:** 18

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

---

### NAIL TECHNICIAN CERTIFICATE

*certificate offered at Kingwood College*

**TASP Exempt**

#### FIRST YEAR

**First Semester**

<table>
<thead>
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<th>Course</th>
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<tbody>
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<td>CSME 1430</td>
<td>Orientation to Nail Technology</td>
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<td>CSME 1441</td>
<td>Principles of Nail Technology II</td>
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<td>CSME 1531</td>
<td>Principles of Nail Technology I</td>
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<td>CSME 2530</td>
<td>Nail Enhancement</td>
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**SEMIESTER TOTAL** 18

**Second Semester**

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<tr>
<th>Course</th>
<th>Title</th>
<th>Credit</th>
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<tbody>
<tr>
<td>CSME 1250</td>
<td>Artistry of Hair, Theory &amp; Practice</td>
<td>2</td>
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<tr>
<td>CSME 1310</td>
<td>Intro to Haircutting &amp; Related Theory</td>
<td>3</td>
</tr>
<tr>
<td>CSME 1501</td>
<td>Orientation to Cosmetology</td>
<td>5</td>
</tr>
<tr>
<td>CSME 1505</td>
<td>Fundamentals of Cosmetology</td>
<td>5</td>
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**SEMIESTER TOTAL** 15

**TOTAL Credit Hours for Nail Technician Certificate:** 18

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

---

### SECOND YEAR

#### First Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credit</th>
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<tbody>
<tr>
<td>CSME 1553</td>
<td>Chemical Reformation &amp; Related Theory</td>
<td>5</td>
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<tr>
<td>CSME 2310</td>
<td>Intermediate Haircutting &amp; Related Theory</td>
<td>3</td>
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<td>CSME 2337</td>
<td>Advanced Cosmetology Techniques</td>
<td>3</td>
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<tr>
<td>CSME 2501</td>
<td>Principles of Hair Coloring &amp; Related Theory</td>
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**SEMIESTER TOTAL** 16

#### Second Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
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<tbody>
<tr>
<td>CSME 2539</td>
<td>Advanced Hair Design</td>
<td>5</td>
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<tr>
<td>CSME 2541</td>
<td>Prep. for Texas Cosmetology</td>
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<td></td>
<td>Commission Examination</td>
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<tr>
<td>Elective²</td>
<td>Humanities/Fine Arts</td>
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<tr>
<td>ITSC 1401</td>
<td>Introduction to Computers</td>
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**SEMIESTER TOTAL** 17

**TOTAL Credit Hours for AAS Degree:** 63

---

*With departmental approval

² See electives listed under the requirements for Associate of applied science degree in the college catalog. Must also meet the multicultural requirement.*

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

---

### DEGREES AND CERTIFICATES

#### COSMETOLOGY

**Associate of applied science degree**

(degree offered at Kingwood College and North Harris College)

The Associate of applied science degree in Cosmetology may be earned by individuals who have a Texas Cosmetology Operator's License or who have successfully completed the requirements for the 41-credit-hour Cosmetology Operator Certificate program. Consult the division office for proper sequencing of courses.
DEGREES AND CERTIFICATES

DIAGNOSTIC MEDICAL SONOGRAPHY

The associate of applied science degree in diagnostic medical sonography and the advanced technical certificate in diagnostic medical sonography are designed to prepare graduates for employment in the health industry in the sonography field. The program is also designed to provide opportunities for job advancement and retention for currently employed radiologic technicians.

Students who currently hold an ARRT certification or a two-year degree in a patient care health program are eligible for admission to the certificate program. Students who do not hold an ARRT certification or a two-year degree in a patient care health program would apply for the AAS in DMS. Students must pass the TASP test and place into college level reading, writing and math prior to entering the program. Students must complete ENGL 1301, MATH 1314, BIOL 2401 and 2402 prior to the first DMSO course in the AAS degree. Interested students should contact Sonography Faculty for information regarding application and admission to the program.

DIAGNOSTIC MEDICAL SONOGRAPHY

Associate of applied science degree
(degree offered at Cy-Fair College)

PREREQUISITE SEMESTER

First Semester

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Second Semester

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FIRST YEAR

First Semester

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<tr>
<td>DMSO 1451</td>
<td>4</td>
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<tr>
<td>DMSO 2441</td>
<td>4</td>
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<td>DMSO 1260</td>
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Second Semester

<table>
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<tbody>
<tr>
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<tr>
<td>DMSO 2342</td>
<td>3</td>
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<td>DMSO 2405</td>
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<tr>
<td>DMSO 2253</td>
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Third Semester

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<tr>
<td>DMSO 2201</td>
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<td>DMSO 1261</td>
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SECOND YEAR

First Semester

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Second Semester

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<td>DMSO 12171</td>
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TOTAL Credit Hours for AAS Degree 72

1 Capstone course
2 Meets multicultural course requirement

SONOGRAPHY ADVANCED TECHNICAL CERTIFICATE

(certificate offered at Cy-Fair College)

FIRST YEAR

First Semester

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>DMSO 1210</td>
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<td>DMSO 1451</td>
<td>4</td>
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<td>DMSO 2441</td>
<td>4</td>
</tr>
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<tr>
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DEGREES AND CERTIFICATES

Second Semester

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<tbody>
<tr>
<td>DMSO 1460</td>
<td>Clinical</td>
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<tr>
<td>DMSO 2342</td>
<td>Sonography of High Risk Obstetrics</td>
<td>3</td>
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<tr>
<td>DMSO 2405</td>
<td>Sonography of Obstetrics/Gynecology</td>
<td>4</td>
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<tr>
<td>DMSO 2253</td>
<td>Sonography of Superficial Structures</td>
<td>2</td>
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Third (6-week semester)

<table>
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<tr>
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<tbody>
<tr>
<td>DMSO 2201</td>
<td>Ultrasound Instrumentation</td>
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<tr>
<td>DMSO 2343</td>
<td>Advanced Ultrasound Physics</td>
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<tr>
<td>DMSO 1261</td>
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SECOND YEAR

First Semester

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<tr>
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<tbody>
<tr>
<td>DMSO 2351</td>
<td>Doppler Physics</td>
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<tr>
<td>DSVT 2200</td>
<td>Vascular Technology Applications</td>
<td>2</td>
</tr>
<tr>
<td>DSVT 1300</td>
<td>Principles of Vascular Technology</td>
<td>3</td>
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<td>DMSO¹ 2461</td>
<td>Clinical</td>
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<tr>
<td>DMSO¹ 2171</td>
<td>Review Class</td>
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</table>

¹ Capstone course

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

The general education core will transfer to a variety of colleges and universities. Contact a counselor, or faculty member at any of the colleges for specific information and to obtain the recommended sequencing of courses. The sequence of courses can also be found at www.nhmccd.edu/catalog/.

Admissions Criteria:
To be admitted to the EMSP program, students must first meet the basic requirements for admission to North Harris Montgomery Community College District. However, admission to NHMCCD does not constitute automatic acceptance into the EMSP program.

Admission to the program does not guarantee eligibility for the Texas department of health registry exams. Criminal background checks are a part of the screening process conducted by the Texas Department of Health. As a result, some candidates may be ineligible. Candidates with concerns about their background in this regard should contact the Texas Department of Health, Bureau of Emergency Management in Austin with specific concerns. NHMCCD personnel are unable to make any determinations as to a potential candidate’s eligibility.

Persons wishing to enroll in the EMT-Basic course (EMSP 1501/1160) must:

1. Hold a high school diploma or a GED.
2. Apply for and achieve admission to NHMCCD.
3. Present proof of successful completion of the American Heart Association’s Basic Life Support for Health Care Providers, or an equivalent course approved by the Program Coordinator, within the previous two years.
4. Document immunization against tetanus, diphtheria, mumps, measles, and rubella prior to first scheduled clinical rotation.
5. Document negative results from a tuberculosis test (Mantoux) or chest x-ray performed within the previous 12 months.

Students must make formal application to the EMSP Department to pursue course work beyond EMSP 1501/1160. Applicants who are currently certified at the EMT-Basic or EMT-Intermediate level or have completed EMSP 1501 (EMT-Basic) and EMSP 1160 (EMT-Basic Clinical) but who do not hold EMT-Basic certification may be accepted with the proviso that they obtain EMT-Basic certification prior to beginning the first paramedic clinical rotation. Students are accepted for advanced coursework only in the fall semester.

EMERGENCY MEDICAL SERVICES PROFESSIONS

The emergency medical services professions associate of applied science degree includes knowledge, skills and attitudes 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 EMT state certification or licensing exams and/or the national registry exam. Advanced placement is available for EMTs, 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 coordinator for additional information concerning advanced placement questions.
DEGREES AND CERTIFICATES

The number of students is limited by spaces available for clinical experience in affiliated hospitals and EMS provider organizations. Competitive selection of students may be necessary if the number of applicants exceeds the number of seats available.

An application portfolio must be submitted according to the deadlines established by the EMSP Department. The portfolio must include:

1. A completed application for admission, including an application essay.
2. Documentation of high school diploma or a GED.
3. Copies of all relevant academic transcripts: high school, college or university, military service schools, and other (propriety schools).
4. A resume or curriculum vitae showing work history with emphasis on EMS or other health care experience.
5. Documentation of EMT-Basic certification. Students who currently are enrolled in an EMT-Basic course or who have completed EMT-Basic course work and are engaged in the credentialing process should provide a statement to this effect.
6. Results of the Department’s comprehensive EMT-Basic examination. Students who successfully complete EMSP 1501 are exempt from taking this examination and may substitute their score on the EMSP 1501 final examination. To be considered for admission, an applicant must achieve a minimum score of 70 on this examination. One retest will be permitted.
7. Verification of immunization against tetanus, diphtheria, mumps, measles, rubella, and hepatitis B.
8. Negative results from a tuberculosis skin test (Mantoux) or chest x-ray performed within the last 12 months.
9. Proof of successful completion of the American Heart Association’s Basic Life Support for Health Care Providers, or an equivalent course approved by the Program Coordinator, within the previous two years.

After a completed application portfolio is on file, an interview with one or more members of the EMSP faculty will be scheduled. Letters regarding admission status will be mailed out at the conclusion of the application process. Additional program costs to be assumed by the student include uniforms and skills examination fees.

EMERGENCY MEDICAL SERVICES PROFESSIONS INTERMEDIATE CERTIFICATE
(certified offered Cy-Fair College and North Harris College)
TASP Exempt

<table>
<thead>
<tr>
<th>Prerequisite Semester</th>
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<tbody>
<tr>
<td>EMSP 1160 EMT Basic</td>
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<td>EMSP 1501 EMT Basic</td>
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FIRST YEAR

First Semester

<table>
<thead>
<tr>
<th>Credit</th>
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<tbody>
<tr>
<td>EMSP 1161 Clinical - Paramedic I 1</td>
</tr>
<tr>
<td>EMSP 1338 Introduction to Advanced Practice 3</td>
</tr>
<tr>
<td>EMSP 1356 PT. Assessment &amp; Airway Mgmt 3</td>
</tr>
<tr>
<td>EMSP 2348 Emergency Pharmacology 3</td>
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Second Semester

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<tr>
<th>Credit</th>
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<tbody>
<tr>
<td>EMSP 1162 Clinical - Paramedic II 1</td>
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<tr>
<td>EMSP 1355 Trauma Management 3</td>
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</table>

TOTAL Credit Hours for Emergency Medical Services Professions Intermediate Certificate 23

Note: It is recommended that students complete BIOL 2401 prior to beginning paramedic coursework.

EMERGENCY MEDICAL SERVICES PROFESSIONS PARAMEDIC CERTIFICATE
(certified offered Cy-Fair College and North Harris College)
TASP Exempt

<table>
<thead>
<tr>
<th>Prerequisite Semester</th>
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<tbody>
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<td>EMSP 1160 Clinical - EMT Basic</td>
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<tr>
<td>EMSP 1501 EMT - Basic</td>
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FIRST YEAR

First Semester

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<thead>
<tr>
<th>Credit</th>
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<tbody>
<tr>
<td>EMSP 1161 Clinical - Paramedic I 1</td>
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<tr>
<td>EMSP 1338 Introduction to Advanced Practice 3</td>
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<tr>
<td>EMSP 1356 PT. Assessment &amp; Airway Mgmt 3</td>
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<tr>
<td>EMSP 2348 Emergency Pharmacology 3</td>
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<tr>
<td>SEMESTER TOTAL 10</td>
</tr>
</tbody>
</table>
### Second Semester
- **EMSP 1162** Clinical - Paramedic II 1
- **EMSP 1355** Trauma Management 3
- **EMSP 2338** EMS Operation 3
- **SEMESTER TOTAL** 7

### Third Semester
- **EMSP 2444** Cardiology 4
- **EMSP 1 Elective** 3
- **SEMESTER TOTAL** 7

### Second Year
**First Semester**
- **EMSP 2160** Clinical - Paramedic III 1
- **EMSP 2330** Special Populations 3
- **EMSP 2434** Medical Emergencies 4
- **SEMESTER TOTAL** 8

**Second Semester**
- **EMSP 2143** Assessment Based Management 1
- **EMSP 2361** Clinical - EMS 3
- **SEMESTER TOTAL** 4

**TOTAL Credit Hours for Emergency Medical Services Professions Paramedic Certificate** 42

1. Choose from EMSP 1358, EMSP 2300, EMSP 2345, or EMSP 2352

2. Elective

Note: It is recommended that students complete BIOL 2401 prior to beginning paramedic coursework.

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### EMERGENCY MEDICAL SERVICES PROFESSIONS

**Associate of applied science degree, Tech Prep**

(degree offered at Cy-Fair College and North Harris College)

### Prerequisite Semester
- **EMSP 1160** Clinical - EMT Basic 1
- **EMSP 1501** EMT - Basic 5
- **PREREQUISITE TOTAL** 6

### First Year
**First Semester**
- **BIOL 2401** Human Anatomy & Physiology I 4
- **EMSP 1161** Clinical - Paramedic I 1
- **EMSP 1338** Intro of Advanced Practice 3
- **EMSP 1356** PT Assessment & Airway Mgmt 3
- **EMSP 2348** Emergency Pharmacology 3
- **KINE** Physical Activity 1
- **SEMESTER TOTAL** 15

---

### Second Semester
- **BIOL 2402** Human Anat. & Physiology II 4
- **EMSP 1162** Clinical - Paramedic II 1
- **EMSP 1355** Trauma Management 3
- **EMSP 2338** EMS Operations 3
- **ENGL 1301** Composition and Rhetoric I 3
- **KINE** Physical Activity 1
- **SEMESTER TOTAL** 15

**Third Semester**
- **EMSP 2444** Cardiology 4
- **EMSP 3 Elective** 3
- **ENGL 1302** Composition & Rhetoric II 3
- **SEMESTER TOTAL** 10

### Second Year
**First Semester**
- **EMSP 2160** Clinical - Paramedic III 1
- **EMSP 2330** Special Populations 3
- **EMSP 2434** Medical Emergencies 4
- **PSYC 2301** General Psychology 3
- **SEMESTER TOTAL** 11

**Second Semester**
- **EMSP 2143** Assessment Based Management 1
- **EMSP 2361** Clinical - EMS 3
- **GOVT 2301** American Government 3
- **SOCI 2130** Principles of Sociology 3
- **SEMESTER TOTAL** 10

**TOTAL Credit Hours for AAS Degree** 67

1. Capstone course
2. Meets multicultural requirements.
3. Choose from EMSP 1358, EMSP 2300, EMSP 2345, or EMSP 2352

Note: It is recommended that students complete BIOL 2401 prior to beginning paramedic coursework.
DEGREES AND CERTIFICATES

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 63-72 semester credit hours required in the degree plan. Students may specialize in architectural engineering, mechanical engineering 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 27-28 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. Engineering design graphics technicians are listed as emerging and evolving occupations by the Texas State occupational information coordinating committee and identified as targeted occupations by TechForce 2000 for the Gulf Coast region. A targeted occupation is one which has a minimum of 1000 job openings each year and meets an above average hourly wage rate.

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. The sequence of courses can also be found at: www.nhmccd.edu/catalog/.

COMPUTER-AIDED DESIGN OPERATOR/ DRAFTING CERTIFICATE

(certificate offered Cy-Fair College, North Harris College and Montgomery College)  
TASP Exempt

FIRST YEAR

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Credit</th>
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<tbody>
<tr>
<td>DFTG 1305</td>
<td>Technical Drafting 3</td>
</tr>
<tr>
<td>DFTG 1309</td>
<td>Basic Computer-Aided Drafting 3</td>
</tr>
<tr>
<td>CNBT 1311</td>
<td>Construction Meth. &amp; Materials OR 3</td>
</tr>
<tr>
<td>MCHN 1319</td>
<td>Manufacturing Materials &amp; Processes 3</td>
</tr>
<tr>
<td>TECM 1303</td>
<td>Technical Mathematics 3</td>
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Second Semester

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</tr>
<tr>
<td>DFTG 2340 Solid Modeling/Design 3</td>
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<tr>
<td>SEMESTER TOTAL 15-18</td>
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</table>

TOTAL Credit Hours for Computer-Aided Design Operator/Drafting Certificate 27-28

1 CNBT 1311 is for students interested in the areas of architectural, structural, civil, or construction.
2 MCHN 1319 is for students interested in the areas of manufacturing or product design.
3 MATH 1314, College Algebra may be substituted for TECM 1303, Technical Math. Students pursuing an associate degree can consider this substitution.
4 Students interested in the areas of architectural, structural, civil, or construction should select from the following electives: DFTG 1317, 2310, 2312, 2323, or 2328. Students interested in the areas of manufacturing or product design should select from the following electives: DFTG 2302, 2312, 2323, 2335 or CETT 1409. Students not specializing may select from either group of electives.

Note: A capstone experience is the completion of a departmental exam with a minimum grade of 80% and is required to complete this certificate.

ARCHITECTURAL ENGINEERING TECHNOLOGY SPECIALIZATION

Associate of applied science degree

(specialization offered at North Harris College)

FIRST YEAR

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<tr>
<th>First Semester</th>
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<tbody>
<tr>
<td>CNBT 1311</td>
<td>Construction Methods &amp; Materials 3</td>
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<tr>
<td>DFTG 1305</td>
<td>Technical Drafting 3</td>
</tr>
<tr>
<td>DFTG 1309</td>
<td>Basic Computer-Aided Drafting OR 3</td>
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</table>
DEGREES AND CERTIFICATES

DFTG\(^1\) 2319 Intermediate Computer-Aided Drafting
ENGL 1301 Composition and Rhetoric I 3
MATH 1314 College Algebra 3

**SEMESTER TOTAL** 15

**Second Semester**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
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<tbody>
<tr>
<td>DFTG 1317 Architectural Drafting-Residential</td>
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<tr>
<td>CNBT 1342 Building Codes &amp; Inspection</td>
<td>3</td>
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<tr>
<td>ARTS(^2) 1304 Art History Survey II</td>
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<tr>
<td>MATH 1316 Trigonometry</td>
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**SEMESTER TOTAL** 12

**Third Semester**

<table>
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<tr>
<td>DFTG 2328 Architectural Drafting-Commercial</td>
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<tr>
<td>ENGL 2311 Technical Communications</td>
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**SEMESTER TOTAL** 6

**SECOND YEAR**

**First Semester**

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<tbody>
<tr>
<td>DFTG 2340 Solid Modeling/Design</td>
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<tr>
<td>DFTG 2310 Structural Drafting</td>
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<tr>
<td>ENTC 1343 Statics</td>
<td>3</td>
</tr>
<tr>
<td>MATH 2412 Precalculus</td>
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<tr>
<td>PHYS 1401 General Physics I</td>
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**SEMESTER TOTAL** 17

<table>
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<tr>
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<tr>
<td>Elective(^3) Social/Behavioral Science</td>
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<tr>
<td>ENTC 1423 Strength of Materials</td>
<td>4</td>
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<tr>
<td>ENTC(^4) 2380 Cooperative Education OR</td>
<td>3</td>
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<tr>
<td>ENTC(^5) 1391 Special Topics</td>
<td>4</td>
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<tr>
<td>PHYS 1402 General Physics II OR</td>
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<tr>
<td>CHEM 1405 Introductory Chemistry</td>
<td>3</td>
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<tr>
<td>SPCH(^5) Speech Elective</td>
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</table>

**SEMESTER TOTAL** 17

**TOTAL Credit Hours for Architectural Engineering Technology Specialization** 67

1. DFTG 1305 or 2319 student must see advisor.
3. See college catalog for Associate of applied science degree graduation requirements for a listing of electives.
4. Capstone course
5. Choose elective from SPCH 1311, 1315, or 1321.

**MECHANICAL ENGINEERING TECHNOLOGY SPECIALIZATION**

*Associate of applied science degree*

(specialization offered at North Harris College)

**FIRST YEAR**

**First Semester**

<table>
<thead>
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<th>Course</th>
<th>Credit</th>
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</thead>
<tbody>
<tr>
<td>DFTG 1305 Technical Drafting</td>
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<tr>
<td>DFTG(^1) 1309 Basic Computer-Aided Drafting OR</td>
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**SECOND YEAR**

**First Semester**

<table>
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<th>Course</th>
<th>Credit</th>
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<tbody>
<tr>
<td>DFTG 2335 Adv Technologies in Mechanical Design &amp; Drafting</td>
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<tr>
<td>ENTC 1343 Statics</td>
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<td>IEIR(^2) 1310 Motor Controls OR</td>
<td>3</td>
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<td>QCTC(^4) 1303 Quality Control</td>
<td>4</td>
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<tr>
<td>MATH 2412 Precalculus</td>
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<tr>
<td>PHYS 1401 General Physics I</td>
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**SEMESTER TOTAL** 17

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
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<tbody>
<tr>
<td>Elective(^3) Social/Behavioral Science</td>
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<td>ENTC 1423 Strength of Materials</td>
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<td>PHYS 1402 General Physics II OR</td>
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<td>CHEM 1405 Introductory Chemistry</td>
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<tr>
<td>SPCH(^5) Speech Elective</td>
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</table>

**SEMESTER TOTAL** 17

**TOTAL Credit Hours for Mechanical Engineering Technology Specialization** 72

1. DFTG 1309 or 2319 students must see advisor.
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. Course intended for those students wanting to focus on being mechanical designers, but may or may not be within a production manufacturing environment.
4. Course intended for students wanting to focus their employment within a production manufacturing environment.
5. Capstone course
DEGREES AND CERTIFICATES

PRE-ENGINEERED METAL BUILDING
DRAFTING & DESIGN SPECIALIZATION

Associate of applied science degree
(specialization offered at Cy-Fair College and North Harris College)

FIRST YEAR

First Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
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</thead>
<tbody>
<tr>
<td>CNBT 1311 Construction Methods &amp; Materials</td>
<td>3</td>
</tr>
<tr>
<td>DFTG 1305 Technical Drafting</td>
<td>3</td>
</tr>
<tr>
<td>DFTG 1309 Basic CAD</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 1301 Composition &amp; Rhetoric I</td>
<td>3</td>
</tr>
<tr>
<td>MATH 1314 College Algebra</td>
<td>3</td>
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<tr>
<td>SPCH 1318 Interpersonal Communication</td>
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Second Semester

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<tbody>
<tr>
<td>DFTG 2310 Structural Drafting</td>
<td>3</td>
</tr>
<tr>
<td>DFTG 2319 Interm. Computer-Aided Drafting</td>
<td>3</td>
</tr>
<tr>
<td>DFTG 2328 Architectural Graphics - Commercial</td>
<td>3</td>
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<tr>
<td>ENGL 2311 Technical Communications</td>
<td>3</td>
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<tr>
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SECOND YEAR

First Semester

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<tbody>
<tr>
<td>DFTG 1372 Structural Steel Detailing</td>
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<tr>
<td>DFTG 2336 Computer-Aided Dftg Programming</td>
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<tr>
<td>Elective Humanities/Fine Arts</td>
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<tr>
<td>ENTC 1343 Statics</td>
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<tr>
<td>WLDG 1413 Intro to Blueprint Reading - Welders</td>
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Second Semester

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<tbody>
<tr>
<td>DFTG 2471 Metal Building Systems</td>
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<tr>
<td>Elective Social/Behavioral Science</td>
<td>3</td>
</tr>
<tr>
<td>ENTC 1423 Strength of Materials</td>
<td>4</td>
</tr>
<tr>
<td>ENTC 2380 Cooperative Education OR</td>
<td>3</td>
</tr>
<tr>
<td>ENTC 1391 Special Topics</td>
<td>3</td>
</tr>
<tr>
<td><strong>SEMESTER TOTAL</strong></td>
<td><strong>14</strong></td>
</tr>
</tbody>
</table>

**TOTAL Credit Hours for Pre-Engineered Metal Building Drafting & Design Specialization** 63

1 See College catalog for Associate of applied science degree Graduation requirements for a listing of electives. Select course from either of these areas to meet multicultural requirement.

2 Capstone course.
ENGINEERING TECHNOLOGY

Basic Electronics Certificate
(offered at North Harris College,
Cy-Fair College and Tomball College)
TASP Exempt

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

Second Semester
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>CETT 1403</td>
<td>DC Circuits</td>
<td>4</td>
</tr>
<tr>
<td>MATH 1314</td>
<td>College Algebra</td>
<td>3</td>
</tr>
<tr>
<td>CETT 1405</td>
<td>AC Circuits</td>
<td>4</td>
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SEASON TOTAL 11

Third Semester
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit</th>
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</thead>
<tbody>
<tr>
<td>CETT 1425</td>
<td>Digital Fundamentals</td>
<td>4</td>
</tr>
<tr>
<td>CETT 1429</td>
<td>Solid State Devices OR</td>
<td>4</td>
</tr>
<tr>
<td>Elective²</td>
<td>Technical</td>
<td>4</td>
</tr>
</tbody>
</table>

SEASON TOTAL 8

TOTAL Credit Hours for Basic Electronics Certificate 23

¹ Capstone course
² Approved electives include any CETT, CPMT, EECT, or ITCC course.

COMPUTER/ELECTRONICS SYSTEMS TECHNOLOGY SPECIALIZATION

Associate of applied science degree
(specialization offered at Cy-Fair College, North Harris College and Tomball College)

SECOND YEAR
First Semester
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>CETT 1429</td>
<td>Solid State Devices</td>
<td>4</td>
</tr>
<tr>
<td>CETT 1445</td>
<td>Microprocessor</td>
<td>4</td>
</tr>
<tr>
<td>CETT 1457</td>
<td>Linear Integrated Circuits</td>
<td>4</td>
</tr>
<tr>
<td>CPMT 1445</td>
<td>Computer Systems Maintenance</td>
<td>4</td>
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</tbody>
</table>

SEASON TOTAL 16

Second Semester
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPMT 2445</td>
<td>Computer Systems Troubleshooting</td>
<td>4</td>
</tr>
<tr>
<td>Elective²</td>
<td>Technical</td>
<td>4</td>
</tr>
<tr>
<td>Elective³</td>
<td>Technical (capstone course)</td>
<td>3-4</td>
</tr>
<tr>
<td>Elective</td>
<td>Humanities/Fine Arts</td>
<td>3</td>
</tr>
<tr>
<td>ITSE¹</td>
<td>Elective</td>
<td>4</td>
</tr>
</tbody>
</table>

SEASON TOTAL 18-19

TOTAL Credit Hours for Computer/Electronic Systems Technology Specialization 69-70

¹ ITSE 1407 or 1431
² CPMT 1449; EECT 2439; ELMT 2433; or departmental approval
³ CETT 2449; EECT 2380; or ELMT 2437 (capstone course)

Note: Student must meet the multicultural requirements of the degree. See the college catalog for a complete listing of those courses that meet that requirement for the Associate of applied science degree.

ENGINEERING TECHNOLOGY CERTIFICATE
with Specializations

Industrial Electrical Technology Specialization
(specialization offered at North Harris College)
TASP Exempt

FIRST YEAR
First Semester
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>CETT 1409</td>
<td>DC/AC Circuits</td>
<td>4</td>
</tr>
<tr>
<td>HART 1401</td>
<td>Basic Electricity for HVAC</td>
<td>3</td>
</tr>
<tr>
<td>IEIR 1310</td>
<td>Motor Controls</td>
<td>3</td>
</tr>
<tr>
<td>ELMT 2433</td>
<td>Industrial Electronics</td>
<td>4</td>
</tr>
<tr>
<td>RBTC¹</td>
<td>Programmable Controllers</td>
<td>4</td>
</tr>
</tbody>
</table>

TOTAL Credit Hours for Industrial Electrical Technology Specialization Certificate 15

¹ Capstone course
## INDUSTRIAL CONTROLS TECHNOLOGY SPECIALIZATION

*Associate of applied science degree, Tech Prep*  
(specialization offered at North Harris College)

### FIRST YEAR

<table>
<thead>
<tr>
<th>Semester</th>
<th>Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>First Semester</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CETT 1403</td>
<td>DC Circuits</td>
<td>4</td>
</tr>
<tr>
<td>CPMT 1403</td>
<td>Intro to Computer Technology</td>
<td>4</td>
</tr>
<tr>
<td>DFTG 1309</td>
<td>Basic Computer-Aided Drafting</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 1301</td>
<td>Composition &amp; Rhetoric I</td>
<td>3</td>
</tr>
<tr>
<td>MATH 1314</td>
<td>College Algebra</td>
<td>3</td>
</tr>
<tr>
<td><strong>SECOND YEAR</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CETT 1405</td>
<td>AC Circuits</td>
<td>4</td>
</tr>
<tr>
<td>CETT 1425</td>
<td>Digital Fundamentals</td>
<td>4</td>
</tr>
<tr>
<td>MATH 1316</td>
<td>Trigonometry</td>
<td>3</td>
</tr>
<tr>
<td>SPCH 1318</td>
<td>Interpersonal Communications</td>
<td>3</td>
</tr>
<tr>
<td><strong>TOTAL Credit Hours for Industrial Controls Technology Specialization</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1 Student must meet the multicultural requirements of the degree. See the NHMCCD catalog for a complete listing.

2 CETT 2449; EECT 2380; or ELMT 2437 (capstone course)

### SECOND YEAR

<table>
<thead>
<tr>
<th>Semester</th>
<th>Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>First Semester</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CETT 1429</td>
<td>Solid State Devices</td>
<td>4</td>
</tr>
<tr>
<td>CETT 1457</td>
<td>Linear Integrated Circuits</td>
<td>4</td>
</tr>
<tr>
<td>ELMT 2433</td>
<td>Industrial Electronics</td>
<td>4</td>
</tr>
<tr>
<td>HUMA</td>
<td>Elective</td>
<td>3</td>
</tr>
<tr>
<td>IEIR 1310</td>
<td>Motor Controls</td>
<td>3</td>
</tr>
<tr>
<td><strong>SECOND SEMESTER</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CETT 1445</td>
<td>Microprocessors</td>
<td>4</td>
</tr>
<tr>
<td>Elective2</td>
<td>Capstone Course</td>
<td>3-4</td>
</tr>
<tr>
<td>Elective1</td>
<td>Social/Behavioral Sciences</td>
<td>3</td>
</tr>
<tr>
<td>RBTC 1401</td>
<td>Programmable Controllers</td>
<td>4</td>
</tr>
<tr>
<td><strong>TOTAL Credit Hours for Industrial Controls Technology Specialization</strong></td>
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</tbody>
</table>

### ENGINEERING TECHNOLOGY-NETWORKING/ TELECOMMUNICATIONS CERTIFICATE

with Specializations

#### Basic Telecommunications Specialization

(specialization offered at Cy-Fair College and Tomball College)  
TASP Exempt

<table>
<thead>
<tr>
<th>Semester</th>
<th>Courses</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td><strong>First Semester</strong></td>
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<td></td>
</tr>
<tr>
<td>CETT 1403</td>
<td>DC Circuits</td>
<td>4</td>
</tr>
<tr>
<td>CPMT 1403</td>
<td>Intro to Computer Technology OR</td>
<td>4</td>
</tr>
<tr>
<td>ITSC 1401</td>
<td>Introduction to Computers OR</td>
<td></td>
</tr>
<tr>
<td>COSC 1401</td>
<td>Introduction to Computers</td>
<td></td>
</tr>
<tr>
<td>MATH 1314</td>
<td>College Algebra</td>
<td>3</td>
</tr>
<tr>
<td><strong>SECOND SEMESTER</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CETT 1405</td>
<td>AC Circuits</td>
<td>4</td>
</tr>
<tr>
<td>MATH 1316</td>
<td>Trigonometry</td>
<td>3</td>
</tr>
<tr>
<td>SPCH 1318</td>
<td>Interpersonal Communications</td>
<td>3</td>
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<tr>
<td><strong>TOTAL Credit Hours for Basic Telecommunications Specialization Certificate</strong></td>
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</table>

1 Capstone course

#### Electronics Communications Technology Specialization

(specialization offered at Cy-Fair College, North Harris College and Tomball College)  
TASP Exempt

<table>
<thead>
<tr>
<th>Semester</th>
<th>Courses</th>
<th>Credits</th>
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<tbody>
<tr>
<td><strong>First Semester</strong></td>
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<td></td>
</tr>
<tr>
<td>CETT 1403</td>
<td>DC Circuits</td>
<td>4</td>
</tr>
<tr>
<td>CETT 1405</td>
<td>AC Circuits</td>
<td>4</td>
</tr>
<tr>
<td>CETT 1425</td>
<td>Digital Fundamentals</td>
<td>4</td>
</tr>
<tr>
<td>CETT1</td>
<td>Solid State Devices</td>
<td>4</td>
</tr>
<tr>
<td>CSIR 1344</td>
<td>General Communications Circuits I</td>
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</tbody>
</table>
**DEGREES AND CERTIFICATES**

**NETWORK/TELECOMMUNICATIONS TECHNOLOGY SPECIALIZATION**

**Associate of applied science degree**

(specialization offered at Tomball College)

### FIRST YEAR

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>CETT 1403 DC Circuits</td>
<td>4</td>
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<tr>
<td>CPMT 1403 Intro to Computer Technology OR</td>
<td>4</td>
</tr>
<tr>
<td>ITSC 1401 Introduction to Computers</td>
<td></td>
</tr>
<tr>
<td>COSC 1401 Introduction to Computers</td>
<td></td>
</tr>
<tr>
<td>Elective Social/Behavioral Sciences</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 1301 Composition &amp; Rhetoric I</td>
<td>3</td>
</tr>
<tr>
<td>MATH 1314 College Algebra</td>
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<td><strong>Total for First Semester</strong></td>
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<tbody>
<tr>
<td>CETT 1405 AC Circuits</td>
<td>4</td>
</tr>
<tr>
<td>CETT 1425 Digital Fundamentals</td>
<td>4</td>
</tr>
<tr>
<td>CPMT 1445 Computer Systems Maintenance</td>
<td>4</td>
</tr>
<tr>
<td>ENGL 2311 Technical Communications</td>
<td>3</td>
</tr>
<tr>
<td>SPCH 1318 Interpersonal Communications</td>
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### SECOND YEAR

<table>
<thead>
<tr>
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<th>Credit</th>
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<tbody>
<tr>
<td>CPMT 2433 Computer Integration</td>
<td>4</td>
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<tr>
<td>CPMT 2445 Computer System Troubleshooting</td>
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</tr>
<tr>
<td>EECT 1403 Intro to Telecommunications</td>
<td>4</td>
</tr>
<tr>
<td>ITCC 1402 LANs Design &amp; Protocols: Cisco 1</td>
<td>4</td>
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<table>
<thead>
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<tbody>
<tr>
<td>Elective</td>
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<tr>
<td>Elective Humanitites/Fine Arts</td>
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<tr>
<td>ITCC 1406 Basic Router Configuration: Cisco 2</td>
<td>4</td>
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<tr>
<td>ITCC 1442 Local Area Mgmt (LAN): Cisco 3</td>
<td>4</td>
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<tr>
<td><strong>Total for Second Semester</strong></td>
<td>18-19</td>
</tr>
</tbody>
</table>

### TOTAL Credit Hours for Network/Telecommunications Technology Specialization

19

1 Capstone course

**FIRE SCIENCE TECHNOLOGY**

The associate of applied science degree in fire science technology is designed to prepare graduates for employment in fire prevention, control, and protection. The program is also designed to provide opportunities for job advancement and retention for currently employed fire fighters. The level 1 certificate is for students wanting to pursue job opportunities as fire fighters. Interested students should contact Fire Science Technology faculty for information regarding application and admission to the program.

### BASIC STRUCTURAL FIREFIGHTER CERTIFICATE

(certificate offered at Cy-Fair College)

**TASP Exempt**

### FIRST YEAR

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Credit</th>
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<tbody>
<tr>
<td>FIRS 1301</td>
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<tr>
<td>FIRS 1407</td>
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<tr>
<td>FIRS 1313</td>
<td>3</td>
</tr>
<tr>
<td>FIRS 1319</td>
<td>3</td>
</tr>
<tr>
<td>FIRT 1171</td>
<td>1</td>
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<tr>
<td><strong>Total for First Semester</strong></td>
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</table>

<table>
<thead>
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<th>Second Semester</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMSP1 1501</td>
<td>3-5</td>
</tr>
<tr>
<td>Elective OR</td>
<td></td>
</tr>
<tr>
<td>EMSP1 1160</td>
<td>1-3</td>
</tr>
<tr>
<td>Clinical - Basic EMT</td>
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</tr>
<tr>
<td>FIS 1323</td>
<td>3</td>
</tr>
<tr>
<td>FIS 1329</td>
<td>3</td>
</tr>
<tr>
<td>FIS2 1433</td>
<td>4</td>
</tr>
<tr>
<td><strong>Total for Second Semester</strong></td>
<td>16</td>
</tr>
</tbody>
</table>

### TOTAL Credit Hours for Basic Structural Firefighter Certificate

30

1 Courses must be taken as corequisites.

2 Capstone course

---

Note: Student must meet the multicultural requirement of the degree. See the NHMCCD catalog for a complete listing.
DEGREES AND CERTIFICATES

FIRE SCIENCE TECHNOLOGY
Associate of applied science degree
(degree offered at Cy-Fair College)

FIRST YEAR
First Semester Credit
FIRS 1301 Firefighter Certification I 3
FIRS 1407 Firefighter Certification II 4
FIRS 1313 Basic Firefighter Certification III 3
FIRS 1319 Firefighter Certification IV 3
FIRT 1171 Firefighter Agility & Fitness Prep 1
Semester Total 14

Second Semester Credit
FIRS Elective OR 3-5
EMSP¹ 1501 Emergency Medical Technician Basic 1-3
EMSP¹ 1160 Clinical - Basic EMT 3
FIRS 1323 Fire Certification V 3
FIRS 1329 Fire Certification VI 3
FIRS 1433 Fire Certification VII 4
Semester Total 16

Third Semester Credit
ENGL 1301 Composition and Rhetoric I 3
Elective Math /Science 3-4
ITSC 1401 Intro to Computers OR 4
COSC 1401 Intro to Computers 3-4
Semester Total 10-11

SECOND YEAR
First Semester Credit
FIRT 1315 Hazardous Materials 3
FIRT 1319 Firefighter Health and Safety 3
Elective² Humanities/Fine Arts 3
SPCH Elective 3
Elective² Social/Behavioral Science 3
Semester Total 15

Second Semester Credit
FIRT 1327 Building Construction 3
FIRT³ Elective 3
FIRT³ Elective 3
FIRT³ Elective 3
FIRT⁴ 2380 Cooperative Education 3
Semester Total 15

TOTAL Credit Hours for AAS Degree 70-71

¹ Courses must be taken as corequisites.
² One course must meet multicultural requirements.
³ Select from FIRT 1303, 1305, 1307, 1331, 1338, 1355, or 2333.
⁴ Capstone course

GEOPHAGICAL INFORMATION SYSTEMS

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

The GIS technician certificate is awarded for completion of 23 credit hours of course work, focused on the development of the skills to be proficient with 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 projects and prepare presentations for client evaluation. The associate of applied science degree for GIS is awarded for the completion of 63-64 credit hours of course work and provides management, analysis, map product development and final report writing for presentation.

While the employment opportunities are far reaching at the present time, the increased use of GIS in nearly every field of education, business and government is growing daily creating a strong need for skilled personnel.

The general education core will transfer to a variety of colleges and universities. Contact counselors or geology faculty for specific information or to obtain the recommended sequencing of courses. The information can be found at: www.nhmccd.edu/catalogue/GEOGRAPHICAL INFORMATION SYSTEMS TECHNICIAN CERTIFICATE
(certificate offered at Cy-Fair College and North Harris College)
TASP Exempt

FIRST YEAR
First Semester Credit
COSC 1401 Introduction to Computers 4
CRTG 1411 Introduction to GIS and GPS 4
TECM¹ 1303 Technical Mathematics 3
Semester Total 11

¹ Select from courses 1303, 1305, 1307, 1331, 1338, or 2333.
² One course must meet multicultural requirements.
SECOND YEAR

First Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRTG 2401 Data Acquisition &amp; Analysis in GIS</td>
<td>4</td>
</tr>
<tr>
<td>ENGL 2311 Technical Communications</td>
<td>3</td>
</tr>
<tr>
<td>GEOL 1403 Physical Geology</td>
<td>4</td>
</tr>
<tr>
<td>KINE</td>
<td>Physical Activity 1</td>
</tr>
<tr>
<td>SPCH 1315 Public Speaking</td>
<td>3</td>
</tr>
</tbody>
</table>

TOTAL Credit Hours for AAS Degree: 63-64

1 Select course to meet multicultural requirement
2 Capstone course
3 Choose one track for electives. Track 1 - Programming electives include ITSE 1402 and ITSE 1431. Track 2 - Database electives include ITSW 1407 and ITSW 2437.

HEALTH INFORMATION TECHNOLOGY

The health information technology (HIT), tech prep associate of applied science degree is designed to prepare graduates for entry level employment as Health Information Technicians. North Harris College is currently accredited by the Commission on Accreditation of Allied Health Educational Programs (CAAHEP) in cooperation with the Council on Accreditation of the American Health Information Management Association (AHIMA). Program accreditation allows graduates to apply for certification examination to become Registered Health Information Technicians (RHIT).

Registered health information technicians perform technical medical record functions vital to the op-
DEGREES AND CERTIFICATES

eration 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 for specific information and to obtain the recommended sequencing of courses. The sequence of courses can also be found at: www.nhmccd.edu/catalog/.

Admissions Criteria for AAS degree:
In order to be considered for admission to the HIT program, students must pass all three sections of the TASP test, be recommended by the HIT program admission committee, and meet all other NHMCCD college admissions requirements. Students who are exempt from the TASP must take the ASSET or an approved placement test, and achieve college-level placement in reading, writing, and completion of MATH 0306 or higher, or complete all developmental courses required for placement into college level English, reading and MATH 0308.

Admissions criteria for Coding Certificate:
1. college-level reading and writing readiness skills;
2. meet all other NHMCCD college admissions requirements;
3. placement into MATH 0310 or placement by testing.

A certificate in medical coding prepares the technician to assign a code to a medical diagnosis or procedures. 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 voluntary certification exam.

Admissions criteria for Medical Transcription Certificate:
1. college-level reading and writing readiness skills;
2. meet all other NHMCCD college admissions requirements;
3. placement into MATH 0308 or placement by testing.

Medical transcriptionists listen to dictated recordings made by physicians and other healthcare professionals and transcribe them into medical reports, correspondence, and other administrative material. These documents are then returned by the medical transcriptionists to the dictator for review/correction and signature. Medical transcriptionists must have a grasp of medical terminology, anatomy and physiology, diagnostic procedures, and treatment. They also must be able to translate medical jargon and abbreviations into their expanded forms. After completion of the certificate, graduates are eligible to sit for a voluntary certification exam administered by the American Association of Medical Transcriptionists.

Employment of medical transcriptionists and medical coders is projected to grow faster than the average for all occupations through 2010 according to the Bureau of Labor Statistics. This growth will be spurred by a growing and aging population who will receive proportionately greater numbers of health procedures that require documentation.

Students admitted to the program will be required to pay liability insurance during the semesters involving off-campus practicums or internships.

CODING CERTIFICATE
(Certificate offered at North Harris College)
TASP Exempt

<table>
<thead>
<tr>
<th>Prerequisites</th>
<th>Credit</th>
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<tbody>
<tr>
<td>MDCA 1309 Anatomy &amp; Physiology for Med Assts 3</td>
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<tr>
<td>ITSC 1401 Introduction to Computers 4</td>
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<table>
<thead>
<tr>
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<tbody>
<tr>
<td>HITT 1401 Health Data Content &amp; Structure 4</td>
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<tr>
<td>HITT 1305 Medical Terminology 3</td>
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<tr>
<td>HPRS 2301 Pathophysiology 3</td>
<td></td>
</tr>
<tr>
<td>HITT 1441 Coding &amp; Classification Systems 4</td>
<td></td>
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<tr>
<td>HITT 1349 Pharmacology 3</td>
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<table>
<thead>
<tr>
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<tbody>
<tr>
<td>HITT 1345 Health Care Delivery Systems 3</td>
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<tr>
<td>HITT 1353 Legal &amp; Ethical Aspects of Health Information 3</td>
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<tr>
<td>HITT 2346 Advanced Medical Coding 3</td>
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<td>HITT 2435 Coding &amp; Reimbursement Methodologies 4</td>
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<tr>
<td>POFM 1309 Medical Office Procedures 3</td>
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1 Capstone Course
### MEDICAL TRANSCRIPTION CERTIFICATE
(Certificate offered at Kingwood College, North Harris College, and Tomball College)
TASP Exempt

#### FIRST YEAR

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<tbody>
<tr>
<td>HITT 1305 Medical Terminology</td>
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<tr>
<td>MDCA 1309 Anatomy &amp; Physiology for Med Assts</td>
<td>3</td>
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<tr>
<td>MRMT 1307 Medical Transcription Fundamentals</td>
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<tr>
<td>POFM 1302 Computers in Health Care</td>
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#### Second Semester

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<td>MRMT 2433 Adv. Medical Transcription</td>
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<td>HPRS 2301 Pathophysiology</td>
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#### Third Semester

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<th>Credit</th>
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<tbody>
<tr>
<td>POFM 1321 Medical Law and Ethics</td>
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<tr>
<td>MRMT 1192 Special Topics - Review Course</td>
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**TOTAL Credit Hours for Medical Transcription Certificate**: 28

1 Capstone Course

### HEALTH INFORMATION TECHNOLOGY
Associate of applied science degree, Tech Prep
(degree offered at North Harris College)

#### FIRST YEAR

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<tr>
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<td>HITT 1401 Health Data Content &amp; Structure</td>
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<td>ITSC 1401 Introduction to Computers</td>
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#### Second Semester

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<tr>
<td>BIOL 2402 Anatomy and Physiology II</td>
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<tr>
<td>ENGL 1301 Composition &amp; Rhetoric I</td>
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<tr>
<td>HITT 1345 Health Care Delivery Systems</td>
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<tr>
<td>HITT 1353 Legal &amp; Ethical Aspects of Health Information</td>
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<td>HITT 1355 Health Care Statistics</td>
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#### Third Semester

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<tr>
<td>Elective Social/Behavioral Sciences</td>
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<tr>
<td>Elective Humanities/Fine Arts</td>
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### SECOND YEAR

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<tbody>
<tr>
<td>HITT 1166 Practicum</td>
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<td>HITT 1441 Coding &amp; Classification Systems</td>
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<td>MRMT 1211 Computers in Health Care</td>
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#### Second Semester

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<tbody>
<tr>
<td>HITT 2339 Health Info Org. &amp; Supervision</td>
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<td>HITT 2343 Quality Assess. &amp; Perf. Improv</td>
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<td>HITT 2435 Coding &amp; Reimbursement Methods</td>
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#### Third Semester

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<thead>
<tr>
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<tbody>
<tr>
<td>HITT 2249 RHIT Competency Review</td>
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<tr>
<td>HITT 2460 Clinical</td>
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</table>

**TOTAL Credit Hours for AAS degree**: 70

1 Either Social/Behavioral Science or Humanities/Fine Arts elective must meet multicultural requirement. See general education requirements for AAS degree listed in the catalog

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

### HEATING, VENTILATION, AIR CONDITIONING AND REFRIGERATION

The heating ventilation, air conditioning and refrigeration associate of applied science degree prepares the individual for a technical service career in residential or light commercial/industrial environmental systems. The student will study the mechanical and electrical/electronic systems involved in contemporary environmental controls. The academic requirements of the program provides for a foundation for continued studies should the student decide to pursue his or her education or training.

The HVAC&R certificate program prepares the individual for basic, entry-level employment in the residential or light commercial heating and air-conditioning service industry. The essentials of the me-
DEGREES AND CERTIFICATES

Mechanical and electrical systems of contemporary air-conditioning and heating systems are addressed throughout the program.

The general education core will transfer to a variety of colleges and universities. Contact a counselor, or faculty member at any of the colleges for specific information and to obtain the recommended sequencing of courses. The sequence of courses can also be found at: www.nhmccd.edu/catalog/.

HEATING, VENTILATION, AIR CONDITIONING AND REFRIGERATION SERVICING CERTIFICATE
(certificate offered at North Harris College) TASP Exempt

FIRST YEAR

First Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credit</th>
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<tbody>
<tr>
<td>HART 1401</td>
<td>Basic Electricity for HVAC</td>
<td>4</td>
</tr>
<tr>
<td>ELPT 1429</td>
<td>Residential Wiring</td>
<td>4</td>
</tr>
<tr>
<td>HART 1407</td>
<td>Refrigeration Principles</td>
<td>4</td>
</tr>
<tr>
<td>HART 1441</td>
<td>Residential Air Conditioning</td>
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Second Semester

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<th>Course</th>
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<tbody>
<tr>
<td>HART 2442</td>
<td>Commercial Refrigeration</td>
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<tr>
<td>HART 2449</td>
<td>Heat Pumps</td>
<td>4</td>
</tr>
<tr>
<td>HART 2436</td>
<td>Air Conditioning Troubleshooting</td>
<td>4</td>
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<tr>
<td>HART 2445</td>
<td>Air Conditioning Systems Design</td>
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Third Semester

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<tr>
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<tbody>
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TOTAL Credit Hours for HVAC & R Servicing Certificate 35

HEATING, VENTILATION, AIR CONDITIONING AND REFRIGERATION

Associate of applied science degree, Tech Prep
(degree offered at North Harris College)

FIRST YEAR

First Semester

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<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credit</th>
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<tbody>
<tr>
<td>HART 1401</td>
<td>Basic Electricity for HVAC</td>
<td>4</td>
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<td>ENGL 1301</td>
<td>Composition &amp; Rhetoric I</td>
<td>3</td>
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<td>HART 1407</td>
<td>Refrigeration Principles</td>
<td>4</td>
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<td>TECM 1303</td>
<td>Technical Mathematics</td>
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Second Semester

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<tbody>
<tr>
<td>ELPT 1429</td>
<td>Residential Wiring</td>
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<td>HART 1441</td>
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<td>HART 2436</td>
<td>Air Conditioning Troubleshooting</td>
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Third Semester

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<tbody>
<tr>
<td>HART 2445</td>
<td>Air Conditioning Systems Design</td>
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<td>IEIR 1310</td>
<td>Motor Controls</td>
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SECOND YEAR

First Semester

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<td>CHEM 1405</td>
<td>Introductory Chemistry</td>
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<td>Social/Behavioral Science</td>
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<tr>
<td>HART 2442</td>
<td>Commercial Refrigeration</td>
<td>4</td>
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<td>HART 2449</td>
<td>Heat Pumps</td>
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<td>HART 1451</td>
<td>Energy Management</td>
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Second Semester

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<td>HART 2380</td>
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<td>HART 2434</td>
<td>Advanced A/C Controls</td>
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<tr>
<td>HART 2443</td>
<td>Industrial Air Conditioning</td>
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<td>HUMA 3</td>
<td>Introduction to the Humanities</td>
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TOTAL Credit Hours for AAS Degree 71

1 A capstone experience is completed by taking HART 2380. It is strongly suggested to take one of the following professional exams: ARI/GAMA: Competency Exam in Residential Air Conditioning Service; NATE: Certification in Residential and Light Commercial Air Conditioning Service; or Technician Certification Exam.

1 See list of requirements for the Associate of Applied Science Degree.

2 Choose from SPCH 1311, 1315, or 1321

3 Meets multicultural requirement.

4 A Capstone experience is completed by taking a departmental exit exam. HART 1291 is preparation for the exam. It is strongly suggested to take one of the following professional exams: ARI/GAMA: Competency Exam in Residential Air Conditioning Service; NATE: 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 workers work in a variety of settings and perform many different functions. Graduates of a program in human services are employed in group homes, halfway houses, child and youth service agencies, state welfare offices, substance abuse treatment centers, and a number of other social service agencies. Through an interdisciplinary approach, human service workers focus on the prevention and remediation of problems facing individuals and families. Human service workers should have a strong desire to help others, good communication skills, and be very responsible.

All course work required for licensing as a chemical dependency counselor, as well as the supervised practicum training is provided.

For transfer into two specific four-year college programs that lead to the baccalaureate, masters, and doctoral degrees, see program faculty or counselor for more information. Associate degree level positions are available in the field and include such jobs as eligibility worker, child abuse case aide, and a variety of other mental health, mental retardation, and social services positions. By consulting with program faculty and staff, an individualized program including academics, supervision, networking, and professional activities can be developed to meet the desires and career aspirations of each individual student.

Through the prior learning assessment program, students holding a current licensed chemical dependency counselor’s license who are in good standing with the licensing board would be eligible to receive credit for the following courses: DACC 1304, 1309, 1317, 1319, 1341 and 2360.

The general education core will transfer to a variety of colleges and universities. Contact a counselor, or faculty member at any of the colleges for specific information and to obtain the recommended sequencing of courses. The sequence of courses can also be found at: www.nhmccd.edu/catalog/.

HUMAN SERVICES CERTIFICATE

(certificate offered at Montgomery College and Tomball College)

TASP Exempt

FIRST YEAR

First Semester

<table>
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<tr>
<td>CMSW 1301</td>
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TOTAL Credit Hours for Human Services Certificate 30

Elective to be chosen from CMSW, DAAC or GERS

Second Semester

<table>
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<td>CMSW 1341</td>
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<td>DAAC 2360</td>
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<td>SCWK 2386</td>
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<td>PSYC 2308</td>
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<tr>
<td>PSYC 2314</td>
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TOTAL Credit Hours for Advanced Chemical Dependency Certificate 36

Capstone course

ADVANCED CHEMICAL DEPENDENCY COUNSELOR CERTIFICATE

(certificate offered at Montgomery College and Tomball College)

TASP Exempt

FIRST YEAR

First Semester

<table>
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<tr>
<td>CMSW 1301</td>
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Second Semester

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<tr>
<td>CMSW 1341</td>
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Third Semester

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<tbody>
<tr>
<td>DAAC 1309</td>
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<td>DAAC 2360</td>
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TOTAL Credit Hours for Advanced Chemical Dependency Certificate 36

Capstone course

DAAC 1314 Dynamics of Group Counseling 3
DAAC 1317 Basic Counseling Skills 3
PSYC 2301 General Psychology 3
SEMESTER TOTAL 15

Second Semester

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<tbody>
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<td>DAAC 1311</td>
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<td>DAAC 2360</td>
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<td>SCWK 2386</td>
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<td>PSYC 2308</td>
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<td>PSYC 2314</td>
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SEMESTER TOTAL 15

TOTAL Credit Hours for Human Services Certificate 30

Capstone course

DAAC 1314 Dynamics of Group Counseling 3
DAAC 1317 Basic Counseling Skills 3
PSYC 2301 General Psychology 3
SEMESTER TOTAL 15

Second Semester

<table>
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<tbody>
<tr>
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SEMESTER TOTAL 15

TOTAL Credit Hours for Advanced Chemical Dependency Certificate 36

Capstone course

1 Capstone course
DEGREES AND CERTIFICATES

BASIC CHEMICAL DEPENDENCY COUNSELOR CERTIFICATE
(certificate offered at Montgomery College and Tomball College)
TASP Exempt

FIRST YEAR
First Semester
Credit
CMSW 1301 Intro to Social Services 3
DAAC 1314 Dynamics of Group Counseling 3
DAAC 1317 Basic Counseling Skills 3
DAAC 1304 Pharmacology 3
SEMESTER TOTAL 12

Second Semester
Credit
DAAC 1311 Counseling Theories 3
DAAC 1341 Counseling Alcohol and Other Drug Addictions 3
SEMESTER TOTAL 6

TOTAL Credit Hours for Chemical Dependency Counselor Certificate 18

Note: Capstone experience is completed by a departmental exam.

HUMAN SERVICES
Associate of applied science degree
(degree offered at Montgomery College and Tomball College)

FIRST YEAR
First Semester
Credit
CMSW 1301 Intro to Social Services 3
DAAC 1317 Basic Counseling Skills 3
ENGL 1301 Composition and Rhetoric I 3
ITSC 1401 Introduction to Computers 4
PSYC 2301 General Psychology 3
SEMESTER TOTAL 16

Second Semester
Credit
DAAC 1345 Abnormal Behavior 3
DAAC Elective OR 3
DAAC Elective 3
DAAC 1311 Counseling Theories 3
ENGL 1302 Composition and Rhetoric II 3
SOCT 1301 Principles of Sociology 3
KINE Physical Activity 1
SEMESTER TOTAL 16

SECOND YEAR
First Semester
Credit
GOVT 2301 American Government 3
DAAC Elective OR 3

TOTAL Credit Hours for AAS Degree 63-64

1 Elective courses will vary according to a student’s particular degree emphasis. See faculty for assistance in determining what electives will work best for you.

2 Students should consult their prospective senior institution’s catalog for science, math, and speech requirements.

3 Electives chosen from DAAC, CMSW, or GERS
4 Capstone course
5 Meets multicultural requirement

INTERACTIVE MEDIA

This program is designed to prepare students for careers in the rapidly emerging occupations of interactive media such as web, 3D, and multimedia development. The demand for multimedia comes from a variety of industries including advertising, petroleum, publishing, education, medical, legal, government, manufacturing, entertainment, and consumer products. Today many businesses and organizations want to communicate information through the Internet, CD-ROM, DVD, kiosks, computer displays, and other digital devices. These companies need people who can create a richer, engaging, and broader range of information using graphics, animation, sound, video, and interactivity.

The associate of applied science degree in the field of interactive media offers specialties in multimedia and web development. Certificates are also available in Multimedia Design, 3D Animation for Web and Multimedia, and Web Design for students wishing to seek an entry-level position or for those wishing to supplement an existing degree or certificate.
Articulation agreements with area universities support credit transfer. Please see the department chair, faculty, or advisor for specific information.

**MULTIMEDIA DESIGNER CERTIFICATE**
(certificate offered at Cy-Fair College, Kingwood College and North Harris College)
TASP Exempt

<table>
<thead>
<tr>
<th>FIRST YEAR</th>
<th>Credit</th>
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<tbody>
<tr>
<td><strong>First Semester</strong></td>
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<tr>
<td>ARTS 1311 Design I -2-D</td>
<td>3</td>
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<tr>
<td>ENGL 1301 Composition &amp; Rhetoric I</td>
<td>3</td>
</tr>
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<td>ARTC 1302 Digital Imaging I</td>
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<tr>
<td>IMED 1301 Introduction to Multimedia</td>
<td>3</td>
</tr>
<tr>
<td>ITSC 1401 Introduction to Computers OR</td>
<td>4</td>
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<td>COSC 1401 Introduction to Computers</td>
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| Second Semester                |        |
| ARTC 1313 Electronic Publishing I (TP) | 3 |
| ARTC 1353 Computer Illustration | 3 |
| IMED 1316 Web Page Design I     | 3      |
| IMED 1341 2-D Interface Design  | 3      |
| IMED 2313 Project Analysis & Design | 3 |
| **SEMESTER TOTAL**             | 15     |

TOTAL Credit Hours for Multimedia Designer Certificate 31

1 Capstone course

**3D ANIMATION FOR WEB AND MULTIMEDIA CERTIFICATE**
(certificate offered at Cy-Fair and North Harris College)
TASP Exempt

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<td><strong>First Semester</strong></td>
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<tr>
<td>ARTC 1345 3-D Modeling and Rendering</td>
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<td>ARTC 1302 Digital Imaging I</td>
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<td>IMED 1301 Introduction to Multimedia</td>
<td>3</td>
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<td>ITSC 1401 Introduction to Computers OR</td>
<td>4</td>
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<td>COSC 1401 Introduction to Computers</td>
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<tr>
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</table>

| Second Semester                |        |
| ARTS 2313 Design Communication I | 3 |
| ARTC 1353 Computer Illustration | 3 |
| IMED 1316 Web Page Design I     | 3      |
| IMED 1341 2-D Interface Design  | 3      |
| IMED 1345 Interactive Multimedia I | 3 |
| **SEMESTER TOTAL**             | 15     |

**Third Semester**

<table>
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<tr>
<th>Credit</th>
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<tbody>
<tr>
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<tr>
<td>IMED 1 2380 Cooperative Education</td>
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<tr>
<td>IMED 2315 Web Page Design II</td>
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<td>IMED 2345 Interactive Media II</td>
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TOTAL Credit Hours for Web Design Certificate 41

1 Capstone course

**WEB DESIGN CERTIFICATE**
(certificate offered at Cy-Fair, Kingwood College, Montgomery College, North Harris College, and Tomball College)
TASP Exempt

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</table>

| Second Semester                |        |
| ARTS 2313 Design Communication I | 3 |
| ARTC 1353 Computer Illustration | 3 |
| IMED 1316 Web Page Design I     | 3      |
| IMED 1341 2-D Interface Design  | 3      |
| IMED 1345 Interactive Multimedia I | 3 |
| **SEMESTER TOTAL**             | 15     |

**Third Semester**

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<td>IMED 1 2380 Cooperative Education</td>
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<td>IMED 2345 Interactive Media II</td>
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TOTAL Credit Hours for Web Design Certificate 41

1 Capstone course
### E-BUSINESS WEB DESIGNER SPECIALIZATION

**Associate of applied science degree, Tech Prep**  
(specialization offered at Cy-Fair College, Kingwood College and North Harris College)

#### FIRST YEAR

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<td>Composition &amp; Rhetoric I</td>
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<td>ARTC 1302</td>
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<td>IMED 1301</td>
<td>Introduction to Multimedia</td>
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<tr>
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<td>ITSC 1401</td>
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<tr>
<td>Second Semester</td>
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<td>Electronic Publishing I (TP)</td>
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<tr>
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<td>ARTC 1353</td>
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<td>IMED 1316</td>
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<tr>
<td></td>
<td>IMED 1341</td>
<td>2-D Interface Design</td>
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<td>IMED 2313</td>
<td>Project Analysis and Design</td>
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#### SECOND YEAR

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<td>Digital Video</td>
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<td>ITSE 1402</td>
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<td>Technical or ARTS</td>
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<td></td>
<td>IMED² 2380</td>
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</table>

1. See general education requirements for AAS degree in the catalog. Social/behavioral sciences courses need to meet the multicultural requirement.

2. Capstone experience course.

3. Approved Electives: ITSE (Programming Languages - Java, Visual BASIC, or C++) or department approved IMED, ITSW, ITNW, ARTS and ARTC courses.

### MULTIMEDIA SPECIALIZATION

**Associate of applied science degree, Tech Prep**  
(specialization offered at Cy-Fair College, Kingwood College and North Harris College)

#### FIRST YEAR

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<th>Course Title</th>
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<td>Design I - 2-D</td>
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<td>Composition &amp; Rhetoric I</td>
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<td>Digital Imaging I</td>
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<td>ITSC 1401</td>
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<td>COSC 1401</td>
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<td>IMED 1341</td>
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#### SECOND YEAR

<table>
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<tr>
<td>First Semester</td>
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<td>ARTC 1345</td>
<td>3-D Modeling and Rendering</td>
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<td>ARTC⁴ 1391</td>
<td>Special Topics OR</td>
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<td>FLMC⁴ 1331</td>
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<td>Elective³</td>
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<td>Second Semester</td>
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<td>Social/Behavioral Science</td>
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1. See general education requirements for AAS degree in the catalog. Social/behavioral sciences courses need to meet the multicultural requirement.

2. Capstone Course

3. Approved Electives: ARTC 1341, ITSE (Programming Languages - Java, Visual BASIC, or C++), ITSE 1402, ARTS 1312, 1316, 1356, or department approved IMED, ITSW, ITNW, ARTS, or ARTC courses.

4. Taken in sequence: FLMC 1331 and FLMC 2331 or ARTC 1391 and IMED 2351.
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 Home Decorating Certificate program.

The interior design associate of applied science degree program covers both classroom instruction and hands-on experience dealing with typical residential and commercial design problems. The well-stocked labs are equipped with computers, drafting tables, a blue-line machine, and a comprehensive resource library containing catalogues and samples for student projects.

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), which works closely with the professional ASID membership.

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. The sequence of courses can also be found at: www.nhmccd.edu/catalog/.

HOME DECORATING CERTIFICATE
(certificate offered at Kingwood College)
TASP Exempt

FIRST YEAR

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<td>IND$S$ 1319 Technical Drawing/Interior Designers</td>
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<tr>
<td>IND$S$ 1351 History of Interiors I</td>
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<tr>
<td>IND$S$ 2307 Textiles for Interior Design</td>
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<td>IND$S$ 1315 Materials, Methods, and Estimating</td>
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<td>IND$S$ 1349 Fundamentals of Space Planning</td>
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TOTAL Credit Hours for Home Decorating Certificate: 30

1 Capstone course

INTERIOR DESIGN TECHNOLOGY
Associate of applied science degree
(degree offered at Kingwood College)

FIRST YEAR

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<tr>
<td>IND$S$ 1349 Fundamentals of Space Planning</td>
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<td>IND$S$ 2321 Presentation Drawing</td>
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<td>MATH Elective - College level</td>
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<tr>
<td>SPCH 1315 Public Speaking OR</td>
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<td>SPCH 1321 Business Speech OR</td>
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SECOND YEAR

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<tr>
<td>IND$S$ 2330 Interior Design Building Systems</td>
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<td>IND$S$ 2313 Residential Design I OR</td>
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<td>IND$S$ 1391 Special Topics</td>
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TOTAL Credit Hours for AAS Degree: 64

1 MATH 1314, 1316, 1324, 1325, 1332, 1342, 1350, 1351, 2320, 2412, 2413, 2414, or 2415.
2 Capstone course
3 Meets Multicultural requirement
INTERPRETER TRAINING TECHNOLOGY

The Interpreter Training Technology Associate of Applied Science Degree, Tech Prep program prepares graduates for entry-level careers as American Sign Language/English Interpreters. The Interpreter Training Technology program will provide graduates with a strong academic and technical foundation and the interpreting skills necessary for state license and/or national certification.

The Interpreter Training Technology Associate of Applied Science Degree, Tech Prep program requires the completion of 66-67 semester credit hours of coursework including 29-30 semester credit hours of general academic courses and 37 semester credit hours of technical coursework. The program includes a supervised internship as a capstone external learning experience and integrates all instructional components of the program.

Students may also earn an ASL Communications Skills Certificate. This two-semester 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 two-year program.

The general education core will transfer to a variety of colleges and universities. Contact a counselor, or faculty member at any of the colleges for specific information and to obtain the recommended sequencing of courses. The sequence of courses can also be found at: www.nhmccd.edu/catalog/.

ASL COMMUNICATIONS SKILLS CERTIFICATE

(certificates offered at Cy-Fair College and North Harris College)

TASP Exempt

ASL COMMUNICATIONS SKILLS CERTIFICATE

<table>
<thead>
<tr>
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<tr>
<td>ENGL 1301 Composition &amp; Rhetoric I</td>
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<tr>
<td>SGNL 1401 Beginning Amer. Sign Lang. I</td>
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<tr>
<td>SLNG 1215 Visual/Gestures Communications</td>
<td>2</td>
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<tr>
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<td>SLNG 1211 Fingerspelling</td>
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<td>SLNG 1347 Deaf Culture</td>
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SECOND YEAR

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^1 Either Social/Behavioral Science or Humanities/Fine Arts elective must meet multicultural requirement. See general education requirements for AAS degree listed in the catalog.

^2 Capstone course
LOGISTICS MANAGEMENT

(see Professional Office Technology)

LOGISTICS MANAGEMENT

(Will be offered at Cy-Fair College fall 2004)

Logistics management is a unique business management program that prepares graduates for employment in the areas of logistics 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; and transportation/machine and vehicle material movers.

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.

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 first line logistics leader certificate is also offered as a one semester program. This program is located at Cy-Fair College.

FIRST LINE LOGISTICS
LEADER CERTIFICATE
TASP Exempt

FIRST YEAR
First Semester

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<td>LGMT 1321</td>
<td>Intro to Materials Handling</td>
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</tr>
<tr>
<td>BMGT 1301</td>
<td>Supervision</td>
<td>3</td>
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<tr>
<td>BMGT 2303</td>
<td>Problem Solving &amp; Decision Making</td>
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SECOND YEAR
First Semester

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<td>LGMT 1393</td>
<td>Special Topics in Log/Mat Mgmt</td>
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</tr>
<tr>
<td>BMGT 2382</td>
<td>Co-op: Business Administration and</td>
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<td></td>
<td>Management I</td>
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TOTAL Credit Hours for AAS Degree 61-62

1 Capstone course
MACHINING TECHNOLOGY

Computer Numeric Control Certificate

The Computer Numeric Control Operator/Programmer Certificate program is designed to prepare graduates for careers in the operation and programming of Computer Numeric Control (CNC) mills and lathes used extensively in the manufacturing industries. Topics within the certificate program include blueprint reading, manufacturing materials and processes, computer-aided manufacturing (CAM), and extensive hands-on operation and programming of CNC mills and lathes.

CNC Operator/Programmer is classified as an evolving occupation and most likely to provide future employment growth and economic competitiveness within Texas.

COMPUTER NUMERIC CONTROL OPERATOR I CERTIFICATE
(certificate offered at Cy-Fair College and North Harris College)
TASP Exempt

FIRST YEAR

First Semester
Credit
DFTG 1325 Technical Reading and Sketching 3
INMT 1391 Special Topics 3
INMT 1443 CAD-CAM 4
SEMESTER TOTAL 10

Second Semester
INMT 2380 Cooperative Education 3
MCHN 1358 Intermediate Lathe Operations 3
MCHN 2302 Intermediate Milling Operations 3
SEMESTER TOTAL 9

TOTAL Credit Hours for Computer Numeric Control Operator I Certificate 19

1 Capstone experience course

MANAGEMENT

The Management Associate of Applied Science Degree includes knowledge, skills and attitudes necessary to succeed in the business world. This program provides students with a broad foundation in general management skills.

The Management Associate of Applied Science Degree is awarded for successful completion of 65-68 credit hours. Those desiring a less comprehensive program should consider the certificate programs.

A wide variety of job opportunities are available to graduates in middle-management positions, first-line supervisors or other positions requiring leadership and decision-making skills such as entrepreneur, recreation/country club management trainee, transportation manager, real estate property manager or retail store assistant manager.


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. The sequence of courses can also be found at: www.nhmccd.edu/catalog/.

GENERAL BUSINESS ADMINISTRATION CERTIFICATE
(certificate offered at Cy-Fair College, Kingwood College, Montgomery College, North Harris College and Tomball College)
TASP Exempt

FIRST YEAR

First Semester
Credit
BMGT 1303 Principles of Management 3
BMGT 1331 Production & Operations Mgmt 3
ENGL 1301 Composition & Rhetoric I 3
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<td>ITSC 1401</td>
<td>Introduction to Computers</td>
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<tr>
<td>MRKG 1311</td>
<td>Principles of Marketing</td>
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**Second Semester**

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<tr>
<td>BUSI 2304</td>
<td>Business Communications</td>
<td>3</td>
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<tr>
<td>HRPO 1311</td>
<td>Human Relations</td>
<td>3</td>
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<tr>
<td>IBUS¹ 2341</td>
<td>International Comparative Mgmt</td>
<td>3</td>
</tr>
<tr>
<td>SPCH 1321</td>
<td>Business Speech OR</td>
<td>3</td>
</tr>
<tr>
<td>SPCH 1315</td>
<td>Public Speaking</td>
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**Third Semester**

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**TOTAL Credit Hours for General Business Administration Certificate**

34

1 Meets multicultural requirements
2 Capstone course

### HUMAN RESOURCE CERTIFICATE

(certificate offered at Cy-Fair College, Kingwood College, Montgomery College, North Harris College and Tomball College)

**TASP Exempt**

**FIRST YEAR**

**First Semester**

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<tr>
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<tr>
<td>HRPO 1311</td>
<td>Human Relations</td>
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<td>HRPO 2301</td>
<td>Human Resource Management</td>
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<td>Organizational Behavior</td>
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**TOTAL Credit Hours for Human Resource Certificate**

31

1 Meets multicultural requirements
2 Capstone course

### INTERNATIONAL BUSINESS CERTIFICATE

(certificate offered at Cy-Fair College, Kingwood College, Montgomery College, North Harris College and Tomball College)

**TASP Exempt**

**FIRST YEAR**

**First Semester**

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<th>Course Title</th>
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<td>Intro to International Business</td>
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<td>Principles of Import/Export</td>
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<td>IBUS 2345</td>
<td>Import Customs Regulations</td>
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**TOTAL Credit Hours for International Business Certificate**

34

1 Meets multicultural requirements
2 Capstone course

### MARKETING CERTIFICATE

(certificate offered at Cy-Fair College, Kingwood College, Montgomery College, North Harris College and Tomball College)

**TASP Exempt**

**FIRST YEAR**

**First Semester**

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<thead>
<tr>
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<td>Marketing Research &amp; Strategies</td>
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<td>Advertising &amp; Sales Promotion</td>
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### DEGREES AND CERTIFICATES

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1. Meets multicultural requirements
2. Capstone course

### SMALL BUSINESS MANAGEMENT CERTIFICATE

*(certificate offered at Cy-Fair College, Kingwood College, Montgomery College, North Harris College and Tomball College)*

**TASP Exempt**

**FIRST YEAR**

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<td>ENGL 1301</td>
<td>Composition &amp; Rhetoric I</td>
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<td></td>
<td>BUSI 2301</td>
<td>Business Law I</td>
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<td>SPCH 1321</td>
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<tbody>
<tr>
<td></td>
<td>TOTAL Credit Hours for Small Business Certificate</td>
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1. Capstone course

### MANAGEMENT

**Associate of applied science degree, Tech Prep**

*(certificate offered at Cy-Fair College, Kingwood College, Montgomery College, North Harris College and Tomball College)*

**FIRST YEAR**

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course</th>
<th>Title</th>
<th>Credit</th>
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<tbody>
<tr>
<td>First</td>
<td>BMGT 1303</td>
<td>Principles of Management (TP)</td>
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<tr>
<td></td>
<td>Elective</td>
<td>Humanities/Fine Arts</td>
<td>3</td>
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<tr>
<td></td>
<td>ENGL 1301</td>
<td>Composition &amp; Rhetoric I</td>
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</tr>
<tr>
<td></td>
<td>ITSC 1401</td>
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<td>MRKG 1311</td>
<td>Principles of Marketing</td>
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<th>Credit</th>
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<tr>
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<td>Principles of Accounting I</td>
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<tr>
<td></td>
<td>BUSI 1301</td>
<td>Business Principles</td>
<td>3</td>
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<tr>
<td></td>
<td>ECON 2301</td>
<td>Macroeconomics OR</td>
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<td>IBUS3 2341</td>
<td>International Comparative Mgmt</td>
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</tr>
<tr>
<td></td>
<td>SPCH 1321</td>
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<td>SPCH 1315</td>
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**SECOND YEAR**

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<td>BMGT 1309</td>
<td>Information &amp; Project Management</td>
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<td>BUSI 2304</td>
<td>Business Communications</td>
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<td>BUSI 1307</td>
<td>Personal Finance</td>
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<td>BUSI 2301</td>
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<tr>
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<td>Internship</td>
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<tr>
<td></td>
<td>Elective</td>
<td>Math/Natural Science</td>
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<tr>
<td></td>
<td>Elective</td>
<td>Specialization</td>
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<td>Specialization</td>
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<table>
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</thead>
<tbody>
<tr>
<td></td>
<td>TOTAL Credit Hours for Management Degree</td>
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1. Meets multicultural requirements
2. Suggested elective: MATH 1314, College Algebra
3. Any BMGT or MRKG Co-op or Internship
4. Any BUSI, BMGT, BUSG, HRPO, IBUS, SPAN or dept. approved course.
MEDICAL ASSISTING

Medical Assisting Certificate
(will be offered at Cy-Fair College fall 2004)
TASP Exempt

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; operating x-ray, 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, health practitioners, ambulatory care facilities, and osteopathic offices/clinics.

The Medical Assisting Certificate is a four-semester program. The final semester includes both a Review Course in order to prepare for the American Association of Medical Assistants' Certified Medical Assistant Exam and a clinical. The clinical allows the student to work in a health care setting to apply the knowledge, skills, and abilities that she or he has learned and to gain practical experience as well.

FIRST YEAR

First Semester (Summer)
Credit
HITT 1305 Medical Terminology 3
ITSC 1401 Introduction to Computers 4
SEMESTER TOTAL 7

Second Semester
Credit
MDCA 1309 Anatomy & Physiology for Medical Assistants 3
MDCA 1302 Human Disease/Pathophysiology 3
HPRS 2332 Health Care Communications 3
MDCA 1421 Administrative Procedures 4
MDCA 1343 Medical Insurance 3
SEMESTER TOTAL 16

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 Montgomery College and Cy-Fair College. Each college will accept one class each year into the radiologic technology program. The six-semester program includes two summer semesters for a total of 72 credit hours. Additional advanced technical certificates in Magnetic Resonance Imaging (MRI), Computed Tomography (CT) and Mammography is available at Cy-Fair College for those who currently hold American Registry of Radiologic Technologists (ARRT) status.

The curriculum is a balance of general educational and technical courses in the classroom and laboratory, as well as supervised clinical experiences at local hospitals. This combination provides the student an opportunity for educational development and skill competency.

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.

Second Semester
Credit
MDCA 1205 Medical Law and Ethics 2
MDCA 1517 Procedures in a Clinical Setting 5
HPRS 1202 Wellness and Health Promotion 2
MDCA 1348 Pharmacology and Administration of Medications 3
KINE 1306 First Aid and Safety 3
SEMESTER TOTAL 15

Fourth Semester (Summer)
Credit
MDCA 1154 Review Course 1
MDCA 1360 Clinical 3
SEMESTER TOTAL 4

TOTAL Credit Hours for Medical Assisting Certificate 42

1 Capstone course
Prior to entering the Radiologic Technology AAS degree program, students may take any of the general education core courses required in the program. Medical Radiography 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 in order to graduate from the Radiologic Technology program. 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. The sequence of courses can also be found at www.nhmccd.edu/catalog.

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 who registers for a medical imaging (RADR) course is required to purchase student liability insurance (subject to rates applicable at the time of registration). Each student is responsible for his/her own transportation to the clinical areas.

Graduates of the Radiologic Technology AAS degree program are eligible to apply for the certification examination in diagnostic medical radiography given by the American Registry of Radiologic Technologists (ARRT); www.arrt.org. Graduates may also apply for Texas State certification through the Texas Department of Health; www.tdh.state.tx.us/hcqs/plc/mrt.htm.

More information on a Radiologic Technology career can be found at the American Society of Radiologic Technologist website: www.asrt.org.

Admission Criteria:
In addition to the general admission requirements of the North Harris Montgomery College District, the following are requirements that must be met in order to apply for admission to the Radiologic Technology AAS program.

1. College entry-level ability in mathematics, English and writing, as defined by North Harris Montgomery Community College District. For further information, contact any of the Student Development offices.

2. A cumulative grade point average (GPA) of at least 2.0 in high school and/or college. If a student has completed more than 24 semester hours of college courses, only the GPA will be considered.

3. Because clinical space is limited, students are admitted on a competitive basis.

4. Those holding ARRT status interested in advanced certificates should contact the director at Cy-Fair College for additional admission information.

5. Applicants who are ARRT certified and have completed a hospital-based training program may apply for placement by prior learning assessment (PLA).

### MEDICAL RADIOLOGIC TECHNOLOGY

**Associate of Applied Science Degree**
(degree offered at Cy-Fair College and Montgomery College)

<table>
<thead>
<tr>
<th>FIRST YEAR</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>First Semester</strong></td>
<td></td>
</tr>
<tr>
<td>BIOL 2401 Anatomy and Physiology I</td>
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<tr>
<td>RADR 1409 Intro to Radiography and Patient Care</td>
<td>4</td>
</tr>
<tr>
<td>RADR 1411 Basic Radiographic Procedures</td>
<td>4</td>
</tr>
<tr>
<td>RADR 1313 Principles of Radiographic Imaging I</td>
<td>3</td>
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<tr>
<td><strong>SEMESTER TOTAL</strong></td>
<td>15</td>
</tr>
<tr>
<td><strong>Second Semester</strong></td>
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</tr>
<tr>
<td>BIOL 2402 Anatomy and Physiology II</td>
<td>4</td>
</tr>
<tr>
<td>MATH 1314 College Algebra</td>
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<tr>
<td>RADR 2401 Intermediate Radiographic Procedures</td>
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<tr>
<td>RADR 1260 Clinical</td>
<td>2</td>
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<tr>
<td>RADR 2305 Principles of Radiographic Imaging</td>
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<td><strong>SEMESTER TOTAL</strong></td>
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<tr>
<td><strong>Third Semester</strong></td>
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<tr>
<td>ENGL 1301 Composition &amp; Rhetoric I</td>
<td>3</td>
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<td>RADR 1261 Clinical</td>
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<td>RADR 2331 Advanced Radiographic Procedures</td>
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<thead>
<tr>
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<th>Credit</th>
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<tbody>
<tr>
<td><strong>First Semester</strong></td>
<td></td>
</tr>
<tr>
<td>ITSC 1401 Intro to Computers</td>
<td>4</td>
</tr>
<tr>
<td>RADR 2313 Radiation Protection and Biology</td>
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</tr>
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<td>RADR 1360 Clinical</td>
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<tr>
<td>RADR 2309 Radiographic Imaging Equipment</td>
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<td><strong>Second Semester</strong></td>
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<tr>
<td>RADR 2360 Clinical</td>
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<tr>
<td>PSYC 2301 General Psychology</td>
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<tr>
<td>HUMA 1301 Intro to Humanities OR</td>
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<td>ARTS 1301 Art Appreciation</td>
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<tr>
<td>RADR 2217 Radiographic Pathology</td>
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<td>SPCH 1 Elective</td>
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### DEGREES AND CERTIFICATES

#### Third Semester

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<tbody>
<tr>
<td>RADR 2335</td>
<td>Radiologic Technology Seminar</td>
<td>3</td>
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<tr>
<td>RADR 2361</td>
<td>Clinical</td>
<td>3</td>
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<td><strong>TOTAL</strong></td>
<td><strong>Radiologic Technology AAS Degree</strong></td>
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1. Meets multicultural requirement
2. Choose from SPCH 1311, 1315, 1318, or 1321
3. Capstone course

#### First Year

##### FIRST SEMESTER

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<thead>
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<th>Course</th>
<th>Description</th>
<th>Credit</th>
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<tbody>
<tr>
<td>RADR 2340</td>
<td>Sectional Anatomy for Medical Imaging</td>
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<tr>
<td>CTMT 2332</td>
<td>Principles of Computed Tomography</td>
<td>3</td>
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<tr>
<td>CTMT 2360</td>
<td>Clinical</td>
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<tr>
<td><strong>TOTAL</strong></td>
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##### SECOND SEMESTER

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<tr>
<td>CTMT 2336</td>
<td>Computed Tomography Equipment and Methodology</td>
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<td>CTMT 1191</td>
<td>Special Topics in CT Technology/Technician</td>
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<td>CTMT 2361</td>
<td>Clinical</td>
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<tr>
<td><strong>TOTAL</strong></td>
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1. Capstone course

#### Second Semester

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<tbody>
<tr>
<td>MRIT 2334</td>
<td>Magnetic Resonance Equipment and Methodology</td>
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<td>MRIT 2361</td>
<td>Clinical</td>
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<tr>
<td><strong>TOTAL</strong></td>
<td><strong>Magnetic Resonance Imaging (MRI) Certificate</strong></td>
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1. Capstone course

### COMPUTED TOMOGRAPHY ADVANCED TECHNICAL CERTIFICATE

(certificate offered at Cy-Fair College)

**FIRST SEMESTER**

<table>
<thead>
<tr>
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<th>Description</th>
<th>Credit</th>
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<tbody>
<tr>
<td>RADR 2340</td>
<td>Sectional Anatomy for Medical Imaging</td>
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<td>Principles of Computed Tomography</td>
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<td>Clinical</td>
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**SECOND SEMESTER**

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<tr>
<td>CTMT 2336</td>
<td>Computed Tomography Equipment and Methodology</td>
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<tr>
<td>CTMT 1191</td>
<td>Special Topics in CT Technology/Technician</td>
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1. Capstone course

### MAGNETIC RESONANCE IMAGING (MRI) ADVANCED TECHNICAL CERTIFICATE

(certificate offered at Cy-Fair College)

**FIRST SEMESTER**

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<td>MRIT 2330</td>
<td>Principles of Magnetic Resonance Imaging</td>
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<td>MRIT 2360</td>
<td>Clinical</td>
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<td>MRIT 2171</td>
<td>Safety Issues and Responsibilities in MRI</td>
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**SECOND SEMESTER**

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<td>Mammography</td>
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<td>MAMT 2360</td>
<td>Clinical</td>
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<tr>
<td>MAMT 2231</td>
<td>Instrumentation Modalities</td>
<td>2</td>
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<tr>
<td><strong>TOTAL</strong></td>
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1. Capstone course

### MAMMOGRAPHY ADVANCED TECHNICAL CERTIFICATE

(certificate offered at Cy-Fair College)

**FIRST SEMESTER**

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<th>Course</th>
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<th>Credit</th>
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<tbody>
<tr>
<td>MAMT 2337</td>
<td>Mammography</td>
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<tr>
<td>MAMT 2360</td>
<td>Clinical</td>
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</tr>
<tr>
<td>MAMT 2231</td>
<td>Instrumentation Modalities</td>
<td>2</td>
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**SECOND SEMESTER**

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<th>Description</th>
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<tbody>
<tr>
<td>MAMT 2371</td>
<td>Quality Assurance Issues in Mammography</td>
<td>3</td>
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<td>MAMT 2361</td>
<td>Clinical</td>
<td>3</td>
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<tr>
<td>MAMT 2233</td>
<td>Anatomy/Positioning &amp; Patient Assessment</td>
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<tr>
<td><strong>TOTAL</strong></td>
<td><strong>Mammography Advanced Technical Certificate</strong></td>
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</tbody>
</table>

1. Capstone course

### MULTIMEDIA DEVELOPMENT

(see Interactive Media)
DEGREES AND CERTIFICATES

NURSING

The North Harris Montgomery Community College District offers a multiple entry/exit program of study in associate degree nursing (ADN) at North Harris College, Montgomery College, and Tomball College. The nursing curriculum offered at these colleges is an integrated design. In an integrated nursing curriculum, both classroom and clinical content are organized around a series of concepts that are incorporated throughout the curriculum. Pending approval, the district will also offer an ADN program with a block curriculum design at Cy-Fair College. In a block nursing curriculum, learning experiences progress from simple to complex and courses are built around stages in the life cycle such as newborn care, adult health, and care of children and families. These programs are designed for those individuals interested in becoming registered nurses. Registered nurses provide nursing care to clients and groups of clients throughout the lifespan in a variety of health care settings. Graduates are prepared as beginning practitioners to determine health care needs, to think and evaluate critically, and to provide direct care or coordinate care for clients.

The ADN program includes general education courses as a foundation for nursing courses. There are three (3) pathways to the associate of applied science (AAS) degree in nursing. Beginning nursing students will pursue a four-semester program, with multiple exit options: nurses aide certificate, vocational nursing certificate ADN to VN Option (54 credit hours), and the AAS degree. Licensed vocational nurses may enter the LVN-to-RN transition pathway and certified paramedics may enroll in the paramedic to RN transition pathway. After completing the required academic courses, the transition pathways include two and one half (2.5) semesters of upper level nursing courses. Upon completion of the AAS degree, nursing graduates are eligible to take the licensure exam to become a registered nurse (RN).

The vocational nursing certificate program is a 46-credit hour certificate program. This is a one-year clinically intensive program, which offers classroom instruction and related clinical practice in nursing care. Supporting coursework is integrated within the nursing courses. The primary role of the graduate of the vocational nursing program is to provide nursing care for clients in a variety of health care settings. Graduates of the program are eligible to take the licensure examination to become a licensed vocational nurse (LVN).

NURSING

Associate of applied science degree, Tech Prep
(degree offered at North Harris College, Tomball College and Montgomery College)

There are three (3) programs of study offered in associate degree nursing. Beginning nursing students are admitted annually to pursue four (4) semesters of nursing courses. The LVN transition course admits only licensed vocational nurses. The paramedic transition course admits only certified paramedics. Special application must be made to these programs in order to be eligible for admission.

General Guidelines

Upon acceptance into the program, students must submit a record of current immunizations required by the Texas Department of Health. The nursing program’s clinical experience requires that students be able to render safe nursing care in the clinical setting based on the instructor’s assessment of the students’ skills.

Completion of the nursing program does not guarantee eligibility to take the state licensure exam. Individuals with histories of felony convictions, mental illness and/or chemical dependency will be considered on an individual basis after review by the State Board of Nurse Examiners. Prospective applicants who question their eligibility are encouraged to discuss their situation with the Board of Nurse Examiners at 512.305.6817 prior to enrollment.

Although the associate degree nursing program is designed to be completed in two (2) years, the majority of students take three (3) to four (4) years to complete the academic and nursing courses. Most students enroll first in the academic courses and then take the nursing courses in four (4) sequential semesters.

Costs for completing the program include tuition and fees for the nursing courses as well as additional expenses for textbooks, uniforms, immunizations, testing fees, clinical equipment and licensure fees. Nursing students also have the responsibility for covering the costs of their physical examinations, required immunizations, CPR certifications and transportation to and from clinical agencies for day and evening learning experiences.

Accreditation information regarding this program is available through the National League for Nursing Accrediting Commission, 61 Broadway, 33rd Floor, New York, NY 10006, phone 212.363.5555 ext. 153.

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Admission Criteria – Basic Track
In addition to the admission requirements of the district, the following are requirements for admission into the associate degree nursing program:

1. Pass TASP or be TASP exempt. To determine your TASP status, see a college advisor.

2. Completion of the following courses with a minimum grade point average of 2.5 or higher: BIOL 2401, ENGL 1301, and PSYC 2301. A grade below a “C” in any course required in the associate degree nursing degree plan will not be accepted.

Note: Biology courses submitted for program credit must be completed no more than five (5) years prior to application to the nursing program. Each biology course may be repeated for a grade change (including a 'W' or "I") only one (1) time during the same five (5) year period.

3. Completion of the standardized nursing pre-entrance reading comprehension and pre-entrance mathematics assessment testing. The cost of this test is the responsibility of the applicant. All prospective students must take the nursing pre-entrance reading and pre-entrance mathematics test.

4. Submission of all transcripts from colleges attended other than NHMCCD.

5. A completed application packet must be submitted to the designated college’s nursing office by the first Monday in March at 4:00 pm.

After the above criteria have been met, applicants are ranked for placement in the nursing program based on GPA, reading and math scores, and total number of credits completed in the ADN degree plan. The admission requirements, selection criteria and application process for the nursing program are presented in regularly scheduled information sessions open to the public.

For more detailed information visit www.nhmccd.edu and select the preferred college’s nursing program.

Admission Criteria – LVN Transition Track
In addition to meeting the admission criteria for the basic track, students who are applying for the LVN transition course must also meet the following admission requirements:

1. Current Texas license as a vocational nurse;

-OR- Graduation from a vocational/practical nursing program within the past five (5) years. Graduates who are more than five (5) years out of school will be counseled and evaluated on an individual basis.

3. Completion of the following prerequisite courses with a minimum grade point average of 2.5 or higher: PSYC 2301, PSYC 2314, BIOL 2401, BIOL 2402, RNSG 1301, and ENGL 1301. Additionally, biology courses must be completed no more than five (5) years prior to application to the nursing program. Each biology course may be repeated only one (1) time during the same five (5) year period.

4. A grade below a “C” in any course required in the associate degree nursing degree plan will not be accepted.

Admission Criteria – Paramedic Track
In addition to meeting the admission criteria for the basic track, students who are applying for the paramedic to RN transition course must also meet the following admission requirements:

1. Current Texas certificate or license as a paramedic;

2. Military applicants with a medical background must submit an American Council of Education (ACE) documentation of an equivalent level of LVN or paramedic.

3. Graduates within the past year must demonstrate a minimum of part time employment in EMS or equivalent military medical experience.

4. Applicants who graduated within the past five (5) to ten (10) years must demonstrate a minimum of 1000 hours of EMS over the past three (3) years or equivalent military medical experience.

5. Applicants with more than ten (10) years since their graduations will be evaluated on an individual basis.

6. Completion of the following prerequisite courses with a minimum grade point average of 2.5 or higher: PSYC 2301, PSYC 2314, BIOL 2401, BIOL 2402, RNSG 1301, and ENGL 1301. Additionally, biology courses must be completed no more than five (5) years prior to application to the nursing program. Each biology course may be repeated only one (1) time during the same five (5) year period.

7. A grade below a “C” in any course required in the associate degree nursing degree plan will not be accepted.
DEGREES AND CERTIFICATES

Additional Guidelines
Special consideration will be given to continuing NHMCCD nursing or paramedic students. These applications will be evaluated and priority admission may be granted.

No waiting list for admission to the program is kept. Applicants who are not admitted must reapply.

Progression Requirements
To remain in good standing and progress within the ADN curriculum, students must:

1. Maintain a cumulative grade point of 2.0, and
2. Attain a grade of “C” or better in each nursing and general education course designated in the nursing degree plan.
3. Students must successfully complete all concurrent nursing courses to advance to the next level.

Testing Requirements
Students are required to take nationally-normed tests throughout the curriculum and to make satisfactory scores on each test. Additionally, in the last semester of the curriculum, students must achieve a satisfactory exit exam score in RNSG 2272 in order to pass the course and graduate from the program.

Students scoring less than a satisfactory score are required to complete prescribed remediation and retesting. Students receive an “I” (incomplete) grade in RNSG 2272 until the exit exam is passed. Students have until the end of the next long semester to remediate and pass the exam. Failure to pass the test during this time frame will result in failure of the course. All costs for the exams and remediation are the student's responsibility.

Grading Policy
A student must pass all concurrent nursing courses with a grade of “C” or better in a single semester to progress to the next semester. A student who fails or withdraws from one or more concurrent courses must successfully repeat all concurrent nursing courses in the readmitted semester. A student must meet with the Nursing Readmission Committee to request readmission to the nursing program. Readmission is not automatic; it is based on remediation of problem areas and space available in the class. Students may only be readmitted to the program one time. If readmitted, the student must enroll in all concurrent courses.

Readmission Policy
A student who withdraws from the associate degree nursing program is eligible for readmission only one (1) time, however readmission is not automatically granted. Students who wish to be readmitted must interview with the program’s Readmission Committee. At this interview the student is asked to provide an action plan for improvement of academic and/or clinical performance. The committee will then decide if readmission is advisable.

This policy does not apply to students who are unable to successfully complete the Nursing I courses. These students must reapply to the nursing program and comply with current admission criteria. The policy also does not apply to students in the LVN or Paramedic Transition tracks who are unsuccessful in RNSG 1327, RNSG 1160, RNSG 1417, RNSG 1260 or RNSG 1140. These students must reapply to the generic program.

Readmission into the nursing program must occur within three (3) years of non-completion of the nursing program. After that time, previously completed work will have to be repeated. Exceptions to the above readmission policy may be granted by the ADN Readmission Committee. Readmission is on a space-available basis.

VOCATIONAL NURSING CERTIFICATE

The vocational nursing program is a three (3) semester, forty-six (46) credit hour certificate program. It is a full-time, daytime course of study, which includes summer classes. Students are generally in class all day from Monday through Friday except for holidays and breaks recognized by the college. The program is fully approved by the Texas Board of Vocational Nurse Examiners.

The program is based on principles from the sciences, math, psychology, sociology and education. Learning activities occur in the classroom, skills/computer labs, library, clinical facilities and other selected sites. During the year, students are assigned to a variety of health care facilities in the metropolitan Houston area in order to meet course objectives. Students are admitted each fall and spring. Detailed information regarding the application and selection process is available by calling Kingwood College at 281.312.1683, Montgomery College at 936.273.7030, and Tomball College at 281.357.3695

Students are required to take nationally-normed tests throughout the curriculum and to make satisfactory scores on each test. In the last semester of the curriculum, students must achieve a satisfactory exit exam score in VNSG 1219 in order to pass the course and graduate from the program. Students scoring less than a satisfactory score will be required...
DEGREES AND CERTIFICATES

to complete remediation and retesting. The student will receive an incomplete “I” grade in VNSG 1219 until the exit exam is successfully passed. The student will have until the end of the next long semester to remediate and pass the exam. Failure to pass the test during this timeframe will result in failure of the course. Costs for the exams and the remediation are the student’s responsibility. Upon completion of the vocational nursing certificate, graduates are eligible to take the licensure examination to become a licensed vocational nurse (LVN).

Vocational Nursing Admission Criteria
In addition to the district admission requirements, the following are required for the vocational nursing program:

1. Graduation from high school verified by an official, hard copy of transcript or GED certificate.
2. Submission of a vocational nursing program application to the nursing office at the college of your first choice.
3. Submission of official transcripts of all colleges attended outside of NHMCCD to the college admission office.
4. Meet with a counselor or advisor to determine TASP status. Applicants must meet TASP requirements prior to applying to the nursing program. Applicants who are TASP exempt must take the Asset or Compass reading, writing and math placement tests. Scores on this test must be the equivalent of passing scores on TASP to be eligible for the VN program.
5. Maintain a minimum grade point average in college level courses of 2.0 or better.

Additional Guidelines

1. Students who have completed Human Anatomy & Physiology I & II Microbiology, and Nutrition within the past 5 years may petition for exemption from VNSG 1405 Health Science.
2. Transfer requests for those who have completed nursing coursework (within two (2) semesters of inquiry) at other colleges are evaluated individually and acceptances are based on program space availability.

Qualified applicants are admitted on a space available basis and are ranked for placement in the class based on their entrance test scores, grade point averages in college level courses (if applicable), or grade point average in high school courses (if within three (3) years of graduation), and completion of one (1) or more college level science courses (Anatomy & Physiology I and II, Microbiology, and Nutrition) with a “C” or better.

After notification of acceptance into the program students must:

1. Attend an orientation session. Date of session will be included in admission notification.
2. Submit a physical examination including laboratory reports and immunization records completed no more than two (2) months prior to starting class and no later than one (1) month after class begins.
3. Submit a current CPR for healthcare providers certificate.

VOCATIONAL NURSING CERTIFICATE
(certificate offered at Cy-Fair College, Kingwood College, Montgomery College, and Tomball College)
TASP Required

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**TOTAL Credit Hours for Vocational Nursing Certificate** 46

1 Capstone course
## DEGREES AND CERTIFICATES

### NURSING SPECIALIZATION  
(INTERNATIONAL CURRICULUM)

**Associate of applied science degree nursing**  
(specialization offered at North Harris College and Tomball College)

#### FIRST YEAR

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**TOTAL Credit Hours for Nursing Specialization**  
1 72

1 Meets multicultural requirement
2 Capstone course

### LVN TO RN TRANSITION SPECIALIZATION  
(INTERNATIONAL CURRICULUM)

**Associate of applied science degree**  
(specialization offered at North Harris College, Montgomery College and Tomball College)

NHMCDD recognizes the previous education and work experience of the LVN and will grant 14 advanced placement credits in the A.D.N. degree plan.

#### Prerequisite Semesters

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**SECOND YEAR**

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**TOTAL Credit Hours for Nursing Specialization**  
1 72

1 Meets multicultural requirement
2 Capstone course
### DEGREES AND CERTIFICATES

#### SECOND YEAR

**FIRST YEAR**

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### PARAMEDIC TO RN TRANSITION SPECIALIZATION (INTEGRATED CURRICULUM)

**Associate of applied science degree**  
(specialization offered at North Harris College)

NHMCCD recognizes the previous education and work experience of the paramedic and will grant 12 hours advanced placement credits in the paramedic to RN degree plan.

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<td>RNSG 1523</td>
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#### FIRST YEAR

**FIRST SEMESTER**

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<tr>
<td>KINE Physical Activity</td>
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<tr>
<td>PSYC 2301 General Psychology</td>
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<tr>
<td>RNSG 1301 Pharmacology</td>
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**SECOND SEMESTER**

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<td>BIOL 2402 Human Anatomy &amp; Physiology II</td>
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<td>PSOC 1301 Principles of Sociology</td>
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<td>SPCH 1311 Interpersonal Communication</td>
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**THIRD SEMESTER**

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<td>BIOL 2420 Microbiology</td>
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<td>RNSG 1140 Nursing Skills for Articulating Students</td>
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### VOCATIONAL NURSING ADN TO VN CERTIFICATE

(certificate offered at North Harris College)  
TASP Required  
Must be enrolled in ADN Program

**FIRST YEAR**

**FIRST SEMESTER**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
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<tbody>
<tr>
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<td>KINE Physical Activity</td>
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**SECOND SEMESTER**

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**SECOND YEAR**

**FIRST SEMESTER**

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<th>Course</th>
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<td>BIOL 2420 Microbiology</td>
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<td>RNSG 1362 Clinical Nursing II</td>
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</table>
DEGREES AND CERTIFICATES

RNSG 2504 Integrated Care of the Client with Common Health Care Needs 5
SEMESTER TOTAL 16

Second Semester

VNSG 1122 Vocational Nursing Concepts 1
VNSG 2362 Clinical - Practical Nurse I 3
VNSG 2363 Clinical - Practical Nurse II 3
SEMESTER TOTAL 7

TOTAL Credit Hours for Vocational Nursing ADN to VN Certificate 54
1 Meets multicultural requirement
2 Capstone course

NURSING ASSISTANT CERTIFICATE
(certificate offered at North Harris College and Tomball College)
TASP Exempt
Must be enrolled in ADN Program

First Semester

BIOL 2401 Human Anatomy & Physiology I 4
ENGL 1301 Composition and Rhetoric I 3
KINE Physical Activity 1
PSYC 2301 General Psychology 3
RNSG 1119 Integrated Nursing Skills I 1
SEMESTER TOTAL 12

Second Semester

BIOL 2402 Human Anatomy & Physiology II 4
PSYC 2314 Lifespan Growth & Development 3
RNSG 1105 Nursing Skills I 1
RNSG 1361 Clinical - Nursing I 3
RNSG 1523 Intro to Professional Nursing 5
SEMESTER TOTAL 16

TOTAL Credit Hours for Nursing Assistant Certificate 28
1 Capstone course

NURSING SPECIALIZATION
PENDING APPROVAL-SUBJECT TO CHANGE
(BLOCK CURRICULUM)

Associate of applied science degree
(degree offered at Cy-Fair College)

FIRST YEAR
First Semester

BIOL 2401 Human Anatomy & Physiology I 4
PSYC 2301 General Psychology 3
ENGL 1301 Composition & Rhetoric I 3
RNSG 1205 Nursing Skills I 2
SEMESTER TOTAL 12

Second Semester

BIOL 2402 Human Anatomy & Physiology II 4
RNSG 1309 Introduction to Nursing 3
RNSG 1341 Principles of Adult Health 3
RNSG 1261 Clinical: Principles of Adult Health 2
RNSG 1215 Health Assessment 2
SOCI 1301 Principles of Sociology 3
SEMESTER TOTAL 17

Third Semester

BIOL 2420 Microbiology 4
RNSG 1443 Complex Concepts of Adult Health 4
RNSG 1262 Clinical: Nursing - RN Training 2
RNSG 1244 Nursing Skills II 2
RNSG 1301 Pharmacology 3
PSYC 2314 Lifespan Growth & Development 3
SEMESTER TOTAL 18

SECOND YEAR
First Semester

RNSG 1146 Legal and Ethical Issues for Nurses 1
RNSG 2213 Mental Health Nursing 2
RNSG 2162 Clinical: Nursing - RN Training 1
SEMESTER TOTAL 4

Second Semester

SPCH 1318 Interpersonal Communication 3
RNSG 2201 Care of Children and Families 2
RNSG 2160 Clinical: Care of Children & Families 1
RNSG 2208 Maternal/Newborn Nursing and Women’s Health 2
RNSG 2261 Clinical: Nursing - RN Training 2
KINE Physical Activity 1
SEMESTER TOTAL 11

Third Semester

Elective Humanities/Fine Arts 3
RNSG 2207 Transition to Nursing Practice 2
RNSG 2331 Advanced Concepts of Adult Health 3
RNSG 2262 Clinical: Nursing - RN Training 2
SEMESTER TOTAL 10

TOTAL Credit Hours for Nursing Specialization Block Curriculum 72
1 Meets multicultural requirement
2 Capstone Course
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. Students will be trained to work with all age groups in a variety of health care settings.

The Tomball and Kingwood College Occupational Therapy Assistant programs are accredited by the Accreditation Council for Occupational Therapy Education (ACOTE) of the American Occupational Therapy Association (AOTA) located at 4720 Montgomery Lane, P.O. Box 31220, Bethesda, MD 20824-1220, 301.652.AOTA.

Graduates will be eligible for the national certification examination administered by the National Board for Certification in Occupational Therapy (NBCOT). After successful completion of this examination, the graduate will be a Certified Occupational Therapy Assistant (COTA). Most states, including Texas, require licensure to practice. Texas licensure is based on successful completion of the NBCOT examination. A felony conviction may affect a graduate’s ability to sit for the NBCOT examination or attain a state license.

The general education core will transfer to a variety of colleges and universities. Contact a counselor, or faculty member at any of the colleges for specific information. To obtain the recommended sequencing of courses, contact either program director at Tomball College or Kingwood College. The sequence of courses can also be found at: www.nhmccd.edu/catalog/.

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 Tomball College or Kingwood College.

Program Admission Criteria include:
• Apply for admission to the occupational therapy assistant department by submitting a formal application and all required official documents to the department. All eligible candidates will be scheduled for a personal interview. Applicants will be notified by mail of their admission status;
• Submit three completed personal reference forms;
• Observation hours may be required, contact the program director for specific information.
• Applicants may be asked to provide a writing sample.

Minimum Academic Requirements Include:
Applicants can meet the academic requirements through ONE of the three following options:

Option 1 (Test scores that show college level skills such as):
TASP scores of Reading 230, Writing 220, and Math 270. Other test scores may be substituted in place of TASP scores such as SAT, ACT, ASSET and Compass scores. Please inquire with the program director regarding any substitutions.

Option 2 (Course Completion):
Complete a minimum of seven semester college credit hours including the following courses (within the past seven years) with a grade point average (GPA) of 2.0 with no grade below a C.

a. BIOL 2401: Human Anatomy & Physiology I OR
   BIOL 2402: Human Anatomy & Physiology II
b. ENGL 1301: Composition & Rhetoric I

Applicants may also substitute other completed courses such as psychology, history, etc. Contact the program director for verification of any substitutions.

Option 3 (A combination of testing and coursework):
Applicants may combine test scores with course completion. For example, completion of ENGL 1301 with a Math score of 46 on the ASSET would be an acceptable combination. Contact the program director for specific questions regarding the combining of scores and coursework.
DEGREES AND CERTIFICATES

Upon admission to the program students must have:
- Physical examination completed by a licensed physician;
- Verification of updated immunization record;
- Student liability insurance prior to enrolling in Level I Fieldwork
- Certificate of completion of CPR prior to Level II Fieldwork

Incomplete applications will not receive a department review. Each applicant is responsible for contacting the OTA department to confirm whether their application is complete. Applicants to the program will be ranked according to their level of achievement of the program admission criteria and will be accepted into the program on a competitive basis. Applicants who are not accepted for admission in the year in which they apply may submit a letter to the director of the occupational therapy assistant program requesting that their application be reconsidered for the following year. Students must complete Level II fieldwork assignments within 18 months following completion of academic preparation. Additional information can be obtained from the occupational therapy assistant department at Tomball College and Kingwood College.

OCCUPATIONAL THERAPY ASSISTANT

Associate of Applied Science Degree, Tech Prep
(degree offered at Kingwood College and Tomball College)

FIRST YEAR

<table>
<thead>
<tr>
<th>Semester</th>
<th>Credit</th>
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<tbody>
<tr>
<td>First Semester</td>
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<tr>
<td>BIOL 2401 Human Anatomy &amp; Physiology I</td>
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<tr>
<td>ENGL 1301 Composition and Rhetoric I</td>
<td>3</td>
</tr>
<tr>
<td>OTHA 1301 Intro to Occupational Therapy</td>
<td>3</td>
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<tr>
<td>OTHA 1315 Therapeutic Media I in OT</td>
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<tr>
<td>PSYC 2301 General Psychology</td>
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<td><strong>SEMESTER TOTAL</strong></td>
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<tr>
<td>Second Semester</td>
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<tr>
<td>BIOL 2402 Human Anatomy &amp; Physiology II</td>
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<tr>
<td>OTHA 1309 Human Structure &amp; Function in OT</td>
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<td>OTHA 2301 Pathophysiology in OT</td>
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<td>OTHA 2331 Physical Function in OT</td>
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SECOND YEAR

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<tr>
<td>Elective 1 Humanities/Fine Arts</td>
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<td>OTHA 1341 Life Skills Performance of Childhood in Occup. Therapy</td>
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<td>OTHA 1353 Life Span for Geriatrics</td>
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<td>OTHA 2335 Management in Occup. Therapy</td>
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<td>SPCH 1318 Interpersonal Communications</td>
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<td>OTHA 22460 Clinical</td>
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**TOTAL Credit Hours for AAS Degree** 65

1 Combination of these courses meet multicultural requirement
2 Capstone course
PARALEGAL STUDIES

Degrees and certificates in paralegal studies are available for students wishing to pursue a professional career as a paralegal/legal assistant. The goal of the program is to prepare students to perform effectively in a variety of legal settings and to adapt readily to changes in the legal environment. The program offers a two-year associate of applied science degree and a one-year certificate in paralegal studies.

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. The program offers a faculty of experienced paralegal professionals and attorneys, and an extensive law library with Westlaw Computer Assisted Research on campus.

For students enrolled fulltime 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. Contact a counselor or paralegal studies faculty member at North Harris College for more information. Find us on the Web at: www.nhmccd.edu/students/academics/info/divisions.

PARALEGAL STUDIES CERTIFICATE
(certificate offered at North Harris College)
TASP Exempt

Admission to this program is limited to students who have already earned an associate or a baccalaureate degree from an accredited college or university. Students without a prior degree who wish to pursue Paralegal Studies must matriculate under the AAS.

FIRST YEAR

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<th>First Semester</th>
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<td>Legal Ethics &amp; Prof. Responsibility</td>
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<td>Legal Research</td>
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<td>LGLA 1307</td>
<td>Intro to Law &amp; Legal Professions</td>
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<td>LGLA 2303</td>
<td>Torts &amp; Personal Injury Law</td>
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<td>LGLA 2370</td>
<td>Rules of Civil Procedure</td>
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Second Semester

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SECOND YEAR

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<td>LGLA 2370</td>
<td>Rules of Civil Procedure</td>
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<td>LGLA 2303</td>
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Second Semester

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<td>TOTAL Credit Hours for AAS Degree</td>
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1. Capstone course.
2. See general education requirements listing in catalog. Select one course to meet multicultural requirement.
3. LGLA 1323, 1341, 1349, 1359, 1371, 2301, 2311, 2315
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 program is a two-semester cohort certificate program that provides an excellent introduction to the pharmacy profession. Students interested in ultimately becoming pharmacists can benefit from the knowledge gained in the classroom and internship experiences. Program credit hours will not transfer into a professional sequence of pharmacy school.

The pharmacy technology program prepares graduates to sit for the National Pharmacy Technician Certification Examination, administered by the Pharmacy Technician Certification Board, to become a certified pharmacy technician (CPhT). As of Jan. 1, 2001, pharmacy technicians in the state of Texas were required to be certified. Those technicians not certified are restricted on duties and must be certified by examination within the year allotted.

Admission Criteria:
Applicants must meet the program admission criteria and submit all documentation to the pharmacy technology office at North Harris College.

Program Admission Criteria include:
1. Apply for admission to program.
2. Include official documentation of college-level reading, writing, and math by:
   a. submitting previous college transcripts,
   b. submitting COMPASS, TASP, or ASSET scores,
   c. taking a free assessment test (i.e. COMPASS) for reading, writing, and math at any campus assessment center.
3. All eligible candidates will be scheduled for a personal interview with the program director. Applicants will be notified by mail of the admission status.
4. Receive a high school diploma or GED before applying to the program
5. Have never been convicted of a felony.

Upon Admission to the program students must have:
1. Recent verification of physical examination completed by a licensed physician
2. Verification of updated immunization record
3. Student liability insurance
4. Long-sleeve, short-length white lab jacket and program patch
5. Certificate of completion of CPR prior to the first internship assignment.

Incomplete applications will not receive a complete department 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 North Harris College.

PHARMACY TECHNOLOGY CERTIFICATE
(certificate offered at North Harris College)

TASP Exempt

FIRST YEAR

<table>
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<tr>
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<td>PHRA 1102 Pharmacy Law</td>
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<tr>
<td>PHRA 1305 Drug Classification</td>
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<td>PHRA 1309 Pharmaceutical Mathematics</td>
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<td>PHRA 1361 Clinical - Community Pharmacy</td>
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<td>PHRA 1413 Community Pharmacy Practice</td>
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<table>
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<tr>
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<td>PHRA 1143 Pharm Tech Certification Review</td>
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<tr>
<td>PHRA 1304 Pharmacotherapy &amp; Disease Proc.</td>
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<tr>
<td>PHRA 1345 Intravenous Admixture &amp; Sterile Compounding</td>
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<tr>
<td>PHRA 1347 Pharmaceutical Mathematics II</td>
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<td>PHRA 1449 Institutional Pharmacy Practice</td>
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<td>SEMESTER TOTAL</td>
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</tr>
</tbody>
</table>

TOTAL CREDIT HOURS FOR PHARMACY TECHNOLOGY CERTIFICATE 31

1 Capstone course
PHYSICAL THERAPIST ASSISTANT

The course of study for a physical therapist assistant (PTA) is a two-year program, leading to an associate of applied Science degree. One class is accepted each year into the PTA program, which starts in the fall semester. The six-semester program includes two summer semesters for a total of 69 credit hours. The program is designed to prepare skilled health care workers to perform treatment under the direction of a licensed physical therapist and includes didactic learning, skill development in the lab and clinical training. The treatments include thermal and electrical modalities, rehabilitation techniques, therapeutic exercise and patient and family teaching. Graduates are prepared for employment as PTA’s in acute care hospitals, rehabilitation centers, outpatient clinics, school systems, home health agencies and other places physical therapy is practiced. On completion of the program, graduates must pass the licensing exam administered by the Texas State Board of Physical Therapy Examiners in order to practice.

The general education core will transfer to a variety of colleges and universities. For more specific information and to obtain the recommended sequencing of courses, contact the program director or a college counselor. The sequence of courses can also be found at www.nhmccd.edu/catalog/.

Admission Criteria:
In addition to the general admission requirements of the North Harris Montgomery Community College District, the following are requirements that must be met in order to apply for admission to the PTA program:

1. College entry level ability in mathematics and English, as required by the North Harris Montgomery Community College District. For further information, contact any of the Student Development offices.

2. A cumulative grade point average (GPA) of at least 2.0 in high school and/or college. If the student has completed more than 24 semester hours of college courses, only the college GPA will be considered.

3. Must have completed at least 40 hours of exposure to the field under the direction of a licensed physical therapist or physical therapist assistant. This requirement may be met by work, volunteer or observation experience.

It is recommended that students complete as many of the general education core courses as possible prior to application to the PTA program. BIOL 2401, Human Anatomy & Physiology I, and PTHA 1201, The Profession of Physical Therapy, must be completed with grades of “C” or better prior to admission into the program. Additionally, BIOL 2401 must be completed within the last 7 years.

Applications for admission will be received during the spring semester before the program starts. Because there are usually more students applying than can be admitted to the program, the applicants who will be admitted are most likely to be those who:

1. have completed a number of the general education core courses in the degree plan and

2. have the highest grades in these courses;

3. may have taken additional science courses or other courses that may enhance their performance in the program or the field;

4. receive a higher score based on the recommendation form from their supervising physical therapist or physical therapist assistant;

5. have additional language skills, specifically signing, Spanish, Chinese, or Vietnamese.

Applicants to the program will be ranked according to their admission score based on the above criteria. The top-ranking applicants will be invited for an interview. The scores from these interviews will be incorporated with the applicants’ previous rankings and the highest scoring applicants will be offered a place in the program. The remaining applicants will be placed on a stand-by list should someone not accept their place.

In order to practice as a physical therapist assistant (PTA), a person must be licensed by the Texas Board of Physical Therapy Examiners. To take the PTA licensing exam, a person must be a graduate of a PTA educational program which is accredited by the Commission on Accreditation in Physical Therapy Education. The PTA program at Montgomery College is accredited by the Commission on Accreditation in Physical Therapy Education.

DEGREES AND CERTIFICATES

PHYSICAL THERAPIST ASSISTANT

Associate of applied Sscience degree
(degree offered at Montgomery College)

PREREQUISITES

First Semester

<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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<tr>
<td>PTHA 1201 The Profession of Physical Therapy</td>
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<tr>
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FIRST YEAR

First Semester

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<tr>
<td>ENGL 1301 Composition &amp; Rhetoric I</td>
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<td>PTHA 2201 Assessment Skills</td>
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<td>PTHA 1413 Functional Anatomy</td>
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<td>PTHA 1431 Physical Agents</td>
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<td>PTHA 2435 Rehabilitation Techniques</td>
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Third Semester

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<td>PTHA 1217 Issues in Health Care</td>
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<td>PTHA 1291 Special Topics in Physical Therapy</td>
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SECOND YEAR

First Semester

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<td>MATH 1324 Finite Mathematics</td>
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<td>PHIL 2306 Introduction to Ethics</td>
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<td>PSYC 2314 Lifespan Growth &amp; Development</td>
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Third Semester

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<tr>
<td>PTHA 2361 Clinical (2nd 6 weeks)</td>
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<td><strong>TOTAL Credit Hours for AAS Degree</strong></td>
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1 Capstone course

2 Combination of courses meet multicultural requirement

PROFESSIONAL OFFICE TECHNOLOGY

The professional office technology associate of applied science degree, tech prep program includes the knowledge, skills, and attitudes necessary to succeed in the business world. Topics cover time management, human relations, filing procedures, telephone and listening techniques, inventory management, and oral and written business communications. Computer skills include not only word processing and spreadsheets, but also database, presentation, and telecommunication applications.

The professional office technology associate of applied science degree, tech prep is awarded for successful completion of 63-67 credit hours. There are two specializations as options for the professional office technology associate of applied science degree: legal office specialization and medical office specialization. Both options have multiple exit points for less comprehensive programs. The legal office specialization of the professional office technology associate of applied science degree offers several exit points: legal office receptionist certificate, legal secretary certificate, and legal assistant administrative certificate. The medical office specialization of the professional office technology associate of applied science degree offers several exit points: medical office receptionist certificate, medical office specialist certificate, and medical Administrative assistant certificate. A one semester bilingual office specialist is also offered.

A wide variety of job opportunities are available to graduates. Some include bilingual office receptionist, medical office receptionist, medical secretary, medical administrative assistant, legal office receptionist, legal secretary, and legal office administrator.

The general education core will transfer to a variety of colleges and universities. Students may have earned some college credit while in high school through articulation if they enroll within one year of graduation. Contact a high school program administrator or a counselor or faculty member at any college for specific information and to obtain the recommended sequencing of courses. The sequence of courses can also be found at www.nhmccd.edu/catalog/.
DEGREES AND CERTIFICATES

BILINGUAL OFFICE SPECIALIST 
CERTIFICATE  
(certificate offered at Cy-Fair College, 
Kingwood College, Montgomery College, 
North Harris College and Tomball College)  
TASP Exempt

FIRST YEAR  
First Semester  Credit     
ITSC      1401 Introduction to Computers  4  
POFT      1309 Administrative Office Procedures I  3  
POFT      1325 Bus. Math & Machine Applications  3  
POFT      1329 Keyboarding & Doc. Formatting OR  3  
ITSW      1301 Intro to Word Processing  3  
POFT      1371 Bilingual Business Writing  3  
TOTAL Credit Hours for Bilingual Office Specialist Certificate  16

1 Capstone course

COMPUTER OFFICE RECEPTIONIST  
CERTIFICATE  
(certificate offered at Kingwood College, Montgomery College, North Harris College and Tomball College)  
TASP Exempt

FIRST YEAR  
First Semester  Credit     
ITSW      1301 Word Processing OR  3  
POFT      1329 Keyboarding & Doc. Formatting  3  
COSC      1401 Introduction to Computers  4  
ITSC      1401 Introduction to Computers OR  4  
POFT      1309 Administrative Office Procedures  3  
TOTAL Credit Hours for Computer Office Receptionist Certificate  10

1 Capstone course

MEDICAL OFFICE SPECIALIST  
CERTIFICATE  
(certificate offered at Cy-Fair College, Kingwood College, Montgomery College, North Harris College and Tomball College)  
TASP Exempt

FIRST YEAR  
First Semester  Credit     
POFT      1329 Keyboarding & Doc. Formatting  3  
POFM      1309 Medical Office Procedures  3  
POFM      1313 Medical Terminology I  3  
POFT      1301 Business English  3  

TOTAL Credit Hours for Medical Office Receptionist Certificate  16

MEDICAL OFFICE SPECIALIST  
CERTIFICATE  
(certificate offered at Cy-Fair College, Kingwood College, Montgomery College, North Harris College and Tomball College)  
TASP Exempt

FIRST YEAR  
First Semester  Credit     
POFT      1329 Keyboarding & Doc. Formatting  3  
POFM      1309 Medical Office Procedures  3  
POFM      1313 Medical Terminology I  3  
POFT      1301 Business English  3  

TOTAL Credit Hours for Medical Office Specialist Certificate  16

1 Capstone course

1 Capstone course

MEDICAL ADMINISTRATIVE ASSISTANT SPECIALIST CERTIFICATE  
(certificate offered at Kingwood College, Montgomery College, North Harris College and Tomball College)  
TASP Required

FIRST YEAR  
First Semester  Credit     
POFM      1309 Medical Office Procedures  3  
POFM      1313 Medical Terminology I  3  
POFT      1301 Business English  3  

TOTAL Credit Hours for Medical Office Specialist Certificate  31-32
DEGREES AND CERTIFICATES

POFT 1329 Keyboarding & Doc. Formatting OR 3
ITSW 1301 Intro to Word Processing
ITSC 1401 Introduction to Computers OR 4
COSC 1401 Introduction to Computers SEMESTER TOTAL 16

Second Semester Credit
BIOL 2401 Human Anatomy & Physiology OR 3-4
POFM 2323 Medical Terminology II
POFM 1327 Medical Insurance
POFM 1331 Medical Transcription I OR 3
POFM 1353 Medical Coding
POFM 2380 Cooperative Education OR 3
POFM 2386 Internship OR
POFT 2331 Administrative Systems
POFT 1325 Bus. Math & Machine Applications 3
SEMESTER TOTAL 15-16

SECOND YEAR

First Semester Credit
ACNT 1303 Introduction to Accounting I 3
ENGL 1301 Composition & Rhetoric I 3
ITSW 1404 Introduction to Spreadsheets 4
POFT 2301 Doc. Format & Skillbuilding OR Elective¹ Technical 3-4
POFM 2380 Cooperative Education OR
POFM 2381 Cooperative Education OR
POFT 2331 Administrative Systems 3
SEMESTER TOTAL 16-17

Second Semester Credit
ITSC¹ 2331 Integrated Software Applic. III 3
KINE Physical Activity 1
Elective Math/Natural Science 3-4
Elective¹ Humanities/Fine Arts 3
Elective Social/Behavioral Science 3
SPCH 1311 Intro to Speech Communications OR 3
SPCH 1318 Interpersonal Communications OR
SPCH 1321 Business Speech 3
SEMESTER TOTAL 16-17

TOTAL Credit Hours for Medical Office Specialization 63-66

¹ Capstone course
² Technical electives include POFT, POFM, POFL, ACNT, BMGT, BUSG, CPMT, GRPH, HRPO, IBUS, IMED, ITNW, ITSC, ITSE, I TSW, or departmental approval.
³ To meet the multicultural component for the AAS degree, choose from these courses: ARTS 1301, HUMA 1301, PHIL 1304.

MEDICAL OFFICE SPECIALIZATION

Associate of Applied Science Degree, Tech Prep
(specialization offered at Kingwood College, Montgomery College, North Harris College and Tomball College)

FIRST YEAR

First Semester Credit
ITSC 1401 Introduction to Computers OR 4
COSC 1401 Introduction to Computers
ITSW 1301 Intro to Word Processing OR 3
POFT 1329 Keyboarding & Doc. Formatting
POFT 1301 Business English
POFT 1309 Medical Office Procedures
POFM 1313 Medical Terminology I 3
SEMESTER TOTAL 16
### Legal Office Receptionist Certificate

*(certificate offered at Kingwood College and Montgomery College)*

**TASP Exempt**

**First Year**

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit</th>
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<td>POFL 1303</td>
<td>Legal Office Procedures</td>
<td>3</td>
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<td></td>
<td>POFL 1371</td>
<td>Legal Terminology/Transcription</td>
<td>3</td>
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<tr>
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<td>POFT 1301</td>
<td>Business English</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>POFT 1329</td>
<td>Keyboarding &amp; Doc. Formatting OR</td>
<td>3</td>
</tr>
<tr>
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<td>ITSW 1301</td>
<td>Intro to Word Processing</td>
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<tr>
<td></td>
<td>ITSC 1401</td>
<td>Introduction to Computers OR</td>
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</tr>
</tbody>
</table>

Total Credit Hours for Legal Office Receptionist Certificate: 16

1 Capstone course

### Legal Secretary Certificate

*(certificate offered at Kingwood College and Montgomery College)*

**TASP Exempt**

**First Year**

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<thead>
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<th>Semester</th>
<th>Course Code</th>
<th>Course Title</th>
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<td>POFL 1303</td>
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<td>POFT 1329</td>
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<td>ITSC 1401</td>
<td>Introduction to Computers OR</td>
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Total Credit Hours for Legal Secretary Certificate: 16

### Legal Assistant Administrative Certificate

*(certificate offered at Kingwood College and Montgomery College)*

**TASP Required**

**First Year**

<table>
<thead>
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<th>Semester</th>
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<th>Course Title</th>
<th>Credit</th>
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</thead>
<tbody>
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<td>First Semester</td>
<td>POFL 1303</td>
<td>Legal Office Procedures</td>
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<tr>
<td></td>
<td>POFL 1371</td>
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<td>POFT 1301</td>
<td>Business English</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>POFT 1329</td>
<td>Keyboarding &amp; Doc. Formatting OR</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>ITSW 1301</td>
<td>Intro to Word Processing</td>
<td>3</td>
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<tr>
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<td>ITSC 1401</td>
<td>Introduction to Computers OR</td>
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Total Credit Hours for Legal Assistant Administrative Certificate: 47

1 Capstone course

2 Technical electives include POFT, POFM, POFL, ACNT, BUSG, IBUS, or departmental approval.
DEGREES AND CERTIFICATES

LEGAL SPECIALIZATION
Associate of applied science degree, Tech Prep
(specialization offered at Kingwood College and Montgomery College)

FIRST YEAR
First Semester Credit
ITSC 1401 Introduction to Computers OR 4
COSC 1401 Introduction to Computers
ITSW 1301 Intro to Word Processing OR
POFT 1329 Keyboarding & Document Formatting 3
POFL 1303 Legal Office Procedures 3
POFT 1301 Business English 3
POFL 1371 Legal Terminology/Transcription 3
SEMESTER TOTAL 16

Second Semester Credit
ACNT 1303 Introduction to Accounting I 3
POFL 2301 Legal Document Processing 3
POFL 2305 Legal Research 3
POFL 2380 Cooperative Education OR 3
POFT 2331 Administrative Systems
SPCH 1311 Intro to Speech Communications OR
SPCH 1318 Interpersonal Communications OR
SPCH 1321 Business Speech 3
SEMESTER TOTAL 15

SECOND YEAR
First Semester Credit
BUSI 2301 Business Law OR 3
Elective Technical
ENGL 1301 Composition & Rhetoric I 3
ITSC 1404 Introduction to Spreadsheets 4
POFL 2380 Cooperative Education OR 3
POFT 2331 Administrative Systems OR 3
POFT 2381 Cooperative Education
POFT 2301 Doc. Format & Skillbuilding OR 3
Elective Technical
SEMESTER TOTAL 16

Second Semester Credit
Elective Humanities/Fine Arts 3
Elective Math/Natural Science 3-4
Elective Social/Behavioral Science 3
ITSC 2331 Integrated Applications III 3
ITSW 1407 Introduction to Databases 4
KINE Physical Activity 1
SEMESTER TOTAL 17-18

TOTAL Credit Hours for Legal Specialization 64-65

RADIOLoGIC TECHNOLOGY
(see Medical Radiologic Technology)

RESPIRATORY CARE
The course of study for a respiratory therapist is a 72-credit-hour (six semesters) associate of applied science degree program. The respiratory therapist program prepares graduates for the credentialing examinations from the NBRC (National Board for Respiratory Care). The program is fully accredited by the CAAHEP (Committee on Accreditation of Allied Health Education Programs) through the COARC (Committee on Accreditation for Respiratory Care). 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 providing emergency cardiopulmonary care in the emergency room, and to implement therapist driven protocols in the practice of respiratory care. 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. The sequence of courses can also be found at www.nhmccd.edu/catalog/.

Admissions Criteria:
The respiratory care program begins in the spring semester. Completion is in the fall semester of the second year.

In addition to the district admission requirements, the following are requirements for the respiratory therapist program:

Pre-Application:
1. Graduation from high school verified with high school transcript; OR GED certificate verified by a copy of the certificate;
2. Official transcripts from all colleges or universities previously attended;

1 Capstone course
2 POFT, POFM, POFL, ACNT, BUSG, IBUS or departmental approval.
3 To meet the multicultural component for the AAS degree, choose from these courses: ARTS 1301, HUMA 1301, PHIL 1304.
3. ASSET test scores of 41 on reading and 45 on writing, and a score of 15 on the local math test OR the eligibility to enter ENGL 1301 and MATH 0310 by completion of ENGL 0305 and 0307 with a grade of “A” or “B”. Completion of MATH 0308 with a grade of “A” or “B” OR pass the reading section on the TASP. Score a 15 on the local math test OR score a 19 on the reading section and a score of 19 on the math section of the ACT test.

Pre-Admission:
4. Minimum age of 18 for completion of the respiratory care therapist program.
5. MANDATORY attendance at a scheduled orientation session.

Student Selection:
6. Students are ranked and selected on the following criteria by the admissions committee.
   a. Completion of all general academic courses for the respiratory care program.
   b. Completion of BIOL 1406 and any college level Math course.
   c. GPA
   d. Date of application.

7. A physical examination report, with laboratory tests and immunization records signed by a licensed physician within three weeks of the first class day. (Form provided.)

8. CPR course C (offered through the Continuing Education department with a non-credit course or the physical education department with a credit course.)

9. Hepatitis B vaccination is required for all admissions to the respiratory care program. The enrolling student must have begun the series of three vaccines prior to entering the clinical practicum in the hospital setting.

**RESPIRATORY CARE THERAPIST**

**Associate of Applied Science Degree**
(degree offered at Kingwood College)

### FIRST YEAR

<table>
<thead>
<tr>
<th>Semester</th>
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<th>Course Name</th>
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<tbody>
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<td>First Semester</td>
<td>MATH 1314</td>
<td>College Algebra</td>
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<td>RSPT 1166</td>
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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>Respiratory Care Technology I</td>
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### SECOND YEAR

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<td>RSPT 2239</td>
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<td>Composition &amp; Rhetoric I</td>
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<td>RSPT 1141</td>
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<td>Research Application</td>
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TOTAL Credit Hours for AAS Degree 72

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1. Capstone course
2. Select course to meet multicultural requirement.
DEGREES AND CERTIFICATES

VETERINARY TECHNOLOGY

The two-year veterinary technology associate of applied science degree provides the graduate with information, skills and experience they 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 99.7% passage rate on the State and National Board Examination. This success rate is unparalleled in the State of Texas and is rated as the highest passage percentage of the 75 programs accredited by the American Veterinary Medical Association.

Because the veterinary technology program is fully accredited by the American Veterinary Medical Association, students are allowed to 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. Upon graduation the student is free to pursue any type of animal care situation they so desire.

Job opportunities for registered veterinary technician graduates has never been better. Today there are from 8 to 10 jobs available to each graduate just in the immediate Harris 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. Contact a counselor, or faculty member at any of the colleges for specific information and to obtain the recommended sequencing of courses. The sequence of courses can also be found at www.nhmccd.edu/catalog/.

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, English or reading, the student must successfully complete those requirements before registering for the veterinary technology course.

Admission Procedure
In addition to the admission requirements of the NHMCCD district, the following are requirements for admission into the veterinary technology associate of applied science degree veterinary technology program:

1. A standard composite score of 19 or above on the ACT (American College Test);
   OR ten or more academic semester credit hours of courses required in the NHMCCD veterinary technology curriculum plan (excluding KINE). Students must have a 2.5 of better grade point average in these courses;
   OR an earned college degree from a regionally accredited institution.

2. A level of math proficiency consistent with entry into MATH 1322 College Mathematics for Liberal Arts. This criterion must be met prior to enrollment in the first Veterinary Technology course.

3. A level of reading proficiency as demonstrated by passing TASP reading, a score of 41 on the reading section of the ASSET test or a college level score on the reading portion of COMPASS
   OR a score 19 on the reading section of the ACT
   OR a score of 65 on the VA subsection of CELT.

4. Submit a completed veterinary technology application form available in the veterinary technology department or in the admissions office. The veterinary technology admissions application form is also available on the college website at www.tomball.edu.

Program applications are reviewed and evaluated for fall admission on June 15 and July 15 of each year. All applicants will be notified following applicant review dates of their status.

Progression Requirements
There are no specific progression requirements for the veterinary technology program. However, each student is required to take VTHT 1345, VTHT 2323, VTHT 2431, VTHT 1441, and VTHT 1191 within one calendar year of registration for the Veterinary Technology Clinical VTHT 2360. Failure to complete this requirement will necessitate delay of the clinical until requirements can be met.

Registration Examination
Students in veterinary technology at NHMCCD are considered eligible to sit for the State and National Veterinary Technology Board Examinations when they have completed all required course work with the exception of VTHT 2360, Veterinary Technology Clinical.
**VETERINARY TECHNOLOGY**

*Associate of Applied Science Degree*

(degree offered at Tomball College)

**FIRST YEAR***

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 1406 Biology I</td>
<td>4</td>
</tr>
<tr>
<td>ENGL 1301 Composition and Rhetoric I</td>
<td>3</td>
</tr>
<tr>
<td>MATH 1332 College Math for Liberal Arts</td>
<td>3</td>
</tr>
<tr>
<td>VTHT 1205 Vet Medical Terminology</td>
<td>2</td>
</tr>
<tr>
<td>VTHT 1401 Intro to Veterinary Technology</td>
<td>4</td>
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**Second Semester**

<table>
<thead>
<tr>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>SEMESTER TOTAL 16</td>
</tr>
<tr>
<td>CHEM 1405 Introductory Chemistry</td>
</tr>
<tr>
<td>ENGL 1302 Composition and Rhetoric II</td>
</tr>
<tr>
<td>KINE</td>
</tr>
<tr>
<td>PSYC 2301 General Psychology</td>
</tr>
<tr>
<td>VTHT 1209 Veterinary Nutrition</td>
</tr>
<tr>
<td>VTHT 2201 Canine &amp; Feline Clinical Mgmt</td>
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**Third Semester**

<table>
<thead>
<tr>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elective¹ Humanities/Fine Arts 3</td>
</tr>
<tr>
<td>VTHT 1225 Pharmacological Calculations 2</td>
</tr>
<tr>
<td>VTHT 1317 Veterinary Office Management 3</td>
</tr>
<tr>
<td>VTHT 2421 Veterinary Parasitology 4</td>
</tr>
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**SECOND YEAR**

<table>
<thead>
<tr>
<th>Credit</th>
</tr>
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<tbody>
<tr>
<td>SEMESTER TOTAL 12</td>
</tr>
<tr>
<td>VTHT 2313 Lab Animal Management</td>
</tr>
<tr>
<td>VTHT 1413 Veterinary Anatomy &amp; Physiology</td>
</tr>
<tr>
<td>VTHT 2205 Equine Clinical Management</td>
</tr>
<tr>
<td>VTHT 2323 Veterinary Clinical Pathology I</td>
</tr>
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</table>

**Second Semester**

<table>
<thead>
<tr>
<th>Credit</th>
</tr>
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<tbody>
<tr>
<td>SEMESTER TOTAL 12</td>
</tr>
<tr>
<td>VTHT 1191 Special Topics</td>
</tr>
<tr>
<td>VTHT 1345 Veterinary Radiology</td>
</tr>
<tr>
<td>VTHT 1441 Anesthesia &amp; Surgical Assistance</td>
</tr>
<tr>
<td>VTHT 2209 Food Animal Clinical Mgmt</td>
</tr>
<tr>
<td>VTHT 2431 Veterinary Clinical Pathology II</td>
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**Third Semester**

<table>
<thead>
<tr>
<th>Credit</th>
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<tbody>
<tr>
<td>SEMESTER TOTAL 3</td>
</tr>
<tr>
<td>VTHT² 2360 Clinical</td>
</tr>
</tbody>
</table>

**TOTAL Credit Hours for AAS Degree**

72

¹ Course must meet the multicultural requirement
² Capstone course

* First year students should not register for VTHT or any other classes from 8 - 8:50 a.m., MWF or 5 - 5:50 p.m., TTH. These times must be left open for husbandry lab.

**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, FCAW and SAW 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 struc-
tural 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. The sequence of courses can also be found at: www.nhmccd.edu/catalog/.

**WELDING TECHNOLOGY CERTIFICATE**
*(certificate offered at Cy-Fair College and North Harris College) TASP Exempt*

<table>
<thead>
<tr>
<th>FIRST YEAR</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>First Semester</strong></td>
<td></td>
</tr>
<tr>
<td>WLDG 1428 Intro to Shielded Met. Arc Welding</td>
<td>4</td>
</tr>
<tr>
<td>WLDG 1430 Intro to Gas Metal Arc Welding OR</td>
<td>4</td>
</tr>
<tr>
<td>WLDG 1434 Intro to Gas Tungsten Arc Welding</td>
<td>4</td>
</tr>
<tr>
<td><strong>SEMESTER TOTAL</strong></td>
<td><strong>8</strong></td>
</tr>
<tr>
<td><strong>Second Semester</strong></td>
<td></td>
</tr>
<tr>
<td>WLDG 1413 Intro to Blueprint Reading</td>
<td>4</td>
</tr>
<tr>
<td>WLDG 1435 Intro to Pipe Welding</td>
<td>4</td>
</tr>
<tr>
<td>WLDG 1457 Interm. Shielded Met. Arc Welding</td>
<td>4</td>
</tr>
<tr>
<td><strong>SEMESTER TOTAL</strong></td>
<td><strong>12</strong></td>
</tr>
<tr>
<td><strong>Third Semester</strong></td>
<td></td>
</tr>
<tr>
<td>WLDG 2380 Cooperative Education</td>
<td>3</td>
</tr>
<tr>
<td>WLDG 2447 Adv. Gas Metal Arc Welding OR</td>
<td>4</td>
</tr>
<tr>
<td>WLDG 2451 Adv. Gas Tungsten Arc Welding</td>
<td>4</td>
</tr>
<tr>
<td><strong>SEMESTER TOTAL</strong></td>
<td><strong>11</strong></td>
</tr>
<tr>
<td><strong>TOTAL Credit Hours for Welding Technology Certificate</strong></td>
<td><strong>31</strong></td>
</tr>
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1 Capstone course

**WELDING TECHNOLOGY SPECIALIZATION**

**Associate of Applied Science Degree, Tech Prep**
*(degree offered at Cy-Fair College and North Harris College)*

<table>
<thead>
<tr>
<th>FIRST YEAR</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>First Semester</strong></td>
<td></td>
</tr>
<tr>
<td>CHEM 1405 Introductory Chemistry</td>
<td>4</td>
</tr>
<tr>
<td>ENGL 1301 Composition &amp; Rhetoric I</td>
<td>3</td>
</tr>
<tr>
<td>TECM 1303 Technical Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>WLDG 1421 Intro to Welding Fundamentals (TP)</td>
<td>4</td>
</tr>
<tr>
<td>WLDG 1428 Intro to Shielded Metal Arc Weldg</td>
<td>4</td>
</tr>
<tr>
<td><strong>SEMESTER TOTAL</strong></td>
<td><strong>18</strong></td>
</tr>
<tr>
<td><strong>Second Semester</strong></td>
<td></td>
</tr>
<tr>
<td>ITSC 1401 Introduction to Computers (TP)</td>
<td>4</td>
</tr>
<tr>
<td>WLDG 1413 Intro to Blprnt Rdng for Welders</td>
<td>4</td>
</tr>
<tr>
<td>WLDG 1430 Intro to Gas Met. Arc Wldg OR</td>
<td>4</td>
</tr>
<tr>
<td>WLDG 1434 Intro to Gas Tungsten Arc Wldg</td>
<td>4</td>
</tr>
<tr>
<td>WLDG 1457 Interm. Shielded Met. Arc Wldg</td>
<td>4</td>
</tr>
<tr>
<td><strong>SEMESTER TOTAL</strong></td>
<td><strong>16</strong></td>
</tr>
<tr>
<td><strong>Second Semester</strong></td>
<td></td>
</tr>
<tr>
<td>WLDG 1428 Intro to Shielded Met. Arc Welding</td>
<td>4</td>
</tr>
<tr>
<td><strong>SEMESTER TOTAL</strong></td>
<td><strong>16</strong></td>
</tr>
<tr>
<td><strong>TOTAL Credit Hours for Welding Technology Specialization</strong></td>
<td><strong>69-70</strong></td>
</tr>
</tbody>
</table>

1 See college catalog for Associate of Applied Science Degree graduation requirements.  
2 Electives to be selected from the following: WLDG 1417, NDTE 1311; or QCTC 2331.  
3 Meets Multicultural Requirement  
4 A required Capstone experience is completed by taking either WLDG 2380 or the AWS Entry-level Welder Certificate Exam.  
5 Course only offered in Spring Semester.

**INSPECTION CERTIFICATE**
*(certificate offered at North Harris College) TASP Exempt*

<table>
<thead>
<tr>
<th>FIRST YEAR</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>First Semester</strong></td>
<td></td>
</tr>
<tr>
<td>METL 1405 Welding Metallurgy</td>
<td>4</td>
</tr>
<tr>
<td>NDTE 1410 Liq. Penetrant/Mag. Particle Testing</td>
<td>4</td>
</tr>
<tr>
<td>NDTE 1454 Intermediate Ultrasonic Testing</td>
<td>4</td>
</tr>
<tr>
<td>QCTC 1446 Testing &amp; Inspection Systems</td>
<td>4</td>
</tr>
<tr>
<td><strong>SEMESTER TOTAL</strong></td>
<td><strong>16</strong></td>
</tr>
<tr>
<td><strong>Second Semester</strong></td>
<td></td>
</tr>
<tr>
<td>NDTE 1301 Film Interpretation of Weldments</td>
<td>3</td>
</tr>
<tr>
<td>NDTE 2401 Advanced Ultrasonic Testing</td>
<td>4</td>
</tr>
<tr>
<td>QCTC 2331 Standards</td>
<td>3</td>
</tr>
<tr>
<td>NDTE 2311 Prep. for WLDG Inspection</td>
<td>3</td>
</tr>
<tr>
<td>WLDG 1430 Intro to Gas Met. Arc Welding OR</td>
<td>4</td>
</tr>
<tr>
<td><strong>SEMESTER TOTAL</strong></td>
<td><strong>16</strong></td>
</tr>
<tr>
<td><strong>TOTAL Credit Hours for Inspection Certificate</strong></td>
<td><strong>32</strong></td>
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</tbody>
</table>

1 Capstone course
### INSPECTION TECHNOLOGY SPECIALIZATION

**Associate of Applied Science Degree**  
(degree offered at North Harris College)

#### FIRST YEAR

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course</th>
<th>Credit</th>
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<tbody>
<tr>
<td>First Semester</td>
<td>ITSC 1401 Introduction to Computers</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>NDTE 1410 Liq. Penetrant/Mag. Particle Testing</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>QCTC 1446 Testing and Inspection Systems</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>TECM 1303 Technical Mathematics</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td><strong>SEMESTER TOTAL</strong></td>
<td><strong>15</strong></td>
</tr>
<tr>
<td>Second Semester</td>
<td>CHEM 1405 Introductory Chemistry</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>ENGL 1301 Composition &amp; Rhetoric I</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>NDTE 1454 Intermediate Ultrasonic Testing</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>QCTC 2331 Standards</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>NDTE 2311 Prep. for WLDG Inspection</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td><strong>SEMESTER TOTAL</strong></td>
<td><strong>17</strong></td>
</tr>
<tr>
<td>Third Semester</td>
<td>Elective¹ Social/Behavioral Science</td>
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</tr>
<tr>
<td></td>
<td>Elective² Technical/Academic</td>
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<td></td>
<td><strong>SEMESTER TOTAL</strong></td>
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#### SECOND YEAR

<table>
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<tr>
<th>Semester</th>
<th>Course</th>
<th>Credit</th>
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<tbody>
<tr>
<td>First Semester</td>
<td>ENGL 2311 Technical Communications</td>
<td>3</td>
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<tr>
<td></td>
<td>HUMA³ 1301 Introduction to the Humanities</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>METL 1405 Welding Metallurgy</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>NDTE 2401 Advanced Ultrasonic Testing</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>SPCH 1311 Intro to Speech Communications</td>
<td>3</td>
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<td><strong>SEMESTER TOTAL</strong></td>
<td><strong>17</strong></td>
</tr>
<tr>
<td>Second Semester</td>
<td>Elective⁴ Technical/Academic</td>
<td>3-4</td>
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<tr>
<td></td>
<td>NDTE 1301 Film Interpretation of Weldments</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>NDTE 1471 Eddy Current Testing</td>
<td>4</td>
</tr>
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<td></td>
<td>WLDG³ 2380 Cooperative Education</td>
<td>3</td>
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<td></td>
<td><strong>SEMESTER TOTAL</strong></td>
<td><strong>13-14</strong></td>
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<tr>
<td></td>
<td><strong>TOTAL Credit Hours for</strong></td>
<td><strong>68-70</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Inspection Technology Specialization</strong></td>
<td></td>
</tr>
</tbody>
</table>

1. See college catalog for AAS degree requirements.  
2. Free elective from any 3-4 credit hour course.  
4. Approved electives to be selected from any WLDG course, any advanced computer course, or PHIL 2306.  
5. A required Capstone experience is completed by taking either WLDG 2380 or one of the following certification exams awarded by industry:  
   - Senior Welding Inspector (American Welding Society)  
   - Certified Welding Inspector (AWS)  
   - API 510 (American Petroleum Institute)  
   - API 570 (API)  
   - API 653 (API)  
   - Level II or III (ASNT-RP SNT-TC-1A)  
   - Radiographic Interpreter (AWS)  

### METAL ARTS CERTIFICATE

(Certificate offered at Cy-Fair College)  
TASP Exempt

#### FIRST YEAR

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Semester</td>
<td>ARTS 1316 Drawing I</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>WLDG 1405 Art Metals</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>WLDG 1421 Intro to Welding Fundamentals</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td><strong>SEMESTER TOTAL</strong></td>
<td><strong>11</strong></td>
</tr>
<tr>
<td>Second Semester</td>
<td>WLDG 1434 Intro to Gas Tungsten Arc Wldg</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>WLDG¹ 1442 Metal Sculpture</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td><strong>SEMESTER TOTAL</strong></td>
<td><strong>8</strong></td>
</tr>
<tr>
<td></td>
<td><strong>TOTAL Credit Hours for</strong></td>
<td><strong>19</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Metal Arts Certificate</strong></td>
<td></td>
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</table>

1. Capstone course

### METAL SCULPTURE CERTIFICATE

(Certificate offered at Cy-Fair College)  
TASP Exempt

#### FIRST YEAR

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Semester</td>
<td>ARTS 1316 Drawing I</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>WLDG 1405 Art Metals</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>WLDG 1421 Intro to Welding Fundamentals</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td><strong>SEMESTER TOTAL</strong></td>
<td><strong>11</strong></td>
</tr>
<tr>
<td>Second Semester</td>
<td>WLDG 1434 Intro to Gas Tungsten Arc Wldg</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>WLDG 1442 Metal Sculpture</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>ARTS 1311 Design I 2-D</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td><strong>SEMESTER TOTAL</strong></td>
<td><strong>11</strong></td>
</tr>
<tr>
<td></td>
<td><strong>SECOND YEAR</strong></td>
<td></td>
</tr>
<tr>
<td>First Semester</td>
<td>ARTS 1301 Art Appreciation OR</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>ARTS 1303 Art History Survey I OR</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ARTS 1304 Art History Survey II</td>
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</tr>
<tr>
<td></td>
<td>WLDG 2413 Interim Wldg Using Mult Processes</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>WLDG 2433 Metalworking</td>
<td>3</td>
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<tr>
<td></td>
<td>TECM 1303 Tech Math</td>
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<tr>
<td>Second Semester</td>
<td>ARTS 1312 Design II 3-D</td>
<td>3</td>
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<tr>
<td></td>
<td>WLDG 1437 Intro to Metallurgy</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>WLDG 2440 Advanced Art Metal</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>WLDG¹ 2380 Cooperative Education</td>
<td>3</td>
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<tr>
<td></td>
<td><strong>SEMESTER TOTAL</strong></td>
<td><strong>14</strong></td>
</tr>
<tr>
<td></td>
<td><strong>TOTAL Credit Hours for</strong></td>
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</tr>
<tr>
<td></td>
<td><strong>Metal Sculpture Certificate</strong></td>
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</table>

1. Capstone course
The following pages contain the descriptions of all courses offered by NHMCCD. The courses are listed in alphabetical order by department.

The first digit of the course number indicates whether the course is usually taken during the first or second year. The second digit refers to the value of each course in credit hours. The third and fourth digits refer to a sequence within the subject field.

In order to offer a wide spectrum of courses to meet individual interests and needs, certain courses in specialized fields may be offered in alternate years or only at specific colleges. The student should take this into consideration when developing a long-range program. The prerequisites for any course may be waived by the vice president of educational programs and resources. The printed schedule of classes will list the specific offering of courses for each college each semester.

Abbreviations:
hrs. = hours
lec. = lecture
lab. = laboratory
ext. = external learning experience (cooperative, practicum, internship or clinical)

**ACCT 2401 - PRINCIPLES OF ACCOUNTING I**  Credit: 4
Prerequisite: None 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)

**ACCT 2402 - PRINCIPLES OF ACCOUNTING II**  Credit: 4
Prerequisite: ACCT 2401 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)

**ACNT 1303 - INTRODUCTION TO ACCOUNTING I**  Credit: 3
Prerequisite: None 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.

**ACNT 1311 - INTRODUCTION TO COMPUTERIZED ACCOUNTING**  Credit: 3
Prerequisite: ACNT 1303 2 hrs. lec. 3 hrs. lab.
Introduction to utilizing the computer in maintaining accounting records, making management decisions, and processing common business applications with primary emphasis on a general ledger package.
ACNT 1331 - FEDERAL INCOME TAX: INDIVIDUAL Credit: 3
Prerequisite: None 3 hrs. lec.
A study of tax laws currently implemented by the Internal Revenue Service, providing a working knowledge of preparing taxes for the individual. Emphasis is placed on the determination of income, statutory deductions and federal income tax liability for individuals and sole proprietorships.

ACNT 1347 - FEDERAL INCOME TAX: PARTNERSHIPS/CORPORATIONS Credit: 3
Prerequisite: ACNT 1331 3 hrs. lec.
Introduction to the tax laws as currently implemented by the Internal Revenue Service providing a working knowledge of preparing taxes for a partnership, subchapter S, and corporation. Emphasis is placed on the determination of taxable income for partnerships and S corporations and C corporations, as well as on tax research and planning.

ACNT 1382 - COOPERATIVE EDUCATION - ACCOUNTING TECHNICIAN Credit: 3
Prerequisite: Enrollment in Professional 1 hr. lec.
Bookkeeper Certificate Program; 20 hrs. ext. completion of 15 credits in degree plan; approval of coordinator
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.

ACNT 2303 - INTERMEDIATE ACCOUNTING I Credit: 3
Prerequisite: ACCT 2401 2 hrs. lec.
3 hrs. lab.
Critical analysis of generally accepted accounting principles, concepts, and theory underlying the preparation of financial statements. Emphasis on current theory and practice. Primary concern is with asset measurement and income determination.

ACNT 2304 - INTERMEDIATE ACCOUNTING II Credit: 3
Prerequisite: ACNT 2303 2 hrs. lec.
3 hrs. lab.
Continued in-depth analysis of generally accepted accounting principles underlying the preparation of financial statements including comparative analysis and statement of cash flow. Other topics include measuring and reporting liabilities, investments and stockholders’ equity, pensions, leases, earnings per share, revenue recognition alternatives and accounting changes.

ACNT 2309 - COST ACCOUNTING Credit: 3
Prerequisite: ACCT 2402 3 hrs. lec.
A study of budgeting and cost control systems including a detailed study of manufacturing cost accounts and reports, job order costing, and process costing. Includes introduction to alternative costing methods such as activity-based and just-in-time costing. Variance analysis, standard costs, joint and by-product costing will also be discussed.

ACNT 2331 - INTERNAL CONTROL AND AUDITING Credit: 3
Prerequisite: ACNT 2303 3 hrs. lec.
A study of internal control and auditing standards and processing used by internal auditors, managers, and independent public accountants. Emphasizes generally accepted auditing standards for cash, accounts receivable, inventory, prepaids, investments, and other assets and liabilities. Other topics include statistical sampling, vouching and auditors' reports and opinions.

ACNT 2333 - ADVANCED ACCOUNTING Credit: 3
Prerequisite: ACNT 2304 3 hrs. lec.
Methods of measuring and communicating economic information, including consolidated statements, partnerships, real estate, foreign operations, and fund units.

ACNT 2372 - GOVERNMENTAL ACCOUNTING Credit: 3
Prerequisite: ACCT 2402 3 hrs. lec.
This course is designed to meet the objectives of generally accepted accounting principles and practices for fund accounting and reporting. Students will garner information concerning accounting, budgeting, auditing and financial reporting principles and practices for governmental and non-profit entities. The student will prepare budgets and financial statements for governmental and nonprofit organizations.

ACNT 2373 - ACCOUNTING INFORMATION SYSTEMS Credit: 3
Prerequisite: ACCT 2401 and ITSC 1401 3 hrs. lec.
This course is designed to provide students with the basic knowledge of data collection, retrieval, manipulation, filtering and storing of accounting information with EDP systems.
DESCRIPTION OF COURSES

ACNT 2380 - COOPERATIVE EDUCATION Credit: 3
Prerequisite: ACNT 2303; Enrollment in Accounting 1 hr. lec.
AAS Degree program; completion of 20 hrs. ext.
15 credit hours in degree plan.
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.

ACNT 2381 - COOPERATIVE EDUCATION Credit: 3
Prerequisite: ACNT 2380; Enrollment in Accounting 1 hr. lec.
AAS degree program; completion of 20 hrs. ext.
22 credits in degree plan.
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.

AGRI 1131 - THE AGRICULTURE INDUSTRY Credit: 1
Prerequisite: None 1 hr. lec.
Overview of world agriculture, issues, nature of the industry, and resource conservation. To provide insight regarding departmental and college programs and career opportunities in agriculture, and to provide instruction concerning academic skills. (0101035201)

AGRI 1307 - AGRONOMY Credit: 3
Prerequisite: None 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. (0204025101)

AGRI 1309 - COMPUTERS IN AGRICULTURE Credit: 3
Prerequisite: None 2 hrs. lec.
2 hrs. lab.
This course discusses the use of computers in modern agriculture applications. Programming, languages, word processing, electronic spreadsheets, and agriculture software are also covered along with the evaluation of inputs to and outputs from farm and ranch productions. (0101015101)

AGRI 1319 - GENERAL ANIMAL SCIENCE Credit: 3
Prerequisite: None 2 hrs. lec.
2 hrs. lab.
Scientific animal agriculture review. Selection, reproduction, nutrition, genetics, animal breeding, growth and development in beef cattle, sheep, horses, swine, dairy cattle, and poultry. (0202015101)

AGRI 1325 - MARKETING OF AGRICULTURE PRODUCTS Credit: 3
Prerequisite: None 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)

AGRI 2317 - INTRODUCTION TO AGRICULTURE ECONOMICS Credit: 3
Prerequisite: None 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)

AGRI 2321 - LIVESTOCK EVALUATION Credit: 3
Prerequisite: None 2 hrs. lec.
2 hrs. lab.
The course covers the evaluation of slaughter and breeding livestock as related to growth and development, production efficiency, and carcass merit. Production records and visual evaluation are also discussed. (0202015201)

ANTH 2346 - INTRODUCTION TO ANTHROPOLOGY Credit: 3
Prerequisite: None 3 hrs. lec.
The major foci of this course are the survey of basic concepts and data in cultural anthropology and the study of human physical development and their capability for culture and society. Included is an analysis of the culture of prehistoric and existing preliterate people and the impact that modern western culture has had on these preliterate societies. (4502015125)
ARTC 1301 - BASIC ANIMATION Credit: 3
Prerequisite: None 2 hrs. lec.
4 hrs. lab.
Examination of concepts, characters, and storyboards for basic animation production. Emphasis on creating movement and expression utilizing traditional or electronically generated image sequences.

ARTC 1302 - DIGITAL IMAGING I Credit: 3
Prerequisite: None 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.

ARTC 1313 - DIGITAL PUBLISHING I Credit: 3
Prerequisite: ITSC 1401 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.

ARTC 1317 - DESIGN COMMUNICATIONS I Credit: 3
Prerequisite: ITSC 1401 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.

ARTC 1341 - 3-D ANIMATION I Credit: 3
Prerequisite: ARTC 1345 and ARTC 1302 2 hrs. lec.
4 hrs. lab.
Instruction in three-dimensional (3-D) modeling and rendering techniques using lighting, staging, camera, and special effects. Emphasis on (3-D) modeling building blocks using primitives to create simple or complex objects.

ARTC 1345 - 3-D MODELING AND RENDERING Credit: 3
Prerequisite: None 2 hrs. lec.
4 hrs. lab.
A studio course in the theory and technique of three dimensional (3-D) modeling utilizing appropriate software. Topics include the creation and modification of 3-D geometric shapes; variety of rendering techniques; and use of camera light sources, texture, and surface mapping.

ARTC 1349 - ART DIRECTION I Credit: 3
Prerequisite: Second Year Standing and/or departmental approval 2 hrs. lec.
4 hrs. lab.
Creation of projects in art direction for advertising graphic campaigns encompassing products, services, or ideas. Topics include all campaign procedures from initial research and creative strategy to final execution of a comprehensive project.

ARTC 1353 - COMPUTER ILLUSTRATION Credit: 3
Prerequisite: ITSC 1401 2 hrs. lec.
3 hrs. lab.
Implementation of software for illustration and/or photo manipulation for reproduction.

ARTC 1391 - SPECIAL TOPICS Credit: 3
Prerequisite: Second Year Standing and/or departmental approval 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.

ARTC 2305 - DIGITAL IMAGING II Credit: 3
Prerequisite: ARTC 1302 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.

ARTC 2313 - DIGITAL PUBLISHING II Credit: 3
Prerequisite: ARTC 1313 2 hrs. lec.
3 hrs. lab.
Layout procedures from thumbnails and roughs to final comprehensive and printing; emphasis on design principles for the creation of advertising and publishing materials, techniques for efficient planning and documenting projects.

ARTC 2335 - PORTFOLIO DEVELOPMENT FOR GRAPHIC DESIGN Credit: 3
Prerequisite: Departmental Approval 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.
DESCRIPTION OF COURSES

ARTC 2341 - 3-D ANIMATION II
Credit: 3
Prerequisite: ARTC 1341
2 hrs. lec.
4 hrs. lab.
Skill development in three-dimensional (3-D) modeling and rendering techniques using lighting, staging, and special effects for digital output. Emphasis on the production of three-dimensional (3-D) animation as final digital outputting using modeling, rendering, and animation software.

ARTC 2347 - DESIGN COMMUNICATIONS II
Credit: 3
Prerequisite: ARTC 1317
2 hrs. lec.
4 hrs. lab.
An advanced study of design, development, and art direction. Emphasis on form and content through the selection, creation, and integration of typographic, photographic, illustrative, and design elements.

ARTC 2348 - ELECTRONIC PUBLISHING III
Credit: 3
Prerequisite: ARTC 2313
2 hrs. lec.
3 hrs. lab.
Skill development in three-dimensional modeling and rendering techniques using lighting, staging, and special effects for digital output. Emphasis on the production of three-dimensional (3-D) animation as final digital outputting using modeling, rendering, and animation software.

ARTS 1301 - ART APPRECIATION
Credit: 3
Prerequisite: None
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)

ARTS 1303 - ART HISTORY SURVEY I
Credit: 3
Prerequisite: None
3 hrs. lec.
A survey of painting, sculpture, architecture and the minor arts from prehistoric times to the fourteenth century. (5007035226)

ARTS 1304 - ART HISTORY SURVEY II
Credit: 3
Prerequisite: None
3 hrs. lec.
A survey of painting, sculpture, architecture and the minor arts from the fourteenth century to the present. (5007035226)

ARTS 1311 - DESIGN I - 2-D
Credit: 3
Prerequisite: None
2 hrs. lec.
4 hrs. lab.
Emphasis upon two-dimensional design; includes the fundamentals of line, form, texture, shape and space within a composition. (5004015326)

ARTS 1312 - DESIGN II - 3-D
Credit: 3
Prerequisite: None
2 hrs. lec.
4 hrs. lab.
The construction of three-dimensional forms using a variety of compositional approaches and materials. (5004015326)

ARTS 1316 - DRAWING I
Credit: 3
Prerequisite: None
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)

ARTS 1317 - DRAWING II
Credit: 3
Prerequisite: ARTS 1316
2 hrs. lec.
4 hrs. lab.
Expansion of Drawing I stressing the conceptual, expressive and compositional aspects of drawing in various media. (5007055226)

ARTS 2311 - DESIGN III - COLOR
Credit: 3
Prerequisite: None
2 hrs. lec.
4 hrs. lab.
The examination and application of the various systems, theories and considerations for the use of color in visual expression. (5004015326)

ARTS 2313 - DESIGN COMMUNICATIONS I
Credit: 3
Prerequisite: ARTS 1311
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. (5004015326)

ARTS 2314 - DESIGN COMMUNICATIONS II
Credit: 3
Prerequisite: ARTS 2313
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)
ARTS 2316 - PAINTING I  
Credit: 3  
Prerequisite: ARTS 1311 and 1316  
2 hrs. lec.  
4 hrs. lab.  
An introduction to various painting theories and  
techniques using oil and/or acrylics. (5007085226)

ARTS 2317 - PAINTING II  
Credit: 3  
Prerequisite: ARTS 2316  
2 hrs. lec.  
4 hrs. lab.  
A continuation of Painting I, with an emphasis on  
individual expression. (5007085226)

ARTS 2323 - DRAWING III  
Credit: 3  
Prerequisite: ARTS 1317  
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)

ARTS 2326 - SCULPTURE I  
Credit: 3  
Prerequisite: ARTS 1312 or departmental approval  
2 hrs. lec.  
4 hrs. lab.  
An exploration of various sculptural approaches in a  
variety of media including additive and subtractive  
methods. (5007095126)

ARTS 2327 - SCULPTURE II  
Credit: 3  
Prerequisite: ARTS 2326  
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)

ARTS 2333 - PRINTMAKING I  
Credit: 3  
Prerequisite: ARTS 1316 or departmental approval  
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)

ARTS 2334 - PRINTMAKING II  
Credit: 3  
Prerequisite: ARTS 2333 or departmental approval  
2 hrs. lec.  
4 hrs. lab.  
Special procedures and problems involving further  
investigation of various printmaking media, including  
etching. (5007105126)

ARTS 2341 - METALS AND JEWELRY I  
Credit: 3  
Prerequisite: None  
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)

ARTS 2342 - METALS AND JEWELRY II  
Credit: 3  
Prerequisite: ARTS 2341 or departmental approval  
2 hrs. lec.  
4 hrs. lab.  
Further investigation of metal smithing through  
advance techniques such as casting and stone-setting.  
(5007135126)

ARTS 2346 - CERAMICS I  
Credit: 3  
Prerequisite: None  
2 hrs. lec.  
4 hrs. lab.  
An introduction to ceramics processes through the  
study of basic materials and techniques. Includes  
hand building, bisque, glazing and firing procedures,  
as well as the use of the potter's wheel. (5007115126)

ARTS 2347 - CERAMICS II  
Credit: 3  
Prerequisite: ARTS 2346 or departmental approval  
2 hrs. lec.  
4 hrs. lab.  
Investigates advanced techniques, as well as the  
creative possibilities of clay, glazes and firing  
procedures. (5007115126)

ARTS 2348 - DIGITAL ART I  
Credit: 3  
Prerequisite: None  
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. (5007085126)

ARTS 2349 - DIGITAL ART II  
Credit: 3  
Prerequisite: ARTS 2348  
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.
DESCRIPTION OF COURSES

ARTS 2356 - PHOTOGRAPHY I  Credit: 3  
Prerequisite: None  
2 hrs. lec.  
4 hrs. lab.  
A beginning course which introduces students to theoretical and applied aspects of photography, including cameras, lenses, photographic materials and techniques, black-and-white darkroom procedures and photographic composition. This is the same course as COMM 1318. (5006055126)

ARTS 2357 - PHOTOGRAPHY II  Credit: 3  
Prerequisite: ARTS 2356 or COMM 1318  
2 hrs. lec.  
4 hrs. lab.  
A continuation of Photography I, this course provides further study of photographic theories, techniques and processes. The analysis and utilization of the design and compositional elements in photography are also stressed. (5006055226)

ARTS 2366 - WATERCOLOR  Credit: 3  
Prerequisite: ARTS 1311 and 1316  
2 hrs. lec.  
4 hrs. lab.  
An introduction to aquamedia using a variety of subject matter, concepts, techniques and materials. (5007085326)

ARTS 2389 - ACADEMIC CO-OP IN ART  Credit: 3  
Prerequisite: Departmental approval  
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)

AUMT 1405 - INTRODUCTION TO AUTOMOTIVE TECHNOLOGY  Credit: 4  
Prerequisite: None  
3 hrs. lec.  
4 hrs. lab.  
An introduction to the automotive industry including automotive history, safety practices, shop equipment and tools, vehicle subsystems, service publications, fasteners, professional responsibilities, and automotive maintenance. May be taught manufacturer specific.

AUMT 1410 - AUTOMOTIVE BRAKE SYSTEMS  Credit: 4  
Prerequisite: None  
3 hrs. lec.  
4 hrs. lab.  
Operation and repair of drum/disc type brake systems. Emphasis on safe use of modern equipment. Topics include brake theory, diagnosis, and repair of power, manual, anti-lock brake systems, and parking brakes. May be taught manufacturer specific.

AUMT 1416 - SUSPENSION AND STEERING  Credit: 4  
Prerequisite: None  
3 hrs. lec.  
4 hrs. lab.  
Theory and operation of automotive suspension and steering systems including tire and wheel problem diagnosis, component repair, and alignment procedures. May be taught manufacturer specific.

AUMT 1419 - AUTOMOTIVE ENGINE REPAIR  Credit: 4  
Prerequisite: AUMT 1405  
3 hrs. lec.  
4 hrs. lab.  
Fundamentals of engine operations, diagnosis and repair including lubrication systems and cooling systems. Emphasis on overhaul of selected engines, identification and inspection, measurements, and disassembly, repair, and reassembly of the engine. May be taught manufacturer specific.

AUMT 1445 - AUTOMOTIVE HEATING AND AIR CONDITIONING  Credit: 4  
Prerequisite: AUMT 1407  
3 hrs. lec.  
4 hrs. lab.  
Theory of automotive air conditioning and heating systems. Emphasis on the basic refrigeration cycle and diagnosis and repair of system malfunctions. Covers EPA guidelines for refrigerant handling and new refrigerant replacements. May be taught manufacturer specific.

AUMT 2380 - COOPERATIVE EDUCATION: AUTO/AUTOMOTIVE  Credit: 3  
Prerequisite: Enrollment in automotive technology  
AAS degree program; completion of 15 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.
AUMT 2381 - COOPERATIVE EDUCATION: AUTO/ AUTOMOTIVE  Credit: 3
Prerequisite: Enrollment in automotive technology AAS degree tech program; completion of 25 hours in automotive courses and departmental approval.
Career-related activities encountered in the student’s area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

AUMT 2413 - MANUAL DRIVE TRAIN AND AXLES  Credit: 4
Prerequisite: None
3 hrs. lec.
4 hrs. lab.
A study of automotive clutches, clutch operations devices, standard transmissions, transaxles, and differentials with emphasis on the diagnosis and repair of transmissions and drive lines. May be taught manufacturer specific.

AUMT 2417 - ENGINE PERFORMANCE ANALYSIS I  Credit: 4
Prerequisite: AUMT 1407
3 hrs. lec.
4 hrs. lab.
Theory, operation, diagnosis, and repair of basic engine dynamics, ignition systems, and fuel delivery systems. Use of basic engine performance diagnostic equipment. May be taught manufacturer specific.

AUMT 2425 - AUTOMATIC TRANSMISSION AND TRANSAXLE  Credit: 4
Prerequisite: None
3 hrs. lec.
4 hrs. lab.
A study of the operation, hydraulic principles, and related circuits of modern automatic transmissions and automatic transaxles. Diagnosis, disassembly, and assembly procedures with emphasis on the use of special tools and proper repair techniques. May be taught manufacturer specific.

AUMT 2434 - ENGINE PERFORMANCE ANALYSIS II  Credit: 4
Prerequisite: AUMT2417
3 hrs. lec.
4 hrs. lab.
Diagnosis and repair of emission systems, computerized engine performance systems, and advanced ignition and fuel systems; and proper use of advanced engine performance diagnostic equipment. May be taught manufacturer specific.

AUMT 2437 - AUTOMOTIVE ELECTRONICS  Credit: 4
Prerequisite: AUMT1407
3 hrs. lec.
4 hrs. lab.
Topics address electrical principles, semiconductor and integrated circuits, digital fundamentals, microcomputer systems, and electrical test equipment as applied to automotive technology. May be taught manufacturer specific.

Biol 1322 - NUTRITION  Credit: 3
Prerequisite: None
3 hrs. lec.
Fundamental principles of normal nutrition and the importance of nutrition in promoting growth and health. Emphasis will be given to the basic food constituents and their physiological relationships within the body. Consideration will also be given to family and community needs. This course will not fulfill a laboratory science requirement. (1905025109)

Biol 1406 - BIOLOGY I  Credit: 4
Prerequisite: College reading level as determined by SAT, ACT, TASP; or successfully passing ENGL 0305 with a "C" or better.
3 hrs. lec.
This course is a contemporary course including applications of the scientific method, cellular and molecular biology, biochemistry, classical and human genetics, virology and mechanisms of evolution. (2601015103)

Biol 1407 - BIOLOGY II  Credit: 4
Prerequisite: Biol 1406
3 hrs. lec.
3 hrs. lab.
This course is a continuation of Biology I. It includes a detailed phylogenetic survey of the major kingdoms. This includes a comparison of the systems of different organisms. Ecological roles and relationships, as well as behavior of organisms, will be integrated throughout. (2601015103)

Biol 1408 - INTRODUCTORY BIOLOGY I FOR NONMAJORS  Credit: 4
Prerequisite: None
3 hrs. lec.
3 hrs. lab.
A contemporary course for students not majoring in the biological or health sciences, including applications of the scientific method, cellular and molecular biology, biochemistry, classical and human genetics, virology and mechanisms of evolution. (2601015103)
DESCRIPTION OF COURSES

BIOL 1409 - INTRODUCTORY BIOLOGY II FOR NONMAJORS Credit: 4
Prerequisite: BIOL 1408 3 hrs. lec.
3 hrs. lab.
This course for a student not majoring in the biological or health sciences is a continuation of Introductory Biology I for Nonmajors. It includes a detailed phylogenetic survey of Whittaker’s five kingdoms. This includes a comparison of the systems of different organisms. Ecological roles and relationships, as well as behavior of organisms, will be integrated throughout. (2601015103)

BIOL 1424 - LOCAL FLORA Credit: 4
Prerequisite: None 3 hrs. lec.
3 hrs. lab.
An introduction to the seed plants of southeastern Texas. Methods of classification and identification, collection techniques and consideration of the uses of the plants collected. For biology and non-biology majors. This course will not fulfill a laboratory science requirement. (2603015203)

BIOL 2389 - ACADEMIC COOPERATIVE IN THE BIOLOGICAL SCIENCE/LIFE SCIENCE Credit: 3
Prerequisite: Eight hours in biological sciences 1 hr. lec.
(selected from BIOL 1406, 1407, 2401, 2402, 2406, 2416, 2420, and 2421), faculty approval, and a grade point average of at least a "B".
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 are unpaid and must have faculty approval. (2601015203)

BIOL 2401 - HUMAN ANATOMY AND PHYSIOLOGY I Credit: 4
Prerequisite: College reading level as determined by SAT, ACT, TASP, or successfully passing ENGL 0305 with a "C" or better. BIOL 1406 strongly recommended.
A study of the structure and function of the human body. Emphasis will be given to the study of cells and tissues and anatomical and physiological interrelationships of the skeletal, muscular, nervous and endocrine systems. Designed primarily for students entering health careers. (2607065103)

BIOL 2402 - HUMAN ANATOMY AND PHYSIOLOGY II Credit: 4
Prerequisite: BIOL 2401 3 hrs. lec.
3 hrs. lab.
A continuation of BIOL 2401. Emphasis will be given to the study of the anatomical and physiological interrelationships of the circulatory, respiratory, digestive, reproductive and excretory systems. Designed primarily for students entering health careers. (2607065103)

BIOL 2406 - ENVIRONMENTAL BIOLOGY Credit: 4
Prerequisite: None 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. (0301025103)

BIOL 2416 - GENETICS Credit: 4
Prerequisite: BIOL 1406 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. (2606135103)

BIOL 2420 - MICROBIOLOGY Credit: 4
Prerequisite: BIOL 1406 or 2401 3 hrs. lec.
3 hrs. lab.
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. This course is designed for allied health students. (2605015103)

BIOL 2421 - GENERAL MICROBIOLOGY Credit: 4
Prerequisite: BIOL 1406 3 hrs. lec.
3 hrs. lab.
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 agri-
DESCRIPTION OF COURSES

BITC 1211 - INTRODUCTION TO BIOTECHNOLOGY  Credit: 2
Prerequisite: None 2 hrs. lec. 1 hr. lab.
An introduction to biotechnology including career exploration, history and applications of DNA/RNA technology, molecular biology, bioethics, and laboratory safety practices.

BITC 1401 - BIOTECHNOLOGY LABORATORY INSTRUMENTATION  Credit: 4
Prerequisite: BITC 1402; CHEM 1405 & 1419 or 1411 & 1412; BIOL 1406 & 1407; or 3 hrs. lab. departmental approval
Theory, applications, and operation of various analytical instruments. Separation and identification techniques including electrophoresis, spectrophotometry, and chromatography emphasized.

BITC 1402 - BIOTECHNOLOGY LABORATORY METHODS & TECHNIQUES  Credit: 4
Prerequisite: BITC 1211; CHEM 1405 or 1411; MATH 1314; departmental approval 3 hrs. lec. 3 hrs. lab.
A study of laboratory operations, management, equipment, instrumentation, quality control techniques, and safety procedures. Laboratory practice in using pH meters, mixing buffers, performing measurements, preparing solutions, and performing separatory techniques.

BITC 2401 - MOLECULAR BIOLOGY TECHNIQUES  Credit: 4
Prerequisite: BITC 1401; BIOL 2420 or 2421; or departmental approval 3 hrs. lec. 3 hrs. lab.
An introduction to the theory and laboratory techniques in molecular biology with an emphasis on proteins, gene expression and regulation, recombinant DNA, and nucleic acids.

BITC 2431 - CELL CULTURE TECHNIQUES  Credit: 4
Prerequisite: BITC 1401 or departmental approval 3 hrs. lec. 3 hrs. lab.
A study of cell culture techniques. Laboratory emphasis on the principles and practices of initiation, cultivation, maintenance, preservation of cell lines and applications.

BITC 2486 - INTERNSHIP - BIOLOGICAL TECHNOLOGY/TECHNICIAN  Credit: 4
Prerequisite: Completion of all BITC courses with a grade of “C” or better 1 hr. lec. 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.

BMGT 1301 - SUPERVISION  Credit: 3
Prerequisite: ENGL 0305 or 0314 or placement by testing; ENGL 0307 or ENGL 0326 or placement by testing 3 hrs. lec.
A study of the role of the supervisor. Managerial functions as applied to leadership, counseling, motivation, and human skills are examined.

BMGT 1303 - PRINCIPLES OF MANAGEMENT  Credit: 3
Prerequisite: None 3 hrs. lec.
Concepts, terminology, principles, theory, and issues that are the substance of the practice of management.

BMGT 1309 - INFORMATION AND PROJECT MANAGEMENT  Credit: 3
Prerequisite: None 3 hrs. lec.
Information and project management including task determination, time management, scheduling management, status reports, budget management, customer service, professional attitude, and project supervision. This course is oriented to the information technology field and provides management skills to complement technical expertise.

BMGT 1331 - PRODUCTION & OPERATIONS MANAGEMENT  Credit: 3
Prerequisite: None 3 hrs. lec.
Fundamentals of the various techniques used in the practice of production management to include location, design, and resource allocation.

BMGT 1372 - CUSTOMER SERVICE  Credit: 3
Prerequisite: None 3 hrs. lec.
This course is designed to enable students to understand the importance of customer service in today’s competitive business world. Topics such as determining customer needs, satisfying customers and handling customer complaints/inquiries, and problem solving will be discussed.

BMGT 2303 - PROBLEM SOLVING AND DECISION MAKING  Credit: 3
Prerequisite: None 3 hrs. lec.
Decision-making and problem-solving processes in organizations, utilizing logical and creative problem solving.
DESCRIPTION OF COURSES

solving techniques. Application of theory is provided by experiential activities such as small group discussions, case studies, and the use of other managerial decision aids.

BMGT 2382 - COOP: BUSINESS ADMINISTRATION AND MANAGEMENT I Credit: 3
Prerequisite: Enrollment in management AAS degree 1 hr. lec. program; completion of 15 credits in degree 20 hrs. ext. plan; departmental approval.
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.

BMGT 2388 - INTERNSHIP - BUSINESS AND MANAGEMENT Credit: 3
Prerequisite: Departmental approval 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.

BUSG 1341 - SMALL BUSINESS FINANCING Credit: 3
Prerequisite: None 3 hrs. lec.
A study of the financial structure of a small business. Topics address business finance, including where the funds come from and what they are used for; budgeting including planning and preparing, record keeping, taxation, insurance, and banking.

BUSG 2309 - SMALL BUSINESS MANAGEMENT Credit: 3
Prerequisite: None 3 hrs. lec.
A course on how to start and operate a small business. Topics include facts about a small business, essential management skills, how to prepare a business plan, financial needs, marketing strategies, and legal issues.

BUSI 1307 - PERSONAL FINANCE Credit: 3
Prerequisite: None 3 hrs. lec.
A study of the financial problems which people ordinarily encounter in personal money management. Includes financial planning, budgeting, insurance, buying taxes, use of credit, consumer protection, investing, savings, home ownership, estate planning and basic statistics as applied to consumer problems. (1904015104)

BUSI 2301 - BUSINESS LAW I Credit: 3
Prerequisite: None 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. (2201051014)

BUSI 2304 - BUSINESS COMMUNICATIONS Credit: 3
Prerequisite: ENGL 1301 3 hrs. lec.
Principles of effective oral and written business communications. Activities include writing business messages for a variety of business situations, writing both formal and informal business reports and presenting business data orally. (2311052004)

BUSI 2372 - BUSINESS ANALYSIS Credit: 3
Prerequisite: None 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.

CDEC 1192 - SPECIAL TOPICS IN CHILD DEVELOPMENT: MONTESSORI OVERVIEW Credit: 1
Prerequisite: Departmental approval 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 summarizes specific areas in child care and development and prepares the degree student for entry into the Montessori program. These areas include: observation, administration, issues of childcare, self development, health, and safety.

CDEC 1313 - CURRICULUM RESOURCES FOR EARLY CHILDHOOD PROGRAMS Credit: 3
Prerequisite: None 2 hrs. lec. 2 hrs. lab.
Fundamentals of curriculum design and implementation in developmentally appropriate programs for young children. Laboratory assignments will be required in approved early childhood settings.
DESCRIPTION OF COURSES

CDEC 1364 - PRACTICUM - CHILD DEVELOPMENT  
Credit: 3
Prerequisite: Departmental approval
1 hr. lec.
20 hrs. ext.
Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

CDEC 1366 - PRACTICUM - EARLY CHILDHOOD  
Credit: 3
Prerequisite: Departmental approval
1 hr. lec.
20 hrs. ext.
Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

CDEC 1392 - SPECIAL TOPICS IN CHILD DEVELOPMENT: MONTESSORI INFANT AND TODDLER HISTORY AND PHILOSOPHY  
Credit: 3
Prerequisite: None
2 hrs. lec.
2 hrs. lab.
Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation, and relevant to the professional development of the student. This course is the depth study of the life and work of Maria Montessori and its relationship to child psychology, placing special emphasis on the years in a child's life from birth to three years of age. Laboratory assignments will be carried out in approved early childhood settings.

CDEC 1419 - CHILD GUIDANCE  
Credit: 4
Prerequisite: None
3 hrs. lec.
3 hrs. lab.
An exploration of common behavior problems of young children in an early childhood setting. Emphasis on positive guidance techniques for effective behavior management. Practical application through direct participation in an early childhood setting. Laboratory assignments will be required in approved early childhood settings.

CDEC 1421 - THE INFANT AND TODDLER  
Credit: 4
Prerequisite: None
3 hrs. lec.
3 hrs. lab.
A study of appropriate infant and toddler (birth to 3 years) programs, including an overview of development, quality caregiving routines, appropriate environments, materials and activities, and teaching/guidance techniques. Laboratory assignments will be required in approved early childhood settings.

CDEC 1456 - EMERGENT LITERACY FOR EARLY CHILDHOOD  
Credit: 4
Prerequisite: None
3 hrs. lec.
3 hrs. lab.
An exploration of principles, methods, and materials for teaching young children language and literacy through a play-based, integrated curriculum. Laboratory assignments will be required in approved early childhood settings.

CDEC 1458 - CREATIVE ARTS FOR EARLY CHILDHOOD  
Credit: 4
Prerequisite: TECA 1311
3 hrs. lec.
3 hrs. lab.
An exploration of principles, methods, and materials for teaching young children; music, movement, visual arts, and dramatic play through process oriented experiences to support divergent thinking. Laboratory assignments will be required in approved early childhood settings.

CDEC 1459 - CHILDREN WITH SPECIAL NEEDS  
Credit: 4
Prerequisite: None
3 hrs. lec.
3 hrs. lab.
A survey of information regarding children with special needs, including possible causes and characteristics of exceptionalities, educational intervention, available resources, referral processes, and the advocacy role and legislative issues. Laboratory assignments will be required in approved early childhood settings.

CDEC 1484 - COOPERATIVE EDUCATION - MONTESSORI  
Credit: 4
Prerequisite: CDEC 1364, 1392 and 1492
1 hr. lec.
30 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.

CDEC 1492 - SPECIAL TOPICS IN CHILD DEVELOPMENT: MONTESSORI INFANT AND TODDLER THEORY AND PRACTICE  
Credit: 4
Prerequisite: CDEC 1392; or departmental approval
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 rel-
DESCRIPTION OF COURSES

relevant to the professional development of the student. This course is the study of contemporary Montessori practices including educational techniques, preparation of appropriate environments, and materials for various developmental stages in the first three years of a child’s life. Required laboratory assignments will be completed in appropriate infant and toddler settings.

CDEC 1496 - SPECIAL TOPICS: ADMINISTRATION OF PROGRAMS FOR CHILDREN Credit: 4
Prerequisite: CDEC 1313, 1419, 2326, TECA 1311 3 hrs. lec. and 2328; or departmental approval 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 students. Laboratory assignments will be required in approved early childhood settings.

CDEC 2326 - ADMINISTRATION OF PROGRAMS FOR CHILDREN I Credit: 3
Prerequisite: 6 credit hours of child development 2 hrs. lec. course work or departmental approval 2 hrs. lab.
A practical application of management procedures for early child care and education programs, including a study of planning, operating, supervising, and evaluating programs. Topics on philosophy, types of programs, policies, fiscal management, regulations, staffing, evaluation, and communication. Laboratory assignments will be required in approved early childhood settings.

CDEC 2328 - ADMINISTRATION OF PROGRAMS FOR CHILDREN II Credit: 3
Prerequisite: 6 credit hours of child development 2 hrs. lec. course work or departmental approval 2 hrs. lab.
An in-depth study of the skills and techniques in managing early care and education programs, including legal and ethical issues, personnel management, team building, leadership, conflict resolution, stress management, advocacy, professionalism, fiscal analysis and planning, parent education/partnerships, and technical applications in programs. Laboratory assignments will be required in approved early childhood settings.

CETT 1403 - DC CIRCUITS Credit: 4
Corequisite: MATH 1314 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.

CETT 1405 - AC CIRCUITS Credit: 4
Prerequisite: CETT 1403 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.

CETT 1409 - DC - AC CIRCUITS Credit: 4
Prerequisite: None 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.

CETT 1425 - DIGITAL FUNDAMENTALS Credit: 4
Corequisite: CETT 1405 3 hrs. lec. 3 hrs. lab.
An entry level course in digital electronics covering number systems, binary mathematics, digital codes, logic gates, Boolean algebra, Karnaugh maps, and combinational logic. Emphasis on circuit logic analysis and troubleshooting digital circuits.

CETT 1429 - SOLID STATE DEVICES Credit: 4
Prerequisite: CETT 1405 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.

CETT 1445 - MICROPROCESSORS Credit: 4
Prerequisite: CETT 1425 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.

CETT 1457 - INTEGRATED LINEAR CIRCUITS Credit: 4
Corequisite: CETT 1429 3 hrs. lec. 3 hrs. lab.
A study of the characteristics, operations, stabilization, testing, and feedback techniques of linear integrated circuits. Application in computation, measurements, instrumentation, and active filtering.
DESCRIPTION OF COURSES

CETT 1491 - SPECIAL TOPICS IN COMPUTER ENGINEERING TECHNOLOGY/TECHNICIAN  Credit: 4
Prerequisite: Departmental approval  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.

CETT 2449 - RESEARCH AND PROJECT DESIGN  Credit: 4
Prerequisite: Near program completion or departmental approval  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.

CHEM 1405 - INTRODUCTORY CHEMISTRY  Credit: 4
Prerequisite: MATH 0308 or qualifying score on MATH placement test  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 organic chemistry. This course is appropriate for nursing students, hotel and restaurant management students, as well as students who will pursue higher level chemistry. (4005015103)

CHEM 1411 - GENERAL CHEMISTRY I  Credit: 4
Prerequisite: CHEM 1405 or 1 year of high school chemistry taken within the last 3 years and Math 0310 or qualifying score on MATH placement test  3 hrs. lec.  3 hrs. lab.
Corequisite: MATH 1314
Topics include a mathematical introduction (metric system, significant figures and scientific notation), discussion of atoms, molecules and ions, stoichiometry, electronic structure, periodic relationships, bonding, molecular geometries and properties of gases, liquids, solids and solutions. Appropriate lab experiments are included. (4005015203)

CHEM 1412 - GENERAL CHEMISTRY II  Credit: 4
Prerequisite: CHEM 1411 and MATH 1314 or qualifying score on MATH placement test  3 hrs. lec.  3 hrs. lab.
A continuation of CHEM 1411, reviewing solutions and including studies in kinetics, equilibrium, acids and bases, thermodynamics, electrochemistry and an introduction to various other areas of chemistry. Appropriate laboratory experiments are included. (4005015203)

CHEM 1419 - INTRODUCTORY ORGANIC AND BIOCHEMISTRY  Credit: 4
Prerequisite: CHEM 1405 or 1411 or equivalent  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 nurses and hotel and restaurant management students. (4005045103)

CHEM 2423 - ORGANIC CHEMISTRY I  Credit: 4
Prerequisite: CHEM 1412 or equivalent  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)

CHEM 2425 - ORGANIC CHEMISTRY II  Credit: 4
Prerequisite: CHEM 2423 or equivalent  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)

CMSW 1301 - INTRODUCTION TO SOCIAL SERVICES  Credit: 3
Prerequisite: None  3 hrs. lec.
Introduction to concepts of social welfare and social policy. Topics include emphasis on the relationship between social policy and the delivery of social ser-
DESCRIPTION OF COURSES

Descriptions of present day social welfare programs in terms of the philosophy, legal base, program policy and impact on both the target service group and the larger community of present day social welfare programs.

CMSW 1309 - PROBLEMS OF CHILDREN AND ADOLESCENTS Credit: 3
Prerequisite: None 3 hrs. lec.
Examination of the particular problems of youth and their implications for the delivery of social services. Emphasis on social service institutions of a preventative and rehabilitative nature.

CMSW 1323 - THE EXCEPTIONAL PERSON Credit: 3
Prerequisite: None 3 hrs. lec.
Study of physical, intellectual, and learning disabilities, sensory deficits, as well as the exceptionally gifted individual.

CMSW 1341 - BEHAVIOR MODIFICATION AND COGNITIVE DISORDER Credit: 3
Prerequisite: None 3 hrs. lec.
In-depth study of the theories and principles of behavioral science and skill development in the methods of modifying and controlling behavior. Clinical and personal settings. Emphasis on techniques as managing self-behavior. Topics include stimulus controls, shaping, relaxation training, reinforcement scheduling and token economies.

CMSW 1345 - ABNORMAL BEHAVIOR Credit: 3
Prerequisite: None 3 hrs. lec.
A study of the process used to formulate diagnoses of mental disorders.

CMSW 1353 - FAMILIES INTERVENTION STRATEGIES Credit: 3
Prerequisite: None 3 hrs. lec.
Overview of professionally recognized family intervention systems. Topics include theorists in the field and personal awareness.

CMSW 1391 - SPECIAL TOPICS IN CLINICAL AND MEDICAL SOCIAL WORK Credit: 3
Prerequisite: None 3 hrs. lec.
Topics address recently identified current events, skills, knowledges, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student.

CNBT 1311 - CONSTRUCTION MATERIALS AND METHODS Credit: 3
Prerequisite: None 2 hrs. lec. 4 hrs. lab.
An introduction to construction materials and methods and their applications.

CNBT 1342 - BUILDING CODES AND INSPECTIONS Credit: 3
Prerequisite: CNBT 1311, DFTG 1305, and ENGL 2311 2 hrs. lec. 4 hrs. lab.
An examination of the building codes and standards applicable to building construction and inspection processes.

COMM 1307 - INTRODUCTION TO MASS COMMUNICATIONS Credit: 3
Prerequisite: None 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. (0904035106)

COMM 1316 - PHOTO JOURNALISM Credit: 3
Prerequisite: COMM 1318 or departmental approval 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)

COMM 1318 - PHOTOGRAPHY I Credit: 3
Prerequisite: None 1 hr. lec. 5 hrs. lab.
A beginning course which introduces the student to theoretical and applied aspects of photography, including cameras, lenses, photographic materials and techniques, black-and-white darkroom procedures and photographic composition. This is the same course as ARTS 2356. (5006055126)
COMM 2305 - MODERN EDITING  Credit: 3  
Prerequisite: Six hours journalism, or 2nd-year standing and departmental approval  
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)

COMM 2311 - REPORTING I  Credit: 3  
Prerequisite: ENGL 1301  Corequisite: COMM 1129  
Basic news-reporting techniques with emphasis on news gathering and writing in a newsroom laboratory setting (school newspaper). Writing on a Macintosh computer for the school newspaper required. (0904015706)

COMM 2315 - REPORTING II  Credit: 3  
Prerequisite: COMM 2311  Corequisite: COMM 1129  
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)

COMM 2327 - PRINCIPLES OF ADVERTISING  Credit: 3  
Prerequisite: ENGL 1301 or departmental approval  
History of advertising and its effect on mass media. Review of current advertising and its impact on business and industry throughout the ages. (0902015106)

COMM 2389 - ACADEMIC COOPERATIVE IN COMMUNICATIONS  Credit: 3  
Prerequisite: Instructor Approval  
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.

COSC 1309 - LOGIC DESIGN  Credit: 3  
Prerequisite: None  
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.]

COSC 1401 - INTRODUCTION TO COMPUTERS  Credit: 4  
Prerequisite: None  
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 curriculum area. (1101015207) [This course is recommended for computer science transfer students.]

COSC 1420 - "C" LANGUAGE  Credit: 4  
Prerequisite: COSC 1309  
Introduction to computer programming. Emphasis on the fundamentals of structured design, development, testing, implementation, and documentation. Includes coverage of language syntax, data and file structures, input/output devices, and disks/files. (1102015207) [This course is recommended for four-year transfer students.]

COSC 1430 - JAVA LANGUAGE  Credit: 4  
Prerequisite: COSC 1309  
Introduction to JAVA programming. Emphasis on the fundamentals of structured design, development, testing, implementation, and documentation. Includes coverage of language syntax, data and file structures, input/output devices, disks/files. (1102015207) [This course is recommended for four-year transfer students.]

COSC 2420 - ADVANCED "C" LANGUAGE  Credit: 4  
Prerequisite: COSC 1420  
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.]

CPMT 1403 - INTRODUCTION TO COMPUTER TECHNOLOGY  Credit: 4  
Prerequisite: ASSET reading score of 39, CELT score of 60  
A fundamental computer course that provides in-depth explanation of the procedures to utilize hard-
DESCRIPTION OF COURSES

ware and software. Emphasis on terminology, acro-
yms, and hands-on activities. Specific, hands-on
training using word processing, spreadsheets, data-
bases, Internet, and personal computer operating
system commands (DOS & Windows) are provided.

CPMT 1445 - COMPUTER SYSTEMS
MAINTENANCE Credit: 4
Prerequisite: CPMT 1403 or ITSC 1401
3 hrs. lec.
2 hrs. lab.
Examination of the functions of the components
within a computer system. Development of skills in
the use of test equipment and maintenance aids.

CPMT 1449 - COMPUTER NETWORKING
TECHNOLOGY Credit: 4
Prerequisite or corequisite: CPMT 1445
3 hrs. lec.
3 hrs. lab.
A beginning course in computer networks with focus
on networking fundamentals, terminology, hard-
ware, software, and network architecture. A study of
local/wide area networking concepts and networking
installations and operations.

CPMT 2433 - COMPUTER INTEGRATION
Credit: 4
Prerequisite: CPMT 1403 or ITSC 1401
3 hrs. lec.
Corequisite: MATH 1314
3 hrs. lab.
An advanced course in integration of hardware, soft-
ware, and applications. Customization of computer
systems for specific applications in engineering, mul-
timedia, or data acquisition.

CPMT 2445 - COMPUTER SYSTEMS
TROUBLESHOOTING Credit: 4
Prerequisite: CPMT 1445
3 hrs. lec.
3 hrs. lab.
Principles and practices involved in computer sys-
tem troubleshooting techniques and repair proce-
dures including advanced diagnostic test programs
and the use of specialized test equipment.

CPMT 2449 - ADVANCED COMPUTER
NETWORKING TECHNOLOGY Credit: 4
Prerequisite: CPMT 1449
3 hrs. lec.
2 hrs. lab.
An in-depth study of network technology with em-
phasis on network operating systems, network con-
nectivity, hardware, and software. Mastery of imple-
mentation, troubleshooting, and maintenance of
LAN and/or WAN network environments.

CRIJ 1301 - INTRODUCTION TO
CRIMINAL JUSTICE Credit: 3
Prerequisite: Eligibility for ENGL 0305 or
0313/0314, and ENGL 0307 or 0326, or above
An overview of the criminal justice system. Topics
include the history and philosophy of criminal jus-
tice, the definition of crime, and its nature and
impact. (4301045124)

CRIJ 1306 - COURT SYSTEMS AND
PRACTICES Credit: 3
Prerequisite: Eligibility for ENGL 0305 or
0313/0314, and ENGL 0307 or 0326, or above
Examination of the role of the judiciary in the crimini-
also justice system. Topics include the structure of
the American court system, prosecution, right to
counsel, pretrial release, grand jury process, adjudi-
cation process, types and rules of evidence, and
sentencing concepts. (2201015424)

CRIJ 1307 - CRIME IN AMERICA Credit: 3
Prerequisite: Eligibility for ENGL 0305 or
0313/0314, and ENGL 0307 or 0326, or above
The study of crime problems in historical perspec-
tive, social and public policy factors affecting crime,
impact and crime trends, social characteristics of
specific crimes, and crime prevention. (4504015224)

CRIJ 1310 - FUNDAMENTALS OF
CRIMINAL LAW Credit: 3
Prerequisite: Eligibility for ENGL 0305 or
0313/0314, and ENGL 0307 or 0326, or above
Study of the nature of criminal law. Topics include
philosophical and historical development, major de-
definitions and concepts, classification of crime, ele-
ments of crimes and penalties, and individual crimi-
nal responsibilities. (2201015324)

CRIJ 1313 - JUVENILE JUSTICE SYSTEM Credit: 3
Prerequisite: Eligibility for ENGL 0305 or
0313/0314, and ENGL 0307 or 0326, or above
A study of the juvenile justice process. Topics in-
clude specialized juvenile law, role of the juvenile
courts, role of police agencies, role of correctional
agencies, and theories concerning delinquency.
(4301045224)
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<tr>
<td>CRIJ 2301</td>
<td>Community Resources in Corrections</td>
<td>3</td>
<td>Eligibility for ENGL 0305 or 0313/0314, and ENGL 0307 or 0326, or above</td>
<td>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)</td>
</tr>
<tr>
<td>CRIJ 2313</td>
<td>Correctional Systems and Practices</td>
<td>3</td>
<td>Eligibility for ENGL 0305 or 0313/0314, and ENGL 0307 or 0326, or above</td>
<td>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)</td>
</tr>
<tr>
<td>CRIJ 2314</td>
<td>Criminal Investigation</td>
<td>3</td>
<td>Eligibility for ENGL 0305 or 0313/0314, and ENGL 0307 or 0326, or above</td>
<td>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)</td>
</tr>
<tr>
<td>CRIJ 2323</td>
<td>Legal Aspects of Criminal Justice</td>
<td>3</td>
<td>Eligibility for ENGL 0305 or 0313/0314, and ENGL 0307 or 0326, or above</td>
<td>Exploration of police authority. Topics include responsibilities and constitutional restraints, laws of arrest, search and seizure, and police liability. (4301045624)</td>
</tr>
<tr>
<td>CRIJ 2328</td>
<td>Police Systems and Practices</td>
<td>3</td>
<td>Eligibility for ENGL 0305 or 0313/0314, and ENGL 0307 or 0326, or above</td>
<td>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)</td>
</tr>
<tr>
<td>CRTG 1401</td>
<td>Cartography and Geography in Geographical Information Systems (GIS) and Global Positioning Systems (GPS)</td>
<td>4</td>
<td>CRTG 1411</td>
<td>Introduction to the principles of cartography and geography. Emphasis on global reference systems, and the use of satellites for navigation and measurements. Students learn basic concepts of GIS including mapping the earth in spatial terms, and populating the GIS to access data. Exercises include: create and access data in the GIS using Arc View, a standard PC platform software package; capture positional and attribute information with correct and accurate geographic referencing including GPS systems; and develop and print maps and reports. Emphasis on geographic coordinate systems, acquiring GIS information from databases, existing maps, GPS and the Internet. All aspects of the course will be integrated into individual final projects.</td>
</tr>
<tr>
<td>CRTG 1411</td>
<td>Introduction to Geographic Information Systems (GIS) and Global Positioning Systems (GPS)</td>
<td>4</td>
<td>None</td>
<td>Introduction to basic concepts of vector GIS using several industry specific software programs including nomenclature of cartography and geography. Emphasis on the principles of cartography, standard global reference systems and the new technologies, using satellites for measurements and navigation, and map construction. Exercises include basic concepts of acquisition, accuracy, precision, and scale in GPS - global positioning systems, and the operating environment for GIS/GPS; creation of spatial data with real time GPS fieldwork; importing of GPS data into GIS; and evaluation of data for scale and accuracy. Students will measure and relate “real world” distance and area on maps. Final projects will include applications of these topics. This is the initial course for the GIS certificate and degree programs.</td>
</tr>
<tr>
<td>CRTG 1421</td>
<td>Introduction to Raster-Based Geographic Information Systems (GIS)</td>
<td>4</td>
<td>CRTG 1411</td>
<td>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</td>
</tr>
</tbody>
</table>
DESCRIPTION OF COURSES

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.

CRTG 1491 - SPECIAL TOPICS IN CARTOGRAPHY Credit: 4
Prerequisite: CRTG 2411
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 relevant to the professional development of the student. 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.

CRTG 2380 - COOPERATIVE EDUCATION - CARTOGRAPHY Credit: 3
Prerequisite: CRTG 2411
Corequisite: ENGL 2311
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 with in their business/industry.

CRTG 2401 - DATA ACQUISITION AND ANALYSIS IN GIS Credit: 4
Prerequisite: CRTG 1401
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.

CRTG 2411 - WORKPLACE GEOGRAPHIC INFORMATION SYSTEMS (GIS) Credit: 4
Prerequisite: CRTG 1401
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.

CRTG 2464 - PRACTICUM OR FIELD EXPERIENCE - CARTOGRAPHY Credit: 4
Prerequisite: CRTG 2411
3 hrs. lec.
3 hrs. lab.
Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student. As outlined in the learning plan, the student will apply the theory, concepts, and skills involving specialized materials, equipment, procedures, regulations, and interactions within and among environmental, social, and governmental occupations and will demonstrate responsible behavior, safety practices, interpersonal and teamwork skills, and effective communication skills to create success.

CSME 1250 - ARTISTRY OF HAIR, THEORY AND PRACTICE Credit: 2
Corequisite: CSME 1310, 1501, and 1505
1 hr. lec.
4 hrs. lab.
Introduction in the artistry of hair design. Topics include theory, techniques, and application of hair design.
CSME 1310 - INTRODUCTION TO HAIRCUTTING AND RELATED THEORY Credit: 3
Corequisite: CSME 1250, 1501, and 1505 1 hr. lec.
8 hrs. lab.
Introduction to the theory and practice of hair cutting. Topics include terminology, implements, section haircutting and finishing techniques.

CSME 1421 - PRINCIPLES OF FACIAL/ESTHETIC TECHNOLOGY I Credit: 4
Corequisite: CSME 1520 2 hrs. lec.
6 hrs. lab.
An introduction to the principles of facial and esthetic technology. Topics include anatomy, physiology, theory, and related skills of facial and esthetic technology.

CSME 1430 - ORIENTATION TO NAIL TECHNOLOGY Credit: 4
Prerequisite: Departmental approval upon assessment testing 6 hrs. lab.
Corequisite: CSME 1531
An overview of the fundamental skills and knowledge necessary for the field of nail technology.

CSME 1434 - COSMETOLOGY INSTRUCTOR I Credit: 4
Corequisite: CSME 1435 3 hrs. lec.
4 hrs. lab.
The fundamentals of instruction of cosmetology students.

CSME 1435 - ORIENTATION TO THE INSTRUCTION OF COSMETOLOGY Credit: 4
Prerequisite: 3 years of field experience, Texas operator’s license and 12 credit hours of academic work including ENGL 1301 8 hrs. ext.
An overview of the skills and knowledge necessary for the instruction of cosmetology students.

CSME 1441 - PRINCIPLES OF NAIL TECHNOLOGY II Credit: 4
Prerequisite: CSME 1430 and 1531 with a “C” or better or departmental approval 6 hrs. lab.
Advanced concepts and principles of nail technology. Topics include advanced instruction in anatomy, physiology, theory, and related skills of nail technology.

CSME 1501 - ORIENTATION TO COSMETOLOGY Credit: 5
Prerequisite: Departmental approval upon assessment 3 hrs. lec.
8 hrs. lab.
Corequisite: CSME 1250, 1310, and 1505
An overview of the skills and knowledge necessary for the field of cosmetology.

CSME 1505 - FUNDAMENTALS OF COSMETOLOGY Credit: 5
Corequisite: CSME 1250, 1310, and 1501 3 hrs. lec.
8 hrs. lab.
A course in the basic fundamentals of cosmetology. Topics include service preparation, manicure, facial, chemical services, shampoo, haircut, wet styling, comb out, and salon management.

CSME 1520 - ORIENTATION TO FACIAL SPECIALIST Credit: 5
Prerequisite: Departmental approval upon assessment testing 8 hrs. lab.
Corequisite: CSME 1421
An overview of the skills and knowledge necessary for the field of facials and skin care.

CSME 1531 - PRINCIPLES OF NAIL TECHNOLOGY I Credit: 5
Corequisite: CSME 1430 or departmental approval 3 hrs. lec.
8 hrs. lab.
A course in the principles of nail technology. Topics include anatomy, physiology, theory, and related skills of nail technology.

CSME 1545 - PRINCIPLES OF FACIAL/ESTHETIC TECHNOLOGY II Credit: 5
Prerequisite: CSME 1421 and 1520 with a “C” or better or departmental approval 3 hrs. lec.
8 hrs. lab.
Corequisite: CSME 2431
Advanced concepts and principles of skin care and other related technologies. Topics include advanced instruction in anatomy, physiology, theory, and related skills of facial and esthetic technology.

CSME 1553 - CHEMICAL REFORMATION & RELATED THEORY Credit: 5
Prerequisite: CSME 1250, 1310, 1501, and 1505 with a “C” or better or departmental approval 3 hrs. lec.
8 hrs. lab.
Corequisite: CSME 2501
Presentation of the theory and practice of chemical reformation. Topics include terminology, application, and workplace competencies related to chemical reformation.
DESCRIPTION OF COURSES

CSME 2310 - INTERMEDIATE HAIRCUTTING & RELATED THEORY  
Credit: 3
Prerequisite: CSME 1553 and 2501 with a “C” or better or departmental approval
Corequisite: CSME 2337
Advanced concepts and practice of haircutting. Topics include haircuts utilizing scissors, razors, and/or clippers.

CSME 2337 - ADVANCED COSMETOLOGY TECHNIQUES  
Credit: 3
Corequisite: CSME 2310
1 hr. lec.
8 hrs. lab.

Mastery of advanced cosmetology techniques including hair designs, professional cosmetology services, and workplace competencies.

CSME 2414 - COSMETOLOGY INSTRUCTOR II  
Credit: 4
Prerequisite: CSME 1434 and 1435 with a “C” or better or departmental approval
2 hrs. lec.
8 hrs. lab.

A continuation of the fundamentals of instruction of cosmetology students.

CSME 2415 - COSMETOLOGY INSTRUCTOR III  
Credit: 4
Corequisite: CSME 2444
2 hrs. lec.
8 hrs. lab.

Presentation of assignments and evaluation techniques for a cosmetology program.

CSME 2431 - PRINCIPLES OF FACIAL/ESTHETIC TECHNOLOGY III  
Credit: 4
Corequisite: CSME 1545
2 hrs. lec.
6 hrs. lab.

Demonstrate concepts and principles of skin care and other related technologies.

CSME 2444 - COSMETOLOGY INSTRUCTOR IV  
Credit: 4
Corequisite: CSME 2415
2 hrs. lec.
8 hrs. lab.

Advanced concepts of instruction in a cosmetology program. Topics include demonstration and implementation of advanced evaluation and assessment techniques.

CSME 2501 - PRINCIPLES OF HAIR COLORING & RELATED THEORY  
Credit: 5
Corequisite: CSME 1553
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.

CSME 2530 - NAIL ENHANCEMENT  
Credit: 5
Corequisite: CSME 1441 or departmental approval
3 hrs. lec.
8 hrs. lab.

A course in the general principles of the theory and application of artificial nails and related technology.

CSME 2539 - ADVANCED HAIR DESIGN  
Credit: 5
Corequisite: CSME 2541
3 hrs. lec.
8 hrs. lab.

Advanced concepts in the theory and practice of hair design.

CSME 2541 - PREPARATION FOR TCC EXAMINATION  
Credit: 5
Prerequisite: CMSE 2310 and 2337 with a “C” or better or departmental approval
Corequisite: CSME 2539
3 hrs. lec.
8 hrs. lab.

Preparation for the Texas Cosmetology Commission Operator Examination.

CTMT 1191 - SPECIAL TOPICS IN COMPUTED TOMOGRAPHY TECHNOLOGY/TECHNICIAN  
Credit: 1
Prerequisite: None
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.

CTMT 2332 - PRINCIPLES OF COMPUTED TOMOGRAPHY  
Credit: 3
Prerequisite: Admission to the program
3 hrs. lec.

In-depth coverage of computed tomography imaging techniques. Image quality assurance and radiation protection are emphasized.

CTMT 2336 - COMPUTED TOMOGRAPHY EQUIPMENT & METHODOLOGY  
Credit: 3
Prerequisite: Admission to the program
3 hrs. lec.

Skill development in the operation of computed tomographic equipment, focusing on routine protocols, image quality, quality assurance and radiation protection.

CTMT 2360 - CLINICAL  
Credit: 3
Prerequisite: None
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.
CTMT 2361 - CLINICAL  
Credit: 3  
Prerequisite: None  
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.

DAAC 1304 - PHARMACOLOGY OF ADDICTION  
Credit: 3  
Prerequisite: None  
3 hrs. lec.  
Psychological, physiological, and sociological effects of mood altering substances and behaviors and their implications for the addiction process are discussed. Emphasis is placed on pharmacological effects of tolerance, dependency/withdrawal, cross addiction, and drug interaction.

DAAC 1309 - ASSESSMENT SKILL OF ALCOHOL AND OTHER DRUG ADDICTIONS  
Credit: 3  
Prerequisite: None  
3 hrs. lec.  
Examines procedures by which a counselor/program identifies and evaluates an individual’s strengths, weaknesses, problems, and needs which will be used in the development of a treatment plan. Prepares the student to appropriately explain assessment results and individual rights to clients.

DAAC 1311 - COUNSELING THEORIES  
Credit: 3  
Prerequisite: None  
3 hrs. lec.  
An introduction to major theories of various treatment modalities including reality therapy, psycho-dynamic, grief therapy, client-centered therapy, rational-emotive therapy, cognitive-behavioral approached such as life skills training, behavioral modification, and the introduction to experiential therapies as they relate to detoxification, residential, outpatient, and extended treatment.

DAAC 1314 - DYNAMICS OF GROUP COUNSELING  
Credit: 3  
Prerequisite: None  
3 hrs. lec.  
An introduction to the patterns and dynamics of group interactions across the life span. Focus includes group therapy, structure, types, stages, development, leadership, therapeutic factors, the impact of groups on the individual, group growth, and behavior. Effective group facilitation skills and techniques used to address special population issues and needs are covered. Effective case management and record keeping are addressed.

DAAC 1317 - BASIC COUNSELING SKILLS  
Credit: 3  
Prerequisite: None  
3 hrs. lec.  
This course is designed to facilitate development of the basic communication skills necessary to develop an effective helping relationship with clients. Includes the utilization of special skills to assist individuals, families, or groups in achieving objectives through exploration of a problem and its ramifications; examination of attitudes and feelings; consideration of alternative solutions; and decision-making.

DAAC 1319 - INTRODUCTION TO ALCOHOL AND OTHER DRUG ADDICTIONS  
Credit: 3  
Prerequisite: None  
3 hrs. lec.  
Causes and consequences of addiction as they relate to the individual, family, community, and society are discussed. Response alternative regarding intervention, treatment, education, and prevention are reviewed. Competencies and requirements for licensure in Texas are explained. Addiction issues related to diverse populations are presented.

DAAC 1341 - COUNSELING ALCOHOL AND OTHER DRUG ADDICTIONS  
Credit: 3  
Prerequisite: None  
3 hrs. lec.  
This course will focus on special skills and techniques in the application of counseling skills for the Alcohol and Other Drug (AOD) client. Design and utilization of treatment planning using a treatment team approach will be introduced. Confidentiality and ethical issues will be reviewed and practiced.

DAAC 1343 - CURRENT ISSUES  
Credit: 3  
Prerequisite: None  
3 hrs. lec.  
A study of issues that impact addiction counseling. Special populations, dual diagnosis, ethics, gambling, and infectious diseases associated with addiction counseling will be investigated.

DAAC 2160 - CLINICAL  
Credit: 1  
Prerequisite: DAAC 1317  
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.

DAAC 2260 - CLINICAL  
Credit: 2  
Prerequisite: DAAC 1317  
1 hr. lec.  
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.
DESCRIPTION OF COURSES

**DAAC 2360 - CLINICAL** Credit: 3
Prerequisite: DAAC 1317
1 hr. lec.
17 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.

**DANC 1151 - DANCE PERFORMANCE I** Credit: 1
Corequisite: Enrollment in a dance technique course
This course provides the students with the opportunity to participate in the rehearsal and performance of dance works. (5003015226)

**DANC 1152 - DANCE PERFORMANCE II** Credit: 1
Prerequisite: DANC 1151 Corequisite: Enrollment in a dance technique course
This course is a continuation of DANC 1151. Opportunities are provided to participate in the rehearsal and performance of dance works. (5003015226)

**DANC 1241 - BALLET I** Credit: 2
Prerequisite: None
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)

**DANC 1242 - BALLET II** Credit: 2
Prerequisite: DANC 1241
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)

**DANC 1245 - MODERN DANCE I** Credit: 2
Prerequisite: None
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)

**DANC 1246 - MODERN DANCE II** Credit: 2
Prerequisite: DANC 1245
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)

**DANC 1247 - JAZZ I** Credit: 2
Prerequisite: None
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)

**DANC 1248 - JAZZ II** Credit: 2
Prerequisite: DANC 1247
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)

**DANC 1301 - DANCE COMPOSITION** Credit: 3
Prerequisite: None
3 hrs. lec.

This course provides instruction and practice in the analysis of the basic elements of dance. Emphasis is upon the use of space, rhythm, time and energy. Opportunities to analyze, explore, and study elements of movement design are provided. (5003015526)

**DANC 2151 - DANCE PERFORMANCE III** Credit: 1
Prerequisite: DANC 1152 Corequisite: Enrollment in a dance technique course
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)
DANC 2152 - DANCE PERFORMANCE IV  Credit: 1  
Corequisite: Enrollment in dance technique course  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)

DANC 2189 - ACADEMIC CO-OP IN DANCE  Credit: 1  
Prerequisite: Departmental Approval  1 hr. lec.  
6 hrs. lab.  
An instructional program designed to integrate on campus study with practical hands on work experience in dance. In conjunction with class seminars, the individual student will set specific goals and objectives in dance. (2401035212)

DANC 2241 - BALLET III  Credit: 2  
Prerequisite: DANC 1242  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)

DANC 2242 - BALLET IV  Credit: 2  
Prerequisite: DANC 2241  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)

DANC 2245 - MODERN DANCE III  Credit: 2  
Prerequisite: DANC 1246  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)

DANC 2246 - MODERN DANCE IV  Credit: 2  
Prerequisite: DANC 2245  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)

DFTG 1305 - TECHNICAL DRAFTING  Credit: 3  
Corequisite: None  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, auxiliary views, and reproduction processes.

DFTG 1309 - BASIC COMPUTER-AIDED DRAFTING  Credit: 3  
Prerequisite: Departmental approval  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.
DESCRIPTION OF COURSES

DFTG 1317 - ARCHITECTURAL DRAFTING
RESIDENTIAL Credit: 3
Prerequisite: DFTG 1305, 1309, or 2319 2 hrs. lec.
4 hrs. lab.
Architectural drafting procedures, practices, and symbols, including preparation of detailed working drawings for residential structure with emphasis on light frame construction methods.

DFTG 1325 - TECHNICAL READING AND SKETCHING Credit: 3
Prerequisite: Placement into MATH 1314 or credit for MATH 0310 with a grade of “C” or better; placement into ENGL 0305 or ENGL 0313; or instructor approval 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.

DFTG 1372 - STRUCTURAL STEEL DETAILING Credit: 3
Prerequisite: DFTG 2310 and MATH 1316 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.

DFTG 2302 - MACHINE DRAFTING Credit: 3
Prerequisite: DFTG 1305 and 1309 or 2319 2 hrs. lec.
4 hrs. lab.
Production of detail and assembly drawings of machines, threads, gears, cams, tolerances and limit dimensioning, surface finishes, and precision drawings.

DFTG 2310 - STRUCTURAL DRAFTING Credit: 3
Prerequisite: DFTG 1305, 1309 2 hrs. lec.
Corequisite: DFTG 2319 4 hrs. lab.
Discussion of detail drawings of structural shapes for fabrication with emphasis on framed and seated connectors and beam and column detailing. Designed to meet the standards of American Institute of Steel Construction, including units on concrete detailing conforming to American Concrete Institute standards.

DFTG 2312 - TECHNICAL ILLUSTRATION Credit: 3
Prerequisite: DFTG 1305, 1309, or 2319 2 hrs. lec.
4 hrs. lab.
Topics include pictorial drawing including isometrics, obliques, perspectives, charts, and graphs; shading and transfer lettering; and use of different media.

DFTG 2319 - INTERMEDIATE COMPUTER-AIDED DRAFTING Credit: 3
Prerequisite: Departmental approval 2 hrs. lec.
4 hrs. lab.
A continuation of practices and techniques used in basic computer-aided drafting emphasizing advanced dimensioning techniques, the development and use of prototyped drawings, construction of pictorial drawings, construction of 3 dimensional drawings, interfacing 2-D and 3-D environments and extracting data. Creation of batched files, scripted files, customized program menus, and extended attributes.

DFTG 2323 - PIPE DRAFTING Credit: 3
Prerequisite: DFTG 1305 and 1309 or 2319 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.

DFTG 2328 - ARCHITECTURAL DRAFTING COMMERCIAL Credit: 3
Prerequisite: DFTG 1305, 1309, or 2319 2 hrs. lec.
4 hrs. lab.
Architectural drafting procedures, practices, and symbols including the preparation of detailed working drawings for a commercial building, with emphasis on commercial construction methods.

DFTG 2335 - ADVANCED TECHNOLOGIES IN MECHANICAL DESIGN AND DRAFTING Credit: 3
Prerequisite: MCHN 1319 2 hrs. lec.
Corequisite: DFTG 2340 4 hrs. lab.
Use parametric based mechanical design software for mechanical assembly design and drafting.

DFTG 2336 - COMPUTER AIDED DRAFTING PROGRAMMING Credit: 3
Prerequisite: DFTG 1305 and 1309 or 2319 2 hrs. lec.
4 hrs. lab.
Use of programming language to enhance CAD Software.
DFTG 2340 - SOLID MODELING/ DESIGN  Credit: 3  
Prerequisite: DFTG 1305 and 1309 or 2319  
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.

DFTG 2471- METAL BUILDING SYSTEMS  Credit: 4  
Prerequisite: DFTG 1305, 1309, 1372, 2310, 3 hrs. lec.  
3 hrs. lab.  
A combined lecture and lab course covering Pre-Engineered Metal Buildings. Students will be introduced to building materials used, design concepts, construction details, construction procedures, manufacturing processes detailing, and industry terminology.

DMSO 1210 - INTRODUCTION TO SONOGRAPHY Credit: 2  
Prerequisites: ENGL 0305 or 0314 or placement  
by testing; ENGL 0307 or 0326 or placement by testing  
Corequisites: DMSO 1260, 1451, and 2441  
An introduction to the profession of sonography and the role of the sonographer. Emphasis on medical terminology, ethical/legal aspects, written and verbal communication, and professional issues relating to registry, accreditation, professional organizations and history of the profession.

DMSO 1260 - CLINICAL - DIAGNOSTIC MEDICAL  
SONOGRAPHY TECHNICIAN  Credit: 2  
Prerequisites: ENGL 0305 or 0314 or placement  
by testing; ENGL 0307 or 0326 or placement by testing  
Corequisites: DMSO 1210, 1451, and 2441  
8 hrs. lec.  
2 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.

DMSO 1261 - CLINICAL - DIAGNOSTIC MEDICAL  
SONOGRAPHY TECHNICIAN  Credit: 2  
Prerequisites: DMSO 1460, 2342, 2405,  
and 2253; ENGL 0305 or 0314 or placement  
by testing; ENGL 0307 or 0326 or placement by testing  
Corequisites: DMSO 2201 and 2343  
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.

DMSO 1451 - SONOGRAPHIC CROSS SECTIONAL  
ANATOMY  Credit: 4  
Prerequisites: Admission to the program  
Corequisites: DMSO 1210, 1260, and 2441  
24 ext. hrs.  
A detailed study of the anatomy of the abdomen and pelvis including anatomical relationships of organs such as liver, gallbladder, spleen, pancreas, and vascular structures and body planes and quadrants.

DMSO 1460 - CLINICAL - DIAGNOSTIC MEDICAL  
SONOGRAPHY TECHNICIAN  Credit: 4  
Prerequisite: DMSO 1210, 1260, 1451, and 2441  
24 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.

DMSO 2171 - REVIEW CLASS  Credit: 1  
Prerequisite: DMSO 1461, 2351, DSVT 2200  
1 hr. lec.  
A comprehensive Sonography review course, which incorporates concepts from all previous sonography courses, in preparation for the licensing exam from the American Registry of Diagnostic Medical Sonographers (ARDMS). Includes application of knowledge, judgment, skills, and professional values within a legal/ethical framework.

DMSO 2201 - ULTRASOUND  
INSTRUMENTATION  Credit: 2  
Prerequisite: DMSO 1460, 2253, 2342, and 2405  
2 hrs. lec.  
Corequisite: DMSO 1261 and 2343  
This course focuses on the basic pulse-echo ultrasound system including the components and function of the scanner, display system, scan converter, and hard copy units. Emphasis on Doppler production and display and safety and performance issues.

DMSO 2253 - SONOGRAPHY OF SUPERFICIAL  
STRUCTURES  Credit: 2  
Prerequisite: DMSO 1210, 1260, 1451, and 2441  
2 hrs. lec.  
Corequisite: DMSO 1460, 2342, and 2405  
Detailed study of normal and pathological superficial structures as related to scanning techniques, patient history and laboratory data, transducer selection, and scanning protocols.

DMSO 2342 - SONOGRAPHY OF HIGH RISK  
OBSTETRICS  Credit: 3  
Prerequisite: DMSO 1210, 1260, 1451, and 2441  
3 hrs. lec.  
Corequisites: DMSO 1460, 2253, and 2405  
This course emphasizes maternal disease and fetal abnormalities as related to scanning techniques, patient history and laboratory data, transducer selection, and scanning protocols.
DESCRIPTION OF COURSES

DMSO 2343 - ADVANCED ULTRASOUND PHYSICS
Prerequisites: DMSO 1460, 2253, 2342, and 2405
Credit: 3
Corequisites: DMSO 1261 and 2201
Advanced course emphasizing the theory and practice of ultrasound principles including advances in ultrasound technology.

DMSO 2351 - DOPPLER PHYSICS
Prerequisites: DMSO 1261, 2201, and 2343
Credit: 3
Corequisites: DSVT 2200 and DMSO 1461
This course emphasizes Doppler and hemodynamic principles relating to arterial and venous imaging and testing.

DMSO 2360 - CLINICAL - DIAGNOSTIC MEDICAL SONOGRAPHY TECHNICIAN
Prerequisites: DSVT 2200 and DMSO 1461, 2351, 2201, and 2343
Credit: 3
Corequisites: DSVT 1300 and DMSO 1171
A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

DMSO 2405 - SONOGRAPHY OF OBSTETRICS/GYNECOLOGY
Prerequisites: DMSO 1210, 1260, 1451, and 2441
Credit: 4
Corequisites: DMSO 1460, 2253, and 2342
Detailed study of the pelvis and obstetrics/gynecology as related to scanning techniques, patient history and laboratory data, transducer selection, and scanning protocols.

DMSO 2441 - SONOGRAPHY OF ABDOMINOPELVIC PATHOLOGY
Prerequisites: Admission to program
Credit: 4
Corequisites: DMSO 1210, 1260, and 1451
This course emphasizes pathologies and disease states of the abdomen and pelvis as related to scanning techniques, patient history and laboratory data, transducer selection, and scanning protocols. Endocavitary sonographic anatomy and procedures including pregnancy may be discussed.

DMSO 2461 - CLINICAL - DIAGNOSTIC MEDICAL SONOGRAPHY TECHNICIAN
Prerequisite: DMSO 1261, 2201, and 2343
Credit: 4
Corequisite: DSVT 2200 and DMSO 2351
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.

DRAM 1120, 1121, 2120, 2121 - THEATRE WORKSHOP
Prerequisite: None
Credit: 1
This course is open to all students interested in theatrical production. 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. (5005015226)

DRAM 1161, 1162 - MUSICAL THEATRE I & II
Prerequisite: None
Credit: 1
This course provides practical experience in auditioning, rehearsing, and performing in a major musical. (5009036126)

DRAM 1220 - THEATRE PRACTICUM: LIGHTING AND SOUND
Prerequisite: None
Credit: 2
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. (5005015226)

DRAM 1310 - INTRODUCTION TO THEATRE
Prerequisite: None
Credit: 3
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)

DRAM 1330 - INTRODUCTION TO TECHNICAL PRODUCTION
Prerequisite: None
Credit: 3
This 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. (5005025126)

DRAM 1341 - INTRODUCTION TO MAKE-UP
Prerequisite: None
Credit: 3
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)
DESCRIPTION OF COURSES

DRAM 1342 - INTRODUCTION TO COSTUME Credit: 3
Prerequisite: None
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)

DRAM 1351 - ACTING I Credit: 3
Prerequisite: None
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. (5005035126)

DRAM 1352 - ACTING II Credit: 3
Prerequisite: None
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. (5005035126)

DRAM 2331 - STAGECRAFT Credit: 3
Prerequisite: None
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)

DSVT 1300 - PRINCIPLES OF VASCULAR TECHNOLOGY Credit: 3
Prerequisite: DMSO 1261, 2201, and 2343
Corequisite: DMSO 1171 and 1461
3 hrs. lec.
An introduction to noninvasive vascular technology modalities, including 2D imaging, Doppler, plethysmography, and segmental pressures. Emphasis on performing basic venous and arterial imaging and non-imaging exams.

DSVT 2200 - VASCULAR TECHNOLOGY APPLICATIONS Credit: 2
Prerequisite: DMSO 1261, 2201, and 2343
Corequisite: DMSO 2351 and 1461
2 hrs. lec.
Study of noninvasive vascular exams with emphasis on anatomy and physiology, and pathophysiology.

ECON 2301 - MACROECONOMICS Credit: 3
Prerequisite: None
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)

ECON 2302 - MICROECONOMICS Credit: 3
Prerequisite: None
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,
DESCRIPTION OF COURSES

Economics of regulation; analysis of different types of factor markets and factor price determination. (4506015125)

EDUC 1300 - LEARNING FRAMEWORK Credit: 3
Prerequisite: None 3 hrs. lec.
A study of the 1) research and theory in the psychology of learning, cognition, and motivation, 2) factors that impact learning, and 3) application of learning strategies. Theoretical models of strategic learning, cognition, and motivation serve as the conceptual basis for the introduction of college-level student academic strategies. Students use assessment instruments (e.g., learning inventories) to help them identify their own strengths and weaknesses as strategic learners. Students are ultimately expected to integrate and apply the learning skills discussed across their own academic programs and become effective and efficient learners. Students developing these skills should be able to continually draw from the theoretical models they have learned. (4203015125)

EDUC 1301 - INTRODUCTION TO EDUCATION Credit: 3
Prerequisite: None 3 hrs. lec.
An enriched 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 opportunities to participate in early field experiences. Students will study the culture of schooling and classrooms from the perspectives of language, gender, socioeconomic, ethnic, and disability-based academic diversity and equity. (1301015109)

EDUC 1325 - PRINCIPLES AND PRACTICES OF MULTICULTURAL EDUCATION Credit: 3
Prerequisite: EDUC 1301 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)

EDUC 2301 - INTRODUCTION TO SPECIAL EDUCATION Credit: 3
Prerequisite: EDUC 1301 3 hrs. lec.
Introduction to special education including characteristics, problems, and needs of the exceptional learner. Public and private services available to the handicapped citizen. Field trips may be required. (1310015109)

EECT 1391 - SPECIAL TOPICS Credit: 3
Prerequisite: None 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.

EECT 1403 - INTRODUCTION TO TELECOMMUNICATIONS Credit: 4
Prerequisite: None 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.

EECT 1440 - TELECOMMUNICATIONS TRANSMISSION MEDIA Credit: 4
Prerequisite: Departmental approval 3 hrs. lec. 2 hrs. lab.
Fundamentals of telecommunications media, including installation, maintenance, and troubleshooting. Topics address media characteristics and connectorization.

EECT 2380 - COOPERATIVE EDUCATION - ELECTRONIC AND COMMUNICATIONS ENGINEERING TECHNOLOGY/TECHNICIAN Credit: 3
Prerequisite: Near program completion or departmental approval 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.

EECT 2432 - TELECOMMUNICATIONS SIGNALING Credit: 4
Prerequisite: CPMT 1403 3 hrs. lec. 2 hrs. lab.
The study of signaling schemes in telecommunications. Topics include circuits and systems necessary to implement signaling protocols, conversions, and format.
**EECT 2439 - COMMUNICATIONS CIRCUITS**  
Credit: 4  
Prerequisite: CETT 1457  
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.

**EECT 2440 - TELECOMMUNICATIONS CENTRAL OFFICE EQUIPMENT**  
Credit: 4  
Prerequisite: CPMT 1445 or ITSC 1425  
3 hrs. lec.  
2 hrs. lab.  
An examination of the theory, operation and maintenance of central office telecommunications equipment.

**EECT 2442 - TELECOMMUNICATIONS PRIVATE BRANCH EXCHANGE (PBX)**  
Credit: 4  
Prerequisite: Departmental approval  
3 hrs. lec.  
3 hrs. lab.  
An examination of the theory, operation and maintenance of PBX telecommunications equipment.

**ELMT 2433 - INDUSTRIAL ELECTRONICS**  
Credit: 4  
Prerequisite: CETT 1425  
Corequisite: CETT 1429  
3 hrs. lec.  
3 hrs. lab.  
A study of devices, circuits, and systems primarily used in automated manufacturing and/or process control including computer controls and interfacing between mechanical, electrical, electronic, and computer equipment. Presentation of programming schemes.

**ELMT 2437 - ELECTRONIC TROUBLESHOOTING, SERVICE, AND REPAIR**  
Credit: 4  
Prerequisite: CETT 1403 and 1405  
3 hrs. lec.  
3 hrs. lab.  
In-depth coverage of electronic systems, maintenance, troubleshooting, and repair. Topics include symptom identification, proper repair procedures, repair checkout, and preventative maintenance. Emphasis on safety and proper use of test equipment. This is a capstone course.

**ELPT 1429 - RESIDENTIAL WIRING**  
Credit: 4  
Prerequisite: None  
3 hrs. lec.  
3 hrs. lab.  
Instruction in wiring methods used for single family, two family, and multi-family dwellings.

**EMSP 1160 - CLINICAL - BASIC EMT**  
Credit: 1  
Corequisite: EMSP 1501  
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.

**EMSP 1161 - CLINICAL - EMERGENCY MEDICAL SERVICES PARAMEDIC I**  
Credit: 1  
Prerequisite: EMSP 1160 and 1501  
Corequisite: EMSP 1338, 1356, and 2348  
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.

**EMSP 1162 - CLINICAL - EMERGENCY MEDICAL SERVICES - PARAMEDIC II**  
Credit: 1  
Prerequisite: EMSP 1161  
Corequisite: EMSP 1355 and 2338  
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.

**EMSP 1338 - INTRODUCTION TO ADVANCED PRACTICE**  
Credit: 3  
Prerequisite: EMSP 1160, 1501, or current EMT-B certification  
Corequisite: EMSP 1161, 1356, and 2348  
3 hrs. lec.  
1 hr. lab.  
An exploration of the foundations necessary for mastery of the advanced topics of clinical practice out of the hospital.

**EMSP 1355 - TRAUMA MANAGEMENT**  
Credit: 3  
Prerequisite: EMSP 1161  
Corequisite: EMSP 1162 and 2338  
2 hrs. lec.  
2 hrs. lab.  
A detailed study of the knowledge and skills in the assessment and management of patients with traumatic injuries.

**EMSP 1356 - PATIENT ASSESSMENT AND AIRWAY MANAGEMENT**  
Credit: 3  
Prerequisite: EMSP 1160, 1501, or current EMT-B certification  
Corequisite: EMSP 1161, 1338, and 2348  
2 hrs. lec.  
3 hrs. lab.  
A detailed study of the knowledge and skills required to perform patient assessment and airway management.
DESCRIPTION OF COURSES

EMSP 1358 - STREET SENSE  
Prerequisite: EMSP 1160 and 1501  
Instruction and scenario application of non-medical issues preparing a pre-hospital provider to safely and effectively interact with a culturally diverse population.

EMSP 1501 - EMERGENCY MEDICAL TECHNICIAN - BASIC  
Prerequisite: None  
Corequisite: EMSP 1160  
Introduction to the level of Emergency Medical Technician (EMT) - Basic. Includes all the skills necessary to provide emergency medical care at a basic life support level with an ambulance service or other specialized services.

EMSP 2143 - ASSESSMENT BASED MANAGEMENT  
Prerequisite: EMSP 2160, 2330, and 2434  
Corequisite: EMSP 2361  
The capstone course of the EMSP program. Designed to provide for teaching and evaluating comprehensive, assessment-based patient care management.

EMSP 2160 - CLINICAL - PARAMEDIC III  
Prerequisite: EMSP 2444  
Corequisite: EMSP 2330 and 2434  
A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

EMSP 2300 - METHODS OF TEACHING - EMERGENCY MEDICAL SERVICE  
Prerequisite: EMSP 1160 and 1501  
Instruction in teaching methodology for instructors of emergency medical services.

EMSP 2330 - SPECIAL POPULATIONS  
Prerequisite: EMSP 2444  
Corequisite: EMSP 2160 and 2434  
A detailed study of the knowledge and skills necessary to reach competence in the assessment and management of ill or injured patients in nontraditional populations.

EMSP 2338 - EMS OPERATIONS  
Prerequisite: EMSP 1161  
Corequisite: EMSP 1162 and 1355  
A detailed study of the knowledge and skills necessary to safely manage the scene of an emergency.

EMSP 2345 - EMS SUPERVISION MGMT  
Prerequisite: EMSP 1160 and 1501  
Instruction, literary review, group discussion, and case study on topics pertinent to the emergency medical service (EMS) field supervisor or manager.

EMSP 2348 - EMERGENCY PHARMACOLOGY  
Prerequisite: EMSP 1160, 1501, or current EMT-B certification  
A comprehensive course covering all aspects of the utilization of medications in treating emergency situations. Course is designed to compliment cardiology, special populations, and medical emergency courses.

EMSP 2352 - EMS RESEARCH  
Prerequisite: EMSP 1160 and 1501  
Primary and/or secondary research in current and emerging issues in EMS. Basic research principles, scientific inquiry, and interpretation of professional literature are emphasized.

EMSP 2358 - CRITICAL CARE PARAMEDIC  
Prerequisite: EMSP 2143 and 2361  
Prepares healthcare personnel to function as members of a critical care transport team.

EMSP 2361 - CLINICAL - EMS  
Prerequisite: EMSP 2160  
Corequisite: EMSP 2143  
A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

EMSP 2434 - MEDICAL EMERGENCIES  
Prerequisite: EMSP 2444  
Corequisite: EMSP 2160 and 2330  
A detailed study of the knowledge and skills necessary to reach competence in the assessment and management of patients with medical emergencies.

EMSP 2444 - CARDIOLOGY  
Prerequisite: EMSP 1162  
A detailed study of the knowledge and skills in the assessment and management of patients with cardiac emergencies.
ENGL 0110 - READING LAB  Credit: 1
Prerequisite: Placement by testing  2 hrs. lab.
This is an individualized, lab-based course. The course is designed to review the six reading skills covered by the TASP Certification Form. The topics include basic reading and critical reading skills. This course carries institutional credit but will not transfer and will not be used to meet degree requirements. (3201085212)

ENGL 0113 - WRITING LAB  Credit: 1
Prerequisite: Placement by testing  2 hrs. lab.
This is an individualized, lab-based course. This course is designed to review the TASP writing skills including five editing skills and the process for writing an impromptu essay. This course carries institutional credit but will not transfer and will not be used to meet degree requirements. (3201085312)

ENGL 0304 - DEVELOPMENTAL READING I  Credit: 3
Prerequisite: Placement by testing  3 hrs. lec. 2 hrs. 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)

ENGL 0305 - DEVELOPMENTAL READING II  Credit: 3
Prerequisite: Placement by testing  3 hrs. lec. 2 hrs. 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)

ENGL 0306 - DEVELOPMENTAL WRITING I  Credit: 3
Prerequisite: Placement by testing  3 hrs. lec. 2 hrs. 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)

ENGL 0307 - DEVELOPMENTAL WRITING II  Credit: 3
Prerequisite: Placement by testing  3 hrs. lec. 2 hrs. lab.
The second course in the developmental writing course sequence designed for those students who need a review of grammar and the writing process to produce single and multi-paragraph writings. 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)

ENGL 0310 - PRE-COMPOSITION AND RHETORIC  Credit: 3
Prerequisite: Placement by exam or instructor recommendation
This is an individualized lecture/lab based course designed to prepare students for Composition and Rhetoric I. Topics include basic reading and critical writing skills. Students will be expected to write compositions similar to those assigned in Composition and Rhetoric I. This course carries institutional credit but will not transfer and may not be used to meet degree requirements. (3201085412)

ENGL 0311 - ESL READING AND VOCABULARY DEVELOPMENT III  Credit: 3
Prerequisite: ENGL 0322 and ENGL 0332; 3 hrs. lec. or placement by exam
This course provides dynamic communicative practice for students whose primary language is other than English, exposing them to the uses of language in a variety of relevant contexts. Emphasis is on vocabulary expansion, and comprehension of short paragraphs, the relationship of meaning to grammatical form, and dictionary skills. Writing is required to complement extensive and varied reading activities. Open lab available. This course carries institutional credit but will not transfer and may not be used to meet degree requirements. (3201085612)

ENGL 0312 - ESL READING AND VOCABULARY DEVELOPMENT IV  Credit: 3
Prerequisite: ENGL 0311 or placement by exam  3 hrs. lec.
This course continues to provide dynamic communicative practice, exposing students to the uses of language in a variety of relevant contexts. Focus is on word analysis, vocabulary, literal comprehension, speed, and context clues; interpretation of factual material and inferences; identification of paraphrases of sentences; and development of practical library skills. Writing is required to complement extensive and varied reading activities. Open lab available. This course carries institutional credit but will not transfer and may not be used to meet degree requirements. (3201085612)
DESCRIPTION OF COURSES

ENGL 0313 - ESL READING AND VOCABULARY DEVELOPMENT V  Credit: 3  
Prerequisite: ENGL 0312 or placement by exam  
3 hrs. lec.  
Focus on improving comprehension skills and reading speed. Introduction to summarizing main ideas, identifying word forms, using a dictionary to choose correct meaning, and inferring ideas in a passage. Writing is required to complement extensive and varied reading activities. Open lab available. This course carries institutional credit but will not transfer and may not be used to meet degree requirements. (3201085612)

ENGL 0314 - ESL READING AND VOCABULARY VI  Credit: 3  
Prerequisite: ENGL 0313  
3 hrs. lec.  
This course refines students’ academic reading and vocabulary skills and provides instruction in order to fulfill the TASP requirement for reading. It includes work on reading speed development, pre-reading techniques, fact finding, word form, vocabulary in context, and extracting literal and inferential information from text as well as from charts, graphs, illustrations, and photographs. Writing is required to complement some reading activities. Open lab available. This course carries institutional credit but will not transfer and may not be used to meet degree requirements. (3201085612)

ENGL 0321 - ESL GRAMMAR AND WRITING I  Credit: 3  
Prerequisite: Placement by exam  
5 hrs. lec.  
This course provides learners with coping skills and cultural information necessary for written and oral communication. It offers learners the opportunity to develop, practice, and apply the basic structures of English and to perform simple speaking and writing tasks. Students who enroll in this course should have basic literacy skills in their native language and be familiar with Roman script. Open lab available. This course carries institutional credit but will not transfer and may not be used to meet degree requirements. (3201085712)

ENGL 0322 - ESL GRAMMAR AND WRITING II  Credit: 3  
Prerequisite: ENGL 0321 or placement by exam  
5 hrs. lec.  
This course helps increase proficiency in speaking and writing skills necessary for basic personal, academic, and business communication. Students gain mastery in the use of the basic structures of the language and can perform practical oral and written tasks. Open lab available. This course carries institutional credit but will not transfer and may not be used to meet degree requirements. (3201085712)

ENGL 0323 - ESL GRAMMAR AND WRITING III  Credit: 3  
Prerequisite: ENGL 0322 or placement by exam  
5 hrs. lec.  
In this course students gain mastery in the use of the major structures of the language as well as the basic mechanics of writing necessary for personal, academic, and business communication. Continued emphasis on vocabulary expansion, the relationship of meaning to grammatical form, and dictionary skills. This course carries institutional credit but will not transfer and may not be used to meet degree requirements. Open lab available. (3201085412)

ENGL 0324 - ESL GRAMMAR AND WRITING IV  Credit: 3  
Prerequisite: ENGL 0323 or placement by exam  
5 hrs. lec.  
In this course students begin using sophisticated grammar structures and express themselves with increasing accuracy and effectiveness in different forms of writing such as summaries, narratives, and descriptions. Class activities and assignments are used to produce clarity and precision in sentence and paragraph structure. Focus on identification of paraphrases of sentences and development of practical library skills as well as recognition of idioms, analogies, antonyms and synonyms, and context clues. This course carries institutional credit but will not transfer and may not be used to meet degree requirements. Open lab available. (3201085412)

ENGL 0325 - ESL GRAMMAR AND WRITING V  Credit: 3  
Prerequisite: ENGL 0324 or placement by exam  
5 hrs. lec.  
This course advances the use of more sophisticated grammar and writing skills for personal, academic, and business communication with a focus on increased clarity and accuracy. It uses a process-writing format that includes prewriting, drafting, revising, and proofreading. Open lab available. This course carries institutional credit but will not transfer and may not be used to meet degree requirements. (3201085412)

ENGL 0326 - ESL PRE-COMPOSITION AND RHETORIC  Credit: 3  
Prerequisite: ENGL 0325 or placement by exam  
5 hrs. lec.  
This course helps students use drafting and process writing techniques to develop an approach to writing academic, industrial and business-related essays. Grammar workshops will address specific student needs. Open lab available. This course carries institutional credit but will not transfer and may not be used to meet degree requirements. Students who pass the exit exam may enroll in Freshman English. (3201085412)
ENGL 0331 - ESL LISTENING AND SPEAKING I  Credit: 3  
Prerequisite: Placement by exam  5 hrs. lec.  
This course introduces the key vocabulary and structures necessary for adequate basic proficiency and exposes students to American customs and values. Students refine oral production and listening skills and increase control of the English sound system to minimize miscommunication or misperception due to foreign accent. Students who enroll in this course should have basic literacy skills in their native language and be familiar with Roman script. Open lab available. This course carries institutional credit but will not transfer and may not be used to meet degree requirements. (3201085512)

ENGL 0332 - ESL LISTENING AND SPEAKING II  Credit: 3  
Prerequisite: ENGL 0331 or placement by exam  5 hrs. lec.  
This course offers learners the opportunity to develop, practice, and apply basic English language skills. Students communicate with a growing degree of fluency, using newly acquired vocabulary with some degree of accuracy, and master basic language functions. Open lab available. This course carries institutional credit but will not transfer and may not be used to meet degree requirements. (3201085512)

ENGL 0333 - ESL LISTENING AND SPEAKING III  Credit: 3  
Prerequisite: ENGL 0332 or placement by exam  5 hrs. lec.  
This course provides dynamic communicative practice for students whose primary language is other than English, exposing them to the uses of language in a variety of relevant contexts. Students increase their degree of fluency, accuracy, and comprehension in listening and speaking skills necessary for personal, academic, and business communication. Open lab available. This course carries institutional credit but will not transfer and may not be used to meet degree requirements. (3201085512)

ENGL 0334 - LISTENING AND SPEAKING IV  Credit: 3  
Prerequisite: ENGL 0333 or placement by exam  5 hrs. lec.  
This course sharpens students listening and speaking skills by using authentic materials based on a number of different, universal topics. In addition, students will practice oral and written summaries, discussion strategies, and note taking. Daily activities include listening to lectures and guest speakers, discussing short readings, giving oral presentations. Open lab available. This course carries institutional credit but will not transfer and may not be used to meet degree requirements. (3201085512)

ENGL 0335 - LISTENING AND SPEAKING V  Credit: 3  
Prerequisite: ENGL 0334 or placement by exam  5 hrs. lec.  
This course advances the use of more sophisticated listening and speaking skills for personal, academic, and business communication with a focus on clarity and accuracy. Emphasis on recognition and comprehension of idioms, analogies, antonyms and synonyms, and context clues. Activities include oral presentations, giving and receiving feedback, note taking, and problem solving. Also, practice in identification of sentence paraphrasing and development of practical library skills. Open lab available. This course carries institutional credit but will not transfer and may not be used to meet degree requirements. (3201085512)

ENGL 1301 - COMPOSITION AND RHETORIC I  Credit: 3  
Prerequisite: Placement by testing or completion of ENGL 0307 or 0326 and ENGL 0305 or 0313  
A multi-paragraph composition course, including language study and the mechanics of writing, with examples from selected readings. Students may be required to achieve a departmentally approved score on a proficiency test before credit for the course may be awarded. (2304015112)

ENGL 1302 - COMPOSITION AND RHETORIC II  Credit: 3  
Prerequisite: ENGL 1301  3 hrs. lec.  
A continuation of ENGL 1301 with an emphasis on critical papers, culminating in a term paper or papers. Readings in prose, poetry, and drama. (2304015112)

ENGL 1111 - CREATIVE WRITING WORKSHOP  Credit: 1  
Prerequisite: None  1 hr. lec.  
This course offers practical experience working as staff on a literary publication practicing techniques such as creating, selecting, and/or formatting imaginative writings and illustrations for publication. (2305015112)

ENGL 2307 - CREATIVE WRITING  Credit: 3  
Prerequisite: Six hours of English or departmental approval  3 hrs. lec.  
A brief study of genres of poetry, essay and short fiction. Practice in original composition. Designed as a humanities elective course for students interested in imaginative writing. Only one course (2307 or 2308) may apply toward graduation. (2305015112)
DESCRIPTION OF COURSES

ENGL 2308 - CREATIVE WRITING II Credit: 3
Prerequisite: 6 hrs. of ENGL credit
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. Only one course (2307 or 2308) may apply toward graduation. (2305015112)

ENGL 2311 - TECHNICAL COMMUNICATIONS Credit: 3
Prerequisite: ENGL 1301 and 2nd year standing. 3 hrs. lec. or departmental approval
The writing of technical papers, reports, proposals, progress reports and descriptions. The course also briefly covers oral reporting. (2311015112)

ENGL 2322 - SURVEY OF BRITISH LITERATURE I Credit: 3
Prerequisite: ENGL 1301 and 1302 3 hrs. lec.
A survey of the literature of Great Britain from Anglo-Saxon times to mid-eighteenth century. (2308015112)

ENGL 2323 - SURVEY OF BRITISH LITERATURE II Credit: 3
Prerequisite: ENGL 1301 and 1302 3 hrs. lec.
A survey of literature of Great Britain from mid-eighteenth century to the present. (2308015112)

ENGL 2327 - SURVEY OF AMERICAN LITERATURE I Credit: 3
Prerequisite: ENGL 1301 and 1302 3 hrs. lec.
A survey of major American authors from the colonial period to the Civil War. Figures covered include Edwards, Franklin, Irving, Cooper, Poe, Hawthorne, Melville, Emerson, Thoreau and Whitman. (2307015112)

ENGL 2328 - SURVEY OF AMERICAN LITERATURE II Credit: 3
Prerequisite: ENGL 1301 and 1302 3 hrs. lec.
A survey of major American authors from the Civil War to the present. Movements covered include realism, the jazz age, and the moderns. Representative figures are Twain, Howells, James, Hemingway, Fitzgerald, Faulkner and Eliot. (2307015112)

ENGL 2332 - SURVEY OF WORLD LITERATURE I Credit: 3
Prerequisite: ENGL 1301 and 1302 3 hrs. lec.
A survey of world literature from ancient times to the mid-seventeenth century. (2303015212)

ENGL 2333 - SURVEY OF WORLD LITERATURE II Credit: 3
Prerequisite: ENGL 1301 and 1302 3 hrs. lec.
A survey of world literature from the mid-seventeenth century to the present. (2303015212)

ENGL 2341 - FORMS OF LITERATURE Credit: 3
Prerequisite: ENGL 1301 and 1302 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. (2303015112)

ENGL 2342 - FORMS OF LITERATURE I Credit: 3
Prerequisite: ENGL 1301 and 1302 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. (2303015112)

ENGL 2343 - FORMS OF LITERATURE II Credit: 3
Prerequisite: ENGL 1301 and 1302 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. (2303015112)

ENGL 2389 - ACADEMIC COOPERATIVE IN COMPOSITION Credit: 3
Prerequisite: ENGL 1301 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. (24010352120)

ENGR 1304 - FOUNDATIONS OF ENGINEERING I Credit: 3
Prerequisite: MATH 2412 2 hrs. lec.
Corequisite: ENGL 1301 4 hrs. lab.
Introduction to the engineering profession, ethics and disciplines; development of skills in teamwork; problem solving, logic processing, design and drawing; emphasis on computer applications and CAD tools. (4801015102)
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit</th>
<th>Prerequisites</th>
<th>Hours</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGR 1305</td>
<td>FOUNDATIONS OF ENGINEERING II</td>
<td>3</td>
<td>ENGR 1304 and MATH 2413</td>
<td>2 hrs. lec. 4 hrs. lab.</td>
<td>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. (4801015102)</td>
</tr>
<tr>
<td>ENGR 2301</td>
<td>ENGINEERING MECHANICS I</td>
<td>3</td>
<td>PHYS 2425 and MATH 2414</td>
<td>3 hrs. lec.</td>
<td>Statics of particles and rigid bodies, free body diagrams, centroids, center of gravity and distributed loads, structural analysis of trusses and frames, internal forces and moments in beams and cables, friction, moments of inertia. (1411015210)</td>
</tr>
<tr>
<td>ENGR 2302</td>
<td>ENGINEERING MECHANICS II</td>
<td>3</td>
<td>ENGR 2301 and MATH 2415</td>
<td>3 hrs. lec. Corequisite: (for U of H transfer students) MATH 2320</td>
<td>Kinematics and dynamics of particles, Newton’s Second Law, energy and momentum methods, kinematics and dynamics of rigid bodies, energy methods, vibrations. (1411015310)</td>
</tr>
<tr>
<td>ENGR 2304</td>
<td>NUMERICAL METHODS AND PROGRAMMING</td>
<td>3</td>
<td>MATH 2413</td>
<td>3 hrs. lec. 2 hrs. lab.</td>
<td>Applications in numerical calculus and linear algebra using C/C++ programming language. Algorithms, efficiency and style are emphasized. This course is designed for students in engineering, math, computer science and the natural sciences. (1102015207)</td>
</tr>
<tr>
<td>ENTC 1341</td>
<td>METALLURGY</td>
<td>3</td>
<td>None</td>
<td>2 hrs. lec. 2 hrs. lab.</td>
<td>A comprehensive study of the refining processes, mechanical and physical properties, heat treating, testing and alloying of ferrous and nonferrous materials.</td>
</tr>
<tr>
<td>ENTC 1343</td>
<td>STATICS</td>
<td>3</td>
<td>MATH 1316</td>
<td>2 hrs. lec. 4 hrs. lab.</td>
<td>A study of the composition and resolution of forces and the equilibrium of forces acting on structures. Includes the concepts of friction, moments, couples, centroids, and moment of inertia.</td>
</tr>
<tr>
<td>ENTC 1391</td>
<td>SPECIAL TOPICS</td>
<td>3</td>
<td>Completion of all engineering design graphics technology technical course requirements and department approval</td>
<td>2 hrs. lec. 4 hrs. lab.</td>
<td>Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. The actual course content, and hence learning outcomes, will be determined by area industry and the need of the students for professional development.</td>
</tr>
<tr>
<td>ENTC 1423</td>
<td>STRENGTH OF MATERIALS</td>
<td>4</td>
<td>ENTC 1343</td>
<td>3 hrs. lec. 3 hrs. lab.</td>
<td>A study of the relationships between loads and mechanical properties as they apply to materials, shape, and size of structural components and the resultant stress and strain in loaded components.</td>
</tr>
<tr>
<td>ENTC 2380</td>
<td>COOPERATIVE EDUCATION - ENGINEERING TECHNOLOGY/ TECHNICIAN, GEN.</td>
<td>3</td>
<td>Completion of all Engineering design graphics technology associate degree technical course requirements and department approval</td>
<td>1 hr. lec. 20 ext. hrs.</td>
<td>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.</td>
</tr>
<tr>
<td>FIRS 1301</td>
<td>FIREFIGHTER CERTIFICATION I</td>
<td>3</td>
<td>ENGL 0305, 0313 or ENGL 0314; ENGL 0307 or ENGL 0326; or placement by testing; admission to the program</td>
<td>2 hrs. lec. 3 lab hrs.</td>
<td>An introduction to firefighter safety and development. Topics include Texas Commission on Fire Protection Rules and Regulations, firefighter safety, fire science, personal protective equipment, self-contained breathing apparatus, and fire reports and records.</td>
</tr>
<tr>
<td>FIRS 1313</td>
<td>FIREFIGHTER CERT III</td>
<td>3</td>
<td>ENGL 0305, 0313 or ENGL 0314; ENGL 0307 or ENGL 0326; or placement by testing</td>
<td>2 hrs. lec. 3 hrs. lab.</td>
<td>General principles of fire apparatus, pump operations, fire streams, and public operations as they relate to fundamental development of basic firefighter skills.</td>
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</tbody>
</table>
DESCRIPTION OF COURSES

FIRS 1319 - FIREFIGHTER CERT IV Credit: 3
Prerequisite: ENGL 0305, 0313 or ENGL 0314; 2 hrs. lec
ENGL 0380 or ENGL 0382; or placement by testing.
A study of equipment, tactics, and procedures used in forcible entry, ventilation, salvage, and overhaul.
Preparation for certification as a basic firefighter.

FIRS 1323 - FIREFIGHTER CERT V Credit: 3
Prerequisite: ENGL 0305, 0313 or ENGL 0314; 2 hrs. lec
ENGL 0380 or ENGL 0382; or placement by testing.
The study of ropes and knots, rescue procedures and techniques, and hazardous materials. Preparation for certification as a basic firefighter.

FIRS 1329 - FIREFIGHTER CERT VI Credit: 3
Prerequisite: ENGL 0305, 0313 or ENGL 0314; 2 hrs. lec
ENGL 0380 or ENGL 0382; or placement by testing.
The study of fire inspection techniques and practices, public transportation, fire cause determination. Topics include fire protection systems, wildland fire, and pre-incident planning. Preparation for certification as a basic firefighter.

FIRS 1407 - FIREFIGHTER CERT II Credit: 4
Prerequisite: ENGL 0305, 0313 or ENGL 0314; 3 hrs. lec
ENGL 0380 or ENGL 0382; or placement by testing.
The study of basic principles and skill development in handling fire service hose and ladders. Topics include the distribution system of water supply, basic building construction, and emergency service communication, procedures, and equipment.

FIRS 1433 - FIREFIGHTER CERT VII Credit: 3
Prerequisite: ENGL 0305, 0313 or ENGL 0314; 3 hrs. lec
ENGL 0380 or ENGL 0382; or placement by testing.
An in-depth study and practice of simulated emergency operations and hands-on live fire training exercises, incident command procedures, and combined operations using proper extinguishing methods. Emphasis on safety.

FIRT 1171 - FIREFIGHTER AGILITY & FITNESS PREPARATION Credit: 1
Prerequisite: ENGL 0305, 0313 or ENGL 0314; 1 hr. lec
ENGL 0380 or ENGL 0382; or placement by testing.
Corequisite: FIRS 1301, FIRS 1407, FIRS 1313 and FIRS 1319
This course includes the study of physical agility testing methods and rigorously trains individuals in skills and techniques needed in typical entry level testing.

FIRT 1303 - FIRE ARSON INVESTIGATION I Credit: 3
Prerequisite: ENGL 0305, 0313 or ENGL 0314; 3 hrs. lec
ENGL 0380 or ENGL 0382; or placement by testing.
In-depth study of basic fire and arson investigation practices. Emphasis on fire behavior principles related to fire cause and origin determination.

FIRT 1305 - PUBLIC EDUCATION PROGRAMS Credit: 3
Prerequisite: ENGL 0305, 0313 or ENGL 0314; 3 hrs. lec
ENGL 0380 or ENGL 0382; or placement by testing.
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.

FIRT 1307 - FIRE PREVENTION CODES Credit: 3
Prerequisite: ENGL 0305, 0313 or ENGL 0314; 3 hrs. lec
ENGL 0380 or ENGL 0382; or placement by testing.
Study of local building and fire prevention codes. Emphasis on fire prevention inspections, practices, and procedures.

FIRT 1315 - HAZARDOUS MATERIALS I Credit: 3
Prerequisite: ENGL 0305, 0313 or ENGL 0314; 2 hrs. lec
ENGL 0380 or ENGL 0382; or placement by testing.
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.

FIRT 1319 - FIRE FIGHTER HEALTH & SAFETY Credit: 3
Prerequisite: ENGL 0305, 0313 or ENGL 0314; 2 hrs. lec
ENGL 0380 or ENGL 0382; or placement by testing.
Study of firefighter occupational safety and health in emergency and non-emergency situations.

FIRT 1327 - BUILDING CONSTRUCTION Credit: 3
Prerequisite: ENGL 0305, 0313 or ENGL 0314; 3 hrs. lec
ENGL 0380 or ENGL 0382; or placement by testing.
Exploration of building construction and design related to fire spread and suppression in various structures. Examination of potential hazards resulting from construction practices and materials.

FIRT 1331 - FIREFIGHTING STRATEGIES AND TACTICS I Credit: 3
Prerequisite: ENGL 0305, 0313 or ENGL 0314; 3 hrs. lec
ENGL 0380 or ENGL 0382; or placement by testing.
Analysis of the nature of fire problems and selection of initial strategies and tactics including an in-depth study of efficient and effective use of manpower and equipment to mitigate the emergency.
FIRT 1338 - FIRE PROTECTION SYSTEMS Credit: 3
Prerequisite: ENGL 0305, 0313 or ENGL 0314; ENGL 0307 or ENGL 0326; or placement by testing.
Study of fire detection, alarm, and extinguishing systems.

FIRT 1345 - HAZARDOUS MATERIALS II Credit: 3
Prerequisite: FIRT 1315 3 hrs. lec
In-depth study of mitigation practices and techniques to effectively control hazardous material spills and leaks.

FIRT 1355 - METHODS OF TEACHING Credit: 3
Prerequisite: ENGL 0305, 0313 or ENGL 0314; ENGL 0307 or ENGL 0326; or placement by testing.
Preparation of public safety personnel to effectively teach technical skills, techniques, and information.

FIRT 2333 - FIRE ARSON INVESTIGATION II Credit: 3
Prerequisite: ENGL 0305, 0313 or ENGL 0314; ENGL 0307 or ENGL 0326; or placement by testing.
Continuation of Fire and Arson Investigation I. Topics include reports, court room demeanor, and expert witnesses.

FIRT 2380 - COOPERATIVE EDUCATION Credit: 3
Prerequisite: ENGL 0305, 0313 or ENGL 0314; ENGL 0307 or ENGL 0326; or placement by testing.
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.

FLMC 1331 - COMPUTERS IN VIDEO PRODUCTION I Credit: 3
Prerequisite: ITSC 1401, ARTC 1302 or departmental approval. 2 hrs. lec. 4 hrs. lab.
Applications of computers in digital film production. Design of computer graphic workstations and development of a rationale for selecting software, hardware, and peripherals.

FLMC 2331 - COMPUTERS IN VIDEO PRODUCTION II Credit: 3
Prerequisite: FLMC 1331 2 hrs. lec. 4 hrs. lab.
Applications of computers to production. Vector and raster graphics; rendering techniques; the design and production of three-dimensional materials; and the selection of hardware, software, and peripherals for the configuration of a studio.

FREN 1300 - FRENCH CONVERSATION I Credit: 3
Prerequisite: None 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)

FREN 1310 - FRENCH CONVERSATION II Credit: 3
Prerequisite: FREN 1300 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)

FREN 1411 - BEGINNING FRENCH I Credit: 4
Prerequisite: None 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)

FREN 1412 - BEGINNING FRENCH II Credit: 4
Prerequisite: FREN 1411 or 2 years of high school language in the preceding two years 3 hrs. lec. 2 hrs. lab.
A continuation of FREN 1411 with increased emphasis.

FREN 2311 - INTERMEDIATE FRENCH I Credit: 3
Prerequisite: FREN 1412 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)

FREN 2312 - INTERMEDIATE FRENCH II Credit: 3
Prerequisite: FREN 2311 3 hrs. lec.
Continuation of FREN 2311. (1609015213)

GEOG 1300 - PRINCIPLES OF GEOGRAPHY Credit: 3
Prerequisite: College level reading 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:
DESCRIPTION OF COURSES

cartographic interpretation; identification of landforms; climatic types; the interaction of humans with the physical world; the spatial distribution of cultural activity. (4507015125)

GEOG 1303 - WORLD GEOGRAPHY Credit: 3
Prerequisite: College level reading 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)

GEOL 1403 - PHYSICAL GEOLOGY Credit: 4
Prerequisite: None 3 hrs. lec. 3 hrs. lab.
This course explores the theory of geologic processes including a study of physical forces that shape the earth and all its landforms. Special emphasis is given to the origins of minerals and rocks, volcanoes, earthquakes, structures, plate tectonics and other geologic processes. Lab exercises include mineral identification and differentiation of the major rock types, use of topographic maps and aerial photographs and interpretation of geologic data. Optional field trips help students explore and discover links between classroom discussions and life experiences. Participation in field trips is highly recommended. (4006015103)

GEOL 1404 - HISTORICAL GEOLOGY Credit: 4
Prerequisite: GEOL 1403 or department approval 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. (4006015103)

GEOL 1405 - ENVIRONMENTAL GEOLOGY Credit: 4
Prerequisite: None 3 hrs. lec. 3 hrs. lab.
A survey of geologic processes, their influence on people and the influence of human activities on the environment. Topics include natural resources, geologic hazards, waste disposal, surface and groundwater, air pollution, land-use planning and environmental law. Lab exercises include groundwater flow, environmental pollution, geologic hazards, geologic resources and land use planning. Participation in field trips is highly recommended. (0301025301)

GEOL 1442 - CARTOGRAPHY AND GIS Credit: 4
Prerequisite: None 3 hrs. lec. 3 hrs. lab.
Introduction to the principles of cartography, geography and the use of maps in geologic applications. Emphasis is placed on the identification and comparison of the different map projections, their uses, and limitations. GIS (Geographical Information Systems) will focus on the development and use of GPS (global positioning systems), geologic data collection, analysis and display of information from digital data. Lab work will develop skills in the use and interpretation of maps and PC based computer GIS systems to collect and project data sets in a variety of applications. Students will complete projects specifically in geological and petroleum exploration. This course is similar to CRTG 1411. (4006019131)

GEOL 2307 - GEOLOGY OF TEXAS Credit: 3
Prerequisite: GEOL 1404 or department approval 3 hrs. lec.
The topography, physiography, structure, geologic history and mineral deposits of Texas. Regional correlations and local phenomena are stressed. Participation in field trips is highly recommended. (4006015503)

GERM 1411 - BEGINNING GERMAN I Credit: 4
Prerequisite: None 3 hrs. lec. 2 hrs. lab.
Beginner’s pronunciation, oral practice and dictation. Conversation, use of recordings for ear training, basic principles of grammar, simple exercises in composition, easy reading which includes cultural material. (1605015113)

GERM 1412 - BEGINNING GERMAN II Credit: 4
Prerequisite: GERM 1411 or 2 years of high school language in the preceding two years 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)
GERM 2311 - INTERMEDIATE GERMAN I  Credit: 3  
Prerequisite: GERM 1412  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)

GERM 2312 - INTERMEDIATE GERMAN II  Credit: 3  
Prerequisite: GERM 2311  3 hrs. lec.  
Continuation of GERM 2311. (1605015213)

GERS 1301 - GERONTOLOGY  Credit: 3  
Prerequisite: None  3 hrs. lec.  
Overview of the social, psychological, and biological changes that accompany aging and an overview of the implications of these changes for the individual, as well as for the larger society.

GOVT 2301 - AMERICAN GOVERNMENT: NATIONAL, STATE AND LOCAL I  Credit: 3  
Prerequisite: Must meet college level reading scores  3 hrs. lec.  
A survey of national, state, and local government, including such topics as the U.S. and Texas Constitutions; democratic theory; federalism; political culture, political socialization, and public opinion; political participation and electoral behavior; political parties and interest groups; press; and local government. These phenomena are examined at the national, state, and local levels with an emphasis placed on linkages with the formulation of public policy. THIS COURSE SATISFIES STATE REQUIREMENTS FOR TEACHER CERTIFICATION IN TEXAS. (4510025125)

GOVT 2302 - AMERICAN GOVERNMENT: NATIONAL, STATE AND LOCAL II  Credit: 3  
Prerequisite: Must meet college level reading scores  3 hrs. lec.  
An examination of the institutional elements of the American political system: legislature, executive, judiciary, and bureaucracy. These elements are examined at the national, state, and local levels with a special emphasis on their roles in the development of public policy. (4510025125)

GOVT 2304 - INTRODUCTION TO POLITICAL SCIENCE  Credit: 3  
Prerequisite: GOVT 2301 or 2302 or departmental approval  3 hrs. lec.  
An introductory survey of the field of political science. Emphasis will be placed on the scope of the discipline; methods of inquiry and analysis appropriate for the study of political behavior; and recurring themes and problems in the study of political theory. This course may not be substituted for GOVT 2301 or 2302. (4510015225)

GOVT 2389 - ACADEMIC INTERNSHIP  Credit: 3  
Prerequisite/ Corequisite: Will be established  1 hr. lec. by individual disciplines  6 hrs. lab.  
A course designated to integrate on-campus classroom study with practical hands-on work experience in the student’s major field of study. The student, the student’s supervisor, and a faculty coordinator will establish specific goals for the student to accomplish. The course during the semester also requires an average of one hour per week of practical life/work skills. (4501015125)

GRPH 1305 - INTRODUCTION TO GRAPHIC ARTS AND PRINTING  Credit: 3  
Prerequisite: ARTC 2348  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.

GRPH 1370 - ELECTRONIC PRESENTATIONS  Credit: 3  
Prerequisite: ITSC 1401  2 hrs. lec. 3 hrs. lab.  
Preparation of transparencies, slides, handouts and electronic slide shows for business and industry. Students will incorporate sound and graphics to create well-designed presentation materials. Topics will include electronic design principles, effective color schemes and creative transitional effects. Guidelines for oral and written presentations are emphasized.

GRPH 1395 - SPECIAL TOPICS - COMPUTER TYPOGRAPHER & COMPOSITION PUBLISHING EQUIPMENT OPERATOR  Credit: 3  
Prerequisite: GRPH 2341  2 hrs. lec. 3 hrs. lab.  
Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. Students will contract with the instructor to increase specific skills in an orderly and defined manner. Independent learning skills and development of lifelong learning skills are emphasized.
DESCRIPTION OF COURSES

GRPH 2380 - COOPERATIVE EDUCATION Credit: 3
Prerequisite: ARTC 2348 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.

HART 1291 - SPECIAL TOPICS IN HEATING, AIR CONDITIONING, AND REFRIGERATION TECHNOLOGIES/TECHNICIAN Credit: 2
Prerequisite: 30 hours of training in HVAC&R technology program & departmental approval 1 hr. lec.
4 hrs. lab.
Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student.

HART 1401 - BASIC ELECTRICITY FOR HVAC Credit: 4
Prerequisite: None 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.

HART 1407 - REFRIGERATION PRINCIPLES Credit: 4
Prerequisite: None 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.

HART 1441 - RESIDENTIAL AIR CONDITIONING Credit: 4
Corequisites: HART 1401 and HART 1407 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.

HART 1451 - ENERGY MANAGEMENT Credit: 4
Prerequisite: HART 2445 3 hrs. lec.
3 hrs. lab.
A study of basic heat transfer theory; sensible and latent heat loads; building envelope construction; insulation, lighting, and fenestration types; and conducting energy audit procedures. The course also develops energy audit recommendations based on local utility rates, building use, and construction. Laboratory activities include developing energy audit reports, installing energy saving devices, and measuring energy consumption.

HART 2380 - COOPERATIVE EDUCATION - HEATING, AIR CONDITIONING & REFRIGERATION Credit: 3
Prerequisite: Enrollment in HVAC&R AAS certificate or degree program/completion 1 hr. lab.
20 hrs. ext.
of 20 hrs. in certificate or degree plan
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.

HART 2434 - ADVANCED A/C CONTROLS Credit: 4
Prerequisite: HART 1451 and 2436 3 hrs. lec.
3 hrs. lab.
Theory and application of electrical control devices, electromechanical controls, Direct Digital Controls and/or pneumatic controls.

HART 2436 - AIR CONDITIONING TROUBLESHOOTING Credit: 4
Prerequisite: Instructor approval 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.

HART 2442 - COMMERCIAL REFRIGERATION Credit: 4
Prerequisite: HART 1401, HART 1407 and 2436 3 hrs. lec.
Corequisite: HART 2436 3 hrs. lab.
Theory of and practical application in the maintenance of commercial refrigeration; medium and low temperature applications and ice machines.

HART 2443 - INDUSTRIAL AIR CONDITIONING Credit: 4
Prerequisite: HART 1451 3 hrs. lec.
Corequisite: HART 2434 3 hrs. lab.
A study of components, accessories, applications, and installation of air conditioning systems above 25 tons capacity.
**HART 2445 - AIR CONDITIONING SYSTEMS DESIGN**  
Credit: 4  
Prerequisite: HART 1401, HART 1407 and 2436  
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.

**HART 2449 - HEAT PUMPS**  
Credit: 4  
Prerequisite: HART 1401, HART 1407 and 2436  
Corequisite: HART 2436  
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.

**HIST 1301 - UNITED STATES HISTORY I**  
Credit: 3  
Prerequisite: Must meet college level reading scores  
3 hrs. lec.  
A survey of U.S. history from the Age of Discovery through Reconstruction. Special emphasis will be on the American Revolution, the formation of a republic under the U.S. Constitution, westward expansion, and the Civil War. (4508025125)

**HIST 1302 - UNITED STATES HISTORY II**  
Credit: 3  
Prerequisite: Must meet college level reading scores  
3 hrs. lec.  
A survey of U.S. history from the end of Reconstruction to the present. Special emphasis is placed on the emergence of the United States as a world power and our subsequent assumption of international responsibilities. Other topics will include westward expansion, industrialization, immigration, World War I, World War II, the subsequent Cold War, Vietnam, and the collapse of the Soviet Empire. (4508025125)

**HIST 2301 - TEXAS HISTORY**  
Credit: 3  
Prerequisite: None  
3 hrs. lec.  
Survey of Texas from the Spanish exploration to the present. (4508025225)

**HIST 2311 - HISTORY OF WESTERN CIVILIZATION I**  
Credit: 3  
Prerequisite: None  
3 hrs. lec.  
A history of Western civilization from the beginning of recorded history through the Renaissance and Reformation. Its purpose is to provide students with an interpretive analysis of the social, economic, political and intellectual dynamics that have shaped Western history since antiquity. (4508015425)

**HIST 2312 - HISTORY OF WESTERN CIVILIZATION II**  
Credit: 3  
Prerequisite: None  
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. (4508015425)

**HIST 2321 - WORLD HISTORY I**  
Credit: 3  
Prerequisite: None  
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 (West Europe, East Europe, 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. (4508015325)

**HIST 2322 - WORLD HISTORY II**  
Credit: 3  
Prerequisite: None  
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 (West Europe, East Europe, 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. (4508015325)

**HIST 2351 - ADVANCED HISTORICAL ANALYSIS**  
Credit: 3  
Prerequisite: 3 hrs. HIST or instructor approval  
3 hrs. lec.  
A treatment of specialized historical topics, such as the American Civil War, the Vietnam War, World War II, Women, Afro-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. (4508015625)

**HITT 1166 - PRACTICUM - HEALTH INFORMATION TECHNOLOGY/TECHNICIAN**  
Credit: 1  
Prerequisite: Completion of all first year  
7 hrs. ext.  
HITT courses  
Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.
DESCRIPTION OF COURSES

HITT 1305 - MEDICAL TERMINOLOGY Credit: 3
Prerequisite: None
Medical Terminology is the study of word origin and structure through the introduction of prefixes, suffixes, root words, plurals, abbreviations and symbols, surgical procedures, medical specialties, and diagnostic procedures.

HITT 1345 - HEALTH CARE DELIVERY SYSTEMS Credit: 3
Prerequisite: HITT 1401
Introduction to organization, financing, and delivery of health care services, accreditation, licensure and regulatory agencies.

HITT 1349 - PHARMACOLOGY Credit: 3
Prerequisite: MDCA 1309
2 hrs. lec.
3 hrs. lab.
Overview of the basic concepts of the pharmacological treatment of various diseases affecting major body systems.

HITT 1353 - LEGAL AND ETHICAL ASPECTS OF HEALTH INFORMATION Credit: 3
Prerequisite: HITT 1401
3 hrs. lec.
Concepts of confidentiality, ethics, health care legislation, and regulations relating to the maintenance and use of health information.

HITT 1355 - HEALTH CARE STATISTICS Credit: 3
Prerequisite: HITT 1401, MATH 0306 or equivalent
3 hrs. lec.
General principles of health care statistics with emphasis in hospital statistics. Skill development in computation and calculation of health data.

HITT 1401 - HEALTH DATA CONTENT AND STRUCTURE Credit: 4
Prerequisite: Admission to the program
3 hrs. lec.
3 hrs. lab.
Health Data Content and Structure is an introduction to systems and processes for collecting, maintaining, and disseminating primary and secondary health related information. The course includes instruction in delivery and organizational structure to include content of health records, documentation requirements, registries, indices, licensing, regulatory agencies, forms and screens.

HITT 1441 - CODING AND CLASSIFICATION SYSTEMS Credit: 4
Prerequisite: BIOL 2402, HITT 1401 and completion of all first year HITT courses
3 hrs. lec.
3 hrs. lab.
Coding and Classification Systems involves the application of basic coding rules, principles, guidelines, and conventions.

HITT 2249 - RHIT COMPETENCY REVIEW Credit: 2
Prerequisite: Approval of program director
2 hrs. lec.
Review of HIT competencies, skills and knowledge base pertinent to the technology and relevant to the professional development of the student.

HITT 2339 - HEALTH INFORMATION ORGANIZATION AND SUPERVISION Credit: 3
Prerequisite: Approval of program director
3 hrs. lec.
Health Information Organization and Supervision is an advanced course in the principles of organization and supervision of human, fiscal, and capital resources.

HITT 2343 - QUALITY ASSESSMENT AND PERFORMANCE IMPROVEMENT Credit: 3
Prerequisite: Approval of program director
2 hrs. lec.
2 hrs. lab.
Quality Assessment and Performance Improvement is the study of the many facets of quality standards and methodologies in the health information management environment. Topics include licensing, accreditation, compilation and presentation of data in statistical formats, quality improvement functions, quality tools, utilization management, risk management, and medical staff data quality issues.

HITT 2346 - ADVANCED MEDICAL CODING Credit: 3
Corequisite: HITT 2435
2 hrs. lec.
2 hrs. lab.
In-depth coverage of ICD and CPT coding rubrics, conventions, principles, and updates as they apply to accurate coding of complex medical/surgical cases, with emphasis on case studies. Government regulations and changes in health care reporting will be addressed.

HITT 2435 - CODING AND REIMBURSEMENT TECHNOLOGIES Credit: 4
Prerequisite: HITT 1441
3 hrs. lec.
Corequisite: HITT 2346
3 hrs. lab.
Development of advanced coding techniques with emphasis on case studies, health records, and federal regulations regarding prospective payment systems and methods of reimbursement.

HITT 2460 - CLINICAL - MEDICAL RECORDS TECHNOLOGY/TECHNICIAN Credit: 4
Prerequisite: Completion of all other HITT program courses.
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.
**DESCRIPTION OF COURSES**

**HPRS 1202 - WELLNESS AND HEALTH PROMOTION**  
Credit: 2  
Prerequisite: None  
2 hrs. lec.  
An overview of wellness theory and its application throughout the life span. Focus is on attitude development, impact of cultural beliefs, and communication of wellness.

**HPRS 2301 - PATHOPHYSIOLOGY**  
Credit: 3  
Prerequisite: BIOL 2402 or MDCA 1309  
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.

**HPRS 2332 - HEALTH CARE COMMUNICATIONS**  
Credit: 3  
Prerequisite: None  
3 hrs. lec.  
Application of oral, written and technological methods of communication with clients, client support groups, health care professionals, and external agencies.

**HRPO 1311 - HUMAN RELATIONS**  
Credit: 3  
Prerequisite: None  
3 hrs. lec.  
Practical application of the principles and concepts of the behavioral sciences to interpersonal relationships in the business and industrial environment.

**HRPO 2301 - HUMAN RESOURCE MANAGEMENT**  
Credit: 3  
Prerequisite: None  
3 hrs. lec.  
Behavioral and legal approaches to the management of human resources organizations.

**HRPO 2307 - ORGANIZATIONAL BEHAVIOR**  
Credit: 3  
Prerequisite: None  
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.

**HUMA 1301 - INTRODUCTION TO THE HUMANITIES I**  
Credit: 3  
Prerequisite: None  
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)

**HUMD 0100 - TASP LAB**  
Credit: 1  
Prerequisite: None  
3 hrs. lab.  
HUMD 0100 is established to accommodate students desiring short-term or long-term remediation to satisfy TASP requirements or personal needs. This structure will best serve students who are able to thrive in a self-directed study environment. This course carries institutional credit but will not transfer nor be used to meet degree requirements. (3201015212)

**HUMD 0111 - STRATEGIC LEARNING SYSTEMS**  
Credit: 1  
Prerequisite: None  
1 hr. lec.  
In this course, students will learn a series of strategies for mastering the skills needed for success in college courses. Strategies to be introduced address processing information from textbooks and lectures, studying for and taking tests and understanding the importance of self-concept in college success. As the strategies are introduced, students apply this to the content of courses in which they are currently enrolled. Upon successful course completion, students will have developed a system for learning which can be adapted for use in any learning situation. This course carries institutional credit but will not transfer nor be used to meet degree requirements. It cannot be used as a substitute for enrollment in developmental education courses. (3201015212)

**HUMD 0113 - LEARNING STRATEGIES FOR READING & WRITING INTENSIVE COURSES**  
Credit: 1  
Prerequisite: None  
1 hr. lec.  
In this course, students will develop strategies to meet writing requirements, whether they be in the form of note taking or writing research papers, reviews or other reports, and reading requirements for textbooks and articles. In addition, an understanding of the importance of learning styles and time management to success in reading and writing intensive courses will be addressed. Students practice these skills utilizing the assignments, books, and articles assigned in their courses. Upon successful completion of this course, students will have developed a system that can be applied to any course with a reading or writing emphasis. Concurrent enrollment in a reading or writing intensive course is highly recommended. This course carries institutional credit but will not transfer nor be used to meet degree requirements. It cannot be used as a substitute for enrollment in developmental education courses. (3201015212)

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DESCRIPTION OF COURSES

HUMD 0114 - LEARNING STRATEGIES FOR CAREER DEVELOPMENT Credit: 1
Prerequisite: None 1 hr. lec.
This course focuses on strategies that students need to develop realistic career goals. Topics emphasized include decision making and critical thinking, assessment for greater self-awareness, and research techniques for gathering occupational information. Upon successful course completion, students will be able to understand the career decision making process, identify/confirm career related abilities, interests, and values, apply various career investigation skills, and analyze viability of careers of interest. This course carries institutional credit but will not transfer nor be used to meet developmental requirements. (3201015235)

HUMD 0330 - STUDENT SUCCESS COURSE Credit: 3
Prerequisite: None 3 hrs. lec.
Many colleges and universities, and community colleges in particular, are becoming increasingly aware of the need for academic skill training designed to improve study systems. The purpose of this course is to increase the full realization of academic potential and to decrease academic failure. This course will aim to achieve this goal by helping the student to gain success in the academic environment and by providing the student with learning strategies and specific techniques to increase his/her effectiveness. Thus, the course will be designed to help the student develop new personal insights, new strategies for study and new approaches to self-management by using basic psychological principles. This course carries institutional credit but will not transfer nor be used to meet degree requirements. (3201015235)

IBUS 1305 - INTRODUCTION TO INTERNATIONAL BUSINESS AND TRADE Credit: 3
Prerequisite: None 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.

IBUS 2341 - INTERNATIONAL COMPARATIVE MANAGEMENT Credit: 3
Prerequisite: None 3 hrs. lec.
A study of cross-cultural comparisons of management and communications processes. Emphasis on cultural geographic distinctions and antecedents that affect individual, group, and organizational behavior. Topics include sociocultural demographic, economic, technological, and political-legal environment of cluster countries and their relationship to organizational communications and decision making. Fulfills multicultural requirement.

IBUS 2345 - IMPORT CUSTOM REGULATIONS Credit: 3
Prerequisite: IBUS 1301 or departmental approval 3 hrs. lec.
A study of the duties and responsibilities of the licensed customs broker or customhouse broker. Topics include processes for customs clearance including appraisement, bonded warehouse entry, examination of goods, harmonized tariffs, fees, boning, penalties, quotas, immediate delivery, consumption and liquidation, computerized systems, laws, and regulations.

IEIR 1310 - MOTOR CONTROLS Credit: 3
Prerequisite: CETT 1402 or 1405 or 1409 2 hrs. lec.
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, timedelay circuits, reversing circuits and other control input devices.
IMED 1301 - introduction to multimedia  Credit: 3  
Prerequisite: None  
2 hrs. lec.  
4 hrs. lab.  
A survey of the theories, elements, and hardware/software components of multimedia. Topics include digital image editing, digital sound and video editing, animation, web page development, and interactive presentations. Emphasis on conceptualizing and producing effective multimedia presentations.

IMED 1316 - web page design I  Credit: 3  
Prerequisite: ITSC 1401 or COSC 1401  
2 hrs. lec.  
4 hrs. lab.  
Instruction in web page design and related graphic design issues including mark-up languages, web sites, and browsers.

IMED 1341 - 2-D interface design  Credit: 3  
Prerequisite: ARTC 1302  
2 hrs. lec.  
4 hrs. lab.  
Skill development in the interface design process including selecting interfaces that are meaningful to users and relative to a project's content and delivery system. Emphasis is on aesthetic issues such as iconography, screen composition, colors, and typography.

IMED 1345 - interactive multimedia I  Credit: 3  
Prerequisite: IMED 1301 and ARTC 1302  
2 hrs. lec.  
4 hrs. lab.  
Exploration of the use of graphics and sound to create interactive multimedia animations using industry standard authoring software.

IMED 1351 - digital video  Credit: 3  
Prerequisite: IMED 1301  
2 hrs. lec.  
4 hrs. lab.  
Skill development in producing and editing video and sound for multimedia or web productions. Emphasis on the capture, editing, and outputting of video using a desktop digital video workstation.

IMED 1391 - special topics in media technology  Credit: 3  
Prerequisite: Instructor Approval  
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.

IMED 2309 - internet commerce  Credit: 3  
Prerequisite: IMED 1316  
2 hrs. lec.  
4 hrs. lab.  
An overview of the Internet as a marketing and sales tool with emphasis on developing a prototype for electronic commerce. Topics include database technology, creating web sites in order to collect information, performing on-line transactions, and generating dynamic content.

IMED 2311 - portfolio development  Credit: 3  
Prerequisite: Instructor approval  
2 hrs. lec.  
4 hrs. lab.  
Emphasis on preparation and enhancement of portfolio to meet professional standards, professional organizations, presentation skills, and job-seeking techniques.

IMED 2313 - project analysis and design  Credit: 3  
Prerequisite: IMED 1301 and ITSC 1401 or COSC 1401  
2 hrs. lec.  
4 hrs. lab.  
Introduction to the multimedia planning process for multimedia or web, including costing, preparation, production, legal issues, and guidelines for pre-production preparation and creation of a comprehensive design document including target audience analysis, purpose and goals, objectives, content outline, flow chart, and storyboard. Emphasis on content design and production management.

IMED 2315 - web page design II  Credit: 3  
Prerequisite: IMED 1316  
2 hrs. lec.  
4 hrs. lab.  
A study of mark-up language and advanced layout techniques for creating web pages. Emphasis on identifying the target audience and producing web sites according to accessibility standards, cultural appearance, and legal issues.

IMED 2341 - advanced digital video  Credit: 3  
Prerequisite: IMED 1351  
2 hrs. lec.  
4 hrs. lab.  
DESCRIPTION OF COURSES

**IMED 2345 - INTERACTIVE MULTIMEDIA II**  
Credit: 3  
Prerequisite: IMED 1345  
2 hrs. lec.  
4 hrs. lab.  
Instruction in the use of scripting language to create interactive multimedia projects. Topics include building a user interface, writing script, testing, and debugging.

**IMED 2349 - INTERNET COMMUNICATIONS**  
Credit: 3  
Prerequisite: IMED 1316  
2 hrs. lec.  
4 hrs. lab.  
Advanced seminar in web server design and maintenance. Topics include scripting, web site planning, testing, security, production, and marketing.

**IMED 2351 - MULTIMEDIA PROGRAMMING**  
Credit: 3  
Prerequisite: ARTC 1391  
2 hrs. lec.  
4 hrs. lab.  
Advanced topics in Multimedia programming including custom scripts for data tracking. Emphasis on developing multimedia programs customized to the client’s needs.

**IMED 2380 - COOPERATIVE EDUCATION - INTERACTIVE MEDIA**  
Credit: 3  
Prerequisite: Meets requirements for final semester  
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.

**INDS 1311 - FUNDAMENTALS OF INTERIOR DESIGN**  
Credit: 3  
Prerequisite: MATH 0306 or equivalent test score  
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.

**INDS 1315 - MATERIALS, METHODS AND ESTIMATING**  
Credit: 3  
Prerequisite: MATH 0306 or equivalent test score  
2 hrs. lec.  
4 hrs. lab.  
A study of materials, methods of construction and installation, and estimating for interior design applications.

**INDS 1319 - TECHNICAL DRAWING FOR INTERIOR DESIGNERS**  
Credit: 3  
Prerequisite: MATH 0306 or equivalent test score  
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.

**INDS 1345 - COMMERCIAL DESIGN I**  
Credit: 3  
Prerequisites: INDS 1349 and 2321  
2 hrs. lec.  
4 hrs. lab.  
A study of design principles applied to furniture layout and space planning for commercial interiors.

**INDS 1349 - FUNDAMENTALS OF SPACE PLANNING**  
Credit: 3  
Prerequisite: INDS 1311 and 1319  
2 hrs. lec.  
4 hrs. lab.  
The study of residential and light commercial spaces, including programming, codes, standards, space planning, drawings and presentations.

**INDS 1351 - HISTORY OF INTERIORS I**  
Credit: 3  
Prerequisite: ENGL 0305, 0307 or ENGL 0313, 0314, 0326; or equivalent test scores  
3 hrs. lec.  
1 hr. lab.  
Historical survey of antiquities and European styles and periods of architecture, interiors, and furnishings. With consideration of Egypt, Greece, Italy, Spain, and France.

**INDS 1352 - HISTORY OF INTERIORS II**  
Credit: 3  
Prerequisite: ENGL 0305, 0307 or ENGL 0313, 0314, 0326; or equivalent test scores  
3 hrs. lec.  
1 hr. lab.  
Historical survey of English, American, Asian, and twentieth century styles and periods of architecture, interiors, and furnishings.

**INDS 1391 - SPECIAL TOPICS**  
Credit: 3  
Prerequisite: INDS 1349 and 2321  
2 hrs. lec.  
4 hrs. lab.  
Topics address recently identified current events, skills, knowledge’s, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course introduces principles of successful kitchen and bath design. Course material emphasizes programming and space planning to meet specific requirements. Curriculum involves an in-depth study of innovative products and finishes for the kitchen and bath in private residences.
INDS 2237 - PORTFOLIO PRESENTATION  Credit: 2
Prerequisite: Should be taken during student's final semester
A course in the preparation and presentation of a comprehensive interior design portfolio, including resume preparation, employment interview skills, and goal setting.

INDS 2305 - INTERIOR DESIGN GRAPHICS  Credit: 3
Prerequisite: INDS 1319
2 hrs. lec.
4 hrs. lab.
Skill development in computer generated graphics and technical drawings for interior design applications.

INDS 2307 - TEXTILES FOR INTERIOR DESIGN  Credit: 3
Prerequisite: None
2 hrs. lec.
4 hrs. lab.
The study of interior design textiles including characteristics, care, codes, and applications.

INDS 2313 - RESIDENTIAL DESIGN I  Credit: 3
Prerequisite: INDS 1349 and 2321
2 hrs. lec.
4 hrs. lab.
The study of residential spaces, including the identification of client needs, programming, standards, space planning, drawings, and presentations.

INDS 2315 - LIGHTING FOR INTERIOR DESIGNERS  Credit: 3
Prerequisite: INDS 1319
2 hrs. lec.
4 hrs. lab.
Fundamentals of lighting design, including lamps, luminaires, lighting techniques, and applications for residential and commercial projects.

INDS 2321 - PRESENTATION DRAWING  Credit: 3
Prerequisite: INDS 1311 and 1319; ARTS 1316
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.

INDS 2325 - PROFESSIONAL PRACTICES FOR INTERIOR DESIGNERS  Credit: 3
Prerequisite: None
3 hrs. lec.
A study of business practices and procedures for interior designers, including professional ethics, project management, marketing, and legal issues.

INDS 2330 - INTERIOR DESIGN BUILDING SYSTEMS  Credit: 3
Prerequisite: INDS 1319
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.

INDS 2486 - INTERNSHIP - INTERIOR DESIGN  Credit: 4
Prerequisite: Student must have completed all first semester classes
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.

INEW 2438 - ADVANCED JAVA  Credit: 4
Prerequisite: ITSE 2417
3 hrs. lec.
2 hrs. lab.
A continuation of advanced Java programming techniques such as servlets, and advanced graphical functions.

INMT 1341 - COMPUTER INTEGRATED MANUFACTURING  Credit: 3
Prerequisite: MCHN 1319
2 hrs. lec.
2 hrs. lab.
A study of the principles and application of computer-integrated manufacturing. Employ all aspects of a system including but not limited to integration of material handling, manufacturing, and computer hardware and programming.

INMT 1391 - SPECIAL TOPICS: METAL CUTTING PRACTICES  Credit: 3
Prerequisite: Placement into MATH 1314 or credit for MATH 0310 with a grade of “C” or better; placement into ENGL 0305, ENGL 0313 or 0314; or instructor approval
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 is an introduction to metal removing techniques and includes precision measuring devices, cutting tools, material selection, techniques for drilling and milling, and chip formation.
DESCRIPTION OF COURSES

INMT 1443 - CAD - CAM  Credit: 4
Prerequisite: Instructor approval  2 hrs. lec.
6 hrs. lab.
Computer-assisted applications in integrating engineering graphics and manufacturing. Emphasis on the conversion of a working drawing using CAD-CAM software and related input and output devices to translate into machine code. Upon completion of this course the student shall be able to describe the proper uses of tooling; describe the “G” codes; write programs for the CNC TorCAM mill and lathe machine; and organize and edit CNC programs; and produce detail parts on the mill and lathe.

INMT 1491 - SPECIAL TOPICS - INDUSTRIAL MANUFACTURING TECHNOLOGY/TECHNICIAN  Credit: 4
Prerequisite: None  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.

INMT 2380 - COOPERATIVE EDUCATION - INDUSTRIAL MANUFACTURING TECHNOLOGY/TECHNICIAN  Credit: 3
Prerequisite: Departmental approval  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.

INMT 2381 - COOPERATIVE EDUCATION - INDUSTRIAL MANUFACTURING TECHNOLOGY/TECHNICIAN  Credit: 3
Prerequisite: Departmental approval  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.

INTC 1307 - ELECTRONIC TEST EQUIPMENT  Credit: 4
Prerequisite: CETT 1425  2 hrs. lec.
Corequisite: CETT 1341  4 hrs. lab.
A study of the general theory and application of analog and digital meters, oscilloscopes, frequency generation, frequency measurements, and special measuring instruments. Emphasis on accuracy and limitations of instruments and calibration techniques.

ITAL 1411 - BEGINNING ITALIAN I  Credit: 4
Prerequisite: None  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 which includes cultural material. (1609025113)

ITAL 1412 - BEGINNING ITALIAN II  Credit: 4
Prerequisite: ITAL 1411  3 hrs. lec.
2 hrs. lab.
This course is a continuation of 1411 with increased emphasis on comprehension, speaking, reading, and writing. Intensive skills to increase vocabulary and knowledge of structure. (1609025113)

ITAL 2311 - INTERMEDIATE ITALIAN I  Credit: 3
Prerequisite: ITAL 1412  3 hrs. lec.
This course stresses both oral and written exercises to increase vocabulary expansion of grammatical principles and short themes written on a variety of topics. (1609025213)

ITAL 2312 - INTERMEDIATE ITALIAN II  Credit: 3
Prerequisite: ITAL 2311  3 hrs. lec.
This course is a continuation of ITAL 2311 with emphasis on literary works by Italian authors. Students will read one major novel in Italian. Continued reinforcement of grammatical principles and development of writing and oral skills are stressed. (1609025213)

ITCC 1402 - LOCAL AREA NETWORKS DESIGN AND PROTOCOLS: CISCO 1  Credit: 4
Prerequisite: ITSC 1401 or ITSE 1402  3 hrs. lec.
2 hrs. lab.
Skill development in the design and installation of local area networks to ensure optimal throughput. Topics include cabling, wiring closets, management devices, selection, and installation of network devices, protocols, and subnetting.
DESCRIPTION OF COURSES

ITCC 1406 - BASIC ROUTER CONFIGURATION:
CISCO 2 Credit: 4
Prerequisite: ITCC 1402 3 hrs. lec. 2 hrs. lab.
An introduction to Cisco basic router configuration for local area networks. Topics include initial router configuration for TCP/IP, management of the configuration, backup of router configuration files and routing protocols.

ITCC 1409 - VOICE AND DATA CABLING Credit: 4
Prerequisite: ITSC/COSC 1401 or ITSE 1402 3 hrs. lec. 2 hrs. lab.
Designed for students interested in the physical aspects of voice and data network cabling and installation; skills development in reading network design documentations, part list setup and purchase, pulling and mounting cable, cable management, choosing wiring closets and patch panel installation and termination, installing jacks and cable testing.

ITCC 1442 - LOCAL AREA MANAGEMENT (LAN):
CISCO 3 Credit: 4
Prerequisite: ITCC 1406 3 hrs. lec. 2 hrs. lab.
Skill development in managing traffic in local area networks (LAN) and in the management of network devices for LAN's. Configure routers for IPX protocol, filtering traffic using Access lists, configuring and managing LAN's and identifying and resolving network congestion problems.

ITCC 1446 - WIDE AREA MANAGEMENT (WAN):
CISCO 4 Credit: 4
Prerequisite: ITCC 1442 3 hrs. lec. 2 hrs. lab.
An introduction to wide area networking (WAN) services and management.

ITCC 2436 - BUILDING REMOTE ACCESS NETWORKS:
CISCO 6 Credit: 4
Prerequisite: ITCC 2432 3 hrs. lec. 2 hrs. lab.
Designing and building remote access networks with Cisco products. Topics include assembling and cabling WAN components, configuring network connections via asynchronous modem, ISDN, X.25, and frame relay architectures and associated protocols.

ITCC 2440 - CONFIGURING LAN SWITCHES:
CISCO 7 Credit: 4
Prerequisite: ITCC 2436 3 hrs. lec. 2 hrs. lab.
An introduction to Cisco switches and how to use Cisco switches effectively in networks. Topics include switching concepts, virtual LANS, switch architecture (hardware and software), switch configuration, management and troubleshooting.

ITCC 2444 - INTERNETWORK TROUBLESHOOTING:
CISCO 8 Credit: 4
Prerequisite: ITCC 2440 3 hrs. lec. 2 hrs. lab.
A study of troubleshooting methods for internetworks. Topics include Cisco Troubleshooting Tools, diagnosing and correcting problems within TCP/IP, Novell, and AppleTalk networks, and with Frame Relay and ISDN network connections.

ITMC 1419 - INSTALLING AND ADMINISTERING MICROSOFT WINDOWS SERVER OPERATING SYSTEMS Credit: 4
Prerequisite: ITNW 1425 and ITSC 1405 3 hrs. lec. 2 hrs. lab.
An introduction to Microsoft® Windows Server operating system in a single domain environment. Topics include basic installation, configuration tasks, and day-to-day administration tasks in a Windows based network.

ITMC 1441 - IMPLEMENTING MICROSOFT WINDOWS PROFESSIONAL AND SERVER Credit: 4
Prerequisite: ITMC 1419 3 hrs. lec. 2 hrs. lab.
In-depth coverage of the knowledge and skills necessary to install and configure Microsoft Windows on stand-alone computers and on client computers that are part of a workgroup or domain and the skills and knowledge necessary to install and configure Windows Server to create file, print, and servers.
DESCRiPTION OF COURSES

ITMC 1442 - IMPLEMENTING A MICROSOFT WINDOWS NETWORK INFRASTRUCTURE Credit: 4
Prerequisite: ITMC 1441 3 hrs. lec. 2 hrs. lab.
Skills development in installing, configuring, managing, and supporting a network infrastructure that uses the Microsoft Windows server family of products.

ITMC 1443 - IMPLEMENTING AND ADMINISTERING MICROSOFT DIRECTORY SERV. Credit: 4
Prerequisite: ITMC 1442 3 hrs. lec. 2 hrs. lab.
Provides students with the knowledge and skills necessary to install, configure, and administer Microsoft Windows Active Directory service. Focuses on implementing Group Policy and understanding the Group Policy tasks required to centrally manage users and computers.

ITMC 2431 - DESIGNING A MICROSOFT WINDOWS DIRECTORY SERVICES INFRASTRUCTURE Credit: 4
Prerequisite: ITMC 1443 3 hrs. lec. 2 hrs. lab.
Advanced concepts in the knowledge and skills necessary to design a Microsoft Windows directory services infrastructure. Strategies are presented to assist the student in identifying the information technology needs of the organization and to designing the active directory structure that meets those needs.

ITMC 2432 - DESIGNING A MICROSOFT WINDOWS NETWORKING SERVICES INFRASTRUCTURE Credit: 4
Prerequisite: ITMC 1443 3 hrs. lec. 2 hrs. lab.
Provides experienced support professionals with the information and skills to create a networking services infrastructure design that supports the required network applications.

ITMC 2433 - DESIGNING A SECURE MICROSOFT WINDOWS NETWORK Credit: 4
Prerequisite: ITMC 1443 3 hrs. lec. 2 hrs. lab.
Provides students with the knowledge and skills necessary to design a security framework for small, medium, and enterprise networks by using Microsoft Windows networking technologies.

ITMC 2434 - DESIGNING A MICROSOFT WINDOWS UPGRADE STRATEGY Credit: 4
Prerequisite: ITMC 1443 3 hrs. lec. 2 hrs. lab.
Topics cover the knowledge and skills necessary to select and design a strategy to migrate from Microsoft Windows NT Server directory services infrastructure to a Microsoft Windows Active Directory Service by describing the planning processes and implications involved.

ITMC 2455 - DEPLOYING AND MANAGING MICROSOFT INTERNET SECURITY AND ACCELERATION SERVER Credit: 4
Prerequisite: ITMC 1443 3 hrs. lec. 2 hrs. lab.
Advanced concepts of deploying and managing Microsoft Internet Security and Acceleration (ISA) Server in an enterprise environment.

ITMC 2471 - MANAGING A WINDOWS 2000 NETWORK Credit: 4
Prerequisite: ITMC 1442 3 hrs. lec. 2 hrs. lab.
This course is designed to teach strategies for MS Windows 2000 network management to individuals who desire to learn about this topic as well as those who wish a review course for the MS certification exam #70-218.

ITNW 1425 - FUNDAMENTALS OF NETWORKING TECHNOLOGIES Credit: 4
Prerequisite: ITSC or COSC 1401 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.

ITNW 1446 - MICROSOFT EXCHANGE SERVER CONCEPTS & ADMINISTRATION Credit: 4
Prerequisite: ITNW 2401 or equivalent 3 hrs. lec. 2 hrs. lab.
Skills development in the day-to-day management of an established exchange server organization using Microsoft Exchange Server.

ITNW 1456 - IMPLEMENTING MICROSOFT INTERNET EXPLORER Credit: 4
Prerequisite: ITNW 2401 or equivalent 3 hrs. lec. 2 hrs. lab.
An introduction to the architecture and features of Microsoft® Internet Explorer. Topics include setup, configuration, use, and deployment of Internet Explorer in a network environment.
DESCRIPTION OF COURSES

ITNW 1492 - SPECIAL TOPICS IN BUSINESS SYSTEMS NETWORKING & TELECOMMUNICATIONS  
Credit: 4
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.

ITNW 2330 - FUNDAMENTALS OF INTERNETWORKING  
Credit: 3
Prerequisite: ITSC 1401 and ITNW 1425
3 hrs. lec.
1 hr. lab.
Advanced concepts of internetworking to include internetworking devices and protocols.

ITNW 2347 - NOVELL INTRANETWARE DESIGN AND IMPLEMENTATION  
Credit: 3
Prerequisite: ITNW 2405, 2413 and 2439
3 hrs. lec.
1 hr. lab.
Designing and creating a Novell Directory Services (NDS) database. Topics include partitioning, replication, time synchronization, and strategies for directory tree structure and object placement. Novell Certified.

ITNW 2405 - NETWORK ADMINISTRATION  
Credit: 4
Prerequisite: ITSC 1405 and ITNW 1425
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.

ITNW 2413 - NETWORKING HARDWARE  
Credit: 4
Prerequisite: ITSC 1405
3 hrs. lec.
Corequisite: ITNW 2405
2 hrs. lab.
Maintain network hardware devices. Topics include network cables, servers, and workstations; network connectivity devices such as routers, hubs, bridges, gateways, repeaters, and uninterruptible power supplies; and other networking hardware devices. Novell Certified.

ITNW 2417 - NETWORKING SECURITY  
Credit: 4
Prerequisite: ITMC 1443
3 hrs. lec.
2 hrs. lab.
Instruction in security for network hardware, software, and data including physical security, back-up procedures, firewalls, encryption, and protection from viruses.

ITNW 2421 - NETWORKING WITH TCP/IP  
Credit: 4
Prerequisite: ITNW 2413
3 hrs. lec.
2 hrs. lab.
Set up, configure, use, and support Transmission Control Protocol/Internet Protocol (TCP/IP) on networking operating systems.

ITNW 2431 - NOVELL SERVICE AND SUPPORT  
Credit: 4
Prerequisite: ITNW 2405, 2413 and 2439
3 hrs. lec.
Corequisite: ITNW 2347
2 hrs. lab.
Troubleshoot and support networks with emphasis on solving real world problems in a hands-on environment. Topics include troubleshooting and research techniques, available resources, and network management hard/software.

ITNW 2439 - ADVANCED NETWORK ADMINISTRATION FOR NOVELL NETWARE  
Credit: 4
Prerequisite: ITNW 2405 and 2413
3 hrs. lec.
2 hrs. lab.
Introduction to advanced administrative concepts and tasks related to server and client management and performance. Enhancement of network management and monitoring skills and preparation to install and configure a network operating system. Novell Certified.

ITNW 2445 - WEB SERVER MANAGEMENT  
Credit: 4
Prerequisite: ITNW 2405
3 hrs. lec.
2 hrs. lab.
Installation, configuration, and management of a NetWare Web Server. Topics include how to make Novell clients intranet or internet ready with the implementation of the IPX/IP gateway and how to use Novell Directory Services (NDS) to restrict user access to services through the gateway and access to the Web server.

ITNW 2452 - ADMINISTERING SQL SERVER  
Credit: 4
Prerequisite: ITNW 2401 and 2451 or ITNW 1471 and 1419
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.

ITNW 2453 - SUPPORTING PROXY SERVICES  
Credit: 4
Prerequisite: ITNW 2401 and 2451
3 hrs. lec.
2 hrs. lab.
An introduction to Network Proxy Services including installation, configuration, and troubleshooting basic architecture, controlling internet access, administration, configuring the cache, and methods of improving performance.
DESCRIPTION OF COURSES

ITNW 2454 - INTERNET/INTRANET SERVER Credit: 4
Prerequisite: ITSE 2433 3 hrs. lec.
2 hrs. lab.
Plan, identify, and establish domain relationships; discuss internal and external security issues; install, configure, and implement basic network services; and troubleshoot and maintain an existing server.

ITNW 2459 - WEB SERVER SUPPORT AND MAINTENANCE Credit: 4
Prerequisite: ITNW 1419, 1458 and 2457 or ITNW 2421 and 2451 2 hrs. lab.
Instruction in the installation, configuration, and implementation of an Internet web server.

ITNW 2479 - INTEGRATING NOVELL NETWARE AND WINDOWS NT Credit: 4
Prerequisite: ITNW 2405 3 hrs. lec.
2 hrs. lab
In this course students learn the principles of management of a Windows NT network, and how to integrate the NT database within a Novell NetWare network using NDS and Z.E.N. works.

ITSC 1313 - INTERNET/WEB PAGE DEVELOPMENT Credit: 3
Prerequisite: ITSC or COSC 1401 2 hrs. lec.
4 hrs. lab.
Instruction in the use of Internet services and the fundamentals of web page design and web site development.

ITSC 1401 - INTRODUCTION TO COMPUTERS Credit: 4
Prerequisite: None 3 hrs. lec.
2 hrs. lab.
Overview of computer information systems. Introduces computer hardware, software, procedures, and human resources. Explores integration and application in business and other segments in society. Fundamentals of computer problem-solving and programming may be discussed and applied. Examines applications and software relating to a specific curricular area. This course is equivalent to COSC 1401.

ITSC 1402 - COMPUTER CONTROL LANGUAGE Credit: 4
Prerequisite: ITSC 1411 3 hrs. lec.
2 hrs. lab.
Skill development in the use of system control language on mid-range/mainframe computers. Topics include command formats, file management, job scheduling, resource management, and utilities.

ITSC 1405 - INTRODUCTION TO PC OPERATING SYSTEMS Credit: 4
Prerequisite: ITSC or COSC 1401 3 hrs. lec.
2 hrs. lab.
An in-depth study of current operating systems on the personal computer. Students will study the theory and concepts and will practice the functions provided by the operating systems. Topics include the nature of the personal computer operating systems, control of the systems through commands, file handling, back-up/restore, system tuning and utilities.

ITSC 1407 - UNIX OPERATING SYSTEM I Credit: 3
Prerequisite: ITSC 1401 or COSC 1401 3 hrs. lec.
2 hrs. lab.
A study of the UNIX operating system including multi-user concepts, terminal emulation, use of system editors, basic UNIX commands, and writing script files. Topics include introductory system management concepts.

ITSC 1411 - AS/400 OPERATING SYSTEM I Credit: 4
Prerequisite: ITSC 1401 3 hrs. lec.
2 hrs. lab.
A study of the AS/400 operating system including multi-user concepts, terminal emulation, use of system editor, basic AS/400 menus, commands, and help screens. Topics include introductory system management concepts and file management.

ITSC 1425 - PERSONAL COMPUTER HARDWARE Credit: 4
Prerequisite: ITSC or COSC 1401 3 hrs. lec.
2 hrs. lab.
A study of current personal computer hardware including personal computer assembly and upgrading, setup and configuration, and troubleshooting.

ITSC 2331 - INTEGRATED SOFTWARE APPLICATIONS III Credit: 3
Prerequisite: ITSC 1401 1 hr. lec.
4 hrs. lab.
Designed for advanced users with emphasis on a wide range of productivity tasks including complex assignments that require advanced formatting and functionality. ITTSW 1301 and ITTSW 1404 are recommended prior to enrolling in the course. This is a capstone course for the Microsoft Specialist Certificate.
DESCRIPTION OF COURSES

ITSC 2335 - APPLICATION PROBLEM SOLVING Credit: 3
Prerequisite: IMED 1316 or ITSC 1313; ITSE 1407; 2 hrs. lec. 2 hrs. lab.
ITSE 1407 or 1431 or 1445 or 2417; ITSC 1407 4 hrs. lab.
Utilization of current application software to solve advanced problems and generate customized solutions, involving project and software specific to a specific curricular area. This is a capstone course for the E-Business Web Developer AAS Degree.

ITSC 2371 - METHODS AND TECHNIQUES FOR TECHNICAL TRAINERS Credit: 3
Prerequisite: Completion of 27 hrs. computer courses or departmental approval. 2 hrs. lec. 2 hrs. lab.
Preparation for designing and delivering technical training. Includes developing effective presentation strategies, applying adult learning principles, identifying differing learning styles, identifying need for technical training, and facilitating classroom management techniques. This is a capstone course for the PC Desktop Specialist Associate of Applied Science degree.

ITSC 2380 - COOPERATIVE EDUCATION - COMPUTER PROGRAMMING Credit: 3
Prerequisite: Enrollment in the Computer Information Technology AAS degree program; 20 hrs. ext. completion of 15 credits in the degree plan; approval of computer information technology coordinator.
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. This course may be used as the capstone course in the Computer Information Technology Programs.

ITSC 2401 - PERSONAL COMPUTER PROBLEM SOLVING Credit: 4
Prerequisite: ITSC 1405 and 1425 3 hrs. lec. 2 hrs. lab.
A course in problem-solving with emphasis on group problem-solving techniques which simulate project teamwork in an organization.

ITSC 2437 - UNIX OPERATING SYSTEMS II Credit: 4
Prerequisite: ITSC 1407 3 hrs. lec. 2 hrs. lab.
Advanced study of the UNIX operating system. Includes advanced concepts of system management and communication, the installation and maintenance of software, network security, and data integrity issues.

ITSC 2439 - PERSONAL COMPUTER HELPDESK Credit: 4
Prerequisite: Completion of 16 hours of computer courses or departmental approval 2 hrs. lab.
Diagnosis and solution of user hardware and software related problems with on-the-job projects.

ITSC 2442 - AS/400 OPERATING SYSTEM II Credit: 4
Prerequisite: ITSC 1411 3 hrs. lec. 2 hrs. lab.
Advanced study of the AS/400 operating system. Topics include advanced concepts of systems management and communications, installation and maintenance of software, network security, and data integrity.

ITSE 1350 - SYSTEMS ANALYSIS & DESIGN Credit: 3
Prerequisite: ITSE 1402 and one programming language 3 hrs. lec.
Comprehensive introduction to the planning, design, and construction of computer information systems using the systems development life cycle and other appropriate design tools.

ITSE 1402 - COMPUTER PROGRAMMING Credit: 4
Prerequisite: None 3 hrs. lec. 2 hrs. lab.
Introduction to computer programming with emphasis on the fundamentals of structured design, development, testing, implementation, and documentation. Includes language syntax, data and file structures, input/output devices, and files. ITSC 1401 is recommended prior to enrolling.
DESCRIPTION OF COURSES

**ITSE 1407 - INTRODUCTION TO C++ PROGRAMMING**  
Credit: 4  
Prerequisite: ITSE 1402  
3 hrs. lec.  
2 hrs. lab.  
Introduction to computer programming using C++. Emphasis on the fundamentals of structured design with development, testing, implementation, and documentation. Includes language syntax, data and file structures, input/output devices and files. ITSC 1401 is recommended prior to enrolling.

**ITSE 1414 - INTRODUCTION TO RPG PROGRAMMING**  
Credit: 4  
Prerequisite: ITSE 1402  
3 hrs. lec.  
2 hrs. lab.  
Introduction to computer programming using RPG. Emphasis on the fundamentals of structured design, development, testing, implementation and documentation. Includes language syntax, data and file structures, input/output devices, and files. ITSC 1401 is recommended prior to enrolling.

**ITSE 1418 - INTRODUCTION TO COBOL PROGRAMMING**  
Credit: 4  
Prerequisite: ITSE 1402  
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.

**ITSE 1431 - INTRODUCTION TO VISUAL BASIC PROGRAMMING**  
Credit: 4  
Prerequisite: ITSE 1402  
3 hrs. lec.  
2 hrs. lab.  
Introduction to computer programming using Visual Basic. 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.

**ITSE 1445 - INTRODUCTION TO ORACLE SQL AND PL/SQL**  
Credit: 4  
Prerequisite: ITSE 1402  
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) and Procedure Language (PL).

**ITSE 1452 - SYSTEM DESIGN USING ORACLE TOOLS I**  
Credit: 4  
Prerequisite: ITSE 1445  
3 hrs. lec.  
2 hrs. lab.  
Skill development in the use of Designer 2000. Topics include modeling business functions and using Systems Modeler and Repository Object Navigator.

**ITSE 1491 - INTRODUCTION TO C# PROGRAMMING**  
Credit: 4  
Prerequisite: ITSC 1401, ITSE 1402  
3 hrs. lec.  
2 hrs. lab.  
C# is a modern, object-oriented language that enables programmers to quickly build a wide range of applications for the Microsoft.NET environment. This course is a study of the design, coding, testing and documentation of computer programs using a current, personal computer C# compiler. All C# statements and operators are covered in lecture and used within practice programs and program assignments. This is a review of basic logic concepts, and various advanced logic concepts (selection logic and array) are mastered.

**ITSE 2380 - COOPERATIVE EDUCATION - COMPUTER PROGRAMMING**  
Credit: 3  
Prerequisite: Meets requirements for last semester  
1 hr. lec.  
20 hrs. ext.  
Career-related activities encountered in the student’s area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes lecture component. This is a capstone course for the Mid-Range Computing Specialization, AAS Degree, the E-Business Web Developer Specialization, AAS Degree, the Programming Specialist Specialization, AAS Degree, and the Programming Specialist Certificate.

**ITSE 2413 - WEB AUTHORING**  
Credit: 4  
Prerequisite: ITSC 1313 or IMED 1316  
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.

**ITSE 2417 - JAVA PROGRAMMING**  
Credit: 4  
Prerequisite: ITSE 1402  
3 hrs. lec.  
2 hrs. lab.  
Introduction to JAVA programming with object-orientation. Emphasis on the fundamental syntax and semantics of JAVA for applications and web applets.
ITSE 2431 - ADVANCED C++ PROGRAMMING Credit: 4  
Prerequisite: ITSE 1407  
3 hrs. lec.  
2 hrs. lab.  
Further application of C++ programming techniques including subjects such as 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.

ITSE 2433 - IMPLEMENTING A DATABASE  
MICROSOFT SQL SERVER Credit: 4  
Prerequisite: ITSW 1407 and ITSE 1402  
3 hrs. lec.  
2 hrs. lab.  
Skills development in the implementation of a database solution using Microsoft SQL Server client/server database management system.

ITSE 2435 - ADVANCED RPG PROGRAMMING Credit: 4  
Prerequisite: ITSE 1414  
3 hrs. lec.  
2 hrs. lab.  
Further application of RPG programming techniques, including file access methods, data structures, modular programming, program testing and documentation.

ITSE 2440 - ORACLE DISTRIBUTED DATABASE AND  
CLIENT SERVER SYSTEMS Credit: 4  
Prerequisite: ITSE 2456  
3 hrs. lec.  
2 hrs. lab.  
An introduction to Oracle Client/Server connectivity and distributed databases. Topics include configuring, administering, tuning, troubleshooting Oracle SQL*Net and related tools in a secure client/server environment and implementing a network in conjunction with one or more Oracle or non-Oracle databases. This is a capstone course.

ITSE 2443 - ADVANCED WINDOWS PROGRAMMING Credit: 4  
Prerequisite: ITSE 1431 and 2449  
3 hrs. lec.  
2 hrs. lab.  
Further applications of windows programming techniques, including file access methods, data structures and modular programming, program testing and documentation.

ITSE 2444 - ORACLE DATABASE STRUCTURE  
AND WAREHOUSING Credit: 4  
Prerequisite: ITSE 2440  
3 hrs. lec.  
2 hrs. lab.  
A practical application course for modeling and designing an Oracle data warehouse using case studies. This is a capstone course.

ITSE 2449 - ADVANCED VISUAL BASIC PROGRAMMING Credit: 4  
Prerequisite: ITSE 1431  
3 hrs. lec.  
2 hrs. lab.  
Further applications of programming techniques using Visual BASIC. Topics include file access methods, data structures and modular programming, program testing and documentation.

ITSE 2450 - MASTERING ENTERPRISE DEVELOPMENT  
USING MICROSOFT VISUAL BASIC Credit: 4  
Prerequisite: ITSE 2449  
3 hrs. lec.  
2 hrs. lab.  
In-depth development of client/server solutions using component object modeling (COM).

ITSE 2451 - ADVANCED COBOL PROGRAMMING Credit: 4  
Prerequisite: ITSE 1418  
3 hrs. lec.  
2 hrs. lab.  
Further applications of programming techniques using COBOL, including file access methods, data structures and modular programming, program testing and documentation.

ITSE 2452 - SYSTEM DESIGN USING  
ORACLE TOOLS II Credit: 4  
Prerequisite: ITSE 1452  
3 hrs. lec.  
2 hrs. lab.  
A continuation of System Design Using Oracle Tools I. Topics include creating a business information model, transforming the analysis model into design level definitions, refining the data and application designs, and generating database objects using Oracle Developer and Web Server.

ITSE 2453 - ADVANCED WEB AUTHORING FOR NETWARE Credit: 4  
Prerequisite: None  
3 hrs. lec.  
2 hrs. lab.  
Advanced applications for Web authoring. Topics include Server Side Include (SSI) commands, Perl scripts, JavaScript and Java Applets.
DESCRIPTION OF COURSES

ITSE 2454 - ADVANCED ORACLE SQL AND PL/SQL  
Credit: 4  
Prerequisite: ITSE 1445  
3 hrs. lec.  
2 hrs. lab.  
A continuation of Oracle SQL and PL/SQL. Topics include hierarchical queries, set based queries, correlated subqueries, scripting, and scripting generation.

ITSE 2456 - ORACLE DATABASE ADMINISTRATION I  
Credit: 4  
Prerequisite: ITSE 1445  
3 hrs. lec.  
2 hrs. lab.  
Fundamentals of tasks and functions required of a database administrator using Oracle.

ITSE 2458 - ORACLE DATABASE ADMINISTRATION II  
Credit: 4  
Prerequisite: ITSE 2456  
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.

ITSE 2459 - ADVANCED COMPUTER PROGRAMMING  
Credit: 4  
Prerequisite: ITSE 1350 and one of the following: ITSE 2431, 2435, 2437, 2449, 2451  
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.

ITSE 2471 - ADVANCED COMPUTER PROGRAMMING  
Credit: 4  
Prerequisite: ITSE 1450 and 2456  
3 hrs. lec.  
2 hrs. lab.  
An introduction to Oracle Client/Server connectivity and distributed databases. Topics include configuring, administering, tuning, troubleshooting Oracle SQL*Net and related tools in a secure client/server environment. Also, explores the database tuning process and its associated steps. Topics include the buffer cache, tuning the shared pool, tuning the redo log buffer, database configuration and I/O issues, using Oracle blocks efficiently, tuning rollback segments, monitoring and detecting lock contention, and multithreaded server tuning issues.

ITSE 2472 - WEB APPLICATION DEVELOPMENT  
Credit: 4  
Prerequisite: IMED 1316 or ITSC 1313; ITSW 1407; ITSE 1407 or 1431 or 1445 or 2417; ITSC 1407  
3 hrs. lec.  
2 hrs. lab.  
Build dynamic, interactive web sites utilizing web application development tools. Focus is on design techniques, execution of web programs, and implementation of credit card authorization techniques.

ITSW 1301 - INTRODUCTION TO WORD PROCESSING  
Credit: 3  
Prerequisite: Basic keyboarding proficiency  
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.

ITSW 1404 - INTRODUCTION TO SPREADSHEETS  
Credit: 4  
Prerequisite: ITSC or COSC 1401  
3 hrs. lec.  
2 hrs. lab.  
Instruction in the concepts, procedures, and importance of electronic spreadsheets.

ITSW 1407 - INTRODUCTION TO DATABASE  
Credit: 4  
Prerequisite: ITSC or COSC 1401  
3 hrs. lec.  
2 hrs. lab.  
Introduction to database theory and the practical applications of a database.

ITSW 2331 - ADVANCED WORD PROCESSING  
Credit: 3  
Prerequisite: ITSW 1301  
1 hr. lec.  
4 hrs. lab.  
Continuation of the study of word processing including advanced applications in merging, macros, graphics, desktop publishing, and extensive formatting for technical documents.

ITSW 2434 - ADVANCED SPREADSHEETS  
Credit: 4  
Prerequisite: ITSW 1404  
3 hrs. lec.  
2 hrs. lab.  
Designed to provide an understanding of advanced functionality of electronic spreadsheets.

ITSW 2437 - ADVANCED DATABASES  
Credit: 4  
Prerequisite: ITSW 1407 and ITSE 1402  
3 hrs. lec.  
2 hrs. lab.  
Designed to provide an understanding of advanced functionality of databases.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credit</th>
<th>Prerequisite</th>
<th>Hours</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>JAPN 1411</td>
<td>BEGINNING JAPANESE I</td>
<td>4</td>
<td>None</td>
<td>3 hrs</td>
<td>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)</td>
</tr>
<tr>
<td>JAPN 1412</td>
<td>BEGINNING JAPANESE II</td>
<td>4</td>
<td>JAPN 1411 or 2 years high school</td>
<td>3 hrs</td>
<td>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)</td>
</tr>
<tr>
<td>KINE 1111</td>
<td>FITNESS FOR LIFE I</td>
<td>1</td>
<td>None</td>
<td>3 hrs</td>
<td>lab. Fitness for Life I is a cardiorespiratory fitness course in which students participate in a self-paced walking, jogging, or stationary cycling program. Muscular endurance and flexibility exercise are presented. The course includes an introduction to facts, concepts, and application of wellness principles, such as, nutrition, diet and weight control. (3601085128)</td>
</tr>
<tr>
<td>KINE 1112</td>
<td>WEIGHT TRAINING I</td>
<td>1</td>
<td>None</td>
<td>3 hrs</td>
<td>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. (3601085128)</td>
</tr>
<tr>
<td>KINE 1113</td>
<td>JOGGING I</td>
<td>1</td>
<td>None</td>
<td>3 hrs</td>
<td>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. (3601085128)</td>
</tr>
<tr>
<td>KINE 1114</td>
<td>AEROBICS I</td>
<td>1</td>
<td>None</td>
<td>3 hrs</td>
<td>lab. Aerobics is a group activity class that may include the following: step aerobics, circuit training, sports conditioning, body toning, pilates, yoga, high/low impact, cardio-kickboxing, aerobic dance and interval training. (3601085128)</td>
</tr>
<tr>
<td>KINE 1115</td>
<td>BICYCLING I</td>
<td>1</td>
<td>None</td>
<td>3 hrs</td>
<td>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. (3601085128)</td>
</tr>
<tr>
<td>KINE 1116</td>
<td>AQUA AEROBICS I</td>
<td>1</td>
<td>None</td>
<td>3 hrs</td>
<td>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. (3601085128)</td>
</tr>
<tr>
<td>KINE 1118</td>
<td>INLINE SKATING I</td>
<td>1</td>
<td>None</td>
<td>3 hrs</td>
<td>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. (3601085128)</td>
</tr>
<tr>
<td>KINE 1121</td>
<td>BADMINTON I</td>
<td>1</td>
<td>None</td>
<td>3 hrs</td>
<td>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. (3601085128)</td>
</tr>
<tr>
<td>KINE 1122</td>
<td>BOWLING I</td>
<td>1</td>
<td>None</td>
<td>3 hrs</td>
<td>lab. This course offers basic beginning skills, safety, scorekeeping techniques, rules, and strategies of bowling. Students practice skills through drills and competitive games. (3601085128)</td>
</tr>
<tr>
<td>KINE 1123</td>
<td>GOLF I</td>
<td>1</td>
<td>None</td>
<td>3 hrs</td>
<td>lab. Golf I emphasizes basic golf skills, rules, scoring, etiquette, and terminology. (3601085128)</td>
</tr>
</tbody>
</table>

* Skilled activity classes will be responsible for completion of a wellness core. This core will emphasize the health-related components of fitness, wellness for a lifetime, and disease prevention.
DESCRIPTION OF COURSES

KINE 1124 - RACQUETBALL I * Credit: 1
Prerequisite: None
Racquetball I is a beginning course designed to teach the novice player the basic strokes, strategies, and the rules of the game. (3601085128)

KINE 1125 - TENNIS I * Credit: 1
Prerequisite: None
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. (3601085128)

KINE 1126 - GYMNASTICS I * Credit: 1
Prerequisite: None
Gymnastics I is an introductory course in which the student will perform basic skills and techniques on women's and men's apparatus and tumbling. Terms, concepts of physics, and safety aspects are included. (3601085128)

KINE 1127 - KARATE I * Credit: 1
Prerequisite: None
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. (3601085128)

KINE 1130 - TAI CHI I * Credit: 1
Prerequisite: None
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. (3601085128)

KINE 1131 - BASKETBALL I * Credit: 1
Prerequisite: None
This course includes the fundamental skills and strategies, history, rules and terminology of basketball. The course includes participation in game situations. (3601085128)

KINE 1132 - VOLLEYBALL I * Credit: 1
Prerequisite: None
Volleyball I includes instruction and practice of beginning volleyball techniques and skills, with introduction to the rules, offensive and defensive strategy, and safety aspects. (3601085128)

KINE 1133 - SOFTBALL I * Credit: 1
Prerequisite: None
Students will receive instruction in the following fundamental skill areas: throwing, batting, fielding, and base running. The rules, safety, offense and defensive strategies and basic terminology will be emphasized through game play. (3601085128)

KINE 1134 - SOCCER I * Credit: 1
Prerequisite: None
Covers fundamental skills and strategies, history, rules and terminology of soccer. The course includes participation in game situations. (3601085128)

KINE 1135 - BASEBALL I * Credit: 1
Prerequisite: None
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. (3601085128)

KINE 1141 - BALLET I * Credit: 1
Prerequisite: None
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)

KINE 1143 - MODERN DANCE I * Credit: 1
Prerequisite: None
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)

KINE 1145 - JAZZ DANCE I * Credit: 1
Prerequisite: None
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)

* Skilled activity classes will be responsible for completion of a wellness core. This core will emphasize the health-related components of fitness, wellness for a lifetime, and disease prevention.
KINE 1146 - COUNTRY & WESTERN DANCE I * Credit: 1
Prerequisite: None 3 hrs. lab.
Country & Western Dance I is an introductory dance technique course. It emphasizes instruction and practice of beginning country western techniques including the two-step, polka, waltz, Cotton-eyed Joe, Schottische, jitterbug, and line dances. (3601145123)

KINE 1147 - SOCIAL AND POPULAR DANCE Credit: 1
Prerequisite: None 3 hrs. lab.
Instruction and practice in dances that are currently popular. Basic steps and variations, techniques of leading and following are included. Emphasis on “traditional”: Fox Trot, Waltz, Jitterbug, and Polka in Fall semester. Emphasis on Latin dances: Salsa, Tango, Samba, Meringue in the Spring semester. (3601145130)

KINE 1151 - BASIC SCUBA DIVING * Credit: 1
Prerequisite: Ability to swim 3 hrs. lab.
Basic SCUBA Diving is an aquatic activity skill course with emphasis on instruction and practice of basic techniques of SCUBA. It includes an introduction to the safety aspects and concepts of SCUBA. Certification is included in the course, but not required for completion of the course for credit. (3601085323)

KINE 1152 - ADVANCED SCUBA DIVING * Credit: 1
Prerequisite: KINE 1151 3 hrs. lab.
Advanced SCUBA Diving involves participation in and demonstration of advanced SCUBA techniques, including specialty training in compass and natural navigation, search and recovery, limited visibility and night diving, and computer diving. (3601085323)

KINE 1153 - LIFEGUARD TRAINING * Credit: 1
Prerequisite: Ability to swim 3 hrs. lab.
Lifeguard training includes instruction in all necessary lifeguard/lifesaving techniques to certify students as specified by the American Red Cross. (3601085323)

KINE 1154 - SCUBA DIVEMASTER Credit: 1
Prerequisite: KINE 1153 3 hrs. lab.
Preparation for Divemaster certification. This course includes Stress and Rescue, First Aid, CPR and other specialty training necessary for entering a professional Divemaster program. (3601085323)

KINE 1171 - VENTURE DYNAMICS I * Credit: 1
Prerequisite: None 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)

KINE 1172 - BACKCOUNTRY EXPEDITIONING I * Credit: 1
Prerequisite: None 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)

KINE 1173 - ROCK CLIMBING I * Credit: 1
Prerequisite: None 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)

KINE 1174 - HORSEMANSHIP * Credit: 1
Prerequisite: None 3 hrs. lab.
Horsemanship is a beginning course that guides the student through the proper execution of horsecare, riding techniques, safety principles for horse and rider, and proper care of the horse and equipment. (3601085128)

KINE 1180 - SWIMMING I * Credit: 1
Prerequisite: None 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)

KINE 1181 - CANOEING I * Credit: 1
Prerequisite: None 3 hrs. lab.
Canoeing is an aquatic activity skill course with emphasis on instruction, safety, and practice of beginning canoeing techniques. (3601085128)

KINE 1301 - FOUNDATIONS OF PHYSICAL EDUCATION/KINESIOLOGY Credit: 3
Prerequisite: None 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)
DESCRIPTION OF COURSES

KINE 1304 - PERSONAL HEALTH  Credit: 3
Prerequisite: None  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. (5103015116)

KINE 1306 - FIRST AID AND SAFETY  Credit: 3
Prerequisite: None  3 hrs. lec.
This course emphasizes the principles of first aid including bleeding control, splinting, and CPR for the adult, child and infant. It is designed for students to obtain American Red Cross certification or American Heart Association in First Aid and CPR. It may be taken as an elective. However, it is required for Physical Education/Kinesiology majors. This course will not fulfill the KINE activity requirement. (5103015316)

KINE 1308 - SPORTS OFFICIATING I  Credit: 3
Prerequisite: None  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. (1202045109)

KINE 1309 - SPORTS OFFICIATING II  Credit: 3
Prerequisite: None  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. (1202045109)

KINE 1331 - KINESIOLOGY FOR ELEMENTARY EDUCATION MAJORS  Credit: 3
Prerequisite: None  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)

KINE 1336 - OUTDOOR LEADERSHIP I  Credit: 3
Prerequisite: None  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)

KINE 1337 - OUTDOOR LEADERSHIP II  Credit: 3
Prerequisite: KINE 1336  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)

KINE 2111 - FITNESS FOR LIFE II  Credit: 1
Prerequisite: KINE 1111  3 hrs. lab.
Continuation of KINE 1111. Muscular endurance and flexibility are assessed. Students apply concepts of wellness principles, including nutrition, diet, and weight control, and fitness concepts of cardio respiratory endurance, muscular strength, muscular endurance, and flexibility. (3601085128)

KINE 2112 - WEIGHT TRAINING II  Credit: 1
Prerequisite: KINE 1112  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. (3601085128)

KINE 2113 - JOGGING II  Credit: 1
Prerequisite: KINE 1113  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. (3601085128)

KINE 2114 - AEROBICS II  Credit: 1
Prerequisite: KINE 1114  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. (3601085128)
KINE 2115 - BICYCLING II *  
Credit: 1
Prerequisite: KINE 1115  
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. (3601085128)

KINE 2116 - AQUA AEROBICS II  
Credit: 1
Prerequisite: KINE 1116  
3 hrs. lab.
Aqua Aerobics II is a continuation of Aqua Aerobics I. (3601085128)

KINE 2118 - INLINE SKATING II *  
Credit: 1
Prerequisite: KINE 1118  
3 hrs. lab.
Inline Skating II is a continuation of KINE 1118 in which the student learns advanced techniques of Inline Skating. Cardiovascular endurance and additional fitness concepts are included. (3601085128)

KINE 2121 - BADMINTON II *  
Credit: 1
Prerequisite: KINE 1121  
3 hrs. lab.
This intermediate skill activity builds upon the basics of Badminton I. Students practice advanced skills and apply knowledge of intermediate strategies through competitive play. (3601085128)

KINE 2122 - BOWLING II *  
Credit: 1
Prerequisite: KINE 1122  
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. (3601085128)

KINE 2123 - GOLF II *  
Credit: 1
Prerequisite: KINE 1123  
3 hrs. lab.
Golf II is an advanced course emphasizing golf techniques, skills, and mental preparation in competitive situations. (3601085128)

KINE 2124 - RACQUETBALL II *  
Credit: 1
Prerequisite: KINE 1124  
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. (3601085128)

KINE 2125 - TENNIS II *  
Credit: 1
Prerequisite: KINE 1125  
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. (3601085128)

KINE 2126 - GYMNASTICS II *  
Credit: 1
Prerequisite: KINE 1126  
3 hrs. lab.
Gymnastics II is a course in which students will practice intermediate men's and women's gymnastic and tumbling techniques and skills. Students will apply knowledge of terms, safety, and concepts of physics. (3601085128)

KINE 2127 - KARATE II *  
Credit: 1
Prerequisite: KINE 1127  
3 hrs. lab.
Students will work on intermediate karate skills and techniques and participate in the leadership aspects of this sport. (3601085128)

KINE 2128 - KAITI CHI II *  
Credit: 1
Prerequisite: KINE 1128  
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. (3601085128)

KINE 2129 - BASKETBALL II *  
Credit: 1
Prerequisite: KINE 1129  
3 hrs. lab.
Basketball II emphasizes instruction and practice of intermediate basketball techniques and skills. The course includes extensive instruction and practice of intermediate basketball 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 of the game. (3601085128)

KINE 2130 - SOFTBALL II *  
Credit: 1
Prerequisite: KINE 1130  
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. (3601085128)

KINE 2131 - SOCCER II *  
Credit: 1
Prerequisite: KINE 1131  
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. (3601085128)
DESCRIPTION OF COURSES

KINE 2135 - BASEBALL II * Credit: 1
Prerequisite: KINE 1135 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. (3601085128)

KINE 2146 - COUNTRY & WESTERN DANCE II * Credit: 1
Prerequisite: KINE 1146 3 hrs. lab.
Country & Western Dance II is a continuation of Country & Western Dance I, in which the student learns popular advanced steps. (3601145123)

KINE 2171 - VENTURE DYNAMICS II * Credit: 1
Prerequisite: KINE 1171 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)

KINE 2172 - BACKCOUNTRY EXPEDITIONING II * Credit: 1
Prerequisite: KINE 1172 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)

KINE 2173 - ROCK CLIMBING II * Credit: 1
Prerequisite: KINE 1173 3 hrs. lab.
Rock Climbing II is a continuation of Rock Climbing I, designed to teach advanced topics and techniques of rock climbing. (3601085128)

KINE 2174 - ADVANCED HORSEMANSHIP * Credit: 1
Prerequisite: KINE 1174 3 hrs. lab.
This course will provide instruction on advanced execution of horseback riding techniques, detail knowledge of horseback riding, equine training, care, and safety aspects needed to enjoy a more advanced level of horsemanship. (3601085128)

KINE 2180 - SWIMMING II * Credit: 1
Prerequisite: KINE 1180 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)

LGLA 1219 - LEGAL ETHICS AND PROFESSIONAL RESPONSIBILITY Credit: 2
Prerequisite: None 2 hrs. lec.
This course covers the moral and legal responsibilities and duties that a member of the legal profession owes to the public, the court, clients, and other professional colleagues. Includes a review of canons, codes and rules of professional responsibility.

LGLA 1303 - LEGAL RESEARCH Credit: 3
Prerequisite: None 3 hrs. lec.
This course provides a working knowledge of the fundamentals of effective legal research. Topics include law library techniques, computer assisted legal research, briefs, and legal memoranda.

LGLA 1307 - INTRODUCTION TO LAW AND LEGAL PROFESSIONS Credit: 3
Prerequisite: None 3 hrs. lec.
This course provides an overview of the law and the legal professions. Topics include legal concepts, systems, and terminology; ethical obligations and regulations; professional trends and issues with particular emphasis on the paralegal.

LGLA 1323 - EMPLOYMENT LAW Credit: 3
Prerequisite: None 3 hrs. lec.
This course presents fundamental concepts of, and the paralegal's role in, employment and labor law. Topics include contracts of employment, governmental regulations, discrimination issues, and worker's compensation.

LGLA 1341 - ADMINISTRATIVE LAW Credit: 3
Prerequisite: None 3 hrs. lec.
This course presents fundamental concepts of administrative law and procedure in governmental agencies at all levels with emphasis on the paralegal's role in the administrative process. Topics include creation of government agencies, operation, rule making and adjudication.

LGLA 1345 - CIVIL LITIGATION Credit: 3
Prerequisite: LGLA 1307 3 hrs. lec.
This course presents fundamental concepts and procedures of civil litigation with emphasis on the paralegal's role. Topics include pretrial, trial and post trial phases of litigation.

* Skilled activity classes will be responsible for completion of a wellness core. This core will emphasize the health-related components of fitness, wellness for a lifetime, and disease prevention.
DESCRIPTION OF COURSES

LGLA 1349 - CONSTITUTIONAL LAW  Credit: 3
Prerequisite: None  3 hrs. lec.
This course provides an overview of the United States Constitution and its articles, amendments, and judicial interpretations. Topics include separation of powers, checks and balances, governmental structures and process, and individual rights in relation to government.

LGLA 1359 - IMMIGRATION LAW  Credit: 3
Prerequisite: None  3 hrs. lec.
This course presents fundamental concepts of immigration law with emphasis on the paralegal’s role. Topics include substantive and procedural law related to visa applications, deportation, naturalization, and citizenship.

LGLA 1371 - INTELLECTUAL PROPERTY  Credit: 3
Prerequisite: None  3 hrs. lec.
Intellectual property is the study of patents, copyrights and trademarks. This course will prepare the paralegal student to assist in the preparation of filing of trademarks, patents and copyrights, as well as the maintenance and research related to this field.

LGLA 2301 - ENVIRONMENTAL LAW  Credit: 3
Prerequisite: None  3 hrs. lec.
This course presents fundamental concepts of environmental law with emphasis on the paralegal’s role. Topics include terminology, creation of environmental law, and the application of statutes and government regulations to specific fact situations.

LGLA 2303 - TORTS AND PERSONAL INJURY LAW  Credit: 3
Prerequisite: None  3 hrs. lec.
This course presents fundamental concepts of tort law with emphasis on the paralegal’s role. Topics include intentional torts, negligence and strict liability.

LGLA 2305 - INTERVIEWING AND INVESTIGATING  Credit: 3
Prerequisite: LGLA 1307  3 hrs. lec.
This course is a study of principles, methods, and investigative techniques used to locate, gather, document, and manage information. Emphasis on developing interviewing and investigative skills to prepare the paralegal to communicate effectively while recognizing ethical problems.

LGLA 2311 - BUSINESS ORGANIZATIONS  Credit: 3
Prerequisite: None  3 hrs. lec.
This course presents basic concepts of business organizations with emphasis on the paralegal’s role. Topics include law of agency, sole proprietorships, forms of partnerships, corporations, and other emerging business entities.

LGLA 2313 - CRIMINAL LAW AND PROCEDURE  Credit: 3
Prerequisite: None  3 hrs. lec.
This course introduces the criminal justice system including procedures from arrest to final deposition, principles of federal and state law, and the preparation of pleadings and motions.

LGLA 2315 - OIL AND GAS LAW  Credit: 3
Prerequisite: None  3 hrs. lec.
This course presents fundamental concepts of oil and gas law including the relationship between landowners and oil and gas operators, government regulation, and documents used in the industry.

LGLA 2331 - ADV. LEGAL RESEARCH AND WRITING  Credit: 3
Prerequisite: LGLA 1303 and completion of 12 LGLA credits  3 hrs. lec.
This course builds upon skills acquired in prior legal research and writing courses including computerized research techniques and preparation of complex legal documents such as briefs, legal office memoranda, and citation forms.

LGLA 2335 - ADVANCED CIVIL LITIGATION  Credit: 3
Prerequisite: LGLA 1307  3 hrs. lec.
This course provides opportunities to implement advanced civil litigation techniques and builds upon skills acquired in prior civil litigation courses.

LGLA 2370 - RULES OF CIVIL PROCEDURE  Credit: 3
Prerequisite: None  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.

LGLA 2388 - INTERNSHIP - PARALEGAL/LEGAL ASSISTANT  Credit: 3
Prerequisite: 15 LGLA credits, Enrollment in Paralegal AAS or certificate program, approval of instructor  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.
DESCRIPTION OF COURSES

LMGT 1319 - INTRODUCTION TO BUSINESS LOGISTICS Credit: 3
Prerequisite: ENGL 0305, 0313 or 0314; ENGL 0307 or ENGL 0326; or placement by testing.
A systems approach to managing activities associated with traffic, transportation, inventory management and control, warehousing, packaging, order processing, and materials handling.

LMGT 1321 - INTRODUCTION TO MATERIALS HANDLING Credit: 3
Prerequisite: ENGL 0305, 0313 or 0314; ENGL 0307 or ENGL 0326; or placement by testing.
Introduces the concepts and principles of materials management to include inventory control and forecasting activities.

LMGT 1323 - DOMESTIC AND INTERNATIONAL TRANSPORTATION MGMT Credit: 3
Prerequisite: LMGT 1319; ENGL 0305, 0313 or 0314; ENGL 0307 or ENGL 0326; or placement by testing.
An overview of the principles and practices of transportation and its role in the distribution process. Emphasis on the physical transportation systems involved in the United States as well as on global distribution systems. Topics include carrier responsibilities and services, freight classifications, rates, tariffs, and public policy and regulations. Also includes logistical geography and the development of skills to solve logistical transportation problems and issues.

LMGT 1345 - ECONOMICS OF TRANSPORTATION AND DISTRIBUTION Credit: 3
Prerequisite: ENGL 0305, 0313 or 0314; ENGL 0307 or ENGL 0326; or placement by testing.
A study of the basic economic principles and concepts applicable to transportation and distribution.

LMGT 1425 - WAREHOUSE AND DISTRIBUTION CENTER MANAGEMENT Credit: 4
Prerequisite: ENGL 0305, 0313 or 0314; ENGL 0307 or ENGL 0326; or placement by testing.
Emphasis on physical distribution and total supply chain management. Includes warehouse operations management, hardware and software operations, bar codes, organizational effectiveness, just-in-time manufacturing, continuous replenishment, and third party.

LMGT 2434 - PRINCIPLES OF TRAFFIC MANAGEMENT Credit: 4
Prerequisite: ENGL 0305, 0313 or 0314; ENGL 0307 or ENGL 0326; or placement by testing.
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.

MAMT 2231 - INSTRUMENTATION/MODALITES Credit: 2
Prerequisite: None
1 hr. lec.
2 hrs. lab.
This course is designed to familiarize the student with the concepts, theories, and equipment employed in breast imaging. Mammographic technique will include breast compression, magnification, and selection of technical factors and specimen radiology. Intervventional procedures, special exams, and special modalities will be included in this course.

MAMT 2233 - ANATOMY/POSITIONING AND PATIENT ASSESSMENT Credit: 2
Prerequisite: MAMT 2231 and 2337
1 hr. lec.
2 hrs. lab.
Presentation of specialized instruction in breast imaging. Emphasis will be placed on breast anatomy, physiology, positioning, patient education, and assessment. Anatomy instruction will include surface anatomy as well as deep anatomy. Special emphasis will be placed on standard projections as well as additional projections/positions and positioning modifications.
MAMT 2337 - MAMMOGRAPHY  
Credit: 3  
Prerequisite: Admission to program  
2 hrs. lec.  
3 hrs. lab.  
Preparation for the registered technologist to enter the advanced field of mammography. Addresses skills, knowledge, and behaviors necessary to perform mammographic procedures.

MAMT 2360 - CLINICAL - MAMMOGRAPHY TECHNOLOGY/TECHNICIAN  
Credit: 3  
Prerequisite: Admission to the program  
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.

MAMT 2361 - CLINICAL - MAMMOGRAPHY TECHNOLOGY/TECHNICIAN  
Credit: 3  
Prerequisite: Admission to the program  
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.

MAMT 2371 - QUALITY ASSURANCE ISSUES IN MAMMOGRAPHY  
Credit: 3  
Prerequisite: MAMT 2337  
2 hrs. lec.  
3 hrs. lab.  
An intermediate or advanced type of health-based instruction that includes equipment, processing, and quality management/quality assurance programs. FDA (Food and Drug Administration) and MQSA (Mammography Quality and Standards Act) regulations will also be addressed as well as meeting current quality standards.

MATH 0110 - BASIC MATH SKILLS - TASP REVIEW  
Credit: 1  
Prerequisite: MATH 0310  
3 hrs. lab.  
This is an individualized, laboratory course designed to review the 10 mathematical skills that are covered on the TASP 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)

MATH 0306 and 0308 are offered with several course format options. Consult with advisor for proper placement.

Course Format Options:  
S Standard three hours per week lecture format.  
LL Extended 4 1/2 hours per week combination lecture/lab.  
The “LL” format will provide an in-depth development of the course concepts and will incorporate lab activities to develop student's problem-solving skills.

LLL Extended 6 hours per week combination lecture/lab. The “LLL” format will provide an in-depth development of the course concepts and will incorporate lab activities to develop student’s problem-solving skills and math study skills.

MATH 0306 - PRE-ALGEBRA MATHEMATICS  
Credit: 3  
Prerequisite: None  
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)

MATH 0308 - INTRODUCTORY ALGEBRA  
Credit: 3  
Prerequisite: MATH 0306 or placement by testing  
3 hrs. lec.  
Topics for all formats include basic algebraic operations, elementary equations, laws of integral exponents, factoring and radical notation, rational expressions and an introduction to the Cartesian coordinate system. This course carries institutional credit but will not transfer and will not be used to meet degree requirements. (3201045119)

MATH 0310 is offered with two course format options.

Course Format Options:  
S Standard three hours per week lecture format.  
LL Extended 4 hours per week combination lecture/lab.  
The “LL” format will provide an in-depth development of the course concepts and will incorporate lab activities to develop student’s problem-solving skills.

MATH 0310 - INTERMEDIATE ALGEBRA  
Credit: 3  
Prerequisite: MATH 0308 or placement by testing  
3 hrs. lec.  
Topics for all formats include special products and factoring, rational expressions and equations, rational exponents, radicals, radical equations, quadratic equations and complex numbers; an introduction to the function concept and graphing, equations of lines and linear systems. This course carries institutional credit but will not transfer and will not be used to meet degree requirements. (3201045212)
MATH 1314 - COLLEGE ALGEBRA  Credit: 3
Prerequisite: MATH 0310 or placement by testing  3 hrs. lec.
Topics include absolute value and quadratic equations and inequalities, graphing skills, inverse functions, logarithmic and exponential functions, polynomial and rational functions, piecewise-defined functions, theory of equations and systems of equations. (2701015419)

MATH 1316 - TRIGONOMETRY  Credit: 3
Corequisite: MATH 1314 strongly recommended  3 hrs. lec.
Trigonometric functions and their applications, solutions of right and oblique triangles, trigonometric identities and equations, inverse trigonometric functions and graphs of the trigonometric functions. (2701015319)

MATH 1324 - FINITE MATHEMATICS  Credit: 3
Prerequisite: MATH 1314 or department approval  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)

MATH 1325 - ELEMENTS OF CALCULUS WITH APPLICATIONS  Credit: 3
Prerequisite: MATH 1314 or departmental approval  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. (2703015219)

MATH 1332 - COLLEGE MATHEMATICS FOR LIBERAL ARTS  Credit: 3
Prerequisite: MATH 0310 or placement by testing  3 hrs. lec.
College Mathematics for Liberal Arts is a course designed for liberal arts and other non-mathematics, non-science, and non-business 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)

MATH 1342 - STATISTICS  Credit: 3
Prerequisite: MATH 1314  3 hrs. lec.
An introduction to the concepts and methods of statistics. Topics include probability, random variables, binomial and normal distributions, random sampling, statistical inference, estimation, testing hypotheses, linear regressions and correlation, chi-square test, and analysis of variance. (2705015119)

MATH 1350 - FOUNDATIONS OF MATHEMATICS I  Credit: 3
Prerequisite: MATH 1314 or equivalent  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)

MATH 1351 - FOUNDATIONS OF MATHEMATICS II  Credit: 3
Prerequisite: MATH 1314 or equivalent  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. (2701015619)

MATH 2318 - LINEAR ALGEBRA  Credit: 3
Prerequisite: MATH 2414  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)

MATH 2320 - DIFFERENTIAL EQUATIONS  Credit: 3
Prerequisite: MATH 2414  3 hrs. lec.
Linear equations, solutions in series, solutions using Laplace transforms, systems of differential equations and applications to problems in engineering and allied fields. The student may elect to include a technology lab component at some colleges. (2703015119)

MATH 2412 - PRECALCULUS  Credit: 4
Prerequisite: MATH 1314 and 1316 or 4 1/2 hrs. lec.
departmental approval
An integrated treatment of the concepts necessary for calculus, emphasizing elementary functions and their graphs, including polynomial, rational, exponential, logarithmic and trigonometric functions, also includes topics from analytic geometry. The student may elect to include a technology lab component at some colleges. (2701015819)
MATH 2413 - CALCULUS I  
Credit: 4  
Prerequisite: MATH 2412  
4 1/2 hrs. lec. OR 4 1/2 hrs. lec. and 1 1/2 hrs. lab.  
Functions, limits, continuity, differentiation and integration of algebraic and trigonometric functions, applications of differentiation and an introduction to applications of the definite integral. The student may elect to include a technology lab component at some colleges. (2701015919)

MATH 2414 - CALCULUS II  
Credit: 4  
Prerequisite: MATH 2413  
4 1/2 hrs. lec. OR 4 1/2 hrs. lec. and 1 1/2 hrs. lab.  
Differentiation and integration of exponential and logarithmic functions, techniques of integration, applications of the definite integral, the calculus of transcendental functions, parametric equations, polar coordinates, indeterminate forms, improper integrals, L'Hôpital's Rule, sequences and series. The student may elect to include a technology lab component at some colleges. (2701015919)

MATH 2415 - CALCULUS III  
Credit: 4  
Prerequisite: MATH 2414  
4 1/2 hrs. lec. OR 4 1/2 hrs. lec. and 1 1/2 hrs. lab.  
The algebra and geometry of vectors; topics from the calculus of multivariable functions including limits, continuity, partial derivatives, directional derivatives, the gradient, extreme values, multiple integration and vector calculus. The student may elect to include a technology lab component at some colleges. (2701015919)

MCHN 1319 - MANUFACTURING MATERIALS AND PROCESSES  
Credit: 3  
Prerequisite: None  
2 hrs. lec. OR 2 hrs. lec. and 4 hrs. lab.  
A basic study of various materials used in the metals industry and the chemical, physical, and mechanical properties of various metals. Emphasis on manufacturing processes, including casting, forming, machining, and molding.

MCHN 1391 - SPECIAL TOPICS IN MACHINE TECHNOLOGY  
Credit: 3  
Prerequisite: Instructor approval  
2 hrs. lec. OR 2 hrs. lec. and 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. An advanced study of machine shop procedures.

MCHN 2302 - INTERMEDIATE MILLING OPERATIONS  
Credit: 3  
Prerequisite: DFTG 1325, INMT 1391, 1443,  
and instructor approval.  
2 hrs. lec. OR 2 hrs. lec. and 2 hrs. lab.  
A continuation of Basic Milling Operations with emphasis on the continued proficiency practice in mill operation. Identification and operation of milling machines and support tooling including keyseat cutter, staggertooth cutters, rotary table and dividing heads.

MCHN 2338 - ADVANCED COMPUTER ASSISTED MANUFACTURING  
Credit: 3  
Prerequisite: INMT 1443 and instructor approval  
2 hrs. lec. OR 2 hrs. lec. and 2 hrs. lab.  
A study of advanced techniques in Computer-Assisted Manufacturing (CAM).

MCHN 2403 - FUNDAMENTALS OF CNC MACHINE CONTROLS  
Credit: 4  
Prerequisite: MCHN 1391, MCHN 2338,  
and instructor approval.  
6 hrs. lec. OR 6 hrs. lec. and 2 hrs. lab.  
An introduction to G and M codes (RS274-D) necessary to program Computer Numerical Controlled (CNC) machines.

MDCA 1154 - CERTIFIED MEDICAL ASSISTING EXAM REVIEW  
Credit: 1  
Prerequisite: MDCA 1517 and MDCA 1348;  
ENGL 0305, 0313 or 0314; ENGL 0307 or ENGL 0326, or placement by testing.  
1 hr. lec. OR 1 hr. lec. and other placement requirements.  
A preparation for the Certified Medical Assisting Exam, including a review of all three components of the CMA exam. Presents an explanation of how the exam is scored and provides opportunities to take practice exams.

MDCA 1205 - MEDICAL LAW AND ETHICS  
Credit: 2  
Prerequisite: HIT 1305; ENGL 0305, 0313 or 0314; ENGL 0307 or ENGL 0326,  
or placement by testing.  
2 hrs. lec. OR 2 hrs. lec. and placement by testing.  
Instruction in principles, procedures, and regulations among physicians, patients, and medical assis-
DESCRIPTION OF COURSES

tants. Includes current ethical issues as they relate to the practice of medicine and fiduciary responsibilities.

MDCA 1302 - HUMAN DISEASE/PATHOPHYSIOLOGY Credit: 3
Prerequisite: HITT 1305; ENGL 0305, 0313 or 0314; ENGL 0307 or ENGL 0326, or placement by testing.
A study of anatomy and physiology with emphasis on human pathophysiology, including etiology, prognosis, medical treatment, signs and symptoms of common diseases of all body symptoms.

MDCA 1309 - ANATOMY AND PHYSIOLOGY FOR MEDICAL ASSISTANTS Credit: 3
Prerequisite: HITT 1305; ENGL 0305, 0313 or 0314; ENGL 0307 or ENGL 0326, or placement by testing.
Emphasis on normal human anatomy and physiology of cells, tissues, organs, and systems with overview of common pathophysiology.

MDCA 1343 - MEDICAL INSURANCE Credit: 3
Prerequisite: HITT 1305; ENGL 0305, 0313 or 0314; ENGL 0307 or ENGL 0326, or placement by testing.
Emphasizes accurate ICD-9 and CPT coding of office procedures for payment/reimbursement by patient or third party. Additional topics may include managed care or medical economics.

MDCA 1348 - PHARMACOLOGY AND ADMINISTRATION OF MEDICATIONS Credit: 3
Prerequisite: HITT 1305, MDCA 1302 and MDCA 1309; ENGL 0305, 0313 or 0314; ENGL 0307 or ENGL 0326, or placement by testing.
Instruction in concepts and application of pharmacological principles. Focuses on drug classifications, principles and procedures of medication administration, mathematical systems and conversions, calculation of drug problems, and medico-legal responsibilities of the medical assistant.

MDCA 1360 - CLINICAL Credit: 3
Prerequisite: MDCA 1517, MDCA 1348; KINE 1306; ENGL 0305, 0313 or ENGL 0314; ENGL 0307 or ENGL 0326, or placement by testing.
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.

MDCA 1421 - ADMINISTRATIVE PROCEDURES Credit: 4
Prerequisite: HITT 1305; ENGL 0305, 0313 or 0314; ENGL 0307 or ENGL 0326, or placement by testing.
A course in medical office procedures, including appointment scheduling, medical records creation and maintenance, phone communications, transcriptions, coding, billing, collecting, third party reimbursement, credit arrangements and use of the computer in a medical office.

MDCA 1517 - PROCEDURES IN A CLINICAL SETTING Credit: 5
Prerequisite: MDCA 1302 and 1309; ENGL 0305, 0313 or 0314; ENGL 0307 or ENGL 0326, or placement by testing.
Emphasis on patient-centered assessment, examination, intervention, and treatment as directed by a physician. Includes vital signs, collection and documentation of patient information, asepsis, minor surgical procedures, and other medical treatments as appropriate for the medical office.

METL 1405 - WELDING METALLURGY I Credit: 4
Prerequisite: None 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.

MRIT 2171 - LOCAL NEEDS ON SAFETY Credit: 1
Prerequisite: None 1 hr. lec.
This unit will provide the student with an overview of magnetic resonance imaging, student responsibilities, and policies and procedures will be outlined. The fundamental principles of MRI, equipment, and terminology will be introduced. The role of the technologist in maintaining patient safety and comfort will be discussed as well as personal safety and safety of coworkers.

MRIT 2330 - PRINCIPLES OF MAGNETIC RESONANCE IMAGING Credit: 3
Prerequisite: None 3 hrs. lec.
General principles for learning to operate a magnetic resonance imager. Focuses on building understanding of the underlying theory and practice leading to magnetic resonance imaging. Designed to introduce the concepts and scientific principles employed in magnetic resonance imaging techniques. Principles of magnetism and interactions of living matter within magnetic fields are emphasized.
MRIT 2334 - MAGNETIC RESONANCE EQUIPMENT AND METHODOLOGY Credit: 3
3 hrs. lec.
A study of the actual operation and the operational control of magnetic resonance imaging equipment. Focuses on routine protocols, image quality, and quality control of magnetic resonance imaging. Theory and application of magnetic resonance imaging equipment and the principles of patient imaging techniques utilizing the equipment.

MRIT 2360 - CLINICAL - MAGNETIC RESONANCE IMAGING TECHNOLOGY/TECHNICIAN Credit: 3
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.

MRIT 2361 - CLINICAL - MAGNETIC RESONANCE IMAGING TECHNOLOGY/TECHNICIAN Credit: 3
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.

MRKG 1302 - PRINCIPLES OF RETAILING Credit: 3
3 hrs. lec.
Introduction to the retailing environment and its relationship to consumer demographics, trends, and traditional/nontraditional retailing markets, the employment of retailing techniques and the factors that influence modern retailing.

MRKG 1311 - PRINCIPLES OF MARKETING Credit: 3
3 hrs. lec.
Introduction to basic marketing functions; identification of consumer and organizational needs; explanation of economic, psychological, sociological, and global issues; and description and analysis of the importance of marketing research.

MRKG 2333 - PRINCIPLES OF SELLING Credit: 3
3 hrs. lec.
Overview of the selling process. Identification of the elements of the communication process between buyers and sellers in business; and ethical issues and legal restrictions of American business which affect salespeople.

MRKG 2348 - MARKETING RESEARCH AND STRATEGIES Credit: 3
3 hrs. lec.
Prerequisite: None
Designed to enhance student understanding of the marketing environment and the dynamic interrelationships of the functions of marketing price, channels of distribution, promotion, and product responsibility. Provides a simulated marketing environment for experience in marketing decision-making and provides experiences in analyzing market cases for the students.

MRKG 2349 - ADVERTISING AND SALES PROMOTION Credit: 3
3 hrs. lec.
Prerequisite: None
Introduction to the advertising principles, practices, and multimedia of persuasive communication including buyer behavior, budgeting, and regulatory constraints.

MRKG 2380 - CO-OP - BUSINESS MARKETING AND MARKETING MANAGEMENT I Credit: 3
1 hr. lec.
Prerequisite: Enrollment in management AAS degree program; completion of 15 credits in degree plan; and departmental approval
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.

MRKG 2381 - CO-OP - BUSINESS MARKETING AND MARKETING MANAGEMENT II Credit: 3
20 hrs. ext.
Prerequisite: Enrollment in management AAS degree program; completion of 22 credits in degree plan; BMGT 2382 and departmental approval
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.

MRKG 2388 - INTERNSHIP - BUSINESS MARKETING AND MARKETING MANAGEMENT Credit: 3
9 hrs. ext.
Prerequisite: Departmental approval
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.
### MRMT 1192 - REVIEW COURSE  
**Credit:** 1  
**Prerequisite:** None  
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.

### MRMT 1211 - COMPUTERS IN HEALTH CARE  
**Credit:** 2  
**Prerequisite:** ITSC 1401  
1 hr. lec.  
2 hrs. lab.  
Introduction to the concepts of computer technology related to health care and the tools and techniques for collecting, storing, and retrieving health care data.

### MRMT 1266 - PRACTICUM  
**Credit:** 2  
**Prerequisite:** None  
14 hrs. lec.  
Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

### MRMT 1307 - MEDICAL TRANSCRIPTION FUNDAMENTALS  
**Credit:** 3  
**Prerequisite:** None  
2 hrs. lec.  
2 hrs. lab.  
Fundamentals of medical transcription with hands-on experience in transcribing physician dictation including basic reports such as history and physicals, discharge summaries, consultations, operative reports, and other medical reports. Utilizes transcribing and information processing equipment compatible with industry standards. Designed to develop speed and accuracy.

### MRMT 2433 - ADVANCED MEDICAL TRANSCRIPTION  
**Credit:** 4  
**Prerequisite:** None  
2 hrs. lec.  
4 hrs. lab.  
Production of advanced reports of physician dictation with increasing speed and accuracy including history and physicals, discharge summaries, operative reports, and other medical reports.

### APPLIED MUSIC  
Prerequisite: Audition and departmental approval  
Corequisite: Nonmajors - MUSI 1306, MUEN 1141 or 2124. Majors - MUSI 1211, 1216, or MUSI 1181, 1182, 2181, 2182  
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 voice or some instrument. The following 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).

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
<th>Description</th>
<th>Weekly Lesson Time</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MUAP 1101 - STRINGS</strong></td>
<td>1</td>
<td>One 1/2 hour lesson per week.</td>
<td></td>
</tr>
<tr>
<td><strong>MUAP 1121 - WOODWINDS</strong></td>
<td>1</td>
<td>One 1/2 hour lesson per week.</td>
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</tr>
<tr>
<td><strong>MUAP 1141 - BRASS</strong></td>
<td>1</td>
<td>One 1/2 hour lesson per week.</td>
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</tr>
<tr>
<td><strong>MUAP 1157 - PERCUSSION</strong></td>
<td>1</td>
<td>One 1/2 hour lesson per week.</td>
<td></td>
</tr>
<tr>
<td><strong>MUAP 1161 - GUITAR</strong></td>
<td>1</td>
<td>One 1/2 hour lesson per week.</td>
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<tr>
<td><strong>MUAP 1165 - ORGAN</strong></td>
<td>1</td>
<td>One 1/2 hour lesson per week.</td>
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<tr>
<td><strong>MUAP 1169 - KEYBOARD</strong></td>
<td>1</td>
<td>One 1/2 hour lesson per week.</td>
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<tr>
<td><strong>MUAP 1181 - VOICE</strong></td>
<td>1</td>
<td>One 1/2 hour lesson per week.</td>
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</tr>
<tr>
<td><strong>MUAP 1201 - STRINGS</strong></td>
<td>2</td>
<td>One hour lesson per week.</td>
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<tr>
<td><strong>MUAP 1221 - WOODWINDS</strong></td>
<td>2</td>
<td>One hour lesson per week.</td>
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</tr>
<tr>
<td><strong>MUAP 1241 - BRASS</strong></td>
<td>2</td>
<td>One hour lesson per week.</td>
<td></td>
</tr>
<tr>
<td><strong>MUAP 1257 - PERCUSSION</strong></td>
<td>2</td>
<td>One hour lesson per week.</td>
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</tr>
<tr>
<td><strong>MUAP 1261 - GUITAR</strong></td>
<td>2</td>
<td>One hour lesson per week.</td>
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</tr>
<tr>
<td><strong>MUAP 1265 - ORGAN</strong></td>
<td>2</td>
<td>One hour lesson per week.</td>
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</tr>
<tr>
<td><strong>MUAP 1269 - KEYBOARD</strong></td>
<td>2</td>
<td>One hour lesson per week.</td>
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</tr>
<tr>
<td><strong>MUAP 1281 - VOICE</strong></td>
<td>2</td>
<td>One hour lesson per week.</td>
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</tr>
</tbody>
</table>
MUAP 2141 - BRASS  
Credit: 1  
Second year, one 1/2 hour lesson per week; one  
credit hour per semester.

MUAP 2157 - PERCUSSION  
Credit: 1  
Second year, one 1/2 hour lesson per week; one  
credit hour per semester.

MUAP 2161 - GUITAR  
Credit: 1  
Second year, one 1/2 hour lesson per week; one  
credit hour per semester.

MUAP 2169 - KEYBOARD  
Credit: 1  
Second year, one 1/2 hour lesson per week; one  
credit hour per semester.

MUAP 2181 - VOICE  
Credit: 1  
Second year, one 1/2 hour lesson per week; one  
credit hour per semester.

MUAP 2201 - STRINGS  
Credit: 2  
Second year, two 1/2 hour lessons per week; two  
credit hours per semester.

MUAP 2221 - WOODWINDS  
Credit: 2  
Second year, two 1/2 hour lessons per week; two  
credit hours per semester.

MUAP 2241 - BRASS  
Credit: 2  
Second year, two 1/2 hour lessons per week; two  
credit hours per semester.

MUAP 2257 - PERCUSSION  
Credit: 2  
Second year, two 1/2 hour lessons per week; two  
credit hours per semester.

MUAP 2261 - GUITAR  
Credit: 2  
Second year, two 1/2 hour lessons per week; two  
credit hours per semester.

MUAP 2269 - KEYBOARD  
Credit: 2  
Second year, two 1/2 hour lessons per week; two  
credit hours per semester.

MUAP 2281 - VOICE  
Credit: 2  
Second year, two 1/2 hour lessons per week; two  
credit hours per semester.

MUEN 1123 - SYMPHONY ORCHESTRA I  
Credit: 1  
Prerequisite: None  
3 hrs. lab.  
The study and performance of music compositions  
for full orchestra, including strings, woodwinds,  
brass, and percussion. Recommended for music  
majors and open to others with departmental ap- 
proval. (5009035626)

MUEN 1127 - JAZZ ENSEMBLE  
Credit: 1  
Prerequisite: Audition and departmental approval  
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)

MUEN 1131 - STRING ENSEMBLE  
Credit: 1  
Prerequisite: Audition and departmental approval  
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.  
Open to other qualified students by approval of  
division. A maximum of four credit hours may be  
earned. (50090356326)

MUEN 1132 - PIANO ENSEMBLE  
Credit: 1  
Prerequisite: None  
3 hrs. lab.  
A course which is designed to offer students an  
opportunity to work with piano literature written for  
two or more performers. (5009035626)

MUEN 1133 - GUITAR ENSEMBLE  
Credit: 1  
Prerequisite: Audition and departmental approval  
3 hrs. lab.  
This course involves the study and performances of  
music compositions for small guitar groups. It is  
recommended for music majors whose principle  
performing medium is the guitar. Open to other  
qualified students by approval of division. A maxi- 

MUEN 1135 - STEEL DRUM BAND  
Credit: 1  
Prerequisite: Audition and departmental approval  
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. Percussion- 
ist, vocalist, woodwind, brass, and keyboard players  
are encouraged to audition. The class meets four  
hours per week with special rehearsals and perfor-
mances called as needed. This course may be taken  
a maximum of six times for credit. (5009035626)
DESCRIPTION OF COURSES

MUEN 1136 - CHAMBER ENSEMBLE Credit: 1
Prerequisite: None 2 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)

MUEN 1141 - CONCERT CHOIR Credit: 1
Prerequisite: None 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)

MUEN 1151 - CHAMBER SINGERS Credit: 1
Prerequisite: Audition and departmental approval 3 hrs. lab.
The Chamber Singers are a small vocal ensemble performing sacred and secular choral literature of various eras including madrigals. (5009035826)

MUEN 1154 - POP SINGERS Credit: 1
Prerequisite: Audition and departmental approval 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. (5009035826)

MUEN 2123 - PIANO ENSEMBLE Credit: 1
Prerequisite: MUEN 1123 3 hrs. lab.
A continuation of the study and performances of music composition for full orchestra, including strings, woodwinds, brass & percussion. Recommended for music majors and open to others with departmental approval. (5009035626)

MUEN 2124 - SYMPHONIC BAND Credit: 1
Prerequisite: Audition and departmental approval 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)

MUEN 2133 - WOODWIND ENSEMBLE Credit: 1
Prerequisite: Audition and departmental approval 3 hrs. lab.
This course involves the study and performance of music compositions for small woodwind groups. It is recommended for music majors whose performing medium is a woodwind instrument. Open to other qualified students by approval of division. A maximum of four credit hours may be earned. (5009035626)

MUEN 2134 - BRASS ENSEMBLE Credit: 1
Prerequisite: Audition and departmental approval 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. Open to other qualified students by approval of division. A maximum of four credit hours may be earned. (5009035626)

MUEN 2135 - JAZZ COMBO Credit: 1
Prerequisite: Audition and departmental approval 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)

MUSI 1157 - OPERA WORKSHOP Credit: 1
Prerequisite: Audition and departmental approval 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)

MUSI 1159, 2159 - MUSICAL THEATRE I & II Credit: 1
Prerequisite: None 5 hrs. lab.
Practical experience in auditioning, rehearsing, and performing in a major musical. (5009036126)

MUSI 1162 - DICTION I Credit: 1
Prerequisite: None 2 hrs. lab.
This course provides a framework for singing in English, Latin, and Italian. While some grammatical rules will be taught, the course does not attempt to teach the language. (5009085326)

MUSI 1165 - DICTION II Credit: 1
Prerequisite: MUSI 1162 2 hrs. lab.
This course provides a framework for singing in French and German. While some grammatical rules will be taught, the course does not attempt to teach the language. (5009085326)

MUSI 1181, 1182, 2181, 2182 - CLASS PIANO Credit: 1
Prerequisite: None 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)
MUSI 1183, 1184, 2183, 2184 - CLASS VOICE  
Credit: 1  
Prerequisite: None 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)

MUSI 1192, 1193, 2192, 2193 - CLASS  
GUITAR  
Credit: 1  
Prerequisite: None 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. (5009035126)

MUSI 1211 - THEORY I  
Credit: 2  
Corequisite: MUSI 1216 and 1181 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)

MUSI 1212 - THEORY II  
Credit: 2  
Prerequisite: MUSI 1211 3 hrs. lec.  
Corequisite: MUSI 1182 and 1217  
A continuation of MUSI 1211 including modulation, secondary dominants and secondary leading-tone chords. (5009045126)

MUSI 1216 - EAR TRAINING AND SIGHT  
SINGING I  
Credit: 2  
Corequisite: MUSI 1211 and 1181 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)

MUSI 1217 - EAR TRAINING AND SIGHT  
SINGING II  
Credit: 2  
Prerequisite: MUSI 1211 1 hr. lec.  
Corequisite: MUSI 1212 and 1182 2 hrs. lab.  
A continuation of MUSI 1216. (5009045626)

MUSI 1301 - MUSIC FUNDAMENTALS  
Credit: 3  
Prerequisite: None 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)

MUSI 1306 - MUSIC APPRECIATION  
Credit: 3  
Prerequisite: None 3 hrs. lec.  
A nontechnical course designed to provide the layperson with the understanding necessary for greater enjoyment of music. (5009025126)

MUSI 1307 - MUSIC LITERATURE  
Credit: 3  
Prerequisite: None 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)

MUSI 1308 - MUSIC LITERATURE I  
Credit: 3  
Prerequisite: None 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)

MUSI 1309 - MUSIC LITERATURE II  
Credit: 3  
Prerequisite: None 3 hrs. lec.  
A continuation of MUSI 1308 covering Romantic and Contemporary periods. Separate course available for nonmajors. (5009025326)

MUSI 1310 - AMERICAN MUSIC  
Credit: 3  
Prerequisite: None 3 hrs. lec.  
An investigation into popular music of American composers, including jazz, rock, soul, musical theater, and classical music of the 20th century. (5009025326)

MUSI 1386 - POPULAR SONG WRITING I -  
COMPOSITION  
Credit: 3  
Prerequisite: None 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. (5009045526)

MUSI 1390 - ELECTRONIC MUSIC I  
Credit: 3  
Prerequisite: None 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)

MUSI 1391 - ELECTRONIC MUSIC II  
Credit: 3  
Prerequisite: MUSI 1390 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)
DESCRIPTION OF COURSES

MUSI 2211 - THEORY III  Credit: 2
Prerequisite: MUSI 1212  3 hrs. lec.
Corequisite: MUSI 2216 and 2181
A study of advanced harmony with emphasis on chromaticism, extended tertian structures and twentieth-century compositional procedures. (5009045226)

MUSI 2212 - THEORY IV  Credit: 2
Prerequisite: MUSI 2211  3 hrs. lec.
A continuation of MUSI 2211. (5009045226)

MUSI 2216 - EAR TRAINING AND SIGHT SINGING III  Credit: 2
Prerequisite: MUSI 1217  1 hr. lec.
Corequisite: MUSI 2211 and 2181  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)

MUSI 2217 - EAR TRAINING AND SIGHT SINGING IV  Credit: 2
Prerequisite: MUSI 2216  1 hr. lec.
Corequisite: MUSI 2212 and 2182  2 hrs. lab.
A continuation of MUSI 2216. (5009045726)

MUSI 2386 - POPULAR SONG WRITING II - COMPOSITION  Credit: 3
Prerequisite: MUSI 1386  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)

MUSI 2389 - ACADEMIC CO-OP IN MUSIC  Credit: 3
Prerequisite: None  1 hr. lec.
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. (2401035226)

NDTE 1301 - FILM INTERPRETATION OF WELDMENTS  Credit: 3
Prerequisite: None  2 hrs. lec.
2 hrs. lab.
A study of radiographic film, including exploration of radiographic basics, interpretation, and causes and effects of discontinuities.

NDTE 1410 - LIQUID PENETRANT/ MAGNETIC PARTICLE TESTING  Credit: 4
Prerequisite: None  2 hrs. lec.
4 hrs. lab.
A theoretical study and practical application of the non-destructive testing techniques of penetrant and magnetic particle testing required by quality assurance and test personnel including proper test technique, or combination of techniques and interpretation, evaluation of test results.

NDTE 1454 - INTERMEDIATE ULTRASONICS  Credit: 4
Prerequisite: None  2 hrs. lec.
4 hrs. lab.
Basic theory and applications of the ultrasonic techniques of materials testing covering the theoretical material from the certification test for Ultrasonic Level I American Society of Non-Destructive Testing.

NDTE 1471- EDDY CURRENT TESTING  Credit: 4
Prerequisite: None  3 hrs. lec.
3 hrs. lab.
Basic theory and applications of eddy current techniques of materials testing covering the theoretical material from the certification test for Eddy Current Level I & II, American Society of Non-Destructive testing. The testing portion of the course is concerned with a study of fundamental properties of impedance, inductance, reactance, eddy current theory, principles of electromagnetic wave propagation, eddy current sensors, eddy current test equipment, process and techniques. Safety practices, procedures, and current development in eddy current testing in the industrial areas are stressed in relation and application to the petrochemical, aerospace, nuclear, and metal working industries.

NDTE 2311 - PREPARATION FOR WELDING INSPECTION  Credit: 3
Prerequisite: None  2 hrs. lec.
2 hrs. lab.
General principles of welding inspection including welding processes, terms and definitions, welding discontinuities, duties and responsibilities of inspectors, destructive and nondestructive testing,
quality assurance/quality control, welding codes and blueprints, procedures, and case studies. An overview of welding tools and equipment, metallurgy, chemistry, and joint design.

NDTE 2401 - ADVANCED ULTRASONICS  Credit: 4
Prerequisite: None  2 hrs. lec.  4 hrs. lab.
Designed to strengthen the students’ knowledge and skills in ultrasonic testing. Emphasis is on examination of plate and pipe welds, characterization of flaws, immersion testing, written practices, and procedures.

OTHA 1301 - INTRODUCTION TO OCCUPATIONAL THERAPY  Credit: 3
Prerequisite: Admission to the OTA program  3 hrs. lec.
Introduction to the historical development and philosophy of the profession of occupational therapy. Emphasis on the roles and functions of the occupational therapy assistant in current health care environments including moral, legal, and ethical issues.

OTHA 1309 - HUMAN STRUCTURE AND FUNCTION IN OCCUPATIONAL THERAPY  Credit: 3
Prerequisite: OTHA 1301 and 1315  2 hrs. lec.  2 hrs. lab.
Study of biomechanics of human motion. Emphasis on the musculoskeletal system including skeletal structure, muscles and nerves, and biomechanical assessment procedures.

OTHA 1315 - THERAPEUTIC MEDIA I IN OCCUPATIONAL THERAPY  Credit: 3
Prerequisite: Admission to the OTA program  2 hrs. lec.  2 hrs. lab.
Introduction to basic skills in various activities and tasks used as therapeutic intervention in occupational therapy. Emphasis on activity analysis; how to adapt and teach therapeutically; and how to supply, equip, and maintain a safe work environment.

OTHA 1319 - THERAPEUTIC MODALITIES I IN OCCUPATIONAL THERAPY  Credit: 3
Prerequisite: OTHA 1309 and 2301  2 hrs. lec.
Instruction in concepts and techniques, and assessments leading to proficiency in skills and activities used as treatment modalities in occupational therapy. Emphasis on the occupational therapy process within the context of the occupational performance model.

OTHA 1341 - LIFE SKILLS PERFORMANCE OF CHILDHOOD IN OCCUPATIONAL THERAPY  Credit: 3
Prerequisite: OTHA 1315 and PSYC 2314  2 hrs. lec.  3 hrs. lab.
Study of the physical, psychosocial, and cognitive occupational performance of children (newborns to adolescents) with emphasis on characteristics of purposeful activities. Includes frames of reference, assessment/evaluation tools and techniques, and intervention strategies specific to this population.

OTHA 1353 - LIFESPAN FOR GERIATRICS  Credit: 3
Prerequisite: OTHA 2309 and 2331  2 hrs. lec.  3 hrs. lab.
Study of the fundamentals of wellness and function in the aging population. Topics include biological, psychosocial, and cognitive issues of the aging process: strategies to promote maintenance and adjustment to issues of aging.

OTHA 2166 - PRACTICUM - OCCUPATIONAL THERAPY ASSISTANT  Credit: 1
Prerequisite: OTHA 2302 and 2309  7 hrs. ext.
Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

OTHA 2301 - PATHOPHYSIOLOGY FOR OCCUPATIONAL THERAPY  Credit: 3
Prerequisite: OTHA 1301 and BIOL 2401  3 hrs. lec.
Study of the pathology and general health management of diseases and injuries across the lifespan encountered in occupational therapy treatment settings. Topics include etiology, symptoms, and the physical and psychological reactions to diseases and injuries.

OTHA 2302 - THERAPEUTIC MEDIA II IN OCCUPATIONAL THERAPY  Credit: 3
Prerequisite: OTHA 1315  2 hrs. lec.  3 hrs. lab.
Continuation of Therapeutic Media I. Emphasis is on advanced techniques and applications to specific occupational therapy practice areas.

OTHA 2309 - MENTAL HEALTH IN OCCUPATIONAL THERAPY  Credit: 3
Prerequisite: OTHA 1301 and PSYC 2301  2 hrs. lec.  3 hrs. lab.
Study of the promotion of mental health through occupational therapy. Emphasis is on theory and intervention strategies to enhance psychosocial function.
DESCRIPTION OF COURSES

OTHA 2331 - PHYSICAL FUNCTION IN OCCUPATIONAL THERAPY Credit: 3
Prerequisite: OTHA 1315 and BIOL 2401
2 hrs. lec.
3 hrs. lab.
Study of the promotion of physical function through occupational therapy assessment/evaluation, intervention, and patient/client education. Emphasis is on developmental continuum using the occupational performance approach and theory and application of rehabilitation techniques.

OTHA 2335 - HEALTHCARE MANAGEMENT IN OCCUPATIONAL THERAPY Credit: 3
Prerequisite: OTHA 1315 and 2302
3 hrs. lec.
Explores the roles of the occupational therapy assistant in health care delivery. Emphasis is on documentation, occupational therapy standards and ethics, health care team role delineation, and management.

OTHA 2460 - CLINICAL - OCCUPATIONAL THERAPY ASSISTANT Credit: 4
Prerequisite: successful completion of 20 hrs. ext.
OTHA 1319, 1341, 1353, 2335, and 2166
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.

PHIL 1301 - INTRODUCTION TO PHILOSOPHY Credit: 3
Prerequisite: ENGL 0305 and 0307, or 0313
3 hrs. lec.
and 0326, or 0314 and 0326.
This course exposes the student to the major Western theories pertaining to such topics as human freedom, moral judgment, human knowledge, the nature of mind, the identity of the self, the existence of God and the nature of reality. Each theory is analyzed for its strengths and weaknesses from a logical point of view. Emphasized are philosophical habits of thought: the subjection of common opinions to rational scrutiny and the use of arguments as a basis for accepting ideas. (3801015112)

PHIL 1304 - INTRODUCTION TO WORLD RELIGIONS Credit: 3
Prerequisite: ENGL 0305 and 0307, or 0313
3 hrs. lec.
and 0326, or 0314 and 0326.
This course presents a comparative study of various world religions. (3802015212)

PHIL 2303 - LOGIC Credit: 3
Prerequisite: ENGL 0305 and 0307, or 0313
3 hrs. lec.
and 0326, or 0314 and 0326.
Logic is the science of constructing and evaluating arguments. This introductory course develops skill in recognizing and applying valid patterns of reasoning. Topics include informal fallacies, Aristotelian syllogisms, truth tables and natural deduction. (3801015212)

PHIL 2306 - INTRODUCTION TO ETHICS Credit: 3
Prerequisite: ENGL 0305 and 0307, or 0313
3 hrs. lec.
and 0326, or 0314 and 0326.
This course covers the main problems and questions of moral philosophy from classical times onwards. How can a person tell right from wrong? What is the highest good in human existence? Do human beings bear responsibility for their own actions? (3801015312)

PHIL 2307 - SOCIAL AND POLITICAL PHILOSOPHY Credit: 3
Prerequisite: ENGL 0305 and 0307, or 0313
3 hrs. lec.
and 0326, or 0314 and 0326.
This course conducts a critical examination of the major theories concerning the organization of societies and governments. (3801015412)

PHIL 2316 - HISTORY OF PHILOSOPHY I Credit: 3
Prerequisite: ENGL 0305 and 0307, or 0313
3 hrs. lec.
and 0326, or 0314 and 0326.
This course presents the story of Western thought of the ancient through fifteenth century periods. Major figures are Plato, Aristotle, Augustine and Aquinas. (3801015512)

PHIL 2317 - HISTORY OF PHILOSOPHY II Credit: 3
Prerequisite: ENGL 0305 and 0307, or 0313
3 hrs. lec.
and 0326, or 0314 and 0326.
This course continues the History of Philosophy I from the sixteenth through the twentieth centuries. Major figures are Descartes, Spinoza, Leibnitz, Locke, Berkeley, Hume, Kant, Hegel, Mill, Marx, Nietzsche, and Kierkegaard. (3801015512)
PHIL 2321 - PHILOSOPHY OF RELIGION  Credit: 3
Prerequisite: ENGL 0305 and 0307, or 0313 and 0326, or 0314 and 0326. Philosophy of religion uses philosophical methods of conceptual analysis and logical argumentation to illuminate and assess the central claims to truth made by major religions. (3802015312)

PHRA 1102 - PHARMACY LAW  Credit: 1
Prerequisite: Admission to the program
This course is a survey of federal and state laws governing the practice of pharmacy. It describes the legal and ethical constraints governing technician responsibilities and pharmacist responsibilities in various settings.

PHRA 1143 - PHARMACY TECHNICIAN CERTIFICATE REVIEW  Credit: 1
Prerequisite: PHRA 1361
An overview of the major topics covered on the National Pharmacy Technician Certification examination.

PHRA 1304 - PHARMACOTHERAPY AND DISEASE PROCESS  Credit: 3
Prerequisite: PHRA 1361
A study of disease processes and the therapeutic properties of the drugs used in treatment.

PHRA 1305 - DRUG CLASSIFICATION  Credit: 3
Prerequisite: Admission to the program
This course is the study of pharmaceutical drugs, abbreviations, classifications, dosages, actions in the body, and routes of administration. Emphasis is on the location of drugs within a pharmacy, inventory control, safety, and quality assurance procedures.

PHRA 1309 - PHARMACEUTICAL MATHEMATICS I  Credit: 3
Prerequisite: Admission to the program
Pharmaceutical mathematics includes reading, interpreting, and solving calculation problems encountered in the preparation and distribution of drugs. This course also discusses the conversion of measurements within the apothecary, avoirdupois, and metric systems with emphasis on the metric system of weight and volume. Topics include ratio and proportion, percentage, dilution and concentration, milliequivalent, units, intravenous flow rates, and solving dosage problems.

PHRA 1345 - INTRAVENOUS ADMIXTURE AND STERILE COMPOUNDING  Credit: 3
Prerequisite: PHRA 1361
Mastery of skills in compounding sterile products. Introduction to sterile products, hand washing techniques, pharmaceutical calculations, references, safety techniques, aseptic techniques in parenteral compounding, proper use of equipment (autoinjectors, pumps), preparation of sterile products (intravenous, irrigation, ophthalmic, total parenteral nutrition, and chemotherapy drugs), and safe handling of antineoplastic drugs.

PHRA 1347 - PHARMACEUTICAL MATHEMATICS II  Credit: 3
Prerequisite: PHRA 1361
A continuation of Pharmaceutical Mathematics I. Topics address ratio and proportion, dilution and concentration, milliequivalent, units and intravenous flow rates.

PHRA 1361 - CLINICAL - COMMUNITY PHARMACY  Credit: 3
Prerequisite: Admission to the program
A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

PHRA 1413 - COMMUNITY PHARMACY PRACTICE  Credit: 4
Prerequisite: Admission to the program
Community Pharmacy Practice provides general training necessary to interpret, prepare, label, and maintain records of pharmacists' medication orders and prescriptions in a community pharmacy. The course is designed to train students in the administration of supply, inventory, and data entry. Topics include customer service and advisement, count and pour techniques, prescription calculations, drug selection and preparation, over-the-counter drugs, record keeping, stock level adjustment, data input and editing, and legal parameters.
**DESCRIPTION OF COURSES**

**PHRA 1449 - INSTITUTIONAL PHARMACY PRACTICE**  Credit: 4
Prerequisite: PHRA 1361 3 hrs. lec.
3 hrs. lab.
Institutional Pharmacy Practice explores the unique role and practice of pharmacy technicians in an institutional pharmacy with emphasis on daily pharmacy operation. Topics include hospital pharmacy organization, work flow and personnel, medical and pharmaceutical terminology, safety techniques, data entry, packaging and labeling operations, extemporary compounding, inpatient drug distribution systems, unit dose chart fills, quality assurance, drug storage, and inventory control.

**PHRA 2361 - CLINICAL - INSTITUTIONAL PHARMACY**  Credit: 3
Prerequisite: PHRA 1361 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.

**PHYS 1401 - GENERAL PHYSICS I**  Credit: 4
Corequisite: MATH 1316 or equivalent 3 hrs. lec.
3 hrs. lab.
This course includes the study of vector algebra, Newtonian mechanics, mechanical properties of matter, gases and kinetic theory, thermal properties of matter, thermodynamics, vibratory motion and sound. The study also includes an appropriate laboratory program illustrating the principles learned in lecture. This course is not for physical science and engineering majors but can serve as the Physics requirement for the pre-professional medical programs. (4008015313)

**PHYS 1402 - GENERAL PHYSICS II**  Credit: 4
Prerequisite: PHYS 1401 3 hrs. lec.
3 hrs. lab.
A continuation of PHYS 1401, including the study of electrostatic forces, fields and potentials, DC and AC circuits, magnetism, electromagnetic waves, the reflection, refraction, diffraction and interference of light and introduction into the theories of relativity, quantum mechanics and cosmology. Also included is an appropriate laboratory program illustrating the principles learned in lecture. This course is also not for physical science and engineering majors but can serve as the Physics requirement for the pre-professional medical programs. (4008015313)

**PHYS 1410 - ELEMENTARY PHYSICS**  Credit: 4
Prerequisite: TECM 1303 3 hrs. lec.
3 hrs. lab.
Conceptual level survey in physics. This course offers the opportunities for the students to explore the basic principles in motion, heat, sound, wave motion, electricity, light, and modern physics. It includes an appropriate laboratory program. (4008015103)

**PHYS 1411 - PLANETARY ASTRONOMY**  Credit: 4
Prerequisite: MATH 0306 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 will 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. (4002015103)

**PHYS 1412 - STELLAR ASTRONOMY**  Credit: 4
Prerequisite: MATH 0306 3 hrs. lec.
3 hrs. lab.
This is an introductory course that will concentrate on the origin, life and fate of the stars and the universe, the various objects in the universe, the exploration of the universe by astronomers and the understanding of the principles that lie behind the functioning of the universe. An appropriate laboratory program will include real-time telescope observations, field trips and experience with more advanced observing techniques. This is a course for nonscience majors who need natural science credit or anyone who wants to study the wonders of the universe. (4002015103)

**PHYS 2425 - MECHANICS AND HEAT**  Credit: 4
Prerequisite: MATH 2413 or equivalent or departmental approval, and at least one year of high school physics 3 hrs. lec.
3 hrs. lab.
This course includes the study of measurement, vector algebra, one- and two- dimensional motion, Newton’s laws of motion, kinematics, momentum and collisions, rotational motion and angular momentum, elasticity, oscillations and gravitational interactions, fluids, waves, temperature and the laws of thermodynamics. It also includes an appropriate laboratory program illustrating the principles learned in lecture. This course is primarily for physical science and engineering majors. (4008015403)
PHYS 2426 - ELECTRICITY, MAGNETISM, AND LIGHT  Credit: 4
Prerequisite: PHYS 2425
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, the reflection, refraction, diffraction and interference of light and the theories of relativity, quantum mechanics and cosmology. It includes an appropriate laboratory program illustrating the principles learned in lecture. This course is primarily for physical science and engineering majors. (4008015403)

POFL 1303 - LEGAL OFFICE PROCEDURES  Credit: 3
Prerequisite: None
2 hrs. lec.
3 hrs. lab.
Study of the administrative duties of support personnel in a law office including issues involved in understanding and using social, organizational, and technological systems. This class is the capstone course for the Legal Office Receptionist certificate.

POFL 1355 - LEGAL ISSUES FOR MEDICAL DOCUMENTS  Credit: 3
Prerequisite: POFL 1305; keyboarding/computer skills
3 hrs. lec.
A study of the legal implications regarding medical documents.

POFL 1371 - LEGAL TERMINOLOGY AND TRANSCRIPTION  Credit: 3
Prerequisite: Keyboarding proficiency
1 hr. lec.
4 hrs. lab.
An introduction to legal terminology including spelling, pronunciation, and definition of legal terms and an overview of the law and the professions. Skill development in listening, organizing, and transcribing client-quality documents used in a legal office.

POFL 2301 - LEGAL DOCUMENT PROCESSING  Credit: 3
Prerequisite: POFT 1329 or IITSW 1301
1 hr. lec.
4 hrs. lab.
Skill development in the production of legal documents used in the legal and court systems.

POFL 2305 - LEGAL RESEARCH  Credit: 3
Prerequisite: POFL 1371
2 hrs. lec.
3 hrs. lab.
Exploration of legal issues utilizing current and emerging research techniques.

POFL 2380 - COOPERATIVE EDUCATION - LEGAL ADMINISTRATIVE ASSISTANT/SECRETARY  Credit: 3
Prerequisite: Enrollment in Professional Office Technology/legal track AAS degree or certificate program; completion of 15 credits in degree plan; approval of coordinator
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.

POFM 1302 - COMPUTERS IN HEALTH CARE  Credit: 3
Prerequisite: ENGL 0305, 0313 or ENGL 0314; ENGL 0307 or ENGL 0326; or placement by testing
2 hrs. lec.
2 hrs. lab.
Introduction to a computerized method for the management and operation of health care information systems for various types of medical facilities.

POFM 1309 - MEDICAL OFFICE PROCEDURES  Credit: 3
Prerequisite: Keyboarding proficiency
2 hrs. lec.
3 hrs. lab.
Introduction to basic medical office skills including telephone techniques, filing and indexing, mail handling, appointment scheduling, travel arrangements, correspondence, and business transactions. Emphasis on human relations and customer service skills. This class is the capstone course for the Medical Office Receptionist certificate.

POFM 1313 - MEDICAL TERMINOLOGY I  Credit: 3
Prerequisite: None
2 hrs. lec.
3 hrs. lab.
Instruction in the practical application of a medical vocabulary system. Topics include structure, recognition, analysis, definitions, spelling, pronunciation, and combination of medical terms from prefixes, suffixes, roots, and combining forms.

POFM 1321 - MEDICAL LAW AND ETHICS FOR OFFICE PERSONNEL  Credit: 3
Prerequisite: ENGL 0305, 0313 or ENGL 0314; ENGL 0307 or ENGL 0326; or placement by testing
3 hrs. lec.
Instruction in the principles, procedures, and regulations governing the legal and ethical relationships among physicians, patients, and health care professionals. Topics include current ethical issues related to the practice of medicine and patient confidentiality.
POFM 1327 - MEDICAL INSURANCE  Credit: 3
Prerequisite: POFM 1313  2 hrs. lec.
3 hrs. lab.
Survey of medical insurance including the life cycle of various claim forms, terminology, litigation, patient relations, and ethical issues. This is a capstone course for medical office specialist certificate.

POFM 1331 - MEDICAL TRANSCRIPTION I  Credit: 3
Prerequisite: POFM 1313 & keyboarding proficiency  1 hr. lec.
4 hrs. lab.
Fundamentals of medical transcription including basic reports such as history and physicals, discharge summaries, consultations, operative reports, and other medical reports. Emphasis on development of speed and accuracy.

POFM 1333 - PHARMACOLOGY FOR OFFICE PERSONNEL  Credit: 3
Prerequisite: ENGL 0305, 0313 or ENGL 0314; ENGL 0307 or ENGL 0326; or placement by testing  3 hrs. lec.
A study of the general classifications of drugs and their actions and side effects as they relate to anatomy and physiology. Emphasis on drug interactions with each body system, pharmaceutical medical terminology, and generic and trade names of drugs.

POFM 1353 - MEDICAL CODING  Credit: 3
Prerequisite: POFM 1313  2 hrs. lec.
3 hrs. lab.
Presentation and application of basic coding rules, principles, guidelines, and conventions utilizing various coding systems.

POFM 2313 - MEDICAL TRANSCRIPTION II  Credit: 3
Prerequisite: POFM 1331  1 hr. lec.
4 hrs. lab.
Skill development in the production of medical reports including history and physicals, consultations, operative reports, and other medical reports. Emphasis on speed and accuracy.

POFM 2333 - MEDICAL TERMINOLOGY II  Credit: 3
Prerequisite: POFM 1313  2 hrs. lec.
3 hrs. lab.
A continuation of Medical Terminology I including structure; recognition; analysis; definitions; spelling; pronunciation; and combination of medical terms from prefixes, suffixes, roots and combining terms. Emphasis on various medical specialty fields.

POFM 2380 - COOPERATIVE EDUCATION - MEDICAL ADMINISTRATIVE ASSISTANT/SECRETARY  Credit: 3
Prerequisite: Enrollment in Professional Office Technology/medical track AAS degree or certificate program; completion of 15 credits in degree plan; approval of coordinator
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.

POFM 2381 - COOPERATIVE EDUCATION - MEDICAL ADMINISTRATIVE ASSISTANT/SECRETARY II  Credit: 3
Prerequisite: Completion of at least 15 credits in degree or certificate plan.
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.

POFM 2386 - INTERNSHIP - MEDICAL ADMINISTRATIVE ASSISTANT/SECRETARY  Credit: 3
Prerequisite: POFM 1313, Completion of at least 15 credits in degree or certificate plan.
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.

POFT 1301 - BUSINESS ENGLISH  Credit: 3
Prerequisite: Recommended placement of ENGL 0307 or higher, or ENGL 0326 for non-native speakers, from ASSET or COMPASS test results
Introduction to a practical application of basic language usage skills with emphasis on fundamentals of writing and editing for business.

POFT 1309 - ADMINISTRATIVE OFFICE PROCEDURES I  Credit: 3
Prerequisite/ Corequisite: Keyboarding proficiency recommended.
Study of current office procedures, duties, and responsibilities in an office environment.
POFT 1325 - BUSINESS MATH & MACHINE APPLICATIONS  Credit: 3
Prerequisite: None  
2 hrs. lec. 
3 hrs. lab.
Skill development in the use of electronic calculators and business math functions. Emphasis on business problem-solving skills using spreadsheet software and/or electronic calculator/keyboard.

POFT 1329 - KEYBOARDING & DOCUMENT FORMATTING  Credit: 3
Prerequisite: None  
1 hr. lec. 
4 hrs. lab.
Skill development in the operation of the keyboard by touch applying proper keyboarding techniques. Emphasis on development of acceptable speed and accuracy levels and formatting basic documents.

POFT 1371 - BILINGUAL BUSINESS WRITING  Credit: 3
Prerequisite: POFT 1329 and pass diagnostic test. Recommended placement of ENGL 0307 or 0326 or higher on ASSET or COMPASS test and fluency in written and spoken Spanish  
2 hrs. lec. 
3 hrs. lab.
Designed for bilingual English/Spanish students who are proficient in Spanish. This course is designed to give students the tools for developing professional business correspondence in both Spanish and English. Emphasis is placed on proofreading, grammar, spelling, vocabulary, and composing business letters in both English and Spanish.

POFT 2301 - DOCUMENT FORMATTING AND SKILLBUILDING  Credit: 3
Prerequisite: POFT 1329 or ITSW 1301  
1 hr. lec. 
4 hrs. lab.
A continuation of keyboarding skills in document formatting, speed, and accuracy. Emphasis on proofreading, editing, and following instructions, and keying documents from various copy.

POFT 2331 - ADMINISTRATIVE SYSTEMS  Credit: 3
Prerequisite: ITSC 1401 or ITSW 1301 or COSC 1401  
2 hrs. lec. 
3 hrs. lab.
Advanced concepts of project management and office procedures utilizing integration of previously learned office skills.

POFT 2380 - COOPERATIVE EDUCATION - ADMINISTRATIVE ASSISTANT/SECRETARIAL SCIENCE GENERAL  Credit: 3
Prerequisite: Enrollment in Professional Office Technology AAS degree or certificate program; completion of 15 credits in degree plan; approval of coordinator.  
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.

POFT 2381 - COOPERATIVE EDUCATION - ADMINISTRATIVE ASSISTANT/SECRETARIAL SCIENCE GEN. II  Credit: 3
Prerequisite: POFT 2380  
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.

POFT 2386 - INTERNSHIP - ADMINISTRATIVE ASSISTANT  Credit: 3
Prerequisite: POFT 2331  
1 hr. lec. 
8 hrs. ext.
A work-based learning experience that enables the student to apply specialized occupational theory, skills and concepts. A learning plan is developed by the college and the employer.

PSYC 1301 - HUMAN RELATIONS  Credit: 3
Prerequisite: None  
3 hrs. lec.
This course assists students to understand theories, principles and behaviors involved in the development of human relationships. Emphasis is given to the development of self concept and major aspects of interpersonal communication. Students learn to identify, understand, analyze and apply principles drawn from the assigned text and other sources. Practical exercises are incorporated. (PSYC 1301 is not the equivalent of general psychology but may transfer as a general elective). (4201015625)
DESCRIPTION OF COURSES

PSYC 2301 - GENERAL PSYCHOLOGY  Credit: 3
Prerequisite: College level reading scores  3 hrs. lec.
An introductory course dealing with the elementary principles of human behavior. Designed especially for those students majoring in the social or biological sciences, premedicine, or education. (4201015125)

PSYC 2302 - APPLIED PSYCHOLOGY  Credit: 3
Prerequisite: PSYC 2301  3 hrs. lec.
A survey of the application of psychological knowledge and methods in the fields of business, industry, education, medicine, mental health, law enforcement, environmental science, and consumer behavior. (4201015225)

PSYC 2306 - HUMAN SEXUALITY  Credit: 3
Prerequisite: PSYC 2301 or departmental approval  3 hrs. lec.
An examination of sexual myths, functions, attitudes, behaviors, dysfunctions, and variations in sexual behavior in order to increase knowledge, awareness, and understanding. Class experience will emphasize the value-clarification process and examine the role of values in personal decision making. (4201015325)

PSYC 2308 - CHILD GROWTH AND DEVELOPMENT  Credit: 3
Prerequisite: PSYC 2301 or departmental approval  3 hrs. lec.
A study of physical and psychological development from conception through adolescence with emphasis on factors which influence growth and development. Students who have taken PSYC 2314 must have instructor approval to enroll in PSYC 2308. (4207015125)

PSYC 2314 - LIFE-SPAN GROWTH AND DEVELOPMENT  Credit: 3
Prerequisite: PSYC 2301  3 hrs. lec.
A study of development from conception to death with emphasis on factors which influence growth and development. Consideration will be given to social, emotional, cognitive, and physical growth and development at each period of the life-span. Students who have taken PSYC 2308 must have instructor approval to enroll in PSYC 2314. (4207015125)

PSYC 2315 - PSYCHOLOGY OF ADJUSTMENT  Credit: 3
Prerequisite: PSYC 2301  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)

PSYC 2316 - PSYCHOLOGY OF PERSONALITY  Credit: 3
Prerequisite: PSYC 2301  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)

PSYC 2317 - BASIC STATISTICS  Credit: 3
Prerequisite: None  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)

PSYC 2319 - SOCIAL PSYCHOLOGY  Credit: 3
Prerequisite: SOCI 1301 or PSYC 2301 or departmental approval  3 hrs. lec.
The course focuses on individual behavior as affected by cultural and social stimuli. Social behavior, interpersonal influence, group membership, and the relations between persons and social systems are emphasized. (4216015125)

PTHA 1160 - CLINICAL - PHYSICAL THERAPIST ASSISTANT  Credit: 1
Prerequisite: PTHA 1225, 1305 and 1413  3 hrs. ext.
Corequisite: PTHA 1431, 2435, and 2201
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. (4201015125)

PTHA 1201 - THE PROFESSION OF PHYSICAL THERAPY  Credit: 2
Prerequisite: ENGL 0304 and 0306  2 hrs. lec.
Introduction to the profession of physical therapy including the historical and current scope of physical therapy.

PTHA 1217 - ISSUES IN HEALTH CARE  Credit: 2
Prerequisite: PTHA 1321 and 2409  2 hrs. lec.
Exploration of the organizational patterns, administrative principles, legal and ethical issues, communications, and job placement skills in physical therapy and health care.

PTHA 1225 - COMMUNICATION IN HEALTH CARE  Credit: 2
Prerequisite: ENGL 0305 and 0307; MATH 0310  2 hrs. lec.
Corequisite: PTHA 1305 and 1413
Integration of communication theories and principles for optimal delivery of health care.
**PTHA 1260 - CLINICAL - PHYSICAL THERAPIST ASSISTANT**  
Credit: 2  
Prerequisite: PTHA 1291  
Corequisite: PTHA 1261  
1 hr. lec.  
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.

**PTHA 1261 - CLINICAL - PHYSICAL THERAPIST ASSISTANT**  
Credit: 2  
Prerequisite: PTHA 1291  
Corequisite: PTHA 1260  
1 hr. lec.  
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.

**PTHA 1291 - SPECIAL TOPICS IN PHYSICAL THERAPY ASSISTANT**  
Credit: 2  
Prerequisite: PTHA 1321 and 2409  
2 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.

**PTHA 1305 - BASIC PATIENT CARE SKILLS**  
Credit: 3  
Prerequisite: ENGL 0305 and 0307; MATH 0310  
2 hrs. lec.  
Corequisite: PTHA 1225 and 1413  
3 hrs. lab.  
Introduction to the theory and application of basic patients handling/functional skills and assessment techniques.

**PTHA 1321 - CLINICAL - PATHOPHYSIOLOGY**  
Credit: 3  
Prerequisite: PTHA 1160, 1431, 2201, and 2435  
3 hrs. lec.  
Corequisite: PTHA 2409  
Study of the pathogenesis, prognosis, and therapeu- 
tic management of diseases/conditions commonly encountered in physical therapy.

**PTHA 1413 - FUNCTIONAL ANATOMY**  
Credit: 4  
Prerequisite: ENGL 0305 and 0307; MATH 0310  
3 hrs. lec.  
Corequisite: PTHA 1225 and 1305  
4 hrs. lab.  
Study of human anatomy and its application to the motion of the musculoskeletal system as it relates to normal activities and dysfunctions. Integration of skills related to the kinesiological assessment of the human body.

**PTHA 1431 - PHYSICAL AGENTS**  
Credit: 4  
Prerequisite: PTHA 1225, 1305, and 1413  
3 hrs. lec.  
Corequisite: PTHA 1160, 2201 and 2435  
4 hrs. lab.  
Study of the biophysical principles, assessment, and application of therapeutic physical agents with specific emphasis on indications, contraindications, medical efficacy, and physiological effects.

**PTHA 2201 - ASSESSMENT SKILLS**  
Credit: 2  
Prerequisite: PTHA 1225, 1305, and 1413  
2 hrs. lec.  
Corequisite: PTHA 1160, 1431 and 2435  
2 hrs. lab.  
Study of assessment techniques used in physical therapy to prepare the physical therapy assistant to assist physical therapy management.

**PTHA 2360 - CLINICAL - PHYSICAL THERAPIST ASSISTANT**  
Credit: 3  
Prerequisite: PTHA 1260 and 1261  
1 hr. lec.  
Corequisite: PTHA 2361  
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.

**PTHA 2361 - CLINICAL - PHYSICAL THERAPIST ASSISTANT**  
Credit: 3  
Prerequisite: PTHA 1260 and 1261  
1 hr. lec.  
Corequisite: PTHA 2360  
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.

**PTHA 2409 - THERAPEUTIC EXERCISE**  
Credit: 4  
Prerequisite: PTHA 1160, 1431, 2201 and 2435  
3 hrs. lec.  
Corequisite: PTHA 1321  
4 hrs. lab.  
Critical examination of concepts and application of techniques related to therapeutic exercise and functional training.

**PTHA 2435 - REHABILITATION TECHNIQUES**  
Credit: 4  
Prerequisite: PTHA 1225, 1305 and 1413  
3 hrs. lec.  
Corequisite: PTHA 1160, 1431, and 2201  
3 hrs. lab.  
Advanced course integrating previously learned and new skills/techniques into the comprehensive rehabilitation of selected long-term pathologies.

**PTRT 1424 - PETROLEUM INSTRUMENTATION**  
Credit: 4  
Prerequisite: IEIR 1310 and INTC 1343  
3 hrs. lec.  
3 hrs. lab.  
Surveys the instruments, measurements, and control devices used within the major aspects of the petroleum industry, basic terminology, functions, and applications of the various instruments will be discussed.
DESCRIPTION OF COURSES

QCTC 1303- QUALITY CONTROL  Credit: 3
Prerequisite: MATH 1314 and MCHN 1319  3 hrs. lec.
Information on quality control principles and applications. Designed to introduce the student to the quality control profession. The student will be introduced to the use of statistical analysis of data to establish control systems for use in product manufacturing.

QCTC 1371 - PRESSURE VESSELS CODES  Credit: 3
Prerequisite: None  2 hrs. lec.  2 hrs. lab.
Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. A course in the requirements of inspection of pressure vessels including ASME Code Structure, function and requirements, Nondestructive Examination, Maintenance Inspection, Repairs and Alterations and Pressure Vessel Inspection Code.

QCTC 1446 - TESTING AND INSPECTION SYSTEMS  Credit: 4
Prerequisite: None  4 hrs. lec.
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.

QCTC 2331 - STANDARDS  Credit: 3
Prerequisite: None  2 hrs. lec.  2 hrs. lab.
A study of the philosophy and theory of standards, appropriate standards organizations, and systems integration relating to the application of standards criteria in society.

RADR 1260 - CLINICAL  Credit: 2
Prerequisite: RADR 1409, 1411, and 1313; ENGL 0305 and 0307; 0313 or 0314 and 0326; MATH 0310
A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

RADR 1261 - CLINICAL  Credit: 2
Prerequisite: ENGL 0305 and 0307; or 0313 or 0314 and 0326; MATH 0310; RADR 1260, 2401, and 2305.
A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

RADR 1313 - PRINCIPLES OF RADIOGRAPHIC IMAGING I  Credit: 3
Prerequisite: Admission to the program  3 hrs. lec.
An introduction to radiographic image qualities and the effects of exposure variables upon these qualities.

RADR 1360 - CLINICAL  Credit: 3
Prerequisite: ENGL 0305 and 0307; or 0313 16 hrs. ext. or 0314 and 0326; MATH 0310, and RADR 1261
A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

RADR 1409 - INTRODUCTION TO RADIOGRAPHY AND PATIENT CARE  Credit: 4
Prerequisite: Admission to the program  3 hrs. lec.  2 hrs. lab.
This course includes the historical development of radiography, basic radiation protection, an introduction to medical terminology, ethical and legal issues for health care professionals, and an orientation to the program and to the health care system. Patient assessment, infection control procedures, emergency and safety procedures, communication and patient interaction skills, and basic pharmacology are also included.

RADR 1411 - BASIC RADIOGRAPHIC PROCEDURES  Credit: 4
Prerequisite: Admission to the program  3 hrs. lec.  2 hrs. lab.
An introduction to radiographic positioning terminology, the proper manipulation of equipment, positioning and alignment of the anatomical structure and equipment, and evaluation of images for proper demonstration of basic anatomy.

RADR 2217 - RADIOGRAPHIC PATHOLOGY  Credit: 2
Prerequisite: RADR 2313 AND 2309  2 hrs. lec.
A presentation of the disease process and common diseases and their appearance on medical images.

RADR 2305 - PRINCIPLES OF RADIOGRAPHIC IMAGING II  Credit: 3
Prerequisite: RADR 1313  3 hrs. lec.
A continuation of the study of radiographic imaging technique formulation, image quality assurance, and the synthesis of all variables in image production.
RADR 2309 - RADIOGRAPHIC IMAGING EQUIPMENT
Credit: 3
Prerequisite: RADR 2305
3 hrs. lec.
A study of the equipment and physics of x-ray production, basic x-ray circuits, and the relationship of equipment components to the imaging process.

RADR 2313 - RADIATION BIOLOGY AND PROTECTION
Credit: 3
Prerequisite: BIOL 2402 and RADR 2331
3 hrs. lec.
A study of the effects of radiation exposure on biological systems, typical medical exposure levels, methods for measuring and monitoring radiation, and methods for protecting personnel and patients from excessive exposure.

RADR 2331 - ADVANCED RADIOGRAPHIC PROCEDURES
Credit: 3
Prerequisite: RADR 2401
3 hrs. lec.
Continuation of positioning; alignment of the anatomical structure and equipment, evaluation of images for proper demonstration of anatomy and related pathology.

RADR 2335 - RADIOLOGIC TECHNOLOGY SEMINAR
Credit: 3
Corequisites: RADR 2366 (Practicum)
3 hrs. lec.
This is a capstone course focusing on the synthesis of professional knowledge, skills, and attitudes in preparation for professional employment and lifelong learning.

RADR 2340 - SECTIONAL ANATOMY FOR MEDICAL IMAGING
Credit: 3
3 hrs. lec.
In-depth coverage of anatomic relationships that are present under various sectional orientations as depicted by medical imaging.

RADR 2360 - CLINICAL
Credit: 3
Prerequisite: ENGL 0305 and 0307; or 0313 or 0314 and 0326; RADR 1261
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.

RADR 2361 - CLINICAL
Credit: 3
Prerequisite: RADR 1360
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.

RADR 2401 - INTERMEDIATE RADIOGRAPHIC PROCEDURES
Credit: 4
Prerequisite: RADR 1411
3 hrs. lec.
2 hrs. lab.
A continuation of the study of the proper manipulation of radiographic equipment, positioning and alignment of the anatomical structure and equipment, and evaluation of images for proper demonstration of intermediate anatomy.

RBTC 1401 - PROGRAMMABLE CONTROLLERS
Credit: 4
Prerequisite: CETT 1425 or 1429 or IEIR 1301;
3 hrs. lec.
or departmental approval
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.

RELI 1311 - OLD TESTAMENT SURVEY
Credit: 3
Prerequisite: ENGL 0305, 0307, 0313, 0314, 0326
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.

RELI 1312 - NEW TESTAMENT SURVEY
Credit: 3
Prerequisite: ENGL 0305, 0307, 0313, 0314, 0326
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.

RNSG 1105 - NURSING SKILLS I
Credit: 1
Prerequisite: RNSG 1119 and BIOL 2401
2 hrs. lab.
and admission to the ADN program
Corequisites: RNSG 1361 and 1523, PSYC 2314, BIOL 2402
Study of the concepts and principles essential for demonstrating competence in the performance of nursing procedures. Topics include knowledge, judgment, skills, and professional values within a legal/ethical framework.

RNSG 1119 - INTEGRATED NURSING SKILLS I
Credit: 1
Prerequisite: BIOL 2401, PSYC 2301, ENGL 1301
2 hr. lab.
and admission to the ADN program
Study of the concepts and principles essential for demonstrating competence in the performance of basic nursing skills for care of diverse clients across the life span. Topics include knowledge, judgment, skills, and professional values within a legal/ethical framework. Students who have completed the health science program in high school or are certified as a nurses aide or emergency medical technician or medical assistant will be exempt from this course and receive articulated credit.
DESCRIPTION OF COURSES

RNSG 1140 - NURSING SKILLS FOR ARTICULATING STUDENTS Credit: 1
Prerequisite: Admission to Paramedic to RN Transition program
Corequisite: RNSG 1260 and 1417
Validation of current skills and procedures in a variety of settings, application of a systematic problem solving process and critical thinking skills, focus on the expansion of the scientific knowledge and principles underlying nursing skills and procedures, and competency in knowledge, judgment, skills, and professional values within a legal/ethical framework.

RNSG 1144 - NURSING SKILLS II Credit: 1
Prerequisite: RNSG 1105, 1301, 1361, 1523; BIOL 2402; PSYC 2301
Corequisite: RNSG 1362 and 2504
Study of the concepts and principles necessary to perform intermediate or advanced nursing skills; and demonstrate competence in the performance of nursing procedures. Topics include knowledge, judgment, skills and professional values within a legal/ethical framework.

RNSG 1146 - LEGAL AND ETHICAL ISSUES FOR NURSES Credit: 1
Prerequisite: BIOL 2420, PSYC 2314, RNSG 1244, 1262, 1301, and 1443.
Corequisite: RNSG 2160, 2201, 2208, 2261, SPCH 1318
Study of the laws and regulations related to the provision of safe and effective professional nursing care; attention given to the development of a framework for addressing ethical issues; and topics to include confidentiality, the Nursing Practice Act, professional boundaries, ethics, and health care legislation.

RNSG 1160 - CLINICAL- NURSING TRANSITION Credit: 1
Prerequisite: Admission to LVN Transition program and RNSG 1301
Corequisite: RNSG 1327
A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

RNSG 1170 - NURSING SKILLS III Credit: 1
Prerequisite: RNSG 1144, 2504; BIOL 2420; PSYC 2314
Corequisite: RNSG 2361 and 2514
Study of the concepts and principles necessary to perform intermediate or advanced nursing skills, and demonstrate competence in the performance of nursing procedures. Topics include knowledge, judgment, skills and professional values within a legal/ethical framework.

RNSG 1215 - HEALTH ASSESSMENT Credit: 2
Prerequisite: RNSG 1119
Corequisite: BIOL 2402, RNSG 1261, 1309, 1341, SOC 1301
Development of skills and techniques required for a comprehensive health assessment within a legal/ethical framework.

RNSG 1244 - NURSING SKILLS II Credit: 2
Prerequisite: BIOL 2402, RNSG 1215, 1261, 1309, and 1341
Corequisite: BIOL 2420, PSYC 2314, RNSG 1262, 1301, and 1443
Study of the concepts and principles necessary to perform intermediate or advanced nursing skills; and demonstrate competence in the performance of nursing procedures. Topics include knowledge, judgment, skills and professional values within a legal/ethical framework.

RNSG 1260 - CLINICAL- NURSING FOR ARTICULATING STUDENTS Credit: 2
Prerequisite: Admission to Paramedic Transition program and RNSG 1301
Corequisite: RNSG 1140 and 1417
A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

RNSG 1261 - CLINICAL: PRINCIPLES OF ADULT HEALTH Credit: 2
Prerequisite: RNSG 1119
Corequisite: BIOL 2402, RNSG 1215, 1309, and 1341, SOC 1301
A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

RNSG 1262 - CLINICAL: CONCEPTS OF ADULT HEALTH Credit: 2
Prerequisite: BIOL 2402, RNSG 1215, 1261, 1309, and 1341
Corequisite: BIOL 2420, PSYC 2314, RNSG 1244, 1301, and 1443
A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.
RNSG 1301 - PHARMACOLOGY  
Credit: 3  
Prerequisite: None  
3 hrs. lec.  
Introduction to the science of pharmacology with emphasis on the actions, adverse effects, and nursing implications of each drug classification. Topics include the roles and responsibilities of the nurse in safe administration of medications within a legal/ethical framework.

RNSG 1309 - INTRODUCTION TO NURSING  
Credit: 3  
Prerequisite: RNSG 1119  
3 hrs. lec.  
Corequisite: BIOL 2402, RNSG 1215, 1261, 1341, and SOCI 1301  
Overview of nursing and the role of the associate degree nurse as a provider of care, coordinator of care and member of a profession. Topics include knowledge, judgment, skills and professional values with a legal/ethical framework.

RNSG 1327 - TRANSITION FROM VOCATIONAL TO PROFESSIONAL NURSING I  
Credit: 3  
Prerequisite: Admission into LVN Transition Program and RNSG 1301  
3 hrs. lec.  
Corequisite: RNSG 1160  
Topics include health promotion, expanded assessment, analysis of data, nursing process, pharmacology, multidisciplinary teamwork, communication, and applicable competencies in knowledge, judgment, skills, and professional values within a legal/ethical framework throughout the life span.

RNSG 1341 - PRINCIPLES OF ADULT HEALTH  
Credit: 3  
Prerequisite: RNSG 1119  
3 hrs. lec.  
Corequisite: BIOL 2402, RNSG 1215, 1261, 1309, and SOCI 1301  
Study of the general principles of caring for selected adult clients and families with common health needs in a structured setting. Emphasis on knowledge, judgment, skills and professional values within a legal/ethical framework.

RNSG 1362 - CLINICAL - NURSING II  
Credit: 3  
Prerequisite: RNSG 1105, 1361, 1523, 1301; BIOL 2402; PSYC 2301  
12 hrs. ext.  
Corequisite: RNSG 1144 and 2504  
A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

RNSG 1417 - CONCEPTS OF NURSING PRACTICE I FOR ARTICULATING STUDENTS  
Credit: 4  
Prerequisite: Admission to Paramedic to RN Transition program; RNSG 1301  
4 hrs. lec.  
Corequisite: RNSG 1140 and 1260  
Provides the articulating student the opportunity to examine the role of the professional nurse; application of a systematic problem-solving process and critical thinking skills which includes a focus on the adult population in selected settings; and competency in knowledge, judgment, skills, and professional values within a legal/ethical framework.

RNSG 1443 - COMPLEX CONCEPTS OF ADULT HEALTH  
Credit: 4  
Prerequisite: BIOL 2402, RNSG 1215, 1261, 1309, and 1341  
4 hrs. lec.  
Corequisite: BIOL 2420, PSYC 2314, RNSG 1244, 1262, and 1301  
Integration of previous knowledge and skills related to common adult health needs into the continued development of the professional nurse as a provider of care, coordinator of care, and member of a profession in the care of adult clients/families in structured health care settings with complex medical-surgical health care needs associated with each body system. Emphasis on knowledge, judgments, skills, and professional values within a legal/ethical framework.

RNSG 1523 - INTRO TO PROFESSIONAL NURSING FOR INTEGRATED PROGRAMS  
Credit: 5  
Prerequisite: Admission to the Professional Nursing Program, BIOL 2401 and RNSG 1119; Admission to ADN program  
5 hrs. lec.  
Corequisite: RNSG 1105 and 1361  
Introduction to the profession of nursing including the roles of the registered nurse with emphasis on health promotion and primary disease prevention across the life span; essential components of the nursing health assessment; identification of deviations from expected health patterns; the application of a systematic, problem-solving process to provide basic nursing care to diverse clients across the life span; and applicable competencies in knowledge, judgment, skills, and professional values within a legal/ethical framework. This initial course focuses...
DESCRIPTION OF COURSES

on basic human needs; health related learning needs; nursing process, concepts of mental/physical health, decision making, scientific principles, critical thinking, and resource management as a basis for nursing action. Assessment, communication, cultural and developmental diversities, medication math skills, and principles related to pharmacology, and basic nursing skills are taught in selected classroom, laboratory, seminar, and clinical activities.

RNSG 2160 - CLINICAL: CARE OF CHILDREN AND FAMILIES  
Prerequisite: BIOL 2420, PSYC 2314, RNSG 1244, 1262, 1301, and 1443
Corequisite: RNSG 1146, 2201, 2208, 2261, and SPCH 1318
A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

RNSG 2162 - CLINICAL: MENTAL HEALTH NURSING  
Prerequisite: RNSG 1146, 2160, 2201, 2208, and 2261
Corequisite: RNSG 2207, 2213, 2262, and 2331
A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

RNSG 2171 - TRANSITION FROM VOCATIONAL TO PROFESSIONAL NURSING II  
Prerequisite: RNSG 1170, 2361, 2514
Corequisite: RNSG 2272, 2362, and 2535
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, and member of a profession, and 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.

RNSG 2201 - CARE OF CHILDREN AND FAMILIES  
Prerequisite: BIOL 2420, PSYC 2314, RNSG 1244, 1262, 1301, and 1443
Corequisite: RNSG 1146, 2160, 2208, 2261, and SPCH 1318
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.

RNSG 2207 - TRANSITION TO NURSING PRACTICE  
Prerequisite: RNSG 1146, 2160, 2201, 2208, and 2261
Corequisite: RNSG 2162, 2213, 2262, and 2331
Introduction to selected concepts related to the role of the associate degree nurse as a provider of care, coordinator of care and member of the profession. Review of trends and issues impacting nursing and health care today and in the future. Topics include knowledge, judgment skill, and professional values within a legal/ethical framework.

RNSG 2208 - MATERNAL/NEWBORN NURSING AND WOMEN’S HEALTH  
Prerequisite: BIOL 2420, PSYC 2314, RNSG 1244, 1262, 1301, and 1443
Corequisite: RNSG 1146, 2160, 2201, 2208, and 2261
Study of concepts related to the provision of nursing care for normal childbearing families and those at risk, as well as women’s health issues; competency in knowledge, judgment, skill, and professional values within a legal ethical framework, including a focus on normal and high-risk needs for the childbearing family during the preconception, prenatal, intrapartum, neonatal and postpartum periods; and consideration of selected issues in women’s health.

RNSG 2213 - MENTAL HEALTH NURSING  
Prerequisite: RNSG 1146, 2160, 2201, 2208, and 2261
Corequisite: Humanities elective, RNSG 2162, 2201, 2262, and 2331
Principles and concepts of mental health, psychopathology, and treatment modalities related to the nursing care of clients and their families.

RNSG 2261 - CLINICAL - MATERNAL/NEWBORN NURSING  
Prerequisite: BIOL 2420, PSYC 2314, RNSG 1244, 1262, 1301, and 1443
Corequisite: RNSG 1146, 2160, 2201, 2208, SPCH 1318; KINE Activity
A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

RNSG 2262 - CLINICAL - ADVANCED CONCEPTS OF ADULT HEALTH  
Prerequisite: RNSG 1146, 2160, 2201, 2208, and 2261
Corequisite: RNSG 2162, 2207, 2213, and 2331
A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.
RNSG 2272 - NURSING REVIEW Credit: 2
Corequisite: RNSG 2362 and 2535 or departmental approval
Exploration of leadership and management principles applicable to the role of the nurse as a provider of care, coordinator of care, and member of a profession. Includes application of knowledge, judgment, skills, and professional values within a legal/ethical framework. Course incorporates concepts from all previous nursing courses, in preparation for licensure examination and professional nursing practice.

RNSG 2331 - ADVANCED CONCEPTS OF ADULT HEALTH Credit: 3
Prerequisites: RNSG 1146, 2160, 2201, 2208, and 2261
Corequisite: RNSG 2162, 2207, 2213, and 2262
Application of advanced concepts and skills for the development of the associate degree nurse's role in complex nursing situations with adult clients/families in structured settings. Emphasis is given to judgment and professional values within a legal/ethical framework.

RNSG 2361 - CLINICAL - NURSING III Credit: 3
Prerequisite: RNSG 1144, 1362, 2504; BIOL 2420; PSYC 2314; SOCI 1301
Corequisite: RNSG 1170 and 2514
A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

RNSG 2362 - CLINICAL - NURSING IV Credit: 3
Prerequisite: RNSG 1170, 2361, 2514
Corequisite: RNSG 2272 and 2535
A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

RNSG 2504 - CARE OF THE CLIENT WITH COMMON HEALTH CARE NEEDS: NURSING II Credit: 5
Prerequisite: RNSG 1105, 1361, 1523; BIOL 2402; PSYC 2301
Corequisite: RNSG 1144 and 1362
Application of a systematic problem-solving process and critical-thinking skills to provide nursing care to diverse clients/families across the life span with common health care needs. Opportunities for collaboration with members of the multidisciplinary health care team. Content includes applicable competencies in knowledge, judgement, skills, and professional values within a legal/ethical framework.

RNSG 2514 - INTEGRATED CARE OF THE CLIENT WITH COMPLEX HEALTH CARE NEEDS Credit: 5
Prerequisite: RNSG 1144, 2504; BIOL 2420; PSYC 2314; SOCI 1301
Corequisite: RNSG 1170 and 2361
Application of a systematic problem-solving process and critical thinking skills to provide comprehensive nursing care to diverse clients/families across the life span with complex health care needs including, but not limited to, complex childhood/adolescent diseases, complicated perinatal care, acute mental illness, complex perioperative care, serious adult health problems and health issues related to aging. Emphasis on tertiary disease prevention, health maintenance/restoration and collaboration with members of the multidisciplinary health care team. Topics include the role of the nurse as client advocate and coordinator of care and applicable competencies in knowledge, judgment, skills, and professional values within a legal/ethical framework. Content includes complex health problems and pathological processes that occur in all age groups, related to mental and physical illness, obstetrical problems, and end stage or emergency health problems. Clinical activities are offered in acute care settings, with added long term and community-based activities.

RNSG 2535 - INTEGRATED CLIENT CARE MANAGEMENT: NURSING IV Credit: 5
Prerequisite: RNSG 1170, 2361, 2514
Corequisite: RNSG 2272 and 2362
Application of client assessment skills, critical thinking, and independent nursing interventions to care for diverse clients/families throughout the life span whose health care needs may be difficult to predict. Emphasis on collaborative clinical decision-making, nursing leadership skills, and client management. Topics include the significance of professional development, trends in nursing and health care, and applicable knowledge, judgment, skills, and professional values within a legal/ethical framework. Human needs and nursing role development continue as a focus, with long-term health problems in diverse individuals. Students use the nursing process for making nursing judgments and setting priorities. Discussion of current issues affecting health care and additional legal/ethical aspects enhance the student’s personal and professional growth. Course includes management of chronic health problems, delegation, utilization of resources, and case management.
DESCRIPTION OF COURSES

RSPT 1141 - RESPIRATORY HOME CARE/ REHABILITATION  Credit: 1
Corequisite: RSPT 2267  1 hr. lec.
Designed to develop an understanding of respiratory homecare/rehabilitation equipment, procedures, and patient care, with emphasis on the use of special technology and equipment in the treatment of patients in a subacute and/or long-term patient care setting.

RSPT 1166 - PRACTICUM RESPIRATORY THERAPY TECHNICIAN  Credit: 1
Corequisite: RSPT 1201, 1325, and 1438  8 hrs. ext.
Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

RSPT 1167 - PRACTICUM RESPIRATORY THERAPY TECHNICIAN  Credit: 1
Corequisite: RSPT 1439  8 hrs. ext.
Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

RSPT 1201 - INTRODUCTION TO RESPIRATORY CARE  Credit: 2
Corequisite: RSPT 1166  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 of Allied Health Education Programs (CAAHEP), Committee on Accreditation for Respiratory Care Education (CoARC) or successor organizations.

RSPT 1207 - CARDIOPULMONARY ANATOMY AND PHYSIOLOGY  Credit: 2
Prerequisite: None  1 hr. lec.
4 hrs. lab.
An introduction to the anatomy and physiology of the cardiovascular and pulmonary systems.

RSPT 1213 - BASIC RESPIRATORY CARE PHARMACOLOGY  Credit: 2
Prerequisite: None  2 hrs. lec.
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.

RSPT 1266 - PRACTICUM RESPIRATORY THERAPY TECHNICIAN  Credit: 2
Corequisite: RSPT 2314  16 hrs. ext.
Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

RSPT 1325 - RESPIRATORY CARE SCIENCES  Credit: 3
Corequisite: RSPT 1166  2 hrs. lec.
4 hrs. lab.
A study of cardiopulmonary sciences including physics, math, chemistry, and statistics. This course may be offered only by a college with a program approved by the Commission on Accreditation of Allied Health Education Programs (CAAHEP), Committee on Accreditation for Respiratory Care Education (CoARC) or successor organizations.

RSPT 1438 - RESPIRATORY CARE TECHNOLOGY I  Credit: 4
Corequisite: RSPT 1166  2 hrs. lec.
6 hrs. lab.
Provides students with the essential knowledge of medical gas therapy, humidity and aerosol therapy, and lung expansion therapy. This course may be offered only by a college with a program approved by the Commission on Accreditation of Allied Health Education Programs (CAAHEP), Committee on Accreditation for Respiratory Care Education (CoARC) or successor organizations.

RSPT 1439 - RESPIRATORY CARE TECHNOLOGY II  Credit: 4
Corequisite: RSPT 1167  2 hrs. lec.
6 hrs. lab.
Provides students with the essential knowledge of bronchial hygienvetherapy, airway management, and resuscitation devices. This course may be offered only by a college with a program approved by the Commission on Accreditation of Allied Health Education Programs (CAAHEP), Committee on Accreditation for Respiratory Care Education (CoARC) or successor organizations.
RSPT 2131 - CLINICAL SIMULATIONS IN RESPIRATORY CARE  Credit: 1
Corequisite: RSPT 2267
The theory and history of clinical simulation examinations. Topics include the construction types, scoring, and mechanics of taking the exam along with practice in taking both written and computerized simulations, and basic concepts of computer usage.

RSPT 2147 - SPECIALTIES IN RESPIRATORY CARE  Credit: 1
Corequisite: RSPT 2267
1 hr. lab.
An introduction to areas of interest in which the Respiratory Therapist may find application and/or employment. The depth of instruction will provide the indications, expected outcomes, hazards and methods for hyperbaric oxygen (HBO), extracorporeal membrane oxygenation (ECMO), nitric oxide (NO), sleep studies, nutritional assessment, metabolic monitoring, exercise/stress testing, and electroencephalograms.

RSPT 2166 - PRACTICUM RESPIRATORY THERAPY TECHNICIAN  Credit: 1
Corequisite: RSPT 2353
Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

RSPT 2210 - CARDIOPULMONARY DISEASE  Credit: 2
Prerequisite: None
Corequisite: RSPT 1266
A discussion of pathogenesis, pathology, diagnosis, history, prognosis, manifestations, treatment, and detection of cardiopulmonary disease. This course may be offered only by a college with a program approved by the Commission on Accreditation of Allied Health Education Programs (CAAHEP), Committee on Accreditation for Respiratory Care Education (CoARC) or successor organizations.

RSPT 2239 - ADVANCED CARDIAC LIFE SUPPORT  Credit: 2
Prerequisite: None
A comprehensive course designed to develop the cognitive and psychomotor skills necessary for resuscitation of the adult. Strategies for managing and stabilizing the cardiopulmonary arrested patient will be included.

RSPT 2243 - RESEARCH APPLICATIONS  Credit: 2
Prerequisite: None
Corequisite: RSPT 2267
Analysis of current research material and determination of scientific validity. This course may be offered only by a college with a program approved by the Commission on Accreditation of Allied Health Education Programs (CAAHEP), Committee on Accreditation for Respiratory Care Education (CoARC) or successor organizations.

RSPT 2266 - PRACTICUM RESPIRATORY THERAPY TECHNICIAN  Credit: 2
Corequisite: RSPT 2305
Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

RSPT 2267 - PRACTICUM RESPIRATORY THERAPY TECHNICIAN  Credit: 2
Corequisite: RSPT 1141
Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

RSPT 2305 - PULMONARY DIAGNOSTICS  Credit: 3
Prerequisite: None
Corequisite: RSPT 2314
The theories and techniques involved in pulmonary function testing diagnostics with emphasis on blood gas theory and analysis, quality control, oximetry, and capnography. This course may be offered only by a college with a program approved by the Commission on Accreditation of Allied Health Education Programs (CAAHEP), Committee on Accreditation for Respiratory Care Education (CoARC) or successor organizations.

RSPT 2314 - MECHANICAL VENTILATION  Credit: 3
Corequisite: RSPT 1266
Preparation to conduct the therapeutic procedures to achieve adequate, spontaneous, and artificial ventilation with emphasis on ventilator classification, methods, principles, and operational characteristics. Also included are the indications, complications, and physiologic effects/principles of mechanical ventilation. This course may be offered only by a college with a program approved by the Commission on Accreditation of Allied Health Education Programs (CAAHEP), Committee on Accreditation for Respiratory Care Education (CoARC) or successor organizations.
DESCRIPTION OF COURSES

RSPT 2325 - CARDIOPULMONARY DIAGNOSTICS Credit: 3
Prerequisite: None 2 hrs. lec.
Corequisite: RSPT 2166 4 hrs. lab.
A study of the physical, radiological, hemodynamic, laboratory, nutritional, and cardiopulmonary diagnostic assessment of the pulmonary patient. This course may be offered only by a college with a program approved by the Commission on Accreditation of Allied Health Education Programs (CAAHEP), Committee on Accreditation for Respiratory Care Education (CoARC) or successor organizations.

RSPT 2353 - NEONATAL/PEDIATRIC CARDIOPULMONARY CARE Credit: 3
Prerequisite: None 2 hrs. lec.
Corequisite: RSPT 2166 4 hrs. lab.
A study of acute care, monitoring, and management as applied to the neonatal and pediatric patient. This course may be offered only by a college with a program approved by the Commission on Accreditation of Allied Health Education Programs (CAAHEP), Committee on Accreditation for Respiratory Care Education (CoARC) or successor organizations.

RTVB 1325 - TV STUDIO PRODUCTION Credit: 3
Co-requisite: ENGL 0304, ENGL 0306, MATH 0306 2 hrs. lec.
4 hrs. lab.
Basic television production including live and taped studio programming, studio camera operation, television audio, and television directing with an emphasis on underlying principles of video technology.

RTVB 2381 - COOPERATIVE EDUCATION - RADIO/TELEVISION BROADCASTING Credit: 3
Prerequisite: Meets final semester requirements 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.

SCWK 2286 - INTERNSHIP - SOCIAL WORK Credit: 2
Prerequisite: CMSW 1301 and DAAC 1317 1 hr. lec.
11 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.

SCWK 2386 - INTERNSHIP - SOCIAL WORK Credit: 3
Prerequisite: CMSW 1301 and DAAC 1317 1 hr. lec.
17 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.

SGNL 1401 - BEGINNING AMERICAN SIGN LANGUAGE I Credit: 4
Prerequisite: None 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. (5102055116)

SGNL 1402 - BEGINNING AMERICAN SIGN LANGUAGE II Credit: 4
Prerequisite: SGNL 1401 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. (5102055116)

SGNL 2301 - INTERMEDIATE AMERICAN SIGN LANGUAGE I Credit: 3
Prerequisite: SGNL 1402 2 hrs. lec.
3 hrs. lab.
Review and application of conversational skills in American Sign Language. Introduction to American Sign Language literature and folklore. (5102055216)

SGNL 2302 - INTERMEDIATE AMERICAN SIGN LANGUAGE II Credit: 3
Prerequisite: SGNL 2301 2 hrs. lec.
3 hrs. lab.
Continuation of SGNL 2301 with increased emphasis on conversational skills. (5102055216)
DESCRIPTION OF COURSES

SLNG 1211 - FINGERSPELLING  Credit: 2
Prerequisite: None  2 hrs. lab.  2 hrs. ext.
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.

SLNG 1215 - VISUAL/GESTURAL COMMUNICATION  Credit: 2
Prerequisite: None  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.

SLNG 1317 - INTRODUCTION TO THE DEAF COMMUNITY  Credit: 3
Prerequisite: None  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.

SLNG 1321 - INTRODUCTION TO THE INTERPRETING PROFESSION  Credit: 3
Prerequisite: SGNL 1401 and SLNG 1317  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.

SLNG 1347 - DEAF CULTURE  Credit: 3
Prerequisite: None  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.

SLNG 2315 - INTERPRETING IN EDUCATIONAL SETTINGS  Credit: 3
Prerequisite: SLNG 2401  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.

SLNG 2401 - INTERPRETING I  Credit: 4
Prerequisite: SGNL 1402; SLNG 1211, 1321 or permission of instructor  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.

SLNG 2402 - INTERPRETING II  Credit: 4
Prerequisite: SLNG 2401 and 1347  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.

SLNG 2431 - INTERPRETING III  Credit: 4
Prerequisite: SLNG 2402  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.
DESCRIPTION OF COURSES

SLNG 2589 - INTERNSHIP: SIGN LANGUAGE INTERPRETER  Credit: 5
Prerequisite: Successful completion of all SLNG courses within the AAS degree plan
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.

SOCI 1301 - PRINCIPLES OF SOCIOLOGY  Credit: 3
Prerequisite: None
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)

SOCI 1306 - SOCIAL PROBLEMS  Credit: 3
Prerequisite: None
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)

SOCI 2301 - MARRIAGE AND FAMILY  Credit: 3
Prerequisite: None
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)

SOCI 2319 - MINORITY STUDIES  Credit: 3
Prerequisite: None
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)

SOCI 2326 - SOCIAL PSYCHOLOGY  Credit: 3
Prerequisite: SOCI 1301 or PSYC 2301 or departmental approval
3 hrs. lec.
The course focuses on individual behavior as affected by cultural and social stimuli. Social behavior, interpersonal influence, group membership and the relations between persons and social systems are emphasized. (4216015125)

SPAN 1300 - SPANISH CONVERSATION I  Credit: 3
Prerequisite: None
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)

SPAN 1310 - SPANISH CONVERSATION II  Credit: 3
Prerequisite: SPAN 1300
3 hrs. lec.
This course is a continuation of Conversational Spanish I. It includes extensive comprehension, oral practice, and use of multimedia materials. It is intended to develop communication skills for the student to apply these skills to everyday life and work situations. It is an alternate track for the student who needs immediate communicative experience in Spanish. (1609055413)

SPAN 1411 - BEGINNING SPANISH I  Credit: 4
Prerequisite: None
3 hrs. lec.
2 hrs. lab.
This course includes beginner’s pronunciation, oral practice, conversation, development of listening comprehension, basic principles of grammar, simple exercises in composition, easy reading which includes cultural material. Students with prior language experience must take a placement exam to advance to the next level and receive credit. (1609055113)

SPAN 1412 - BEGINNING SPANISH II  Credit: 4
Prerequisite: SPAN 1411 or placement exam
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)

SPAN 2306 - INTERMEDIATE SPANISH CONVERSATION  Credit: 3
Prerequisite: SPAN 2311
3 hrs. lec.
Intensive oral practice in small and large group contexts for students who have learned Spanish as a foreign language and have mastered speaking, reading and writing competencies in the language. (1609055413)
SPAN 2311 - INTERMEDIATE SPANISH I Credit: 3
Prerequisite: SPAN 1412 or placement exam 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)

SPAN 2312 - INTERMEDIATE SPANISH II Credit: 3
Prerequisite: SPAN 2311 or placement exam 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)

SPAN 2316 - SPANISH FOR BUSINESS Credit: 3
Prerequisite: SPAN 2311 3 hrs. lec.
This course will prepare the student for successful communication in the Hispanic business world by building on existing knowledge and emphasizing practical, real-life use of Spanish. This course will also emphasize cultural awareness in doing business in Hispanic countries or with Hispanics in the United States. (1609055413)

SPAN 2321 - INTRODUCTION TO SPANISH LITERATURE I (IBERIAN) Credit: 3
Prerequisite: SPAN 2311 and SPAN 2312 3 hrs. lec.
A survey of literature of Spain from the 16th Century to the beginning of the 20th Century. This course is taught in Spanish. (1609055313)

SPAN 2322 - INTRODUCTION TO SPANISH LITERATURE II (IBERIAN) Credit: 3
Prerequisites: SPAN 2311 and SPAN 2312 3 hrs. lec.
A survey of literature of Spain from the Beginning of the 20th Century to the present. This course is taught in Spanish. (1609055313)

SPAN 2323 - INTRODUCTION TO LATIN AMERICAN LITERATURE Credit: 3
Prerequisites: SPAN 2311 and SPAN 2312 3 hrs. lec.
A survey of literature of Latin American Literature. This course is taught in Spanish. (1609055313)

SPAN 2324 - SPANISH CULTURE Credit: 3
Prerequisite: SPAN 2311 3 hrs. lec.
This course will prepare the student for successful communication in the Hispanic world by building on existing knowledge and emphasizing practical, real-life use of Spanish and cultural awareness towards Hispanic countries or with Hispanics in the United States. (1609055313)

SPCH 1145, 1146, 2144, 2145 - FORENSIC ACTIVITIES Credit: 1
Prerequisite: Approval of instructor 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)

SPCH 1311 - INTRODUCTION TO SPEECH COMMUNICATION Credit: 3
Prerequisite: None 3 hrs. lec.
Through the delivery of a variety of speeches, the observation of mass media and participation in an assortment of group activities, this course is meant to familiarize the student with those motivational elements which affect the delivery and reception of oral communication. (2310015113)

SPCH 1315 - PUBLIC SPEAKING Credit: 3
Prerequisite: None 3 hrs. lec.
Public Speaking provides the student with practical tools and skills necessary to communicate ideas. Selection of topic, organization of data, exercises in vocal awareness, evaluation of audience and situation and techniques of delivery are discussed and put into action. Through oral presentations in class, students will enhance their competence in oral communication. (2310015312)

SPCH 1318 - INTERPERSONAL COMMUNICATION Credit: 3
Prerequisite: None 3 hrs. lec.
Interpersonal Communication focuses on the complex process of person-to-person communication. The course is designed to facilitate the student's conscious awareness of the impact of messages, verbal and nonverbal, sent and received by him/her. (2310015412)
DESCRIPTION OF COURSES

SPCH 1321 - BUSINESS SPEECH Credit: 3  
Prerequisite: None  3 hrs. lec.  
Business Speech is devoted to the study of communication in a business setting. Topics discussed and placed in practical application are interviewing, evaluation of communications in business, problem-and-solution exercises, and sales presentations and reports. Where applicable, examples, exercises and assignments are made in a real-life circumstance.  (2310015212)

SPCH 2335 - ARGUMENTATION AND DEBATE Credit: 3  
Prerequisite: None  3 hrs. lec.  
A study and practice of the theories in argumentation and debate, including instruction in reasoning, analysis, organization, evidence, refutation, and presentation of critical decision making.  (2310015912)

SPCH 2341 - ORAL INTERPRETATION Credit: 3  
Prerequisite: None  3 hrs. lec.  
This course consists of the interpretation of literature; preparation and reading of poetry and prose; storytelling for children; exercises in arranging and adapting stories; choral speaking; practice in phrasing, vocal quality, rhythm, and bodily responses. Recommended for majors in speech, radio-television, English, elementary education.  (2310015712)

TECA 1303 - FAMILY AND THE COMMUNITY Credit: 3  
Prerequisite: None  3 hrs. lec.  
A study of the relationship between the child, family, community and early childhood educators, including a study of parent education, family and community lifestyles, child abuse, and current issues.  (2001075109)

TECA 1318 - NUTRITION, HEALTH AND SAFETY Credit: 3  
Prerequisite: None  2 hrs. lec.  
A study of nutrition, health and safety and related activities, including skill development in management of issues, guidelines, and practices in nutrition, as well as community health, hygiene, safety, and legal implications. The integration of these principles applied to a variety of settings is included. Laboratory assignments will be required in approved early childhood settings.  (2002015209)

TECA 1354 - CHILD GROWTH AND DEVELOPMENT Credit: 3  
Prerequisite: None  3 hrs. lec.  
A study of the principles of child growth and development from conception through adolescence. Focus on physical, cognitive, social, and emotional domains of development.  (1907065209)

TECM 1303 - TECHNICAL MATHEMATICS Credit: 3  
Prerequisite: MATH 0306 or placement by testing  3 hrs. lec.  
A review of mathematical functions including fractions, decimals, proportions, perimeters, areas, volumes of geometric figures, and certain algebraic/trigonometric functions, as required by specific businesses and industries for successful on-the-job performance. Topics to be presented include factoring, quadratic equations, rational expressions/equations, roots, radicals, exponents, graphing, systems of linear equations, and complex numbers.

VNSG 1122 - VOCATIONAL NURSING CONCEPTS Credit: 1  
Prerequisite: RNSG 1144, 1362, 2504; BIOL 2420; 1 hr. lec.  
PSYC 2314; SOCI 1301; ENGL 1301 and 1 credit hour of KINE  
Corequisite: VNSG 2362  
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 ADN program.

VNSG 1160 - CLINICAL - BASICS Credit: 1  
Prerequisite: Program admission  4 hrs. ext.  
Corequisite: VNSG 1323  
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.
VNSG 1163 - CLINICAL - PEDIATRIC  Credit: 1
Prerequisite: VNSG 1160, 1260, 1304, 1323, 1400 and 1405
Corequisite: VNSG 1307
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.

VNSG 1219 - PROFESSIONAL DEVELOPMENT  Credit: 2
Prerequisite: VNSG 1163, 1231, 1262, 1334 and 1409
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.

VNSG 1231 - PHARMACOLOGY  Credit: 2
Prerequisite: VNSG 1160, 1260, 1304, 1323, 1400 and 1405
Corequisite: VNSG 1262 and 1409
This course provides instruction in fundamentals of medications and their diagnostic, therapeutic, and curative effects. Includes nursing interventions utilizing the nursing process.

VNSG 1238 - MENTAL ILLNESS  Credit: 2
Prerequisite: None
2 hrs. lec.
Study of human behavior with emphasis on emotional and mental abnormalities and modes of treatment incorporating the nursing process.

VNSG 1260 - CLINICAL I  Credit: 2
Prerequisite: VNSG 1160
Corequisite: VNSG 1400
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.

VNSG 1262 - CLINICAL II  Credit: 2
Prerequisite: VNSG 1160, 1260, 1304, 1323, 1400 and 1405
Corequisite: VNSG 1509
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.

VNSG 1304 FOUNDATIONS OF NURSING  Credit: 3
Prerequisite: Program Admission
3 hrs. lec.
Corequisite: VNSG 1405
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.

VNSG 1306 - MATERNAL/NEWBORN NURSING  Credit: 3
Prerequisite: VNSG 1163, 1231, 1262, 1334 3 hrs. lec. and 1409 1 hr. lab.
Corequisite: VNSG 2161
This course is a study of the biological, psychological, and sociological concepts applicable to basic needs of the family including childbearing and neonatal care. Topics include physiological changes related to pregnancy, fetal development, and nursing care of the family during labor and delivery and the puerperium.

VNSG 1307 - PEDIATRIC NURSING  Credit: 3
Prerequisite: VNSG 1160, 1260, 1304, 1323, 1400 and 1405
1 hr. lab.
Corequisite: VNSG 1163
Study of the pediatric client and family during health and disease. Emphasis on growth and developmental needs.

VNSG 1323 - BASIC NURSING SKILLS  Credit: 3
Prerequisite: Program Admission
2 hrs. lec.
Corequisite: VNSG 1160
This course provides instruction toward mastery of entry level nursing skills and competencies for a variety of health care settings. Utilization of the nursing process as the foundation for all nursing interventions.
DESCRIPTION OF COURSES

VNSG 1400 - NURSING IN HEALTH AND ILLNESS I Credit: 4
Prerequisite: Program Admission 4 hrs. lec.
Corequisite: VNSG 1260 1 hr. lab.
Introduction to general principles of growth and development, primary health care needs of the client across the life span and therapeutic nursing interventions.

VNSG 1405 - HEALTH SCIENCE Credit: 4
Prerequisite: Program Admission 4 hrs. lec.
Corequisite: VNSG 1304 1 hr. lab.
This course provides an introduction to the general principles of anatomy and physiology, nutrition, and microbiology that are necessary for understanding body processes and basic principles underlying health promotion and therapeutic interventions.

VNSG 1509 - NURSING IN HEALTH AND ILLNESS II Credit: 5
Prerequisite: VNSG 1160, 1260, 1304, 1323, 1400 and 1405 5 hrs. lec.
Corequisite: VNSG 1262 1 hr. lab.
This course provides an introduction to common health problems of the adult requiring medical and surgical interventions.

VNSG 1510 - NURSING IN HEALTH AND ILLNESS III Credit: 5
Prerequisite: VNSG 1163, 1231, 1262, 1334, 1400 and 1409 5 hrs. lec.
Corequisite: VNSG 2361 1 hr. lab.
This course is a continuation of Nursing in Health & Illness II. Further study of common medical-surgical health problems of the adult including concepts of mental illness. Incorporates knowledge necessary to make the transition from student to graduate vocational nurse.

VNSG 2161 - MATERNAL/NEWBORN CLINICAL Credit: 1
Prerequisite: VNSG 1163, 1231, 1262, 1334 and 1509 6 hrs. ext.
Corequisite: VNSG 1306
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.

VNSG 2361 - CLINICAL III Credit: 3
Prerequisite: VNSG 1163, 1231, 1262, 1334 and 1509 12 hrs. ext.
Corequisite: VNSG 1510
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.

VNSG 2362 - CLINICAL: PRACTICAL NURSE I Credit: 3
Prerequisite: RNSG 1144, 1362, and 2504 12 hrs. ext.
Corequisite: VNSG 1122
BIOL 2420, PSYC 2314, SOCI 1301, ENGL 1301 and 1 credit hour of KINE
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.

VNSG 2363 - CLINICAL: PRACTICAL NURSE II Credit: 3
Prerequisite: VNSG 2362 with a "C" or better 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.

VTHT 1191 - SPECIAL TOPICS IN VETERINARIAN ASSISTANT/ANIMAL HEALTH TECHNICIAN Credit: 1
Prerequisite: VTHT 2421 1 hr. lec.
Topics address recently identified current events, skills, knowledge's, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course is designed to inform veterinary technology students about the interpretation of the laws and regulations governing the profession. Topics include recent changes and comprehension of the Veterinary Licensing Act, Veterinary Rules of Professional Conduct, and the RVT Program Standard Operating Procedures.
VTHT 1205 - VETERINARY MEDICAL TERMINOLOGY  Credit: 2
Prerequisite: Departmental approval  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.

VTHT 1209 - VETERINARY NUTRITION  Credit: 2
Prerequisite: VTHT 1205 and 1401  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.

VTHT 1225 - PHARMACOLOGICAL CALCULATIONS  Credit: 2
Prerequisite: None  2 hrs. lec.
Skill development in calculating oral and parenteral drug dosages. Instructions on reading drug orders and labels, calculating intravenous flow rates and a study into the various systems of measurement.

VTHT 1317 - VETERINARY OFFICE MANAGEMENT  Credit: 3
Prerequisite: VTHT 1209 and 2201  1 hr. lec.
and departmental approval  4 hrs. lab.
Practical experience in management of the veterinary hospital. Emphasis on client relations, record keeping, inventory, employment skills, and computer skills in the veterinary environment.

VTHT 1345 - VETERINARY RADIOLOGY  Credit: 3
Prerequisite: VTHT 1413 and departmental approval  2 hrs. lec.
Corequisite: VTHT 1441, 2431, and 1191  2 hrs. lab.
Presentation of theory and principles and practical application of radiology within the field of veterinary medicine. Preparation of technique charts, implementation of safety measures, radiographic processing, care of equipment, use of ultrasonography equipment, and performing contrast media studies.

VTHT 1401 - INTRODUCTION TO VETERINARY TECHNOLOGY  Credit: 4
Prerequisite: Departmental approval  3 hrs. lec.
Survey of the profession of veterinary technology with emphasis on basic techniques, handling and care of domestic animals, and ethical and professional requirements. This course will also include the topics of general animal breeds, standard clinical values, and an introduction to basic laboratory and office techniques and procedures.

VTHT 1413 - VETERINARY ANATOMY AND PHYSIOLOGY  Credit: 4
Prerequisite: VTHT 1205 and 1401 and departmental approval  2 hrs. lec.
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.

VTHT 1441 - ANESTHESIA AND SURGICAL ASSISTANCE  Credit: 4
Prerequisite: VTHT 1413 & departmental approval  2 hrs. lec.
Corequisite: VTHT 1191, 1345, and 2431  4 hrs. lab.
In-depth application of surgical, obstetrical, and anesthesia techniques including identification and use of instruments and equipment. A major portion of the course will include detailed instruction in the principles of pharmacology with a practical application in determining anesthetic dosages and after care treatments for patients. Necropsy techniques will be demonstrated with active participation by students.

VTHT 2201 - CANINE AND FELINE CLINICAL MANAGEMENT  Credit: 2
Prerequisite: VTHT 1205 and 1401  1 hr. lec.
Survey of feeding, common management practices, and care of canines and felines in a clinical setting. Review of common diseases of canines and felines encountered in the practice of veterinary medicine.

VTHT 2205 - EQUINE CLINICAL MANAGEMENT  Credit: 2
Corequisite: VTHT 1205 and 1401  1 hr. lec.
Survey of feeding, common management practices, and care of equines encountered in the practice of veterinary medicine.

VTHT 2209 - FOOD ANIMAL CLINICAL MANAGEMENT  Credit: 2
Prerequisite: VTHT 1205 and 1401  1 hr. lec.
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.
DESCRIPTION OF COURSES

WLDG 1405 - ART METALS  Credit: 4
Prerequisites: ENGL 0305, 0313 or ENGL 0314; 3 hrs. lec.
ENGL 0307 or ENGL 0326; or
placement by testing
Fundamentals of conceptualizing and producing
utilitarian items on ferrous and non-ferrous metals.
Skill development through the techniques of sinking,
raising, repousse, and piercing to create objects
from flat sheet. Topics include brazing, soldering,
tinning, polishing, and tool making.

WLDG 1413 - INTRODUCTION TO BLUEPRINT READING FOR WELDERS  Credit: 4
Prerequisite: None 3 hrs. lec.
3 hrs. lab.
A study of industrial blueprints. Emphasis placed on
terminology, symbols, graphic description and welding
processes, including systems of measurement and industry standards. Interpretation of plans and
drawings used by industry.

WLDG 1417 - INTRODUCTION TO LAYOUT AND FABRICATION  Credit: 4
Prerequisite: None 3 hrs. lec.
3 hrs. lab.
A fundamental course in layout and fabrication re-
lated to the welding industry. Major emphasis on
structural shapes and use in construction.

WLDG 1421 - INTRODUCTION TO WELDING FUNDAMENTALS  Credit: 4
Prerequisite: None 3 hrs. lec.
3 hrs. lab.
An introduction to the fundamentals of equipment
used in oxyacetylene and arc welding, including
welding and cutting safety, basic oxyacetylene welding
and cutting, basic arc welding processes and basic metallurgy.

WLDG 1428 - INTRODUCTION TO SHIELDED METAL ARC WELDING (SMAW)  Credit: 4
Prerequisite: None 3 hrs. lec.
3 hrs. lab.
An introduction to shielded metal arc welding pro-
cess. Emphasis placed on power sources, electrode
selection, oxy-fuel cutting, and various joint de-
signs. Instruction provided in SMAW fillet welds in
various positions.
Description of Courses

WLDG 1430 - Introduction to Gas Metal Arc Welding (MIG)  Credit: 4
Prerequisite: None
3 hrs. lec.
3 hrs. lab.
A study of the principles of gas metal arc welding, setup and use of GMAW equipment, and safe use of tools/equipment. Instruction in various joint designs.

WLDG 1434 - Introduction to Gas Tungsten Arc Welding (TIG)  Credit: 4
Prerequisite: None
3 hrs. lec.
3 hrs. lab.
An introduction to the principles of gas tungsten arc welding (GTAW), setup/use of GTAW equipment, and safe use of tools and equipment. Welding instruction in various positions on joint designs.

WLDG 1435 - Introduction to Pipe Welding  Credit: 4
Corequisite: WLDG 1457
3 hrs. lec.
3 hrs. lab.
An introduction to welding of pipe using the shielded metal arc welding process, including electrode selection, equipment setup, and safe shop practices. Emphasis on weld positions 1G and 2G using various electrodes.

WLDG 1437 - Introduction to Metallurgy  Credit: 4
Prerequisite: None
3 hrs. lec.
3 hrs. lab.
A study of ferrous and nonferrous metals from the ore to the finished product. Emphasis on metal alloys, heat treating, hard surfacing, welding techniques, forging, foundry processes, and mechanical properties of metal including hardness, machinability, and ductility.

WLDG 1442 - Metal Sculpture  Credit: 4
Prerequisite: ARTS 1316 and WLDG 1421; ENGL 0305, 0313 or ENGL 0314; ENGL 0307 or ENGL 0326; or placement by testing
3 hrs. lec.
3 hrs. lab.
Instruction in the techniques and methods of art metals and metalsmithing. Skill development in welding, brazing, and finishing techniques. Topics address work ethics, artistic styles, and professionalism.

WLDG 1457 - Intermediate Shielded Metal Arc Welding (SMAW)  Credit: 4
Prerequisite: WLDG 1428
3 hrs. lec.
3 hrs. lab.
The student will identify principles of arc welding; describe arc welding operations of fillet and groove joints; explain heat treatments of low alloy steels; and explain weld size and profiles. The student will prepare test plates; perform fillet welds in the overhead position; perform air carbon arc weld removal; perform bevel groove welds with backing plates in various positions; and demonstrate use of tools and equipment.

WLDG 2380 - Cooperative Education - Welder/Welding  Credit: 3
Prerequisite: Departmental approval
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.

WLDG 2413 - Intermediate Welding Using Multiple Processes  Credit: 4
Prerequisites: WLDG 1421; ENGL 0305, 0313 or ENGL 0314; ENGL 0307 or ENGL 0326; or placement by testing
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.

WLDG 2433 - Metalsmithing  Credit: 4
Prerequisite: ENGL 0305, 0313 or ENGL 0314; ENGL 0307 or ENGL 0326; or placement by testing
3 hrs. lec.
3 hrs. lab.
A study of welding techniques for ferrous and nonferrous metals. Skill development in brazing, forging, and welding in all processes to include coal and gas forges. Emphasis on combining metals and processes to demonstrate technique versatility.
DESCRIPTION OF COURSES

WLDG 2440 - ADVANCED ART METAL
(STUDIO PROBLEMS) Credit: 4
Prerequisite: WLDG 1405; ENGL 0305, 0313 or
ENGL 0314; ENGL 0307 or ENGL 0326; or
placement by testing
Project development in an open-studio atmosphere.
Individualized instruction to encourage skill combi-
nations and experimentation. Topics include portfolio preparation and presentation.

WLDG 2447 - ADVANCED METAL ARC
WELDING (MIG) Credit: 4
Prerequisite: WLDG 1430
The student will exhibit expertise in various welding positions on pipe; describe safety rules and equipment use; and describe the effects of welding parameters in GMAW. The student will weld various joint designs and diagnose welding problems and perform visual inspection.

WLDG 2451 - ADVANCED GAS TUNGSTEN
ARC WELDING (TIG) Credit: 4
Prerequisite: WLDG 1434
The student will exhibit expertise in various welding positions; describe safety rules and equipment used; and describe the effects of welding parameters in GTAW. The student will weld various joint designs; diagnose welding problems; and perform visual inspection.

WLDG 2453 - ADVANCED PIPE WELDING Credit: 4
Prerequisite: WLDG 1435
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.
John Pickelman, Chancellor  
Ph.D., University of Texas at Austin  
M.A., University of Missouri at Kansas City  
B.A., Albion College  

Kimberly Baker, Director, Database Administration  
B.S., Sam Houston State University  

Eileen Booher, Executive Director, Grants  
M.S., University of Houston  

Rachel Boyd, Program Director, Center for Teaching & Distance Learning  
M.ED., University of Houston  
B.S., Louisiana State University  

Elizabeth Chenette, Director, Automated Library Services  
M.L.S., University of North Texas  
B.A., Stephen F. Austin State University  

Walter Cooley, Director, Risk Management  
B.A., Mount Union College  

Ronnie Darden, Director, Internal Audit  
M.B.A., B.B.A., Prairie View A&M University  

Patrick Davis, Director, Business Services  
B.A., McNeese State University  

Marian Ervin, Director, IT Projects and Applications  
J.D., University of Missouri at Kansas City  
B.S., B.A., Rockhurst College  
A.A., Kansas City, Kansas Community College  

Kathleen Fleming, Director, Budgets  
M.B.A., Sam Houston State University  
B.S., Marquette University  

Stephen Garner, Director, Facilities Planning & Construction  
M.Ed., B.S., University of Houston  

Cynthia Gilliam, Vice Chancellor, Business Affairs & Chief Financial Officer  
B.B.A., University of Texas at Austin  

Matthew Glidden, District Director, Food Service Operations  
B.S., Rochester Institute of Technology  
A.A.S., Erie County Technical Institute  

Michael Green, Director, Imaging & Internal Reporting  
Ph.D., University of North Texas  
M.A., University of Tennessee  
B.A., Texas Tech University  

Jean Grove, Director, Compensation & Compliance  
B.A., University of Houston  

Stephen C. Head, Executive Vice Chancellor  
Ph.D., Texas Tech University  
M.A., B.A., Lamar University  

Lance Jones, District Director, Public Safety  
M.L.A., University of St. Thomas  
M.S.O.T., University of Houston  
B.S., Wichita State University  

Deborah Lackey, Executive Director, Foundation  
B.A., Marquette University  

Ray Laughter, Vice Chancellor, External Affairs  
M.B.A., B.B.A., University of Houston  

Helene Loiselle-Jaeger, Project Director  
M.B.A., McGill University  
B.S., University of Montreal  

Bonnie Longnion, Associate Vice Chancellor, Institutional & Resource Development  
Ph.D., Texas A&M University at College Station  
M.Ed., B.S., Lamar University  

Linda Luehrs-Wolfe, Associate Vice Chancellor, Education Programs & Services  
Ed.D., New Mexico State University  
M.ED., University of Texas at El Paso  
B.A., Doane College  

Kenneth Lynn, Deputy Vice Chancellor, Finance & Treasurer  
B.B.A., University of Texas at Arlington  

Sandra McMullan Liggett, General Counsel & Vice Chancellor for Human Resources  
J.D., Catholic University of America  
B.A., Northwestern University  

Yvonne Mobley, Director, Purchasing  
M.B.A., Our Lady of the Lake University at San Antonio  
B.B.A., University of Houston  

Jaime Munoz, Project Director  

Bob Oates, Director, Grants Administration  
M.B.A., Stephen F. Austin State University  
B.S., Texas Tech University  
A.S., Amarillo College  

Martha Oburn, Associate Vice Chancellor, Institutional Effectiveness  
Ph.D., University of Pennsylvania  
M.ED., Harvard University  
B.S., Iowa State University  

Glenn Powell, Director, Employment & HR Services  
M.A., West Virginia University  
B.S., Fairmont State College
PERSONNEL

ADMINISTRATION - DISTRICT

Debra Rockefeller, Director, Distance Learning & Instructional Technology
Ph.D., University of North Texas
M.S., B.A., Kearney State College

Mary Shafer, Associate Vice Chancellor, Student Information Services
M.Ed., University of Houston
B.S., Texas A&I University

Christopher Smith, Director, Network Administration
CCNA, Cisco Systems, Inc.

Donna G. Smith, District Director, Financial Aid & Scholarships
M.Ed., B.A., University of South Alabama

Ronald Stauss, Vice Chancellor, Telecommunications & Information Systems
M.B.A., University of Dallas
B.A., St. Thomas Theological Seminary

Judy Stubblefield, Assistant to Chancellor
M.B.A., Our Lady of the Lake University
B.B.A., University of Central Oklahoma

Patricia Timpanaro, District Director, Nursing
M.N., Emory University
B.S.N., Cornell University

Cynthia Watts, District Director, Developmental Education
M.Ed., Drury College
B.S., Baptist Bible College

Stephen Wooten, Project Director, Facilities
M.Ed., B.S., B.A., University of Houston

PROFESSIONAL AND SUPPORT STAFF - DISTRICT

Lori Allison ......................... Career Assistance Center
Maria Anderson, Ph.D. .................. Human Resources
Sanjuanita Armendariz .... Student Information Services
Liowa Avalos ........................................ Physical Plant
Jill Bachman ........ Gulf Coast Education That Works
Diana Bancroft ...... Telecommunications & Information Systems

Maria Berruete .................................. Physical Plant
Pamela Bethscheider ... Gulf Coast Education That Works
Linda Bilides ........ Distance Learning & Instructional Technology

Patty Blueitt ..................... General Counsel/Human Resources
Barbara Brandenburg .... Gulf Coast Education That Works
Elisa Burleigh ..................... Public Information
Helen Capozzelli .................. Institutional Effectiveness
Marie Cassens ........ Automated Library Services
Roxana Castillo ........ Gulf Coast Education That Works
Didi Cazares ..................... Accounts Payable
David Chladek ............ Network Technologies & Helpdesk
Richard Coggins .......... Network Technologies & Helpdesk
Bette Coibion ........... Student Information Services
Karen Coker ........ Gulf Coast Education That Works
Terrell Colburn ..................... Public Safety
William Conyers ........ Facilities & Construction
Shae Corby ..................... Accounts Payable
Tammy Cortes ..................... Payroll
Yvonne Cross ......................... Career Assistance Center
Lavon Crozier ......................... Payroll

Valschkia Dabney-Smith .... Gulf Coast Education That Works
James Dermon ....................... District Accounting
Cindy Dial .................... Network Technologies & Helpdesk
Cynthia Doyle ............ Taking Education To Work
Lorraine Drake ........ Gulf Coast Education That Works
Sandra D’Souza ........ Automated Library Services
Chris Duffy ........ Distance Learning & Instructional Technology

Karen Evans ........................................ PBX
Nancy Farmer ......................... Purchasing
Julia Figueroa .................... Education & Student Support
Marilyn Fisher ............ Office of the Chancellor
Julie Forshee ............ Network Technologies & Helpdesk
Kiwana Francis ........ Applications Projects & Support
Glenda Frost ............ Educational Programs & Services
Eduardo Gonzalez ............. Physical Plant
Judith Granata ........ Distance Learning & Instructional Technology

Betsy Green ......................... Grant Accounting
Michelle Greer ..................... Career Assistance Center
Ann Gustavus ........ Student Information Services
Florence Gutierrez ................ Publications
Natalie Haskell ........ Database Administration & Security
Debra Hernandez .... Network Technologies & Helpdesk
Carol Herrington .......... Grants Administration
Susan Heyde .................... Student Information Services
Deborah Howle ........ External Affairs
PROFESSIONAL AND SUPPORT STAFF - DISTRICT

Jed Hyder .................... Distance Learning & Instructional Technology
LaNae Ilseng .............. Publications
Joe Jaques ....................... Publications
Sharon Jensen ............... Education Programs & Services
Benton Jones ............... Applications Projects & Support
Laginia Jones ............. Grant Accounting
Glenda Jones-Goree .......... Human Resources
Becky Jungklaus ............. Purchasing
Michael Kloss .......... Student Information Services
Johann Kohl ............... Publications
Helen Kubiak ............... Finance
Linda Lattelle ............... District Business Affairs
Jeremy Lawson ............... Network Technologies & Helpdesk
Sharpe Leonard .......... Human Resources
Valerie Longoria .......... Human Resources
Connie Loveall ........ Database Administration & Security
Delane Maddux ............... Student Information Services
Bettie Maignaud ........ Gulf Coast Education That Works
Brenda Matejowsky .......... Automated Library Services
James Mathews ............... Applications Projects & Support
Kenneth McConnell .......... Small Business Development Center
Genessa McDonald ........ Accounts Payable
Tamara McFarland .......... District Nursing
Melissa McLeod ............... District Accounting
Mark Meade ............... Gulf Coast Education That Works
Anita Mitchell ............... Student Accounting
Roslyn Moidel ............... Student Information Services
Anne Money ............... Distance Learning & Instructional Technology
Barbara Mooney ........ Grants Administration
Terrilyn Morgan .......... Counseling
Rika Muhl ............... Education Programs & Services
Virginia Mullins .......... Career Assistance Center
Joan Murdoch ............. Risk Management
Sandra Naumann .......... Institutional Effectiveness
Robert Newberry .......... Public Safety
Darlene Nickerson .......... Student Information Services
Sharon O’Quinn .......... Small Business Development Center
Susan Ortiz ............... District Accounting
Andrew Oswald ........ Applications Projects & Support
Jennifer Ouzenne ........ Accounts Payable
Cathy Owen ................. Community Leadership Institute
Paolo Pallavincini ........ Network Technologies & Helpdesk
Jasmine Parker ........ Applications Projects & Support
Polly Pate ............... Student Accounting
Cristina Patetta .......... Human Resources
Linda Peters ............... Human Resources
Barbara Peterson .......... Automated Library Services
Marsha Petrillo .......... Facilities & Construction
Judith Phillips .......... Office of the Chancellor
Shirley Porterfield .......... Human Resources
Wendy Ray ............... Human Resources
Michael Richard .......... Building Maintenance
Janie Rivas ............... Financial Aid
Wendi Rivette .......... Payroll
Barbara Rosas .......... General Counsel/Human Resources
Kathryn Ruthven .......... Human Resources
Sandro Sarang .......... Network Technologies & Helpdesk
Graciela Sauseda .......... Accounts Payable
Anita Schiro ............... Education Programs & Services
Rhonda Schueler .......... Automated Library Services
Cynthia Shade .......... Public Information
James Silva .......... Applications Projects & Support
Alice Slocum .......... Publications
Karen Smith .......... Public Information
Michael Smith .......... Small Business Development Center
Bobbie Stafford .......... Accounts Payable
Emelyn Stalnaker .......... Distance Learning & Instructional Technology
Priscilla Strawbridge .......... Student Information Services
Patti Syring .......... Human Resources
Isabelle Teixeira .......... District Business Affairs
Carolyn Thomsen .......... Foundation
Carol Thomson .......... Human Resources
Sue Tinder .......... Human Resources
Christina Todd .......... Education Programs & Services
Lawrence Valeza .......... Education Programs & Services
Karen Vance .......... External Affairs
Veronica Vawter .......... Foundation
James Waldrop .......... Distance Learning & Instructional Technology
Lillian Walker .......... Gulf Coast Education That Works
Victoria Waters .......... Gulf Coast Education That Works
Jan Werner .......... Career Assistance Center
Kathleen Whitsitt .......... Automated Library Services
Tracy Wilkerson .......... Network Technologies & Helpdesk
Raelyn Williams .......... Applications Projects & Support
Glen Wood .......... Student Information Services
Mary Wooten .......... Human Resources
April Wright-Warren .......... Applications Projects & Support
Don Youdan .......... Finance
PERSONNEL

NORTH HARRIS COLLEGE

ADMINISTRATION - NORTH HARRIS COLLEGE

David Sam, President, North Harris College
  J.D, University of Akron
  Ph.D., M.A.L.D, Tufts University
  M.B.A, Northwestern University
  B.A, Illinois State University

Jeffrey Barber, Director, Facilities
  B.S, Ohio University

James Berry, Dean, Technology
  B.S, Texas A&M University at College Station
  A.S, Tyler Junior College

Johanna Boley, Director, Business Operations
  B.B.A, Texas Tech University

Cheryl Brock, Dean, Business, Social & Behavioral Sciences
  Ed.D, University of Houston
  M.A., B.A, Wichita State University

Sandi Brock, Interim Director, Child Development Lab School
  B.A, Sam Houston State University

Rhonda Cannon, Assistant Dean, Counseling Services
  M.Ed, B.S, University of Houston
  A.A, North Harris Montgomery

Georgia Carmichael, Dean, Visual, Applied & Performing Arts
  M.A., B.S, Stephen F. Austin State University

Michael Code, Dean, Student Services
  M.A, Our Lady of the Lake University
  B.B.A, Sam Houston State University

Ladona Cook, Director, Nursing Program
  M.S.N, University of Texas at El Paso
  B.S.N, Angelo State University
  A.D.N, Odessa College
  L.V.N, Howard College

Pamala Dolezal, Director, Facility Planning
  B.S, Texas A&M University at Kingsville

Kenneth Feld, Director, Financial Aid
  B.S, Bradley University

Debra Harper, Director, Carver Center
  M.A.T, Webster University
  B.S, University of Missouri

Jennie Harrison, Dean, Languages & Communication
  Ph.D., M.A, University of Kansas
  B.A, Centenary College

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  Ph.D, Texas A&M University at College Station
  M.Ed., B.B.A, Baylor University

Vivian Lilly, Dean, Health & Human Services
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  M.B.A, University of Dallas
  M.S., B.S, Texas Woman’s University

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  D.A, University of Michigan at Ann Arbor
  M.A., M.L.S, Atlanta University
  B.A, Jackson State University

Stephen Megregian, Vice President, Administrative Services
  B.S, University of Cincinnati

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  M.A, Our Lady of the Lake University
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  A.A, North Harris Montgomery

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  B.A, Lindenwood College

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  A.A, North Harris Montgomery

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  M.A, Kansas University
  B.S, Tuskegee Institute

Judy Taylor, Dean, Math, Engineering & Natural Sciences
  M.S, Texas A&M University at Commerce
  B.S, Texas A&M University at Commerce

Barbara Thomason, Dean, Corporate & Continuing Education
  M.S, Houston Baptist University
  B.A, University of Texas

Nockie Zizelmann, Vice President, Academic Affairs
  Ph.D, University of Texas at Austin
  M.P.H, University of Texas Health Science Center at Houston
  B.S.N, University of Texas Medical Branch at Galveston
PROFESSIONAL AND SUPPORT STAFF - NORTH HARRIS COLLEGE

Katie Allison ................................................. Admissions
Orelia Alva ........................................ Custodial Services
Christie Anderson ......................... Technology
Kelli Arredondo ....................................... Admissions
Beatrice Atkins ....................................... Food Service
Donetha Atkins ....................................... Food Service
Adrian Avalos ........................................ Custodial Services
Vicki Baker ............................... Corporate & Continuing Education
Severo Balason ....................................... Admissions
Patricia Banda ........................................ Corporate & Continuing Education
Melissa Banks ........................................ Child Development Lab School
Robert Bar ........................................ Corporate & Continuing Education
Sarah Behring ........................................ Corporate & Continuing Education
Frances Belfatto .............................. Disability Services
Laurie Bernier ........................................ Corporate & Continuing Education
Brenda Besch ........................................ Business, Social & Behavioral Sciences
Tresa Beverly-Prince ................... Grants Office
Kathlene Bible ............................... Corporate & Continuing Education
Sherry Bienek ........................................ PBX
Shelley Blassingame ....................... Disability Services
Alexandria Bledsoe ........................... Parkway Center
Wilma Bloeshe ........................................ Business, Social & Behavioral Sciences
Michael Bolton ......................................... Police
Wanda Box ......................................... Business Office
Maxine Boxley-Davis ....................... Business Office
Laurie Boyd ........................................ Admissions
Mark Bradley ...................................... Information Technology
Ira Brecher ....................................... Information Technology
Vivian Brecher ........................................ Academic Affairs
Akilah Brooks ........................................ Grants Office
Rochelle Broom ........................................ Financial Aid & Student Employment
Emeshako Broussard ....................... Career Start
Sheron Bruno ....................................... College Relations
Cyndie Burch ..................................... Human Resources
Celeste Burkards ................................ Information Technology
Linda Burke ........................................ Corporate & Continuing Education
Scott Burns ..................................... Visual, Applied & Performing Arts
Andy Cao .......................................... Building Maintenance
Maryanne Cardinal ................................ Food Service
Margaret Carnegie ............................. Upward Bound
Peggy Carpenter ................................ Disability Services
Alejandro Carrizales ......................... Business Office
Isabel Carrizales ................................ Financial Aid & Student Employment
Barbara Carter .............................. Math, Engineering & Natural Sciences
Rosario Casanova ......................... Financial Aid & Student Employment
Caren Cates ........................................ Upward Bound
Jo Christy ................................................ Carver Center
Mel Chu ........................................... Information Technology
Bonita Coleman ................................... Financial Aid & Student Employment
Craig Coleman ......................... Corporate & Continuing Education
Buford Cooper ............................... Building Maintenance
Marja Cooper ........................................ Grants Office
Melodi Cooper ........................................ Financial Aid & Student Employment
Shemeka Cooper ....................................... Parkway Center
Leslie Copeland ............................................. Student Activities & Organizations
Lisa Cordova .................................. Student & Organizational Development
Racquel Cornwell ....................... Career Start
Laurie Cortes ........................................ Library
Michael Cotrino ................................ Building Maintenance
Joyce Courtney .................................... Food Service
Ida Czerny ........................................ Corporate & Continuing Education
Deidre Darnell ....................................... Building Maintenance
Maria De Los Santos ....................... Custodial Services
Erin De Souza ..................................... Corporate & Continuing Education
Venicia Delarosa ................................ Custodial Services
Marilyn Dement ................................ Upward Bound
Jeanne Dibble ................................. Counseling
Ngung Dinh ........................................ Custodial Services
Linda Dirzanowski ......................... Health & Human Services
Lillian Dixie ........................................ Counseling
Darren Dixon ......................................... Police
Lynda Dixon ........................................ Library
Minh Do ........................................ Custodial Services
Brian Dooley ................................. Job Placement
Melanie Dozier ................................ Visual, Applied & Performing Arts
Alma Duarte ........................................ Custodial Services
Sheila Duncan ........................................ Food Service
Anna Dupree ........................................ Child Development Lab School
Mark Dupree ....................................... Building Maintenance
Tara Edwards .................................. Center for Teaching & Learning
Giselle Eguez ........................................ Child Development Lab School
Patricia Ellis ........................................ Business Office
Sylvia Ellis ........................................ Corporate & Continuing Education

PERSONNEL

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PERSONNEL

PROFESSIONAL AND SUPPORT STAFF - NORTH HARRIS COLLEGE

Joann Engalliina ................................................. Academic Affairs
Christine Erbel ............................................... Child Development Lab School
Roselynn “Gina” Espitia .......................................... Admissions
Mark Farrell ..................................................... Corporate & Continuing Education
Robert Farris .................................................... Grounds Maintenance
Georgia Fields .................................................. Business Office
Shalonda Fields ................................................. Food Service
Larry Fisher .................................................... Corporate & Continuing Education
Mary Fitzgerald ............................................... Corporate & Continuing Education
Robert Forran .................................................... Information Technology
Reannon Foster .................................................. Business Office
Laila Francis .................................................... Career Start
Julia Franco ................................................... Custodial Services
Laverta Frand .................................................. Career Start
Larry Frazier .................................................. Building Maintenance
Stacy Fridie .................................................. Corporate & Continuing Education
Marc Fries .................................................... Building Maintenance
Connie Fuselier ............................................. Financial Aid & Student Employment
Fonda Gaddie .................................................. Job Placement
Patricia Gallagher ................................................. Child Development Lab School
Cheryl Galloway ................................................. Parkway Center
Elida Garcia .................................................. Custodial Services
Bobbie Garrett .................................................. Natural Sciences
John Garrett .................................................. Custodial Services
Walter Garrett .................................................. Custodial Services
Teresa Garza ................................................. Corporate & Continuing Education
Charlotte Gates ............................................... Business, Social & Behavioral Sciences
Linda Genco .................................................. Kinesiology
Darryl Gibbs .................................................. Central Duplicating
Hazel Gilbert ............................................... Associate Degree Nursing
Darlynn Gober ............................................... Corporate & Continuing Education
Antonio Gonzales ............................................... Police
Christopher Gonzales ........................................ Library
Alejandra Gonzalez ............................................ Library
Kelly Green .................................................. Information Technology
Patricia Green .................................................. Custodial Services
Diane Griffin ............................................... Office of the President
Natividad Guerra ............................................... Grounds Maintenance
Juan Gutierrez .................................................. Biology
Lelia Gutierrez .................................................. Admissions
Amy Hall .................................................. Disability Services
Sarah Hanna .................................................. Disability Services
Brandi Hargrove ............................................... Visual, Applied & Performing Arts
Charlotte Harrison ........................................ Emergency Medical Service
Robert Harrison ........................................ Custodial Services
Drew Hazzlerig .................................................. Media
Merrilyn Hebert ............................................... Corporate & Continuing Education
Tracy Hendrix ............................................... Corporate & Continuing Education
Margaret Henry ............................................... Corporate & Continuing Education
Anabel Hernandez ........................................ Assessment Center
Fannie Holcomb ........................................ Custodial Services
Glenda Hong ............................................... Disability Services
Hoa L. Hong .................................................. Business Office
Richard Horswill ........................................ Financial Aid & Student Employment
Melanie Hortch ............................................... Child Development Lab School
Charlotte Hudson ........................................ Corporate & Continuing Education
Dionna Hulslander ........................................ Disability Services
Shawana Jackson ............................................. Food Service
Sherry Jackson ............................................... Physical Plant
Latongela Johnson ........................................ Carver Center
Terae Johnson ............................................... Business
Nickolaus Jones ........................................ Custodial Services
Sylvester Jones ............................................... Police
Shanna Keene ............................................... Parkway Center
Carol Kendall ............................................... Business Office
John Kennedy ............................................... Grounds Maintenance
Noreen King ............................................... Computer Information & Applied Tech
Sylvia King ............................................... Corporate & Continuing Education
Melinda Kirtley ............................................... Health & Human Services
Dennis Koch ............................................... Corporate & Continuing Education
Casey Koehn ............................................... Counseling
Carol Kramer ............................................... Business, Social & Behavioral Sciences
Marilyn Kron ............................................... Language & Communications
Cynthia Krueger ............................................... Visual, Applied & Performing Arts
Vivian Kumler ............................................... Corporate & Continuing Education
Sara Laidlaw ............................................... Associate Degree Nursing
Randolph Larson ............................................... Building Maintenance
Judith Law ............................................... Computer Information & Applied Tech
Victoria Lawrence ............................................... Police
Allan Lester ............................................... Grounds Maintenance
Barbara Lewis ............................................... Carver Center
Ethel Lewis ............................................... Carver Center
Sean Lewis .................................................. Police
PROFESSIONAL AND SUPPORT STAFF - NORTH HARRIS COLLEGE

Stephen Panzeri ........................................ Building Maintenance
Karen Parker ............................................. Parkway Center
Pervaiz Parker ............................................. Police
Virginia Patten ............................................. Computer Information & Applied Technology
Reina Pelaez ................................................ Media
Maria Perez ........................................ Language & Communications
Christine Pfaff ............................................ Job Placement
Gary Pinkley ........................................ Mail & Transportation
Joe Powers ........................................... Custodial Services
Carmen Presley ........................................ Custodial Services
Juan Primo ........................................ Center for Teaching & Learning
Lorie Qualls ........................................ Corporate & Continuing Education
Alice Quiroga ........................................ College Relations
Miriam Ramos ........................................ Career Start
Dorothy Rhoda ........................................ Corporate & Continuing Education
Deidre Rios ........................................ Visual, Applied & Performing Arts
Jose Rivas ........................................ Custodial Services
Shannon Robinson .................................. Carver Center
Laura Rodriguez ....................................... Career Start
Mayra Rodriguez ....................................... Food Service
Mildred Rodriguez .................................... Corporate & Continuing Education
Rose Marie Rodriguez ................................ Child Development Lab School
Veronica Rodriguez .................................... Custodial Services
Nicole Romero ........................................ Parkway Center
Karen Roque ........................................ College Relations
Madonna Rowley ......................................... Admissions
Chyrel Ryan ........................................ Custodial Services
H. Federico Salas-Isnardi ................................ Corporate & Continuing Education
Eleazar Sanchez ................................. Grounds Maintenance
Terry Shearer ................................ Corporate & Continuing Education
Evelyn Shirley ........................................ Police
Barbara Skinner ........................... Vice President for Administrative Services
Kenneth Smith ........................................ Information Technology
Martha Solis ........................................ Admissions
Oralia Solis ........................................ Custodial Services
Shannon Solis ........................................ Carver Center
Lucy Solomon ............................................ Job Placement
Marese Spencer ........................................ Admissions
Diane Stacks ........................................ Corporate & Continuing Education
Betty Steptoe ........................................ Food Service
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<tr>
<td>Wilfred Stevens</td>
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<td>Sunny Tatum</td>
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<td>Media</td>
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<td>Kristy Theis</td>
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<td>Velma Trammell</td>
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<td>Chantae Whitaker</td>
<td>Professional Nursing Program</td>
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<td>Police</td>
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<td>Charles Zibilske</td>
<td>Mail &amp; Transportation</td>
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</tbody>
</table>
FACULTY - NORTH HARRIS COLLEGE

Jimmy Adams, Computer Graphic Arts, Interactive Media
  M.B.A, Houston Baptist University
  B.F.A, University of Montevallo

Shae Adkins, Speech
  M.A., B.A, University of Houston

Susan Allen, Biology
  M.S, Florida State University
  B.S, Northeast Louisiana University

Warren Anderson, Political Science
  M.A., B.A, University of Houston

Tosha Barclay, Chemistry
  Ph.D, University of Arkansas
  B.S, University of Tampa

Melinda Barneycastle, Developmental Studies
  M.Ed., B.S, University of Houston

Joel Barr, Art
  M.A, Sam Houston State University
  M.A., B.A, Kent State University

Bryan Barrows, Speech
  M.A., B.A, Texas A&M University at Corpus Christi
  A.A, Del Mar College

Bridgett Bell, Accounting
  M.B.A, Our Lady of the Lake University at San Antonio
  B.B.A, University of Houston

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  M.Ed., B.A, Sam Houston State University

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  B.F.A, Southern Methodist University

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  Ed.D., M.Ed, Texas A&M University at College Station
  B.A, Sam Houston State University

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  B.A, University of Cincinnati

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  B.S, Pittsburg State University

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  B.S, University of Maryland at College Park

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  B.B.A, Stephen F. Austin State University

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  B.A, University of Kentucky

Gwendolyn Charvis, English As a Second Language
  M.A, Tennessee State University
  B.A, Grinnell College

Rita Cinquemani, Associate Degree Nursing
  M.S.N., B.S.N, University of Texas School of Nursing at Houston

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  B.A, University of Houston

Bob Collings, Mathematics
  M.A, Sam Houston State University
  B.S, University of Houston

John Collins, Electronics Technology
  B.S, University of Central Texas

Diana Cooley, Speech
  M.A., B.A, Western Michigan University

Peggy Coster, Kinesiology
  M.A, University of North Carolina
  B.S, Tennessee Technological University

Brian Crawford, Computer Information Technology
  A.A.S, Pierce College

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  M.S.N, University of Alabama
  B.S.N, Samford University
FACULTY - NORTH HARRIS COLLEGE

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   M.A, University of Houston
   B.B.A, Sam Houston State University
   A.A, Blinn College

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   B.A, University of Wisconsin

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   M.S, University of Houston
   B.S, Baylor University

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   M.B.A., B.S, Baylor University

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   B.A, Prairie View A&M University

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   Ph.D., M.S, Southern Illinois University at Carbondale
   B.S, National University of Iran

Sandy Deabler, Psychology
   M.A, University of Maine
   B.A, Ripon College

Marcy Delesandri, Paralegal Studies
   B.A, San Diego State University

Judy Dickson, Mathematics
   M.A., B.A, University of Texas at Austin

Jack Dixon, Developmental Studies
   M.A., B.A, University of Oklahoma

Lynda Dodgen, Sociology
   M.A., B.S, Sam Houston State University
   A.A, North Harris Montgomery

George Doyle, Kinesiology
   Ed.D, University of Houston
   M.Ed., B.B.A, Stephen F. Austin State University

William Drees, Emergency Medical Service Tech
   M.A, University of Texas
   M.A, University of Texas at San Antonio
   B.S, Texas A&M University at College Station

Loree Dubose, Associate Degree Nursing
   M.S.N, Texas A&M University at Corpus Christi
   B.S.N, University of Texas School of Nursing at Houston

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Denise Bryant ............................................. Enrollment Services
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Tommie Byrd ............................................... Associate Degree Nursing
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Cecelia Cameron-Neel ........................................ Library
Arvel Carpenter ...................................................... Police
Kimberly Cathey ............................................ Financial Aid
Ella Clark ...................................................... Office Services
Nancy Cox .......................................................... Associate Degree Nursing
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Michael Dannenbaum ........................................ Facilities
Donna Daughdrill ............................................. Continuing Education
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Concepcion Diaz ............................................ Custodial Services
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Anne Fowler .................................................... Admissions
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Victoria Franklin .................................................. College Relations
Jean Furrer .......................................................... Food Service
Karen Gaede ....................................................... Human Resources
Connie Garrick ............................................. Enrollment Services
Jane Gehring .................................................. Learning Assistance Center
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Brian Griffin .................................................. Enrollment Services
John Griffin .................................................. Physical Plant
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Hildegard Hawkins ........................................... Food Service
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Deborah Houston ............................................ Admissions
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Catherine Jay ............................................. Learning Assistance Center
Stanley J aynes ................................................... Police
Dolores Jones .................................................. Business Office
James Kaufmann ................................................ Police
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Robert Lilly ............................................. Grounds Maintenance
Kayla Marshall ................................................ Continuing Education
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Doris Plagens ..................................................... Office Services
Verena Podraza .................................................. Business Office
Deborah Polk .................................................. Learning Assistance Center
Christina Porter ........................................... Business, Technology & Social Services
Jane Posey ............................................. Business, Technology & Social Services
Robbie Powell ..................................................... Office Services
Oliva Ramirez ................................................ Custodial Services
### PERSONNEL

**PROFESSIONAL AND SUPPORT STAFF - TOM BALL COLLEGE**

<table>
<thead>
<tr>
<th>Name</th>
<th>Department</th>
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<tbody>
<tr>
<td>Patrick Redmond</td>
<td>Grounds Maintenance</td>
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<tr>
<td>Lesli Reynolds</td>
<td>Admissions</td>
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<tr>
<td>June Rhoton</td>
<td>Academic &amp; Student Development</td>
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<tr>
<td>Pamela Rossman</td>
<td>Behavioral, Health &amp; Natural Sciences</td>
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<td>Marlene Ruffino</td>
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<td>Ronald Sill</td>
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**FACULTY - TOM BALL COLLEGE**

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<tbody>
<tr>
<td>Carlos Aguilar</td>
<td>Computer Information Systems</td>
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<tr>
<td></td>
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<td>Cheryl Bates</td>
<td>Music</td>
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<td>Richard Becker</td>
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<td>Annie Benfield</td>
<td>Political Science</td>
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<td>Gloria Brandenburg</td>
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<td>Joyce Brod</td>
<td>Veterinary Technology</td>
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<td>Stefan Brooks</td>
<td>Political Science</td>
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<td>Linda Bryan</td>
<td>English</td>
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<td>M.A, University of Arkansas</td>
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<td>B.A, University of Massachusetts at Lowell</td>
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<td>John Burns</td>
<td>Management</td>
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<td>M.S, National College of Education</td>
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<td>B.S, University of Nebraska at Omaha</td>
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</table>
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  B.A, Wheaton College

Butch Juelg, Director, Information Technology

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  A.A, Rock Valley College

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  M.L.S, University of Wisconsin at Madison
  B.A, Tougaloo College

Steve Scheffler, Director, College Relations
  B.A, University of Texas at Austin

James Taylor, Vice President, Administrative Services
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  M.S., B.S, Southern Illinois University at Carbondale
  A.A.S, DeVry Institute of Technology

Robert Winter, Interim Vice President, Student Development
  M.S., B.A, University of Texas at Austin
PROFESSIONAL AND SUPPORT STAFF - MONTGOMERY COLLEGE

O. Steve Adebayo ................................................... Technology
Gloria Ayala ........................................................... Facilities
June Barber ........................................................... Liberal Arts
Dan Barge ............................................................... Police
Liliana Barrera ......................................................... Facilities
James Bell .............................................................. Facilities
E. Fred Billingsley ...................................................... Facilities
David Boden ......................................................... Community Education
Glenda Brister ......................................................... Grants Management
Stacey Brown ......................................................... Extended Learning Center
Louise Casey-Clukey ................................................. Natural Sciences & Health Professions
Maria Castillo ........................................................ Facilities
Rodigo Castro ........................................................ Facilities
Winnie Cheng ......................................................... Extended Learning Center
Michelle Conatser ................................................ Technology
Scarlett Conlon ......................................................... Student Development
Jacqueline Cooper ............................................... Natural Sciences & Health Professions
Virginia Cordon-Mata .............................................. Facilities
Mark Croft ............................................................... Technology
Joe Croisant ........................................................ Facilities
Judy Crowell ............................................................ Library
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Johnny Daniels ........................................................ Facilities
Carol Daughtery .................................................... Student Development
Robert Davis ........................................................ Facilities
Bonnie Dean ......................................................... Community Education
D. Ellen Dement ....................................................... Student Development
Bryan Dolan ........................................................... Technology
Charlie Easley ......................................................... Grants Management
Vickie Ehler ........................................................... Facilities
Suzanne Englert ....................................................... Student Development
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Gregory Farris ......................................................... Natural Sciences & Health Professions
Nancy Ferreira ....................................................... Student Development
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Chelsea Greenhouse ................................................. Liberal Arts
Nancy Griffin ........................................................ Library
Kenneth Haines ........................................................ Facilities
Miguel Hanson ......................................................... Extended Learning Center
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Cynthia Moeykens ................................................ Human Resources
Yvonne Morris ....................................................... Extended Learning Center
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<tr>
<td>Beverly Mulvey</td>
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<td>Kara Zimmerman</td>
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The members of the Board of Trustees are elected to their positions by voters of the college district for a term of six years. The board has the responsibility for policy making and evaluating the total program of the district.

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Resident of The Woodlands
Term expires May 2006

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Position #2 - Vice Chair
Vice President
Texas National Bank
Resident of Klein
Term expires May 2006

PRISCILLA KELLY
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Special Education Counselor
Klein High School
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