



## **2012-2013 CATALOG**

**Additional general information available at**

**[www.tccd.edu](http://www.tccd.edu)**

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# **GENERAL INFORMATION**

## **Statement of Vision**

Tarrant County College will be a nationally recognized community college of choice for academic excellence and lifelong learning.

## **Statement of Values**

Tarrant County College is committed to the following values:

- Student Success** – belief in providing quality instruction, resources, and support services to assist our students in achieving their lifelong goals;
- Access** – belief in providing educational opportunities for all members of the community;
- Excellence** – belief in providing outstanding quality in educational programs, administrative support, and services to its students, faculty and staff;
- Service to the Community** – belief in the importance of engaging with the community to enhance economic vitality and quality of life;
- Diversity** – belief that the College should reflect the diversity of the community;
- Innovation and Creativity** – belief in cultivating a learning environment that evaluates and incorporates emerging technologies and methodologies to enhance the quality of instruction and administrative support for our students, faculty and staff.

## **Mission Statement**

Tarrant County College District, a comprehensive two-year institution established in 1965, is dedicated to providing quality education that exceeds the expectations of the people of Tarrant County. Accordingly, the mission is as follows:

Tarrant County College provides affordable and open access to quality teaching and learning.

## **Role and Scope**

The College implements its mission through a clearly defined set of programs, services and partnerships that include the following:

- University transfer programs;
- Workforce education programs;
- Technical programs;
- Developmental courses;
- Adult literacy courses;
- Continuing education and community services;
- An extensive curriculum; a highly qualified, enthusiastic, innovative faculty and staff; appropriate technology, equipment, and learning resources; diverse modes of instruction and delivery; support services to foster student success; work and partnerships in support of the cultural and economic development of the community; and
- A commitment to institutional effectiveness—an ongoing process of self-examination, self-improvement, and an unending pursuit of excellence.

## **Institutional Goals**

Tarrant County College District has developed the following goals to fulfill the mission of the College.

- I. **Support student learning and success** through excellence in teaching and learning, support services, flexible instructional delivery systems, student engagement, learning outcomes assessment, and dynamic curricula.
- II. **Ensure affordability, accessibility and diversity** reflective of the community.
- III. **Promote institutional effectiveness** through continuous improvement, collaboration with and service to the community, employee engagement, professional development, and optimal environment conducive to quality teaching and learning.

## **Accreditation and Affiliations**

Tarrant County College District is accredited by the Southern Association of Colleges and Schools Commission on Colleges (SACSCOC) to award the associate degree. SACSCOC may be contacted at 1866 Southern Lane, Decatur, Georgia 30033-4097 or by calling 404-679-4500 for questions about the accreditation of Tarrant County College District.

The threefold purpose for publishing the Commission's address and contact number is to enable interested constituents (1) to learn about the accreditation status of Tarrant County College District, (2) to file a third-party comment at the time of Tarrant County College District's decennial review, or (3) to file a complaint against Tarrant County College District for alleged noncompliance with a standard or requirement.

Normal inquiries about Tarrant County College District, such as admission requirements, financial aid, educational programs, etc., should be addressed directly to Tarrant County College District and not to the Commission's Office.

TCC's educational programs and courses are approved by the Texas Higher Education Coordinating Board. Memberships also are held in the Texas Association of Community Colleges, Association of Texas Colleges and Universities, and the American Association of Community Colleges.

## **Achieving the Dream™**

Achieving the Dream is a national movement designed to increase the success of community college students. For Tarrant County College District, Achieving the Dream is about making the institution the best it can be so that its students are the best they can be.

Since May 2010, TCC has been involved with Achieving the Dream. Broad engagement has included all segments of the college community, the Tarrant County College District Board of Trustees, and the greater Tarrant County community. All have been involved in reviewing data on the success of our students and dialoguing about what is needed to improve their success. Based on these dialogues, TCC is focusing on two priority areas: 1) create a comprehensive first-year-experience program for TCC students, and 2) increase student success in developmental education and gateway courses.

TCC is committed to providing access to all students and is working to improve student success through Achieving the Dream.

# **GENERAL REGULATIONS**

## **Official Communications**

A request that a student report to an administrative or faculty office may be made by letter, email or telephone. Failure to comply with such a request may result in disciplinary action. Each student is responsible for monitoring his/her “my.tccd.edu” email account for official communications.

Communications to the entire student body are considered properly delivered when they are placed on official campus bulletin boards, on CampusCruiser, and/or on the TCC website. Each student is responsible for regularly checking the bulletin boards and websites.

## **Change of Address**

Students who change their home address or mailing address are expected to notify the College of this change immediately using WebAdvisor, or by contacting the campus Registrar's Office. Documentation may be required.

## **Use of Legal Name**

Students are required to provide their full legal name to the College. Students' permanent records, including official transcripts, are required to identify students by their full legal name.

## **Use of Student Number**

A student number is required to identify students' permanent records. The automated student information system assigns a random number, called the Colleague ID, to every student. The Colleague ID is used for all internal printed materials and provides additional protection to students' privacy. Students are urged to become familiar with their Colleague ID and to use it when communicating with College offices.

Students are requested to provide their Social Security Number to the College for maintenance of their student records. This number allows the College to meet federal and State reporting requirements, enables communication with financial aid providers and service agencies, allows reporting to IRS regarding eligibility for the American Opportunity Tax Credit and Lifetime Learning Credit, and substantially eases transfer of information between the College and other colleges and universities. Students who do not provide their Social Security Number risk loss of services and benefits and may encounter delays when transferring from or to other institutions. The College makes every effort to protect students' Social Security Numbers from inappropriate disclosure. Questions about College use of the Social Security Number should be forwarded to the District Records Office or the campus Registrar's Office.

## **Student Conduct and Discipline**

Tarrant County College has established rules and regulations for student conduct and behavior. These items may be found in the Student Handbook which is available on the TCC website. Failure to abide by all rules and regulations may be grounds for disciplinary action.

The Vice President for Student Development Services is responsible for enforcing campus student discipline as outlined in the Student Handbook and makes

recommendations to the President regarding student violations of the College Regulations and adherence to the District's disciplinary procedures. These procedures will assure prompt and appropriate action, as well as provide due process in accordance with the guidelines stipulated by the Texas Higher Education Coordinating Board.

## **Administrative Withdrawal**

The College reserves the right to withdraw a student from class if, in the judgment of College officials, such withdrawal is in the best interest of the student or the student body at large.

## **Religious Holy Days**

In accordance with state law, TCC allows an excused absence to students for the observance of a "religious holy day," defined as a holy day observed by a religion whose places of worship are exempt from property taxation under section 11.20, Tax Code.

Students shall be excused from attending classes or other required activities, including exams, during time needed for travel for the purpose of the observance of a religious holy day. The law mandates that students are required to complete assignments or exams missed during the absence within a reasonable time.

## **OFFICIAL NOTICES**

The College provides the following information in response to federal or state mandates or as a service to the College community. Additional information about these and other important topics is available through the TCC website.

## **Access to Student Records**

The Family Educational Rights and Privacy Act of 1974 (PL93-380), commonly referred to as FERPA, provides that all records pertaining to a student that are maintained by the College must be open to inspection by the student and may not be made available to any other person without the written authorization of the student. A "student" is defined as a person who has registered and paid for one or more Undergraduate (UG) or Continuing Education (CE) courses and who remains enrolled through the official date of record for that term.

The act allows but does not mandate the release of directory information. Under some circumstances, directory information may be released without the student's written permission. An example of these circumstances includes:

1. For legitimate educational purposes within TCC
2. To officials at an institution in which the student seeks to enroll
3. To comply with a court order or subpoena
4. In connection with a health or safety emergency if necessary to protect the student and others
5. To parents of a student who is a dependent for income tax purposes
6. If it is directory information
7. To parents of a student younger than 21 years of age if the disclosure concerns discipline for violation of the campus drug and alcohol policy.

TCC directory information includes name, current address and telephone number, major, dates of attendance, full-time or part-time enrollment status, degrees and awards received and dates granted, previous educational institution(s) attended, and eligibility and participation in officially recognized activities and sports. It should be noted that current address and telephone number are considered restricted directory information. These items are released only if a legitimate educational interest is established. NOTE: Email addresses are not considered directory information.

Non-directory information is never released without the student's official authorization. These items include but are not limited to enrollment verification, grade point average (GPA), academic standing, and grades or transcripts.

A student may request that all items of directory information be kept confidential by contacting the campus Registrar's Office or District Records Office. A written request is required. The request may be canceled only upon receipt of the student's written authorization.

Questions concerning FERPA may be directed to the campus Registrar's Office, the District Records Office, or online through the TCC website.

## **Student Right to Know - Crime Statistics**

The Campus Annual Security Report can be viewed on the TCC website. A printed copy of this report is available on request from any campus Police Department.

## **Student Right to Know - Graduation Statistics**

Federal law requires that all institutions of higher education disclose graduation rates to students, applicants and potential students. Graduation rates for TCC can be provided upon request to the District Office of Institutional Research.

## **Solomon Amendment**

The Solomon Amendment allows military recruiters to request certain recruiting information from institutions about students. Most of the recruiting information data is considered directory information under FERPA or data that would normally be collected by the institution. The 1995/1996 National Defense Authorization Act and the 1997 Omnibus Consolidated Appropriations Act gave branches of the military access to student information including student's name, address, telephone number, age or date of birth, class, and major. The Solomon Amendment requires institutions to cooperate and comply with requests from military recruiters for student information.

## **Selective Service**

Almost all males 18 through 25 years of age living in the United States must register with the Selective Service. Almost all non-citizens also are required to register, including illegal aliens, legal permanent residents, and refugees. If a male non-citizen takes up residence in the United States prior to his 26th birthday, he must register. Additional information can be found on the TCC website.

## **Students Subject to Additional Tuition and Fees**

Tarrant County College does not at this time require additional charges for the following categories of excess hours but is required by law to inform students that charges

may be instituted by TCC and/or may be incurred when attending other Texas colleges and universities.

### **Additional Charges for Students with Excessive Semester Credit Hours**

Texas legislation allows state colleges and universities to charge additional tuition and/or fees for students who enter a Texas public higher education institution beginning in fall 1999 and who exceed by more than 45 hours the semester credit hours required for the degree. For undergraduate students initially enrolling fall 2006 or later, the limit is 30 semester credit hours above the number of hours required for the degree. The legislation exempts technical and workforce education courses. At this time, TCC is not charging additional tuition for excessive hours.

### **Additional Charges for Students Who Exceed 27 Developmental Semester Credit Hours**

Texas legislation allows state colleges and universities to charge additional tuition and/or fees for students who exceed 27 semester credit hours in developmental courses. The 27-hour limit does not include any courses in English for Speakers of Other Languages that are taken prior to the students' initial entrance test (i.e., TASP, THEA, ACCUPLACER, Compass, MAPS, ASSET). It also does not include any courses in study or thinking skills. At this time, TCC is not charging additional tuition for excess developmental hours.

### **Additional Charges for Repeated Courses**

Recent legislation disallows state funding for any course for which a student enrolls more than two times, regardless of grade received. Tracking of enrollments is the responsibility of the College and will begin with enrollments in the fall 2002 semester. State regulations allow an institution of higher education to charge a higher tuition rate to a student whose hours can no longer be submitted for state funding. At this time, TCC is not charging additional tuition for these courses.

## **Texas Tuition Rebate Program**

Section 54.0065 of the Texas Education Code provides that some students may earn a rebate up to \$1,000 if they meet the following:

1. They have enrolled for the first time in an institution of higher education in the fall 1997 semester or later;
2. They are requesting a rebate for work related to a first baccalaureate (bachelor's) degree received from a Texas public university (not a community college degree);
3. They have been a resident of Texas, have attempted all coursework at a Texas public institution of higher education, and have been entitled to pay resident tuition at all times while pursuing the degree; and
4. They have attempted no more than 3 hours in excess of the minimum number of semester hours required to complete the degree under the catalog under which they were graduated. Hours attempted include transfer credits, course credit earned exclusively by examination, courses that are dropped after the official census date, for-credit developmental courses, optional internship and cooperative education courses, and repeated courses. Courses dropped for reasons that are determined by the institution to be totally beyond the control of the student shall not be counted.

## **The American Opportunity Tax Credit**

Students may be eligible to claim an American Opportunity Tax Credit (AOC) against their federal income taxes. The AOC may be claimed for the qualified tuition and related expenses of students enrolled at least half time in one of the first two years of postsecondary education when enrolled in a program leading to a degree, certificate or other recognized educational credential. Eligible tuition and fees are determined by the IRS and will be offset by any grants, scholarships or refunds received. More information is available at [www.irs.gov](http://www.irs.gov).

## **Lifetime Learning Credit**

Students may be eligible to claim a Lifetime Learning Credit against their federal income taxes. The Lifetime Learning Credit may be claimed for the qualified tuition and related expenses of students enrolled in eligible educational institutions.

If a student is claiming a Hope Credit, none of that student's expenses for that year may be applied toward the Lifetime Learning Credit. More information is available at [www.irs.gov](http://www.irs.gov).

# **CONTINUING EDUCATION SERVICES**

Continuing Education Services is comprised of the campus Continuing Education Services offices and the Districtwide offices of Corporate Services, Workforce Services, and the Small Business Development Center. Classes may vary in length from one session to a full semester and, in most cases, are open to interested persons without regard to previous educational background and without formal admission. Traditional college credit is not granted for most of these classes; however, Continuing Education Units (CEUs) and Certificates of Completion are awarded in selected courses and programs.

The offices of Continuing Education Services, located at each campus, provide a wide range of basic skills, technical, vocational, and community service noncredit programs, courses, workshops, forums, and seminars for working professionals and the general public. These courses and programs offer opportunities for individuals to stay current in new developments in their present occupations or to further their education for new careers or new fields of interest. Each campus offers career programs in a variety of occupational areas. Continuing education programs for the general public include the Senior Education Program for adults 55 and older and College for Kids offered at all campuses. Personal enrichment courses in arts and crafts, dance, physical fitness, and more are also available.

The office of Corporate Services, located at TCC training centers in the community, works with Tarrant County employers to design and deliver contract and customized training programs to continually upgrade the skills of the current and future workforce and keep pace with ever-changing technologies. Grant-funded skills development training programs are available for qualifying businesses.

The office of Workforce Services operates a network of learning centers in the community to assist people in improving their basic reading, math and ESL skills at little or no cost to qualified adults. Grant-funded skills development training programs are available for qualifying disadvantaged, unemployed, underemployed and/or disabled adults.

The Small Business Development Center offers training and consulting services throughout the community for small business owners or potential owners to provide practical assistance and solutions to grow and prosper in today's business world. The program is part of a nationwide system that links the resources of federal, state and local government to colleges, universities and the private sector to meet the specialized and complex needs of small businesses.

Continuing Education Services is designed to provide educational opportunities to people wherever they may be located within the TCC District. Additional information or a current catalog is available at the Continuing Education Services office at any campus or off-campus location and online.

## **The Continuing Education Unit (CEU)**

The Continuing Education Unit is a nationally recognized unit of measurement for successful participation in a noncredit continuing education program.

It is the policy of Tarrant County College to award Continuing Education Units for certain noncredit courses. TCC Continuing Education Services is responsible for assuring that all courses for which CEUs are offered meet criteria established by the International Association for Continuing Education and Training (IACET).

Participants in TCC's programs that award CEUs have a permanent transcript available on request. This transcript may be used for job promotion, certification and other student benefits. One CEU is defined as 10 contact hours of participation in an organized continuing education experience under reasonable sponsorship, capable direction, and quality instructors. One unit is awarded for each 10 clock hours of successful instruction participation with decimal units given for fewer than 10 hours. The following criteria are applied for the awarding of CEUs:

1. The training program is planned to meet the educational needs of the group to be served, and representatives of that group participate in the planning process.
2. A statement of purpose and goals is prepared before the program starts, including specific objectives.
3. Qualified instructors are selected to conduct the training.
4. Regular attendance or participation in the program is a minimum requirement. Alternative criteria for performance may be established.
5. An evaluation plan is developed and implemented in determining how well the program objectives are accomplished.
6. All CEUs are recorded in the TCC District computer system. These records are permanent and confidential. Transcripts are available upon request by the participant.

A brochure providing more detailed information is available at the Continuing Education Services office at any campus or off-campus location and online.

# **STUDENT SERVICES**

## **Student Handbook**

A Student Handbook is available on the TCC website.

## **Advising and Counseling Centers**

Advisement and testing information is available on each campus in the Advising and Counseling Center. At each location, a qualified staff of counselors and academic advisors is available for consultation with students. Academic advisors and counselors are available to assist students in the selection of coursework for specific degrees and educational objectives. Academic advisors are also available to assist students who are undecided about their academic direction and can provide information, identify appropriate options to consider, and make referrals for additional assistance.

NOTE: Academic advisement is required for all First Time in College (FTIC) students and must be completed before registration.

Counselors can assist students in coping with personal problems such as anxiety, depression, or other issues. They can also help students investigate strategies to achieve academic success through developing effective study habits, enhancing communication skills, minimizing test anxiety, improving time management, and exploring opportunities for the further development of critical and independent thinking.

New students must complete admissions processing prior to testing and advisement. Returning and reactivation students are urged to review their academic plans and consult with their program coordinator, faculty advisor, academic advisor, or counselor prior to each registration.

Transfer Centers are available on each campus to help students plan for transfer to four-year institutions. TCC staff members provide information regarding admissions requirements, programs of study, transferability of courses, and scholarships. In addition, representatives from various colleges and universities visit the TCC campus Transfer Centers on a consistent basis to meet with students who need assistance with the transfer process.

## **Testing Centers**

A Testing Center on each campus administers the ACCUPLACER, a computer based placement test which measures writing, reading, and mathematics skills. Information on the Texas Success Initiative is available in the campus Testing Centers.

Testing Centers also administer the College's program of credit-by-examination (CBE), College Level Examination Program (CLEP), and interpret test scores for advanced placement (AP). Students with appropriate work experience or training are urged to contact the Testing Center to determine if credit-by-examination/experience is available and appropriate in a particular area.

Students should contact the campus Testing Center for additional information and appointments.

## **Support Services**

TCC provides special assistance for students with unique personal and/or academic needs. These services are available to all students.

The Center for Academic Success on Trinity River Campus and the Campus Learning Centers on Northwest and Southeast campuses provide special assistance in computerized tutorial programs and assessment instruments. Northeast Campus offers special services through the Advising and Counseling Center.

Various campus offices, in coordination with instructional and student support services, provide assistance for all students, including first-time-in college students, to improve their opportunities for academic success. These services include counseling, mentoring, tutoring, advisement, study skill assistance, and workshops on various relevant topics.

Retention programs on all campuses are administered to help students successfully acclimate to the college environment. Students needing these services should first contact the Advising and Counseling Center on the campus attended.

## **Disability Support Services**

In compliance with the Americans with Disabilities Act and Section 504 of the Rehabilitation Act of 1973, Disability Support Services provides equal access to College programs, services and activities for qualified students with disabilities.

Requests for accommodation are reviewed on a case-by-case basis, and are determined based on disability and the documentation provided.

For additional information and eligibility requirements regarding Disability Support Services, see the TCC website.

## **Health Services**

The College maintains student Health Services to provide nursing intervention for students in the event of an injury or illness. Opportunities for health education, health counseling, and referral information to an appropriate health-care agency or provider are readily available through Health Services and its professional nursing staff. Students with health problems are encouraged to contact Health Services regarding any major illnesses or diseases, or to request disabled parking permits for temporary conditions. The application form (VTR-214) for permanent disabled parking is available from the county tax assessor-collector's office.

An integral part of Health Services is the promotion of a balanced lifestyle to enhance the collegiate experience. Students are encouraged to use its services, which are included in student tuition without further charge to students currently enrolled in the College. All services are confidential.

## **Bacterial Meningitis**

The 82<sup>nd</sup> Texas Legislature approved Senate Bill 1107 which requires all new to TCC students under the age of 30 to submit evidence of being immunized against meningococcal meningitis. The meningitis vaccination (MCV4) requirement applies to

- All first time freshmen
- All new transfer students
- All returning TCC students who have experienced a break in TCC enrollment of at least one fall or spring term
- New and returning continuing education students enrolled in programs that require at least 360 contact hours for completion

An MV record administered within the five year period immediately preceding and at least 10 days prior to the first semester enrolled or re-enrolled must be FAXed, mailed, or submitted to the campus Registrar's Office. Acceptable documentation includes:

1. Certification from a physician or clinic that the student has been vaccinated during the specified period.
2. An immunization record from a state or local health authority or an official record received from school officials.
3. A completed, signed, and dated copy of TCC's Bacterial Meningitis Vaccination Verification Form.

The following students are not required to submit an MV:

- Students who are 30 years of age or older
- Students taking only Distance Learning courses
- Continuing education students enrolled in a course or program that requires less than 360 contact hours for completion or in corporate training
- Students enrolled in a dual credit course taught at a public or private K-12 facility not located on a TCC campus
- Students with a signed affidavit or certificate from a physician that states the vaccination would be injurious to the health of the student
- Students who sign an affidavit stating that the student declines the MV for reasons of conscience, including a religious belief
- TCC students incarcerated in a Texas prison

More information can be found on the TCC Website.

## **Career and Employment Services**

The Office of Career and Employment Services assists students and alumni in locating employment which is compatible with their job needs and educational objectives. Current and former students seeking full-time, part-time, or temporary employment are encouraged to use this service.

The following employment services are available:

- Current job openings (both part-time and full-time, on and off campus)
- On-campus employment recruitment and employment interviews
- Information regarding career exploration, employment trends, salary scales, and labor market
- Workshops on job search topics and career decision-making, including résumé writing and interviewing techniques
- Career development assistance

## **TCC Police Department**

The Tarrant County College Police Department is charged with the responsibility of protecting the life and property of individuals who comprise the student body, faculty and staff of the TCC community. The primary responsibilities of the TCC Police Department are to provide campus security and to provide students with a safe and secure learning environment.

The TCC Police Department is staffed with certified Texas Peace Officers, and officers are assigned to each of the College's five campuses and the May Owen District Center to enforce rules, policies and state law. Any law enforcement matter, including traffic accident investigations, is handled by the TCC Police Department. Each campus has

concurrent jurisdiction with a municipal police agency that supports and backs up the TCC police.

Crimes should be reported to the Police Department by calling the central dispatcher 817-515-8911 from phones outside the College system or ext. 8911 from College phones. These numbers are answered 24 hours a day, seven days a week. All emergencies, including police matters, medical, fire, traffic accidents, and others, should be reported to these phone numbers. When medical emergencies are life-threatening, 9-1-1 (9-911 from a campus phone) should be called first, and then the TCC Police Department should be notified at one of these numbers. 911-callers should provide the operator with the location of the emergency.

The Campus Annual Security Report may be viewed on the TCC website. A printed copy of this report also is available on request from any campus Police Department.

## **Parking Information**

Adequate parking is available at each campus. Each student who parks a car on campus will be required to obtain a parking permit. Temporary parking permits and permits for special parking needs or circumstances are available at each campus Police Department. Permit numbers are recorded by student ID number or Social Security Number.

Persons who have obtained disabled permits from the Texas Department of Transportation are not required to have a student permit to park in parking areas designated for the disabled.

Permits must be hung from the rearview mirror with the permit front number-side facing the window. Temporary permits are placed on the lower right corner (passenger side) of the front window or placed on the dashboard on the passenger side where they can be read through the window. Permits are valid on all campuses until their expiration date.

Students are restricted to parking in the white-painted parking lanes. Safe and courteous driving is required. Parking and traffic regulations are set forth in detail in the Student Handbook and the Campus Motor Vehicle Regulations brochure, issued when permits are obtained.

Permits may be obtained in the fall and spring terms through the campus Police Departments from 8 a.m.-5 p.m. Monday-Friday, and from the Business Services Offices from 5 p.m.-7 p.m. Monday-Thursday. During summer terms, permits can be obtained from the campus Police Departments from 7:30 a.m.-6 p.m. Monday-Thursday, and from the Business Services Offices from 6 p.m.-7 p.m. Monday-Thursday.

## **ENROLLMENT INFORMATION**

Students are encouraged to apply for admission to the College using the online application (ActiveApply) through the TCC Website. Applications also may be submitted by mail to the Office of Admissions Services or in person to the campus Registrar's Office. All materials required for entrance to Tarrant County College should be on file in the Admissions Services Office prior to registration.

Entrance to TCC does not guarantee admission to a specific vocational-technical program or to the Cornerstone honors program. Students should consult the program brochure, program coordinator, campus Registrar's Office, or Advising and Counseling Center for additional information concerning specialized program requirements.

Through its program of courses in developmental English and in English as a Second Language, TCC seeks to ensure that a deficiency in English language skills will not be an obstacle to enrollment in any educational program.

Tarrant County College reserves the right to refuse enrollment to any applicant/student who does not comply with College policy or procedures, or whose enrollment would be incompatible with the aims and objectives of the College, or whose presence on campus, in the judgment of the College, would not be in the best interest of the student or the College.

## **Right To an Academic Fresh Start**

Under the provisions of the Texas Education Code, Section 51.931, a Texas resident applying for admission/reactivation to the College or to any specialized admission program is entitled to have all academic coursework that was earned 10 or more years prior to the requested enrollment date ignored for enrollment purposes and GPA computation. The applicant must complete the Right to an Academic Fresh Start Agreement with the campus Registrar's Office or the Office of Admissions Services prior to registration, confirming the decision to enroll under the Academic Fresh Start statute. 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 the starting date of the term of enrollment.

Students who were awarded Academic Fresh Start through another Texas public college or university may request TCC recognition of that agreement by completing a Right to an Academic Fresh Start agreement and presenting an official transcript from the awarding institution showing the beginning Academic Fresh Start term.

An applicant who chooses to exercise the Right to an Academic Fresh Start must meet all TCC admission/reactivation requirements and must submit official transcripts from all colleges or universities attended for credit courses.

The Right to an Academic Fresh Start can be rescinded by the student through a request made to the campus Registrar's Office or the Office of Admissions Services.

## **Continuing Students**

Students who were enrolled at any TCC campus at any time during the last calendar year are eligible to register for any future term UNLESS

- they have an outstanding debt to TCC; or
- they have been placed on academic suspension/dismissal; or
- they are required to have a meningitis vaccination; or
- they have been notified by the College about additional requirements or conditions.

Students returning to TCC after an absence of more than one year will be prompted to update demographic and academic information prior to registration for classes, and should contact the campus Registrar's Office or District Admissions Services Office if they have lived outside Texas and/or out of Tarrant County since last enrolled. Those whose residency status has changed are responsible for additional tuition charges incurred.

## **Conditional Admission**

Conditional admission is extended to students allowing registration prior to receipt of required documentation. Students without required documentation may not be able to qualify for Financial Aid, Veterans' Educational Benefits, transcript evaluation/degree

planning, or many other College benefits and services until all required documentation has been submitted.

In addition, required documentation may be the basis for TSI scores/status, residency determination, and course prerequisites. Students will need to submit transcripts when applying for admission. All required documentation should be on no later than the end of the first term of TCC enrollment.

Conditional admission is not available to those students requiring Special Processing. (See #3, Special Processing, under the New Applicants section below.)

## New Applicants

Students who have not previously enrolled at TCC must apply for admission to the College. First Time in College (FTIC) students will be required to submit their admissions application at least 14 calendar days prior to the start of the session to be considered for admission for that session.

1. High School/GED Graduates, home school graduates, and other nontraditional graduates who have not attended any regionally accredited college or university should submit the items below. Graduates who will be under age seventeen (17) when classes begin may be asked to meet additional criteria.
  - Application for admission.
  - Official high school transcript, GED certificate, or other proof of graduation.
2. Transfer Students who have attended another regionally accredited college should submit the following:
  - Application for admission.
  - Official transcript from each previously attended regionally accredited college or university.

### NOTE:

- (1) If a student's previous college was not regionally accredited, a transcript is not required; rather, a student may be asked to submit a high school transcript or diploma.
  - (2) Students who hold a baccalaureate (or higher) degree will not have to present a transcript for admissions purposes, but will be asked to submit proof of degree. (Note: Transcripts may be required to establish prerequisites or for course-by-course evaluation.)
  - (3) Students who are currently enrolled at another college/university may be granted conditional admission until the term ends and the official transcript is available. (See TRANSCRIPT REQUIREMENTS and TRANSCRIPT EVALUATION entries.) Transcript evaluation will be provided for each student planning to complete any College degree or certificate.
3. Special Processing
    - Admission by Individual Approval - Students 18 years of age or older who are no longer in high school may be admitted by Individual Approval. Testing in basic skills is required. More information is available at the campus Registrar's Office.
    - Early High School Enrollment/Dual Credit - Students enrolled in their junior year of high school who meet academic requirements may enroll for college courses prior to completion of their high school work, with the approval and recommendation of their high school. Needs-based

scholarships are available for dual-credit students who meet criteria. More information is available at the campus Registrar's Office or at the campus Financial Aid Office.

- Academic/Disciplinary Suspension - Students who have been placed on suspension by their previous college must submit all required documentation for admission consideration by the campus registrar. Transfer suspension students will be required to consult an academic counselor to determine specific enrollment requirements. Suspended students seeking to transfer to TCC will be subject to the same academic criteria as TCC students.
- Specialized Admission Programs - Students seeking admission to any selective admission program may be admitted to the College but will be required to submit all required documentation prior to consideration for admission by that program.

## **Transcript Requirements**

Each transfer applicant should arrange for an official transcript to be sent to TCC from each regionally accredited institution previously attended for credit coursework. Transcripts are considered official when they are signed by the Registrar, bear the seal of the institution, and/or are received through approved electronic transmission.

Credit for courses in which a passing grade has been earned may be transferred to Tarrant County College from colleges and universities accredited through one of the comprehensive regional accrediting associations.

Coursework cannot be transferred from institutions that are not regionally accredited as a college or university, but students who have gained proficiency through completion of coursework or other educational experiences should consult the campus Testing Center regarding credit by examination/credit by experience.

Students who have attended an international college or university should see the Evaluation of Foreign Credentials section in this catalog or contact International Admissions Services for additional information about transcripting requirements and transfer of international coursework.

Students concurrently attending TCC and any other regionally accredited college or university should submit an updated transcript from that institution at the end of each term of concurrent enrollment. Transcripts should be submitted prior to initial enrollment or as soon as possible during the first TCC term. Official transcripts are required to determine an applicant's academic prerequisites, residency status, and TSI completion. In addition, all official transcripts must be on file before students may qualify for most financial aid programs, for veterans' educational benefits, and for other College services such as transcript evaluation and degree planning.

## **Transcript Evaluation**

Students working toward a TCC associate degree or certificate of completion may require a transcript evaluation. Evaluations should be requested online only after all transcripts are on file. Students who have completed coursework through a foreign college or university may request an evaluation through International Admissions Services.

Students transferring to TCC can expect that approved academic courses earned at any Texas public institution will be accepted in transfer. Students who dispute a transfer

decision made by TCC should contact the District Admissions Services Office to request a review of the coursework involved.

Students planning to transfer TCC coursework to another college or university are advised to contact the transfer institution to determine its transfer policy. TCC has established transfer agreements with all area colleges and universities. Campus Advising and Counseling Centers maintain course transfer information provided by area institutions.

## **International Baccalaureate Diploma**

Students who have received the International Baccalaureate Diploma may be eligible to receive up to 24 hours of transfer credit for courses completed with a minimum grade of four (4). An official transcript must be submitted to the District Office of Academic Support Services.

## **Credit for Military Service**

Limited credit for military service is available to students who

- Graduated from a public or private high school accredited by a generally recognized accrediting organization or a Department of Defense high school or earned a GED, and
- Were honorably discharged after serving at least two years of active service in the Armed Forces or were honorably discharged because of a disability.

Request forms are available from the campus Registrar's Office.

Students may also submit an official ACE Registry Transcript summarizing military training to the District Office of Academic Support Services for evaluation and determination of applicable credit.

## **International Admissions**

### **Non-Citizens With A Visa**

All non-citizen applicants holding any temporary visa category issued by the United States Citizenship and Immigration Services (USCIS) must meet international admission requirements. Admission as an international student requires compliance with all requirements and procedures established for the visa category by the USCIS. Students applying for transient status or for admission while concurrently enrolled in an area college or university must contact the Office of International Admissions for specific procedures and requirements. The following must be submitted to International Admissions Services by the designated deadlines.

1. International Student Application.
2. Official transcript in English showing completion of high school or secondary school or official transcript(s) in English of all previously completed college coursework. NOTE: All foreign credentials submitted must be the original. If transfer credit is desired, the student must arrange for credential evaluation and pay all costs of such translation/evaluation. A list of acceptable professional evaluation services is available on request from International Admissions Services. An overall grade point average of at least 2.0 is required for students transferring from a college or university within the United States.

3. Any student applying from outside the United States must take the Test of English as a Foreign Language (TOEFL) and have results with a minimum score of 550 on paper-based, 213 on computer-based, or 79 on Internet-based tests.
4. The state of Texas requires that each student complete the Texas Success Initiative (TSI) to ensure that all new-to-college students are provided (1) assessment of their readiness for freshman-level academic coursework and (2) advisement and educational support necessary to assist students who are not ready to enroll in academic coursework. TSI is designed to measure competency in reading, writing and mathematics and to indicate the need for remedial work to address deficiencies. Many transfer students also may have to meet the TSI requirements. The state-approved tests are available on each campus through the Testing Centers (either THEA or ACCUPLACER). To be considered for admission to Tarrant County College, prospective students must arrive in the United States at least two weeks before enrollment to arrange for testing. The THEA or ACCUPLACER test can be taken only at designated Texas sites, and enrollment without THEA or ACCUPLACER scores can result in administrative withdrawal from the College and/or notification to USCIS. A student on an F1 visa must pass both the reading and writing parts of the test.
5. Original financial statement documenting adequate funds to cover one year's expenses plus a bank endorsement of the availability of such funds (expenses are outlined in the Tuition and Fees section of this Catalog). Financial information must be current. All financial documents must be no more than six months old. NOTE: A USCIS form I-134 is required if the student is sponsored by someone currently residing in the United States.
6. Copies of I-94 Arrival/Departure Record form 1-20 A-B, passport, and visa.
7. Evidence of health insurance valid through academic year.

NOTE: Students applying for admission from outside the United States may submit items 6 and 7 after acceptance into the College but prior to registration for classes.

A visa student must maintain full-time status. A student enrolled for 12 or more hours during the fall or spring term is considered a full-time student.

### **Non-Citizens Without A Visa**

Non-citizen students seeking TCC admission who do not hold a temporary visa of any category are not required to meet international admission requirements.

1. Documentation of Status - A copy of USCIS form I-551/I-151 (green card/permanent resident card) or I-485 to document permanent resident or immigrant status or a copy of form I-94 to document refugee or asylee status should accompany the application.
2. Undocumented Immigrant Status - Certain immigrants who do not have an I-551/I-151 or other USCIS approval may be eligible for enrollment on the same basis as documented students. More information is available at the campus Registrar's Office or the Office of International Admissions.

### **Specialized Admissions**

#### **Occupational Programs**

Program costs and/or availability of facilities make it necessary for some occupational programs to require specialized admission procedures in addition to those

outlined above for general enrollment at the College. These procedures are designed to ensure fairness to each applicant in a limited enrollment program.

Applicants should obtain special admissions materials early in the calendar year. Those who are accepted are usually notified by early summer. Those who are not accepted may resubmit in subsequent years.

TCC's specialized admissions programs include:

Northeast Campus

Dental Hygiene

Emergency Medical Services

Trinity River Campus

Health Information Technology

Nursing

Physical Therapist Assistant

Radiologic Technology

Respiratory Care

Surgical Technology

Northwest Campus

Railroad Dispatcher Certificate

Criteria for admission to these programs are listed with the respective program curricula. Individuals desiring complete information on admission procedures to health professions programs should contact the Health Sciences Department on either Northeast Campus or Trinity River Campus. For Railroad Dispatcher, students should contact the Management Department on the Northwest Campus.

Some of the health occupations programs have physical requirements for admission.

## **Pre-Registration Testing and the Texas Success Initiative (TSI)**

### **Texas Success Initiative and Placement Testing**

Texas House Bill 286 created the Texas Success Initiative (TSI) to ensure that all new-to-college students are provided (1) assessment of their readiness for freshman-level academic coursework, (2) advisement and educational support necessary to assist students who are not ready to enroll in academic coursework, and (3) evaluation to determine when they are ready to enroll in college-level coursework.

TSI measures reading, writing and mathematics skills to determine a student's readiness to enroll and perform in freshman-level academic coursework. Students are required to test and to be advised based on the results of their TSI assessment scores. Students will not be denied admission to the Tarrant County College District based on TSI or other college placement scores. However, testing is usually required prior to enrollment in classes.

Testing Centers on each campus administer tests required for the Texas Success Initiative, including ACCUPLACER and THEA (formerly known as TASP). Testing appointments may be required. A fee of \$29 is required. Students should contact the campus Testing Center for additional information about placement tests, testing schedules, fees, and registration procedures.

Test scores are usually available immediately following testing. Academic advisors can assist students with score interpretation.

## **Placement Testing Requirements for Mathematics, English and Reading Restricted Courses**

All students, regardless of TSI status, will be required to submit appropriate test scores before enrolling in college-level mathematics, English and/or reading restricted courses. Successful completion of prerequisite courses may substitute for placement test scores. Although some students may be exempt from TSI requirements, a college-level placement test may be required to assist in course placement. Scores required for placement into college-level math courses may be higher than those required to achieve TSI-complete status. Testing requirements for specific courses are outlined in the Course Descriptions section of the Catalog. Additional information is available at the Advising and Counseling Center on any campus or from the academic department.

## **Developmental Studies**

Students who score below specified levels in any section of the THEA, ACCUPLACER, or approved alternative test will be required to enroll in developmental studies until C or higher grades are earned in developmental courses or until the student passes a retest in the same skill area. A First Time In College (FTIC) student assessed as needing remediation in any developmental skill area is required to be continuously enrolled in at least one required developmental course until all of the required developmental courses are complete. All students must have an Academic Success Plan by the end of their first term. More information about the Academic Success Plan is available in campus Advising and Counseling Centers.

## **Attendance in Developmental Courses**

Students taking developmental mathematics, reading and/or writing courses are required to attend class and to keep up with course assignments. Since attendance and participation are essential to student success, the following guidelines apply:

- A student in an on-campus course who misses 15 percent of the class meetings and does not keep up with course assignments may be withdrawn at the discretion of the instructor.
- Student attendance in online courses has two requirements:
  1. Successful completion of the online course orientation, and
  2. Active participation in the course as described in the Instructor's Course Requirements (ICR).

A student in an online course not completing the orientation and not actively participating in the course may be withdrawn at the discretion of the instructor.

## **Student Transition to College Success Course**

Tarrant County College is committed to supporting students in meeting their educational goals by requiring a learning skills course (STSC 0111 Transition to College Success) for all First Time In College (FTIC) students.

## **Texas Success Initiative Exemptions and Waivers**

TSI Exemptions and Waivers apply only to TSI requirements. Documentation of eligibility for an exemption or waiver is required. Students should contact the campus Registrar for additional information about TSI requirements and restrictions and to determine specific documentation required.

Students who qualify for a TSI Exemption or Waiver are not required to test for TSI purposes or develop and follow an Academic Success Plan. However, placement tests may

be required for registration in certain courses regardless of TSI status, and all course prerequisites must be met.

NOTE: Although not required by TSI, all students are encouraged to develop and follow an Academic Success Plan.

**Exemptions:**

1. TASP Exempt/Passed - Students who were classified TASP Exempt or TASP Passed prior to Fall 2003.
2. Degree - Students who have earned an associate or higher degree from a regionally accredited postsecondary institution or from a recognized international institution.
3. Transfer - Students whose previous Texas public college or university determined that they have met Minimum Passing Standards in Reading, Writing and/or Math are exempt in the curricular area(s) indicated but must develop and pursue a Plan for Academic Success in any remaining area(s).
4. Private or Out-of-State Transfer - Students who have earned at least 3 semester hours of college-level credit at a regionally accredited collegiate institution.
5. Score Exempt - Students who achieved certain scores on the SAT, ACT or TAKS test.
6. Military Exempt - Students who were honorably discharged, retired or released from active duty or from Texas National Guard on or after August 1, 1990.

**Waivers\*:**

1. Certificate Waiver - Students pursuing a one-year Certificate of Completion of no more than 42 semester hours may qualify for a delay of mandatory testing.
2. Casual Student Waiver - Students who are not seeking a degree or certificate from a Texas public institution of higher education may qualify; enrollment may be restricted.
3. Military Waiver - Students serving on active duty as a member of the Armed Forces of the United States or the Texas National Guard, or serving as a member of a reserve component of the Armed Forces of the United States for at least the three-year period preceding enrollment.

\*All TSI waivers must be renewed each term. All course prerequisites must be met. Placement testing will be required for enrollment in mathematics, writing or reading restricted courses.

**Completing Texas Success Initiative Requirements**

A status of TSI Complete or Exempt in Mathematics, Writing and Reading is required to receive any degree and some certificates of completion. To achieve this status, a student must meet one of the following requirements for each skill area:

**Mathematics**

- Earn a grade of C or better in MATH-0304 or MATH-0106
- Pass the ACCUPLACER elementary algebra test with a score of 63 or higher OR an approved alternative test with an appropriate score, or
- Earn a grade of C or higher in one of the following courses:  
MATH-1314 MATH-1316 MATH-1324 MATH-1325  
MATH-1332 MATH-1342 MATH-2412 MATH-2513

- Students with a professionally diagnosed mathematics disability may contact Disability Support Services on campus to discuss alternatives available for completion of the mathematics requirement.

### **Writing**

- Earn a grade of C or better in ENGL-0325
- Pass the ACCUPLACER writing test with an objective score of 80 and an essay score of 5 OR pass with an essay score of 6 or better, or
- Earn a grade of C or higher in one of the following courses:  
ENGL-1301 ENGL-1302

### **Reading**

- Earn a grade of C or better in either RDNG-0361 or RDNG-0363 and achieve an 11<sup>th</sup> grade reading level on the Nelson-Denny test
- Pass the ACCUPLACER reading test with a grade of 78 or higher, or
- Earn a grade of C or better in one of the following courses:  
ENGL-2322 ENGL-2323 ENGL-2327 ENGL-2328  
ENGL-2332 ENGL-2333 GOVT-2305 GOVT-2306  
HIST-1301 HIST-1302 PHIL-1301 PSYC-2301  
SOCI-1301

*SPECIAL NOTE CONCERNING TRANSFER STUDENTS:* Students transferring from a regionally accredited college or university who have completed one or more of the above designated courses with a grade of C or higher will be considered TSI-Satisfied in that curricular area. An official transcript from the transfer institution is required.

## COURSE PLACEMENT GUIDE

### **Reading\***

ACCUPLACER	THEA	COURSE PLACEMENT
0-77	0-229	<b>READING-0361</b> A student who completes RDNG-0361 with a grade of C or higher may progress to RDNG-0363. Completing either RDNG-0361 or RDNG-0363 with a grade of C or higher and achieving the 11th grade reading level on the Nelson Denny test constitute readiness for collegiate courses.
78	230	<b>COLLEGE READINESS PASSING SCORES</b>

### **Writing\***

ACCUPLACER	THEA	COURSE PLACEMENT
Objective Score	Essay	A student may enroll in this course by achieving the minimum required score(s) on one of the placement tests OR earning a grade of C or better in the previous level course.
0-45	3-4	ENGL-0324 Developmental English
46-79	5	ENGL-0324 Developmental English
80	5	ENGL-0325 Developmental English
	6-8	ENGL-1301 Composition I
		ENGL-1301 Composition I

### **Mathematics\***

ACCUPLACER		THEA	COURSE PLACEMENT
Arithmetic	Elementary Algebra	College Level Math	Score
			A student may enroll in this course by achieving the minimum required score(s) on one of the placement tests OR earning a grade of C or higher in the previous level course.
0-54			Less than 230 MATH-0302
55 or greater	62 or less		Less than 230 MATH-0304
	63		230-269 MATH -0350
		55	230-269 MATH-1332 or MATH-1342
		64	270-300 MATH-1314 or MATH-1324
		75	270-300 MATH-1350
		86	MATH-1316 or MATH-1325
		92	MATH-2412
		103	MATH-2513
	63		230 TSI completed with these scores OR a grade of C or better in MATH-0304 or MATH-0106

**\*Students should consult the campus Advising and Counseling Center for more information.**

## **Academic Advisement**

Academic advisement is available to all students. Advisement and testing information is available in the Advising and Counseling Center on each campus.

Advisement is required for all First Time In College (FTIC) students and must be completed before registration. All others may self-advise but are urged to seek the assistance of trained advisors. Students should seek advisement following admission and the completion of required testing.

As one portion of TCC's advisement program, counselors, academic advisors, and faculty advisors assist students with their programs of study. To comply with regulations of the Texas Success Initiative, all FTIC students must participate in the testing and advisement process.

Counselors or academic advisors provide program and course advisement for students whose educational objective includes an Associate of Arts or an Associate of Science degree and/or a university degree, and for undeclared majors. Counselors, academic advisors, occupational program coordinators, and/or faculty advisors provide program and course advisement for students seeking an Associate of Applied Science degree or a Certificate of Completion.

## **Program of Study (Major)**

Students are urged to declare their program of study (major) as early as possible in their academic career. Those who are undecided should visit with an Academic Advisor prior to the end of their first year of enrollment. A program of study may be declared or changed through WebAdvisor on the TCC website.

## **Registration**

### **Access to Online Services**

Access to registration and all other online services is secured by each student's User ID and self-assigned TCC password. Registration and other services are available through WebAdvisor at the TCC website.

### **Registration**

Current students and applicants who have completed admission processing are eligible to register. Students are encouraged to use online services for registration and tuition/fee payment.

- The College offers many services through web access to the College's database. Internet access is provided through on-campus computer stations located near Registrar's Offices, Learning Resource Centers, and other campus locations.
- Accessing records through unauthorized User ID and password can result in disciplinary action.
- Registration assistance is provided on each campus through the Registrar's Office and Advising and Counseling Centers.
- Most students are allowed to register at any time during scheduled registration periods; however, the College may assign specific registration times as needed to offer optimum system performance. Registration for all sessions will end seven days prior to the start of classes for that session. Students are encouraged to plan early and make arrangements to register for their courses at least seven days prior to the start of their classes.

## **Auditing a Course**

Students who have been admitted to the College may audit courses on a space-available basis. Audit registration is permitted only after registration has ended and before the class begins. No college credit is awarded for audited courses. Students who already have credit for a course must comply with the College's policy on repetition of courses. The cost for auditing courses is the same as registration for credit. Senior citizens (persons 65 years of age or older) are permitted to audit credit and continuing education courses without payment of tuition (unless enrolled in Senior Education Program). (See Senior Citizen Waiver information in this catalog.)

Audit students must meet the same prerequisites to enroll in a course as a credit student. However, they are not required to take examinations and no grades are assigned. Audit students are required to conform to the same conduct in the classroom and on campus as credit students.

Students already registered for credit may not change from credit to audit status during audit registration or at any time during the session. Students registered for audit may not change their enrollment to credit status during or following audit registration.

## **TUITION AND FEES INFORMATION**

### **Residency Determination**

The state of Texas requires that each student certify legal residence at the time of enrollment.

The student is responsible for registering under the proper residence classification. Any question concerning the right to classification as a resident of Texas or of Tarrant County should be clarified prior to enrollment at Tarrant County College.

Students needing additional information about residency determination should contact the campus Registrar's Office. State requirements for residency may be found at [www.collegeforalltexans.com](http://www.collegeforalltexans.com) or [www.thecb.state.tx.us](http://www.thecb.state.tx.us).

### **Tuition Categories**

The state of Texas has established legal guidelines to determine whether students are Legal Residents for Tuition Purposes. Residency status is determined at the time of application for admission to the College and can be updated when students meet and document their change of status. For additional information on rules and regulations determining residence status, visit "CB Rules" under the Community and Technical Colleges link on the Texas Higher Education Coordinating Board website: [www.thecb.state.tx.us](http://www.thecb.state.tx.us).

Each student is assigned to one of three tuition categories:

- In-State/In-County status is assigned to those who have lived in Texas under circumstances specified in Rules and Regulations, and who are residents of Tarrant County.
- Out-of-County status is assigned to those who qualify for In-State status, but who do not reside in Tarrant County.
- Out-of-State status is assigned to those who do not qualify for In-State status.

## **Appeal of Residency Determination**

Students who have been classified as Out-of-County or Out-of-State may appeal that determination by first completing a new residency questionnaire and discussing their concerns with the campus Registrar.

## **Reclassification of Residency Status**

Students who have been classified as Out-of-County should request reclassification by the Registrar's Office if they establish residence in Tarrant County; a Tarrant County address — not a post office box — must be provided. Students who have been classified as Out-of-State should request reclassification by the campus Registrar's Office when their circumstances change in such a way as to meet state requirements. A Residency Questionnaire must be completed and submitted with necessary documentation.

## **Tuition Waivers and Exemptions**

In addition to established financial aid programs, the state of Texas and Tarrant County College offer a number of opportunities to reduce tuition.

Visit [www.collegeforalltexans.com](http://www.collegeforalltexans.com) for specific requirements for each exemption or waiver. Students must submit required documentation to the Registrar's Office. Tuition must be paid by the established deadline if documentation or approval of an Exemption or Waiver is pending. Overpayments will be refunded only if documentation and approval are completed by the state-defined Official Day of Record. Students should contact the campus Registrar's Office for additional information.

**Basic Peace Officer:** Employed Peace Officers enrolled in Criminal Justice degree programs may qualify for an exemption of tuition and fees. Requirements and restrictions are applicable.

**Blind and/or Deaf Students:** Certain blind and/or deaf students who are Texas residents may qualify for an exemption of all tuition. Certification of condition and other criteria must be met.

**Children of Disabled or Deceased Public Servants:** Several different exemptions and waivers are available to firefighters, police officers and other public servants. Requirements, restrictions and limitations vary.

**Competitive Scholarship Waiver of Out-of-State Tuition Rate:** Available for nonresident or foreign students receiving competitive scholarships of \$1,000 or more administered through the TCC Financial Aid Office.

**Economic Diversification:** Individuals and their dependents whose family has been transferred to Texas as a part of the state's economic development plan may qualify for an in-state tuition rate.

**Fire Science Students:** Texas residents enrolled in a TCC fire science program may be exempt from payment of tuition for up to one year.

**Students in Foster Care/Adopted Students:** Certain students who have been under the care of the Texas Department of Protective and Regulatory Services may be exempt from payment of tuition.

**Good Neighbor Scholarship:** Students from other Western Hemisphere countries (except Cuba) approved for this award by the Texas Higher Education Coordinating Board qualify for an in-state tuition rate.

**Hazlewood Act:** Texas veterans who joined the military from Texas or were Texas residents at the time of enlistment, who served at least 181 days on active duty status (other than for training), and who received an honorable discharge may qualify for tuition waivers of up to 150 credit hours. The spouse/children of Texas veterans killed in action or disabled as a result of military duty may also qualify for Hazlewood Act benefits. Veterans eligible for Hazlewood Act benefits can transfer the benefits to their children, one child at a time. The child must be under 25 years of age.

**Active Military and Dependents and Military Veterans:** Non-Texas military personnel and/or their dependents stationed in Texas or living in Texas may qualify for an in-state tuition rate.

**Veterans and/or veterans' spouses or dependent children** who are 25 years of age or younger may pay in-state tuition regardless of the time spent in Texas prior to enrolling if the veteran is receiving federal educational benefits from the U.S. Department of Veterans Affairs. The veteran/spouse or child/ren must sign a letter of intent to establish Texas residence while enrolled at TCC.

**Tarrant County Property Owners:** Texas residents who live outside Tarrant County but own property in the county may qualify for an in-county tuition rate.

**Dallas County Community College District Students:** A reciprocal tuition agreement allows a Dallas County resident to pay the Tarrant County resident tuition rate provided the individual is enrolled in a degree program not offered at DCCCD.

**University Teaching/Research Assistants:** Teaching and research assistants of Texas public universities may qualify for an in-county tuition rate.

**Senior Citizens:** Texas resident students age 65 or older may be exempt from payment of all tuition for up to 6 hours per term and/or from payment of tuition if auditing credit course(s).

**College/University Teachers and Professors:** Certain teachers and professors of Texas public colleges and universities may qualify for an in-county tuition rate.

**Texas High School Valedictorians:** The highest-ranking graduates of high schools accredited through TEPSAC are exempt from payment of tuition for their first two terms of enrollment.

**Non-Citizen Permanent Residents without INS documentation:** Certain undocumented non-citizens who have resided in Texas for at least one year, are Tarrant County residents, and cannot petition for legal status may qualify for an in-state tuition rate.

**Nursing Faculty and Nursing Preceptors:** Certain nursing faculty and those hospital preceptors participating in nurse training programs may qualify for tuition waiver.

**Spouse or Dependent of Deceased Texas Public Servants:** The spouse and dependents of a deceased Texas Public Servant killed in the line of duty on or after September 1, 2001, may qualify for an exemption of tuition and fees with a stipend to be provided for books.

**Disabled Peace Officers:** Peace Officers permanently disabled in the line of duty and unable to continue employment as a result of disability may qualify for an exemption of tuition and fees.

**Texas Tomorrow Fund:** Provides a tax-advantaged investment vehicle for college savings. The investment covers in-state tuition plus required textbooks, supplies and equipment.

**Children of MIA/POWs:** Dependents of MIA/POWs may qualify for an exemption of tuition and fees if they are less than 21 years of age and receive a majority of support from a parent.

## **Texas Higher Education Coordinating Board Reimbursed Programs**

Required documentation for these programs should be submitted to the campus Business Services Office each term.

Texas Tomorrow Fund: Students who have benefits available from a contract purchased from the Texas Prepaid Higher Education Tuition Program may use these benefits toward tuition. Students should present their Texas Guaranteed Tuition Plan ID card and indicate their desire to use the plan each term to the campus Business Services Office.

## **Payment Methods**

For the convenience of our students, several payment methods are available:

1. **Credit Cards:** Accessing the website allows for payment by major credit card.
2. **Campus Business Services Office:** Payment by check, cash or credit card can be made at any campus Business Services Office.
3. **FACTS Payment Plan:** TCC has contracted with Nelnet Business Solutions to provide students several convenient payment plan options. These payment plan options are in line with the provisions of Section 54.007 of the Texas Education Code. Students should enroll online by connecting to the e-cashier website through the TCC website. The cost of the program is a \$25 per term nonrefundable FACTS Enrollment Fee. There is a \$30 returned payment fee.
4. **Third Party Sponsors:** If tuition is to be paid by an agency or company, a voucher from the agency or company must be submitted to the Business Services Office one week prior to registering for classes.

It is the student's responsibility to be aware that tuition payment is due at the time of registration for classes. Failure to pay tuition or to make payment arrangements by the deadline may result in students being dropped from their courses. Students should not assume that a course will be automatically dropped for nonpayment. Students are responsible for dropping any course they do not wish to be enrolled in.

**NOTICE: DELINQUENT INSTALLMENT CONTRACTS, UNPAID RETURNED CHECKS, AND FINANCIAL AID CHARGEBACKS WILL BE SENT TO A THIRD-PARTY AGENCY FOR COLLECTION. THE STUDENT WILL BE RESPONSIBLE FOR ALL COLLECTION COSTS AND ATTORNEY FEES.**

## **Tuition**

All tuition is subject to change without notice. A student is not officially registered until payment has been made in full, third-party sponsorship is submitted, or a payment plan has been completed. Until all financial obligations to the College have been satisfied, students may not re-enroll or receive official transcripts or diplomas.

Tuition at Tarrant County College for Fall 2012 is as follows:

1. Legal resident of Tarrant County for tuition purposes:  
\$52 per semester hour.
2. Legal resident of any other Texas county for tuition purposes:  
\$76 per semester hour.
3. Legal resident of another state for tuition purposes:  
\$171 per semester hour.
4. Nonresident alien for tuition purposes:  
\$171 per semester hour.

Effective with Spring 2013, tuition at Tarrant County College is as follows:

5. Legal resident of Tarrant County for tuition purposes:  
\$55 per semester hour.
6. Legal resident of any other Texas county for tuition purposes:  
\$86 per semester hour.
7. Legal resident of another state for tuition purposes:  
\$205 per semester hour.
8. Nonresident alien for tuition purposes:  
\$205 per semester hour.

## Other TCC Charges

In addition to tuition, students enrolled at TCC may be required to pay one or more of the following charges as applicable:

- Private music lessons (1 semester hour).....\$50
  - Private music lessons (2 semester hours) .....\$90
  - Returned check/declined credit card .....\$15
  - Promissory note transaction .....\$25
  - Promissory note late payment .....\$25
  - Replacement diplomas .....\$30
  - Liability insurance .....All nursing and allied health students will be required to pay a fee for liability insurance as provided by the College.
  - Police and/or library fines .....As assessed
  - Placement testing .....\$29
  - Other testing .....As assessed
  - Special trips (e.g. student field trips).....As assessed
  - Special course fees .....As assessed
  - ITV rental tape .....\$15 per tape
- Continuing Education (noncredit courses):

See Continuing Education Catalog for specific information.

## Refunds

Students officially dropping and/or withdrawing during a regular 16-week session are eligible for a refund of tuition according to the following schedule:

Prior to the first calendar class day.....	100%
During the first 15 calendar class days .....	70%
During the 16th through 20th calendar class days .....	25%
After the 20th calendar class day.....	None

Students officially dropping and/or withdrawing from a regular 6-week summer session are eligible for a refund of tuition and fees according to the following schedule:

Prior to the first calendar class day .....	100%
During the first five calendar class days.....	70%
During the sixth and seventh calendar class days.....	25%
After the seventh calendar class day .....	None

### *PLEASE NOTE*

**For non-regular semester-length courses, students should contact the campus Business Services Office for refund schedules.** The following table illustrates how refunds would be determined for non-regular length courses.

Length of Class – Term in Weeks	Last day for 70% refund	Last day for 25% refund
2 or less	2	n/a
3	3	4
4	4	5
5	5	6
6	5	7
7	7	9
8	8	10
9	9	11
10	9	12
11	10	14
12	12	15
13	13	16
14	13	17
15	14	19

Refund of tuition is subject to change by legislative and/or TCC Board of Trustees action without notice.

- Refunds are generated automatically on withdrawal. Refunds will be made to the credit card used for payment provided that refund is processed within 60 days of payment unless other forms of payment, such as check, cash or financial aid, have been made to the student's account. If there is a mixture of payment methods, the refund may be a combination of check and refund to the credit card of payment. A refund may take approximately four to six weeks to process. The refund check will be mailed to the address on file at the time of refund. For additional information, contact the campus Business Services Office.
- IMPORTANT NOTE: Financial Aid students withdrawing before the 60 percent refund point in the term may be required to repay funds unearned due to requirements for the return of Title IV funds.
- All tuition is subject to change without notice.

- Refund percentages are calculated/based on invoiced amounts, not payments made.
- Tuition for noncredit courses will be based on anticipated cost.
- Refund policy on noncredit courses is listed in the Continuing Education catalog.
- Students must be cautioned that there will be at least a 30 percent penalty for partial and/or complete withdrawals after the session begins.

*STUDENTS WHO HAVE OPTED FOR THE INSTALLMENT PAYMENT PLAN AND ARE DROPPING CLASSES AND/OR WITHDRAWING ARE RESPONSIBLE FOR THE FULL PAYMENT OF THE PROMISSORY NOTE. REFUNDS WILL BE APPLIED TO ANY BALANCE DUE ON THE NOTE.*

# **STUDENT FINANCIAL AID SERVICES**

**TCC awards more than \$105 million each year in financial aid.**

## **Introduction**

There are many financial aid programs for students taking credit courses at TCC, including grants, scholarships, college work-study and loans. The application used to determine eligibility for most financial aid programs is the Free Application for Federal Student Aid (FAFSA).

FAFSA applications are normally available in January. Students are encouraged to apply for financial aid as soon as possible after the availability date, since funds for programs are limited and application delays are sometimes incurred because of data verification regulations. A student may apply electronically at [www.fafsa.gov](http://www.fafsa.gov).

A priority funding deadline of May 1 has been established for supplemental grant funding that is available. All required applications must be submitted at least three weeks prior to the beginning of a registration period for funds to be available prior to classes beginning. If this is not the case, the student must be prepared to pay with personal funds.

## **General Eligibility Requirements**

Students applying for federal and state funds must meet certain eligibility requirements. To receive aid, the following general eligibility requirements must be met:

- Enroll, or be accepted for enrollment, in an associate degree or credit certificate program (at least 3 hours of enrollment for most programs).
- Maintain satisfactory academic progress (SAP), including at least a 2.0 cumulative GPA, completing 67 percent of courses and completing the academic program within 150 percent of the published program length. Students should contact Student Financial Aid Services for a complete copy of the SAP.
- Be either a U.S. citizen or eligible non-citizen.
- Register with Selective Service if you are male.
- Do not owe a refund on a federal loan or be in default on a federal educational loan.
- Have a high school diploma or GED.
- Have a valid Social Security Number.
- Not be incarcerated in a federal or state prison.
- For most programs, demonstrate need as determined by the FAFSA.

## **Required Applications**

In addition to meeting the general eligibility requirements, approximately 30 percent of applicants are selected for a review in a process called verification. Students selected for verification will be required to submit a 2011 IRS Tax Return Transcript (including parents' form if applicable) and an institutional verification form (IVF).

Approximately two to four weeks after receiving the FAFSA results and any other required documents, Student Financial Aid Services will email students an award notice detailing their eligibility for aid. The award letter will include details on award types, award amounts, and disbursement procedures. Award recipients may view their awards online in WebAdvisor.

## **Student Financial Aid Services Notices**

Financial aid eligibility will be re-evaluated when enrollment changes occur through the official date of record of the latest course to start in a term. Students who drop hours during this time may have to repay part of their aid. Students who withdraw from ALL classes prior to the 60 percent point of a term may have to repay funds to TCC and the federal government. In addition, any student who does not begin attendance in a class will become ineligible for financial aid for the class. Students should consult with Student Financial Aid Services prior to making a change in course load.

Students are advised that all Student Financial Aid Services' communications are sent to the student's CampusCruiser (CC) email account. CC should be checked regularly for communications from Student Financial Aid Services.

Campus Student Financial Aid Services should also be consulted for information about scholarship programs.

## **Stars of Tomorrow Program**

The Tarrant County College "Stars of Tomorrow" Program provides financial awards that more than cover the cost of tuition at TCC for Tarrant County high school graduates who are in the top half of their class and whose families meet specified income thresholds. Students in public and private schools as well as those who are home-schooled and meet the program's criteria are eligible. Funding for the program is a "package" comprised of state and federal financial aid and income from the earnings of an endowment derived from the leasing of mineral rights and other private sources. Complete eligibility requirements and application instructions are available at the TCC website.

## **Contact Information**

More information on financial aid programs at TCC is available online at the TCC website, through email at [fahelp@tccd.edu](mailto:fahelp@tccd.edu) or from campus Student Financial Aid Services. In compliance with the Higher Education Amendments of 1976, student consumer information is available on request from Student Financial Aid Services.

## **Veterans' Educational Benefits**

All persons who will be using educational assistance from the Department of Veterans Affairs (DVA) while enrolled at TCC should contact the campus Registrar's Office as soon as initial admission requirements are met. Questions regarding eligibility and certification of DVA educational benefits should be directed to the Registrar's Office. The Registrar's Office will answer questions about Veteran's Educational Benefits, certify enrollment to the DVA, and monitor degree plans and academic progress. Veterans can apply for a determination of eligibility for DVA educational programs (GI Bill) by accessing the DVA website and by completing and submitting appropriate forms at the Registrar's Office. Veterans/spouses/dependents receiving GI Bill benefits are responsible for complying with DVA regulations.

Certification of VA benefits will be processed when all required documents are provided. DVA benefits are paid based on enrollment (full time,  $\frac{3}{4}$  time, or at least  $\frac{1}{2}$  time). The Department of Veterans Affairs and TCC consider 12 hours to be full time during the fall and spring 16-week sessions and 4 hours to be full time during each summer session. Enrollment as a less than  $\frac{1}{2}$  time student will result in no monthly benefits being paid except for reimbursement of tuition charged to the VA student. Veterans receiving Chapter 33 benefits must be enrolled for at least 51% of what is

considered full time to receive a monthly housing allowance. Chapter 33 veterans enrolling in 100 percent distance learning classes will receive only 50 percent of the national housing allowance average.

Veterans must complete and submit an information sheet for DVA benefits each term. The form serves as the veteran's authorization to submit an enrollment certification to the Department of Veterans Affairs.

## **ACADEMIC INFORMATION**

### **Terms and Special Sessions**

Tarrant County College provides all credit coursework in semester units (semester credit hours). The standard fall and spring terms include 16 weeks of instruction. In addition, each term usually includes two sessions of 8 weeks each and a Weekend College of 13-16 weeks. A Maymester is held before summer classes and a Wintermester before the beginning of spring classes.

The summer term includes two regular sessions of 6 weeks each and a variety of other sessions varying from 3 weeks to 12 weeks. State regulations currently limit the amount of credit that may be earned during summer sessions.

Withdrawal dates, refund dates, and other calendar events for each session are included in the TCC master calendar. Dates for sessions are individually assigned. Students whose course enrollment determines eligibility for financial aid benefits, veterans' educational benefits, insurance coverage, tuition reimbursement, or any other entitlement should check with their benefit program to determine the effect of session enrollment. Students may not withdraw from any course after the withdrawal date for the session.

Detailed information about session offerings is included in the Schedule of Classes on the TCC website. Students should check with the department office of the course involved or with the campus Registrar's Office for additional information about particular session offerings.

### **Schedule of Classes**

A Schedule of Classes for credit courses is published for each fall, spring and summer term. The Schedules of Classes for both credit and noncredit are available online through the TCC website. The College reserves the right to add, change or cancel any course section as necessary.

### **Attendance Policy**

Regular and punctual class attendance is expected at Tarrant County College. Student absences will be recorded from the first day the class meets. In case of absence, it is the student's responsibility to contact the instructor.

Students absent on official school business are entitled to make up coursework missed. In all other cases, the instructor will judge whether the student will be permitted to make up work and will decide on the time and nature of the makeup. However, the student is expressly responsible for any work missed regardless of the cause of the absence. The student must discuss such work with the instructor and should do so immediately on returning to school. Communication between the student and instructor is most important, and it is the student's responsibility to initiate such communication. If students do not appear

at the prearranged time or meet the prescribed deadline for makeup work, they forfeit their rights for further make up of that work.

Students who stop attending class for any reason should contact the instructor and the Registrar's Office to officially withdraw from the class. Failure to officially withdraw may result in a failing grade for the course.

Class attendance and participation are essential to student success. The following attendance guidelines apply:

- A student in an on-campus course missing a cumulative of 15 percent of the class meetings **and** not keeping up with the course assignments may be dropped at the discretion of the instructor.
- A student in an online course is required to successfully complete the online course orientation **and** actively participate in the course as described in the Instructor's Course Requirements (ICRs). A student not meeting these requirements may be dropped at the discretion of the instructor.

See also section on Attendance in Developmental Studies in this Catalog.

## Classification of Students

A student who has earned fewer than 30 semester hours of college credit is classified as a freshman. A student who has earned 30 or more semester hours of credit is classified as a sophomore.

## Course Credit (Semester Credit Hour)

The semester credit hour is the unit of credit at Tarrant County College and is generally defined as the amount of credit given for one classroom hour per week for a 16-week semester. Courses requiring laboratory and many special purpose courses may require additional contact hours per credit hour.

## Course Load

A student enrolled for 12 or more semester hours during the fall or spring term is considered a full-time student. Special sessions of less than term length comprise a

proportionate share of full-time or part-time enrollment. Students enrolled in a special session should consult the campus Registrar to determine how special sessions might affect their enrollment status.

Twelve hours constitute a full-time course load during a 16 week session of the fall or spring term. No student will be permitted to enroll for six academic courses or for more than 18 semester hours without permission of the Vice President for Academic Affairs. The College reserves the right to limit the course load of any student.

The allowed student course load during each 6 week session of the summer term is 7 semester hours. The maximum load, with permission of the Vice President of Academic Affairs, shall not exceed 8 semester hours for one 6 week session. The maximum credit that a student can earn during the entire summer term shall not exceed the number of weeks of the student's summer enrollment, up to 17 semester hours. The Maymester is considered part of the summer term.

Students who are employed or who plan to seek employment are cautioned to consider carefully the amount of college work they attempt in relation to the number of hours they are employed each week and to the student and community activities in which

they participate. Students who overload themselves in these areas are likely to have scholastic difficulties. A good rule to remember is that two hours of preparation outside class are necessary for each hour of class time.

## **Transcript of TCC Student Record**

The transcript of college work is an official copy of the student's permanent record bearing the College insignia and designated signature. A student may request a transcript online through the TCC website, in person at the campus Registrar's Office, by FAX or by mail. All outstanding debts to the College must be paid to the Business Services Office before the student's record will be released.

Unless a transcript is requested in person, the student should allow a period of one week for delivery of the transcript after the request has been submitted or after the close of a session for which grades are being requested.

If students desire official transcripts of work completed at other institutions, they must request those transcripts from the original institutions.

## **Grades and Grade Points**

The grading system used at Tarrant County College follows:

A (excellent), B (good), C (average), D (passing)\*, F (failure),  
I (incomplete), W (approved withdrawal), CR (credit)  
NC (noncredit), AU (audit), WA (audit withdrawal)

\*Grade of D is not considered passing in developmental courses.

The grade point average (GPA) is found by dividing the total number of grade points by the total number of semester hours attempted. Grades of CR, NC, W, I, AU, or WA or grades earned for work in developmental courses do not affect the grade point average.

- A: 4 points per semester hour
- B: 3 points per semester hour
- C: 2 points per semester hour
- D: 1 point per semester hour
- F: 0 points per semester hour

## **Grade Review and Change of Grade**

Students may petition for review of a grade within 30 calendar days after the first class day of the next long session by following these procedures:

1. The student must inform the instructor and the department chairperson in writing of the reason for review of grade;
2. The instructor should then examine the records and submit his/her recommendations through administrative channels to the campus Vice President for Academic Affairs who will make the final decision regarding the grade and notify the student. If the instructor recommends not changing the grade, it should be explained in a memo. If the decision is to change the grade, the instructor should submit a completed "Change of Grade Request" form. In all cases, copies of the student's written appeal, attendance records, and grade report (with legend) must be attached. The process of review of grade must be completed within 30 calendar days after receipt by the instructor of the written appeal.
3. If the instructor is no longer employed, the department chairperson will then examine the instructor's records, make a recommendation, and send the

recommendation through the proper channels to the campus Vice President for Academic Affairs who will notify the student of the decision.

## **Incomplete Grades**

The conditional grade of I may be given to a student only with the approval of the instructor and the campus Vice President for Academic Affairs. Normally, a grade of I will not be assigned more than two weeks prior to final examinations. It is the responsibility of the student to arrange with the instructor for completion of the course when an I is given. Spring and Summer Term Incompletes must be completed no later than October 1 of the following Fall Term. Fall Term Incompletes must be completed no later than February 15 of the following Spring Term. After the deadline, Incomplete grades that have not been changed will automatically change to a grade of F.

## **Repeating a Course**

Only courses specifically designated in this catalog as repeatable for credit may be taken more than two times.

All courses that receive assigned grades appear as part of the student's permanent academic record. When courses are repeated, both grades are included in the GPA for courses taken and repeated prior to fall 1996; only the latest grade is included in the GPA when a course was repeated between fall 1996 and summer 2003. Effective with the fall 2003 semester, when a course is repeated, only the highest grade earned is used to calculate the student's cumulative grade point average.

## **Credit-by-Examination or Experience**

Students who believe that they already possess the knowledge and/or skills taught in certain courses or programs offered by the College may challenge these for credit-by-examination or experience. A request to challenge a course for credit may be based on superior high school achievement in the subject and/or appropriate work or other learning experiences. Credit-by-examination is not available in all courses offered by the College. Credit awarded through credit-by-examination/experience does not satisfy residency requirement toward graduation. Students should direct inquiries concerning courses that may be challenged for credit-by-examination to the campus Testing Center and/or the department involved.

The successful completion of any credit-by-examination or experience will result in a grade of credit (CR), which will not affect the grade point average. A student must be enrolled at least one full term at TCC and be enrolled at TCC during the term for which credit is posted on the permanent record.

A posting fee of \$25 per course is charged to record the course on the student's permanent transcript. Students may apply a maximum of 18 hours of credit toward any TCC degree in any combination of credit-by- examination/experience.

Testing and/or posting fees are charged in accordance with schedules set by TCC policy and/or commercial testing agencies.

## **Drops or Withdrawals**

A student may withdraw from a course or from the College with a grade of W any time on or before the end of the 12th class week in the fall or spring 16-week session. Courses dropped before the Official Day of Record (census date) of the courses are deleted from the student's enrollment, do not earn any grade, and do not appear on the student's

transcript. Courses dropped after the official Day of Record will receive a grade and will appear on the student's transcript. However, a student whose first college enrollment occurred in Fall 2007 or later may not drop more than six courses during their cumulative enrollment at any Texas public college or university (see Drop Six Regulation).

A student enrolled in special session courses should be advised of the withdrawal deadline by the instructor or contact the campus Registrar.

A student may withdraw from one or more courses prior to the withdrawal date through the TCC website or by contacting the campus Registrar's Office in person. A student who withdraws online is responsible for verifying that the electronic drop processing was completed by printing a copy of the unofficial transcript or student schedule showing the grade of W. Until a student is officially withdrawn, the student remains on the class roll and may receive a grade of F for the course.

A student unable to withdraw in person or electronically may mail or fax a letter to the campus Registrar specifying the class or classes for which withdrawal is requested. The letter must include the student's name, ID number, date, and class information along with the student's signature. If mailed, the request for withdrawal must be postmarked on or before the last day to drop a class, or if faxed, the date shown on the fax confirmation must be on or before the last day to drop a class.

## **Drop Six Regulation**

Section 51.907 of the Texas Education Code, enacted by the State of Texas, Spring 2007, applies to students who enroll in a Texas public institution of higher education as a first-time freshman in Fall 2007 or later.

The College may not permit a student to drop more than six courses, including those taken at another Texas public institution of higher education. All courses dropped after the Official Day of Record are included in the six-course limit unless (1) the student withdraws from all courses or (2) the drop is authorized by an appropriate College official as an approved Drop Exception.

Drop Exceptions can be approved if the student documents that the drop was required for one of the following reasons and that for that reason the student could not satisfactorily complete the course:

1. The student, a member of the student's family, or a person of equally important relationship to the student experiences a serious illness or other debilitating condition;
2. The student becomes responsible for the care of a sick, injured, or needy person;
3. There is a death in the student's family or of a non-family member of equally important relationship;
4. The student or a member of the student's family, or a person of equally important relationship to the student, is called to active duty service as a member of the Texas National Guard or the Armed Forces of the United States;
5. There is a change of the student's work schedule that is beyond the student's control;
6. The course is dropped while the student is still in high school;
7. The College determines that there is other good cause for the student to drop the course.

Students may request a Drop Exception online at the TCC website.

Enrollment and drop activities of students affected by this legislation will be monitored. Those who drop six or more courses without an approved Drop Exception will

incur registration and drop restrictions during all subsequent terms and may incur other enrollment limitations or requirements.

TCC students liable under this legislation who plan to attend another Texas public college or university should determine that institution's policies and penalties for dropping courses and for approving Drop Exceptions.

## **Final Examinations**

At the end of each term, TCC publishes a special schedule for final examinations. The schedule allows a two-hour time period for the final activity of the course.

A student who must be absent from a final examination should petition the campus Vice President for Academic Affairs for permission to postpone the examination. A student absent without permission from a final examination will be graded zero on the examination. Postponed final examinations must be taken within 30 days from the beginning of the next long term.

Other examinations will be scheduled during the course of the term at the discretion of the instructor. Makeup of a test other than the final examination will be at the discretion of the instructor if a student is absent on the day of the test.

## **Deans' List**

The Deans' List includes those students who have completed 12 or more college-level semester hours of work for the term with a grade point average of 3.5 or higher. The Honors List includes those students who have completed 12 or more college-level semester hours for the term and with a grade point average of 3.0 to 3.49. The Merit List includes students who have completed fewer than 12 college-level semester hours in each of two consecutive terms, whose enrollment totals no fewer than 18 hours for the two terms, and whose grade point average for the two terms is 3.5 or higher.

## **Academic Standing**

Academic standing is based on a student's Grade Point Average (GPA) and determines the student's eligibility for many benefits and/or whether they may continue their enrollment. It is the responsibility of the student to determine whether they are on good standing, probation, suspension or dismissal. At the end of each term, an academic standing is determined based on grades earned for that term.

**Good Standing** – A student is considered to be in Good Standing when a cumulative GPA of 2.0 or higher is maintained.

**Academic Probation** – A student who fails to maintain a cumulative GPA of 2.0 or higher is placed on Academic Probation. The student may continue to enroll while on probation unless/until a less than 2.0 term GPA is earned.

**Academic Suspension I** – A student on academic probation who becomes ineligible to re-enroll is suspended from the College for not less than one long semester (the next fall or spring term; to include summer). As an option, the student may request an Academic Recovery Program that allows the student to re-enroll with limited coursework, commit to sessions with an on-campus counselor, and develop an action plan. After a student has served the first suspension, the student may continue to re-enroll by maintaining a term GPA of 2.0 or greater. A student returning following Suspension I must consult with an on-campus counselor and remain on Suspension I until cumulative GPA reaches "good standing" status.

**Academic Suspension II** – A student who does not meet the required standard for a second time and incurs a second academic suspension will be suspended for a period of one long semester (including summer). Prior to readmission, the student must consult with an on-campus counselor to obtain permission for readmission and have records reactivated by the campus Registrar. Conditions of readmissions may include special requirements or restrictions. After counseling, the student may be readmitted, but remains on Suspension II until the cumulative GPA improves to “good standing”.

**Academic Dismissal** – A student readmitted after the second suspension must maintain a term GPA of 2.0 or higher or be placed on Academic Dismissal. A student on Academic Dismissal must remain out of TCC for a minimum of one calendar year (12 months). At the end of the initial dismissal period the student can petition for readmission through the Registrar’s Office and will be directed through appropriate campus channels for review. Conditions of readmissions may include special requirements and/or restrictions.

A returning Academic Dismissal student must a) make an appointment with the campus Vice President for Academic Affairs for readmission approval, b) consult with an on-campus counselor for development of an Academic Recovery plan, and c) see the campus Registrar for reactivation.

**Transfer to TCC Following Suspension at Another College/University:** A student who has been placed on Academic Suspension or Dismissal by another college or university must meet the same criteria as TCC students. Depending on the circumstances of the suspension the counselor, Registrar, or Vice President of Academic Affairs may require an interview and/or may direct the applicant for additional review through campus channels. Conditions of admission may include special requirements and/or restrictions.

## **EDUCATIONAL PROGRAMS**

### **Developmental Studies**

Tarrant County College considers the provision of a comprehensive program of developmental studies to be an integral part of its mission. Mandatory placement testing in the basic skills of reading, writing, and mathematics identifies students who are performing below college level; a range of developmental courses in each of the three areas allows students to address and correct their deficiencies.

Developmental courses do not transfer as college credit to other colleges and universities, do not count as credit toward graduation requirements, and are not included in the calculation of the grade point average.

Placement in developmental courses is based on placement scores and, in some instances, on scores on other departmental tests. Additional information about state mandates is available at any campus Advising and Counseling Center.

The following courses listed in the TCC Catalog are developmental:

ENG 0324 Writing Techniques I

ENG 0325 Writing Techniques II

ESOL All English for Speakers of Other Languages (ESOL) courses are developmental. After completion students should test for placement into appropriate course levels.

INRW 0399 Integrated Reading and Writing

MATH 0101 Pre-Algebra Part One

MATH 0102 Pre-Algebra Part Two

MATH 0103 Pre-Algebra Part Three  
MATH 0104 Beginning Algebra Part One  
MATH 0105 Beginning Algebra Part Two  
MATH 0106 Beginning Algebra Part Three  
MATH 0107 Intermediate Algebra Part One  
MATH 0108 Intermediate Algebra Part Two  
MATH 0109 Intermediate Algebra Part Three  
MATH 0302 Pre-Algebra  
MATH 0304 Beginning Algebra  
MATH 0350 Intermediate Algebra  
RDNG 0160 College Study Skills  
RDNG 0361 Reading Techniques I  
RDNG 0363 Reading Techniques II  
STSC 0111 Transition to College Success

## **Transfer Dispute Resolution**

The Texas Higher Education Coordinating Board (THECB) intends that approved academic coursework transfer between Texas public institutions, provided that (1) courses are within approved transfer curriculum of the declared major field and (2) published transfer policies are met. Texas public institutions are required to notify students if approved academic coursework earned at another institution will not transfer.

If an academic course or any course with a Texas Common Course Number is not accepted in transfer by another Texas public college or university, students can request that TCC submit a Transfer Dispute Form to the receiving institution. THECB Transfer Dispute Forms are available through the District Records Office. The form must be completed within 15 days from the date the student is notified of the non-transfer. If the College cannot identify an appropriate reason for the course not transferring, the form will be forwarded to the receiving institution and/or to the Texas Higher Education Coordinating Board for resolution.

## **Graduate Guarantee Program**

### **Transfer Guarantee**

Tarrant County College guarantees to its Associate of Arts students who have met the requirements for the degree that course credits will transfer to other public-supported Texas colleges or universities provided the following conditions are met:

1. Transferability means acceptance of credit toward a specific major and degree at a specific institution.
2. Limitations on number of credits accepted in transfer, grades required, relevant grade point average, and duration of transferability apply as stated in the general undergraduate catalog of the receiving institution.
3. Transferability refers to courses in a written degree plan filed in a student's file in the appropriate office at TCC.
4. Only college-level courses with Community College General Academic Course Guide Manual approved numbers are included in this guarantee.

If all the above conditions are met and courses are not accepted by a receiving institution in transfer, the student must notify the District Office of Admissions Services at TCC within 10 days of notice of transfer credit denial so the Transfer Dispute Resolution process can be initiated.

If course denial is not resolved, TCC will allow the student to take tuition-free alternate courses, semester hour for semester hour, which are acceptable to the receiving institution within a one-year period from granting of a degree at TCC. The graduate is responsible for payment of any fees, books or other course-related expenses associated with the alternate course or courses.

### **Guarantee for Job Competency**

If a recipient of an Associate of Applied Science Degree or Certificate of Completion is judged by an employer to be lacking in technical skills identified as exit competencies for a specific degree program, the graduate will be provided up to 12 tuition-free credit hours of additional skill training by TCC under the conditions of the guarantee policy. Special conditions which apply to the guarantee include the following:

1. The graduate must have earned the Associate of Applied Science Degree or Certificate of Completion in a technical, vocational, or occupational program identified in the College Catalog.
2. The graduate must have completed requirements for the Associate of Applied Science Degree or Certificate of Completion with the TCC system, with a minimum 75 percent of credits earned at TCC, and must have completed the degree or certificate within a five-year time span.
3. Graduates must be employed full time in an area directly related to the area of program concentration as certified by the appropriate dean or other administrator.
4. Employment must commence within six months of graduation.
5. The employer must certify in writing that the employee is lacking entry-level skills identified by TCC as program completion requirements and must specify the areas of deficiency within 90 days of the graduate's initial employment.
6. The employer, graduate, campus Vice President for Academic Affairs, and appropriate faculty member will develop a written educational plan for retraining.
7. Retraining will be limited to 12 credit hours related to the identified skill deficiency and to those classes regularly scheduled during the period covered by the retraining plan.
8. All retraining must be completed within a calendar year from the time the educational plan is agreed upon.
9. The graduate and/or employer is responsible for the cost of books, insurance, uniforms, fees, and other course-related expenses.
10. The guarantee does not imply that the graduate will pass any licensing or qualifying examination for a particular career.

A student's sole remedy against TCC for skill deficiencies shall be limited to 12 credit hours of tuition-free education under the conditions described above. Activation of the "Graduate Guarantee Program" may be initiated by the graduate by contacting the appropriate dean or other administrator within 90 days of the graduate's initial employment.

## **GRADUATION INFORMATION**

Tarrant County College offers four associate degrees and a number of certificates of completion. A student may graduate by completing the catalog degree or certificate requirements in effect at the time of first enrollment at TCC, or those listed in a later Catalog, provided the requirements are met not later than five years from the date of the

Catalog selected, the degree or certificate program and requisite courses are still being offered, and mandates of regulating agencies are satisfied. A student must be enrolled during the catalog year selected for graduation.

#### **General Requirements for an Associate Degree**

1. A minimum of 25 percent of the courses required for the degree must be earned in residence at TCC.
2. A minimum cumulative grade point average of 2.0 is required for all TCC courses.
3. A minimum grade point average of 2.0 is required for all courses presented for graduation.
4. All requirements of the degree must be satisfactorily completed.
5. Texas Success Initiative (TSI) requirements must be satisfactorily completed.
6. Formal application for graduation must be submitted prior to the published deadline.
7. All financial obligations to the College must be met.
8. Students applying to receive a subsequent two-year degree must complete an additional 15 hours in residence applicable to that degree.

#### **General Requirements for a Certificate of Completion**

1. A minimum of 25 percent of the courses required for the certificate must be earned in residence at TCC.
2. A minimum grade point average of 2.0 is required for all courses presented for graduation.
3. All requirements of the certificate must be satisfactorily completed.
4. Texas Success Initiative (TSI) requirements must be satisfactorily completed ONLY for TSI-liable certificates.
5. Formal application for graduation must be submitted prior to the published deadline.
6. All financial obligations to the College must be met.

### **Application for Graduation**

To be considered a candidate for a degree or certificate, the student must submit an online application for graduation through WebAdvisor before the deadline date:

Fall – November 15

Spring – April 1

Summer – August 1

A student should contact the campus Advising and Counseling Center with any questions about the degree plan and/or graduation requirements.

One formal commencement exercise is held each year at the end of the spring term. A student completing graduation requirements during the summer or fall term may choose to participate in the formal commencement exercise conducted at the conclusion of the following spring term.

### **Graduation Honors**

#### **Associate Degrees**

Graduation honors are awarded to students completing the Associate of Arts, the Associate of Arts in Teaching, the Associate of Science, or the Associate of Applied

Science Degree with a superior cumulative grade point average (GPA). The following classifications of honors will be recognized on the student's transcript of college record.

Designation	Cumulative GPA
Highest Honors	4.00
High Honors	3.75 to 3.99
Honors	3.50 to 3.74

The GPA computation to determine honors includes only TCC courses and all coursework during the term of graduation. AA, AS, AAT and AAS degree recipients must complete at least 30 semester hours in residence at TCC to qualify for honors.

### **Certificates of Completion**

Graduation with Distinction is awarded to students earning a Certificate of Completion with a GPA of 3.5 or higher. This honors designation will appear on the student's transcript of college record.

The GPA computation to determine Graduation with Distinction includes only TCC courses and all coursework during the term of graduation. Certificate recipients must complete at least 15 semester hours in residence at TCC to qualify for Graduation with Distinction.

## **DEGREE AND CERTIFICATE PROGRAM INFORMATION**

### **Programs of Instruction**

TCC offers three degrees for students whose goal is to transfer to an upper level college or university to complete a baccalaureate or higher degree:

**Associate of Arts (AA)** – A collegiate degree providing liberal arts curricula in university parallel and the pre-professional areas related to the baccalaureate degree. This is not a degree with a declared major but is a program of first and second year courses which will generally transfer to a four year college or university. The Cornerstone Program is an honors Associate of Arts Degree.

**Associate of Arts in Teaching (AAT)** – A collegiate degree that will satisfy the lower division requirements for a bachelor's degree leading to initial teacher certification.

**Associate of Science (AS)** – A collegiate degree related to the baccalaureate degree providing curricula in university parallel and pre-professional areas to students with a major in a science or a related discipline.

In addition, degrees and certificates are offered in occupational/technical areas:

**Associate of Applied Science (AAS)** – A degree in a workforce field designed for students who wish to begin a career after completing a program of study.

**Certificate of Completion (CRT)** – A program of study that varies in length and is designed to prepare the student for occupational employment. It 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.

## **Transfer to a College/University**

Students attending Tarrant County College for one or two years then transferring to a senior college or university should have no difficulty transferring credits if these steps are followed:

- Select a major field of study and a senior college or university that offers a bachelor's degree in that field.
- Review the institution's college catalog and identify the freshman and sophomore courses suggested.
- See a TCC academic advisor or counselor for help in selecting the TCC courses that correspond to the requirements of the senior college.
- Complete the TCC courses with a grade point average of at least 2.0.
- Apply for admission to the senior college early in the last semester at TCC.
- Request the TCC Registrar's Office to send an official transcript to the transfer institution.

## **Core Curriculum**

In order to provide a solid foundation for students' education and to make transfers between colleges and universities as smooth and seamless as possible, each state-supported institution of higher education in Texas has adopted a core curriculum of 42 to 48 semester credit hours. By completing these core curriculum courses, students achieve college-level competence in the skills that are fundamental to all disciplines of learning:

1. *Critical Thinking Skills* to include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information.
2. *Communication Skills* to include effective written, oral, and visual communication.
3. *Empirical and Quantitative Skills* to include applications of scientific and mathematical concepts.
4. *Teamwork* to include the ability to consider different points of view and to work effectively with others to support a shared purpose or goal.
5. *Social Responsibility* to include intercultural competency, civic knowledge, and the ability to engage effectively in regional, national, and global communities.
6. *Personal Responsibility* to include the ability to connect choices, actions, and consequences to ethical decision-making.

Components of the core curriculum can be transferred in a block from Tarrant County College District to another Texas public college or university to be substituted for the corresponding core curriculum of the receiving institution.

TCC designates core curriculum courses completed by a student on the official transcript. If a student satisfies all component areas, the statement "Texas Core Curriculum Completed (Month/Year)" will appear on the transcript. Students who transfer without completing the core curriculum receive academic credit for each of the courses they successfully completed in the TCC core curriculum.

*The Associate of Arts, Associate of Arts in Teaching, and Associate of Science degrees include courses drawn from the core curriculum. A student concurrently enrolled at more than one institution of higher education shall follow the core curriculum requirements in effect for the institution at which the student is classified as degree-seeking.*

Tarrant County College District has established a 46-semester credit-hour core curriculum listed below.

**COMMUNICATION (CODE 010)**

Composition – Two 3-credit hour courses .....6

ENGL 1301 English Composition I and

ENGL 1302 English Composition II or

ENGL 2311 Technical Writing

**COMMUNICATION (CODE 011)**

Speech and Communication Skills – One 3-credit hour course .....3

SPCH 1311 Fundamentals of Speech Communications

SPCH 1315 Public Speaking

SPCH 1321 Business and Professional Communication

**MATHEMATICS (CODE 020)**

College-level algebra, equivalent, or above – One 3-credit hour course .....3

MATH 1314 Functional Approach to College Algebra

MATH 1316 Functional Approach to College Trigonometry

MATH 1324 College Algebra with Business Applications

MATH 1325 Mathematics of Business Analysis

MATH 1332 Survey of Mathematics

MATH 1342 Elementary Statistics

MATH 2412 Precalculus

MATH 2513 Calculus with Analytic Geometry I

**NATURAL SCIENCES (CODE 030)**

Two 4-credit hour laboratory science courses .....8

BIOL 1406 Biology for Science Majors I

BIOL 1407 Biology for Science Majors II

BIOL 1408 General College Biology I

BIOL 1409 General College Biology II

BIOL 2401 Anatomy and Physiology I

BIOL 2402 Anatomy and Physiology II

BIOL 2420 Microbiology

BIOL 2421 General Microbiology

CHEM 1405 Fundamentals of Chemistry I

CHEM 1406 Essentials of General and Biological Chemistry

CHEM 1407 Fundamentals of Chemistry II

CHEM 1411 General Chemistry I

CHEM 1412 General Chemistry II

CHEM 2423 Organic Chemistry I

CHEM 2425 Organic Chemistry II

GEOL 1401 Introduction to Earth Science

GEOL 1403 General Geology I

GEOL 1404 General Geology II

GEOL 1405 Environmental Geology

GEOL 1445 Introduction to Ocean Science

GEOL 2407 Geological Field Methods

PHYS 1401 College Physics I

PHYS 1402 College Physics II

PHYS 1403 Stars and Galaxies

PHYS 1404 Solar Systems  
PHYS 1415 Physical Science I  
PHYS 2425 University Physics I  
PHYS 2426 University Physics II

**VISUAL AND PERFORMING ARTS (CODE 050)**

One 3-credit hour course ..... 3

ARTS 1301 Art Appreciation  
ARTS 1303 Art History Survey I  
ARTS 1311 Design I  
ARTS 1316 Drawing I  
ARTS 2316 Painting I  
ARTS 2346 Ceramics I  
ARTS 2347 Ceramics II  
ARTS 2356 Photography I  
COMM 2366 Film Appreciation  
DANC 1341 Ballet I  
DANC 1345 Modern Dance I  
DANC 2303 Dance Appreciation  
DRAM 1310 Theatre Appreciation  
DRAM 1351 Acting I  
DRAM 2366 Film Appreciation  
HUMA 1315 Fine Arts Appreciation  
MUSI 1301 Music Reading  
MUSI 1306 Music Appreciation  
MUSI 1308 Music Literature I

**HUMANITIES (CODE 040)**

One 3-credit hour course ..... 3

ENGL 2307 Creative Writing I  
ENGL 2322 British Literature to 1800  
ENGL 2323 British Literature Since 1800  
ENGL 2327 American Literature to 1865  
ENGL 2328 American Literature Since 1865  
ENGL 2332 World Literature to 1650  
ENGL 2333 World Literature Since 1650  
FREN 2311 Intermediate French I  
FREN 2312 Intermediate French II  
GERM 2311 Intermediate German I  
GERM 2312 Intermediate German II  
HIST 2311 Western Civilization to 1660  
HIST 2312 Western Civilization Since 1660  
HIST 2321 World Civilization I  
HIST 2322 World Civilization II  
HUMA 1301 Introduction to the Humanities  
PHIL 1301 Introduction to Philosophy  
PHIL 1304 Great Religions of The World  
PHIL 2303 Logic  
PHIL 2306 Ethics  
PHIL 2316 History of Classical and Modern Philosophy  
SPAN 2311 Intermediate Spanish I  
SPAN 2312 Intermediate Spanish II

<b>HISTORY (CODE 060)</b>	
Two 3-credit hour courses .....	6
HIST 1301 United States History to 1876	
HIST 1302 United States History Since 1876	
HIST 2301 History of Texas	
<b>POLITICAL SCIENCE (CODE 070)</b>	
U.S. and Texas – Two 3-credit hour courses .....	6
GOVT 2305 United States Government	
GOVT 2306 Texas State and Local Government	
<b>SOCIAL AND BEHAVIORAL SCIENCE (CODE 080)</b>	
One 3-credit hour course .....	3
ANTH 2346 Introduction to Anthropology	
ECON 2301 Principles of Macroeconomics	
ECON 2302 Principles of Microeconomics	
GEOG 1301 Elements of Physical Geography	
GEOG 1302 Introduction to Human and Cultural Geography	
GEOG 1303 World Geography	
PSYC 2301 Introduction to Psychology	
SOCI 1301 Introduction to Sociology	
<b>INSTITUTIONALLY DESIGNATED OPTION(CODE 090)</b>	
Computer Literacy - One 4-credit hour course .....	4
BCIS 1405 Business Computer Applications	
COSC 1401 Introduction to Computing	
Health and Wellness – One 1-credit hour course .....	1
PHED 1164 Concepts of Physical Activity	

TOTAL SEMESTER HOURS: 46

## The Associate of Arts Degree

While this suggested curricula will satisfy the requirements of most senior institutions, it is the students' responsibility to identify as early as possible the institution to which they will transfer and to ascertain the specific requirements of that institution for the freshman and sophomore year. Each student's curriculum should be planned by the student and a counselor or academic advisor with a specific four-year institution in mind.

Bachelor's degrees awarded by most senior colleges and universities require 120 semester hours, or approximately four years of study. The Associate of Arts degree certifies completion of the first two years of study, or a minimum of 64 semester hours.

### Associate of Arts

#### AART.D001.UG • All Campuses

<b>COMPOSITION</b> (Two 3-credit hour course) .....	6
ENGL 1301 <u>and</u> ENGL 1302 or ENGL 2311	
<b>SPEECH AND COMMUNICATION SKILLS</b> (One 3-credit hour course) .....	3
SPCH 1311    SPCH 1315    SPCH 1321	
<b>MATHEMATICS</b> (One 3-credit hour course) .....	3
MATH 1314                  MATH 1316                  MATH 1324                  MATH 1325	
MATH 1332                  MATH 1342                  MATH 2412                  MATH 2513	
<b>NATURAL SCIENCES</b> (Two 4-credit hour laboratory science courses) .....	8
BIOL 1406                  BIOL 1407                  BIOL 1408                  BIOL 1409	
BIOL 2401                  BIOL 2402                  BIOL 2420                  BIOL 2421	
CHEM 1405                  CHEM 1406                  CHEM 1407                  CHEM 1411	
CHEM 1412                  CHEM 2423                  CHEM 2425                  GEOL 1401	
GEOL 1403                  GEOL 1404                  GEOL 1405                  GEOL 1445	
GEOL 2407                  PHYS 1401                  PHYS 1402                  PHYS 1403	
PHYS 1404                  PHYS 1415                  PHYS 2425                  PHYS 2426	
<b>VISUAL AND PERFORMING ARTS</b> (One 3-credit hour course) .....	3
ARTS 1301                  ARTS 1303                  ARTS 1311                  ARTS 1316	
ARTS 2316                  ARTS 2346                  ARTS 2347                  ARTS 2356	
COMM 2366                  DANC 1341                  DANC 1345                  DANC 2303	
DRAM 1310                  DRAM 1351                  DRAM 2366                  HUMA 1315	
MUSI 1301                  MUSI 1306                  MUSI 1308	
<b>HUMANITIES</b> (One 3-credit hour course) .....	3
ENGL 2307                  ENGL 2322                  ENGL 2323                  ENGL 2327	
ENGL 2328                  ENGL 2332                  ENGL 2333                  FREN 2311	
FREN 2312                  GERM 2311                  GERM 2312                  HIST 2311	
HIST 2312                  HIST 2321                  HIST 2322                  HUMA1301	
PHIL 1301                  PHIL 1304                  PHIL 2303                  PHIL 2306	
PHIL 2316                  SPAN 2311                  SPAN 2312	
<b>HISTORY</b> (Two 3-credit hour courses) .....	6
HIST 1301                  HIST 1302                  HIST 2301	
<b>POLITICAL SCIENCE</b> (Two 3-credit hour courses) .....	6
GOVT 2305                  GOVT 2306	
<b>SOCIAL OR BEHAVIORAL SCIENCE</b> (One 3-credit hour course) .....	3
ANTH 2346                  ECON 2301                  ECON 2302                  GEOG 1301	
GEOG 1302                  GEOG 1303                  PSYC 2301                  SOCI 1301	
<b>COMPUTER LITERACY</b> (One 4-credit hour course) .....	4
BCIS 1405                  COSC 1401	
<b>HEALTH AND WELLNESS</b> (One 1-credit hour course) .....	1

**PHED 1164**

**ELECTIVES**

Additional courses to complete 64 credit hours.....	18
<i>(Developmental courses cannot be used to fulfill a degree requirement.)</i>	

TOTAL SEMESTER HOURS 64

## The Associate of Arts Degree – Cornerstone Honors Program#

The Cornerstone Honors Program provides honors courses and an honors degree for a wide range of students. This degree increases opportunities for scholarships at four-year institutions.

To take honors courses and/or to seek the honors degree, a student must qualify by one of these standards:

- Be a top 10% high school graduate,
- Have a cumulative high school GPA of 3.5 or higher on a 4-point scale,
- Have an ACT score of 25 (composite) or higher,
- Have an SAT score of 1100 (combined critical reading and math) or higher,
- Have a TCC GPA of 3.5 or higher over a minimum of 12 semester hours excluding developmental courses, or
- Provide evidence of outstanding leadership ability and/or community service.

To apply, qualified students must submit the following:

- An honors application and two teacher recommendations, forms for which can be obtained from any participating TCC campus or online.
- A 200- to 500-word essay about a personal, local or national issue or about a significant person, experience, achievement or goal.
- An official high school or college transcript.

In order to graduate with an Associate of Arts Cornerstone Honors Degree, students complete 22 honors level core curriculum hours designated below with a minimum grade point average of 3.0 (B average).

### **Associate of Arts – Cornerstone**

*AART.DN02.UG • Northeast Campus*

*AART.DW02.UG • Northwest Campus*

**COMPOSITION** (Two 3-credit hour courses) .....6

ENGL 1301 and ENGL 1302 or ENGL 2311

**SPEECH AND COMMUNICATION SKILLS** (One 3-credit hour course) .....3

*Taken on an honors level*

SPCH 1311

**MATHEMATICS** (One 3-credit hour course).....3

MATH 1314	MATH 1316	MATH 1324	MATH 1325
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MATH 1332	MATH 1342	MATH 2412	MATH 2513
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**NATURAL SCIENCES** (Two 4-credit hour laboratory science courses).....8

Biol 1406	Biol 1407	Biol 1408	Biol 1409
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Biol 2401	Biol 2402	Biol 2420	Biol 2421
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CHEM 1405	CHEM 1406	CHEM 1407	CHEM 1411
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CHEM 1412	CHEM 2423	CHEM 2425	GEOL 1401
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GEOL 1403	GEOL 1404	GEOL 1405	GEOL 1445
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GEOL 2407	PHYS 1401	PHYS 1402	PHYS 1403
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PHYS 1404	PHYS 1415	PHYS 2425	PHYS 2426
<b>VISUAL AND PERFORMING ARTS</b> (One 3-credit hour course).....			3
<i>Taken on an honors level</i>			
HUMA 1315			
<b>HUMANITIES</b> (One 3-credit hour course) .....			3
<i>Taken on an honors level</i>			
PHIL 2316			
<b>HISTORY</b> (Two 3-credit hour courses) .....			6
<i>Taken on an honors level</i>			
HIST 1301                  HIST 1302			
<b>POLITICAL SCIENCE</b> (Two 3-credit hour courses) .....			6
GOVT 2305                  GOVT 2306			
<b>SOCIAL OR BEHAVIORAL SCIENCE</b> (One 3-credit hour course) .....			3
<i>Taken on an honors level</i>			
PSYC 2301			
<b>COMPUTER LITERACY</b> (One 4-credit hour course) .....			4
<i>Taken on an honors level</i>			
BCIS 1405			
<b>HEALTH AND WELLNESS</b> (One 1-credit hour course).....			1
PHED 1164			
<b>ELECTIVES</b>			
Additional courses to complete 64 credit hours.....			18
<i>(Developmental courses cannot be used to fulfill a degree requirement.)</i>			
TOTAL SEMESTER HOURS			64

## The Associate of Arts in Teaching Degree

TCC offers three Associate of Arts in Teaching (AAT) Degrees with specializations that are approved by the Texas Higher Education Coordinating Board. Each AAT requires a general education foundation and a specialization. Completion of the any AAT meets institution and state requirements for core curriculum.

A grade of C or better is required for all Education, Speech, and English courses. A grade point average of 2.75 is required for graduation.

### Associate of Arts in Teaching

*AATE.D003.UG • Early Childhood through Grade 6 •Northeast and South Campuses Only  
AATE.D004.UG • Grades 4-8 and Early Childhood through Grade 12 Special Education •*

*Northeast and South Campuses Only*

*AATE.D005.UG • Grades 8-12 and Early Childhood through Grade 12 Other than Special Education • Northeast and South Campuses Only*

### GENERAL EDUCATION FOUNDATION

(Required for each AAT degree)

<b>COMPOSITION</b> (Two 3-credit hour courses) .....	6
ENGL 1301 and ENGL 1302 or ENGL 2311	
<b>SPEECH AND COMMUNICATION SKILLS</b> (One 3-credit hour course) .....	3
SPCH 1311 SPCH 1315 SPCH 1321	
<b>HISTORY</b> (Two 3-credit hour courses) .....	6
HIST 1301 HIST 1302 HIST 2301	
<b>POLITICAL SCIENCE</b> (Two 3-credit hour courses) .....	6
GOVT 2305 GOVT 2306	
<b>SOCIAL OR BEHAVIORAL SCIENCE</b> (One 3-credit hour course) .....	3
ANTH 2346 ECON 2301 ECON 2302 GEOG 1301	
GEOG 1302 GEOG 1303 PSYC 2301 SOCI 1301	
<b>HEALTH AND WELLNESS</b> (One 1-credit hour course) .....	1
PHED 1164	
<b>COMPUTER LITERACY</b> (One 4-credit hour course) .....	4
BCIS 1405 COSC 1401	
<b>SCIENCE</b>	
(Two 4-credit hour Laboratory Science courses).....	8
BIOL 1406 BIOL 1407 BIOL 1408 BIOL 1409 BIOL 2401	
BIOL 2402 BIOL 2420 BIOL 2421 CHEM 1405 CHEM 1406	
CHEM 1407 CHEM 1411 CHEM 1412 CHEM 2423 CHEM 2425	
GEOL 1401 GEOL 1403 GEOL 1404 GEOL 1405 GEOL 1445	
GEOL 2407 PHYS 1401 PHYS 1402 PHYS 1403 PHYS 1404	
PHYS 1415 PHYS 2425 PHYS 2426	
<b>VISUAL AND PERFORMING ARTS</b> (One 3-credit hour course).....	3
ARTS 1301 ARTS 1303 ARTS 1311 ARTS 1316 ARTS 2316	
ARTS 2346 ARTS 2347 ARTS 2356 COMM 2366 DANC 1341	
DANC 1345 DANC 2303 DRAM 1310 DRAM 1351 DRAM 2366	
HUMA 1315 MUSI 1301 MUSI 1306 MUSI 1308	
<b>HUMANITIES</b> (One 3-credit hour course) .....	3
ENGL 2307 ENGL 2322 ENGL 2323 ENGL 2327 ENGL 2328	
ENGL 2332 ENGL 2333 FREN 2311 FREN 2312 GERM 2311	

GERM 2312	HIST 2311	HIST 2312	HIST 2321	HIST 2322
HUMA 1301	PHIL 1301	PHIL 1304	PHIL 2303	PHIL 2306
PHIL 2316	SPAN 2311	SPAN 2312		

TOTAL FOUNDATION HOURS: 43

## SPECIALIZATIONS

### EARLY CHILDHOOD THROUGH GRADE 6

EDUCATION (Two 3-credit hour courses) .....	6
EDUC 1301 EDUC 2301	
MATHEMATICS (Three 3-credit hour courses).....	9
MATH 1314 MATH 1350 MATH 1351	
SCIENCE (One additional 3-credit hour or 4-credit hour course).....	3
BIOL, CHEM, GEOL or PHYS	

TOTAL DEGREE HOURS: 61

### GRADES 4 - 8 AND EARLY CHILDHOOD THROUGH GRADE 12 SPECIAL EDUCATION

EDUCATION (Two 3-credit hour courses) .....	6
EDUC 1301 EDUC 2301	
MATHEMATICS (Three 3-credit hour courses).....	9
MATH 1314 MATH 1350 MATH 1351	
SCIENCE (One additional 3-credit hour or 4-credit hour course).....	3
BIOL, CHEM, GEOL or PHYS	

TOTAL DEGREE HOURS: 61

### GRADES 8-12 AND EARLY CHILDHOOD THROUGH GRADE 12 OTHER THAN SPECIAL EDUCATION

EDUCATION (Two 3-credit hour courses) .....	6
EDUC 1301 EDUC 2301	
MATHEMATICS (One 3-credit hour course) .....	3
MATH 1314 MATH 1316 MATH 1324 MATH 1325 MATH 1332	
MATH 1342 MATH 2412 MATH 2315 MATH 2414 MATH 2513	

### ACADEMIC ELECTIVES

Electives should be selected to coordinate with content area teaching field .....	9
<i>(Developmental courses may not be used to fulfill a degree requirement.)</i>	

TOTAL DEGREE HOURS: 61

## The Associate of Science Degree

While this suggested course satisfies the requirements of most senior institutions, it is the student's responsibility to identify his or her transfer institution to determine specific requirements for the freshman and sophomore years.

### Associate of Science

*ASCI.D001.UG • All Campuses*

<b>COMPOSITION</b> (Two 3-credit hour courses) .....	6
ENGL 1301 and ENGL 1302 or ENGL 2311	
<b>SPEECH AND COMMUNICATION SKILLS</b> (One 3-credit hour course) .....	3
SPCH 1311    SPCH 1315    SPCH 1321	
<b>MATHEMATICS</b> (One 3-credit hour course) .....	3
MATH 1314    MATH 1316    MATH 2412    MATH 2513	
<b>NATURAL SCIENCES</b> (Two 4-credit hour laboratory science courses) .....	8
BIOL 1406    BIOL 1407    BIOL 1411	
CHEM 1411    CHEM 1412    CHEM 2423	
GEOL 1403    GEOL 1404	
PHYS 1401    PHYS 1402    PHYS 2425	
PHYS 2426	
[Note: Any science can be taken but the two courses must be of the same series.]	
<b>VISUAL AND PERFORMING ARTS</b> (One 3-credit hour course) .....	3
ARTS 1301    ARTS 1303    ARTS 1311	
ARTS 2316    ARTS 2346    ARTS 2347	
COMM 2366    DANC 1341    DANC 1345	
DRAM 1310    DRAM 1351    DRAM 2366	
MUSI 1301    MUSI 1306    MUSI 1308	
<b>HUMANITIES</b> (One 3-credit hour course) .....	3
ENGL 2307    ENGL 2322    ENGL 2323	
ENGL 2328    ENGL 2332    ENGL 2333	
FREN 2312    GERM 2311    GERM 2312	
HIST 2321    HIST 2322    HIST 2312	
PHIL 1301    PHIL 1304    PHIL 2303	
PHIL 2316    SPAN 2311    SPAN 2312	
<b>HISTORY</b> (Two 3-credit hour courses) .....	6
HIST 1301    HIST 1302    HIST 2301	
<b>POLITICAL SCIENCE</b> (Two 3-credit hour courses) .....	6
GOVT 2305    GOVT 2306	
<b>SOCIAL OR BEHAVIORAL SCIENCE</b> (One 3-credit hour course) .....	3
ANTH 2346    ECON 2301    ECON 2302	
GEOG 1302    GEOG 1303    PSYC 2301	
GEOG 1301	
SOCI 1301	
<b>COMPUTER LITERACY</b> (One 4-credit hour course) .....	4
COSC 1401	
<b>HEALTH AND WELLNESS</b> (One 1-credit hour course) .....	1
PHED 1164	
<b>ELECTIVES</b>	
Additional courses to complete 64 credit hours .....	18
(Developmental courses cannot be used to fulfill a degree requirement.)	
Elective courses must be selected from the following if not taken as part of the preceding core. Science courses must be taken as two courses in a sequence:	

### Biology

### Chemistry

BIOL 1406 and BIOL 1407	CHEM 1411 and CHEM 1412
BIOL 1411 and BIOL 2421	CHEM 2423 and CHEM 2425
BIOL 2316	
<b>Computer Science</b>	<b>Engineering</b>
COSC 1420	ENGR 1201
COSC 1436	ENGR 1304
COSC 1437	ENGR 1307
COSC 2425	ENGR 2301
COSC 2436	ENGR 2302
<b>Geology</b>	ENGR 2305
GEOL-1403	ENGR 2432
GEOL-1404	
<b>Physics</b>	<b>Mathematics</b>
PHYS 1401 and PHYS 1402	MATH 2315
PHYS 2425 and PHYS 2426	MATH 2318
	MATH 2320
	MATH 2414
	MATH 2421
	MATH 2513

TOTAL SEMESTER HOURS: 64

## **Fields of Study**

Senate Bill 148 of the 75th Texas Legislature (1997) mandated Field of Study curricula. The Field of Study curricula, along with core curricula, are intended to facilitate transferability of courses among Texas public colleges and universities. All public four-year institutions are required to accept Coordinating Board approved Field of Study courses in fulfillment of lower-division requirements for bachelor's degrees in majors that correspond to the Field of Study.

Business

Core Curriculum plus Field of Study for Business is designed for students seeking a bachelor's degree with a major in business or a related discipline.

The following set of courses is the Tarrant County College implementation of the Business Field of Study. These courses are fully transferable to other Texas public colleges and universities and are applicable to bachelor's degrees with majors in business, including all business specializations. Fields of Study are valid only when no course substitutions are made.

*Students should consult an advisor regarding transfer to a specific college or university.*

## **CORE CURRICULUM COURSES**

Select courses from the Core Curriculum

Semester Credit Hours: 39-45

## BUSINESS FIELD OF STUDY

Business Field of Study		
Accounting	ACCT 2301	Principles of Financial Accounting
	ACCT 2302	Principles of Managerial Accounting
Economics	ECON 2301	Principles of Macroeconomics*
	ECON 2302	Principles of Microeconomics*
Mathematics	MATH 1325	Mathematics of Business Analysis*
Computer Skills	BCIS 1405	Business Computer Applications*
Speech	SPCH 1321	Business and Professional Communication*

Semester Credit Hours: 22

ELECTIVE CREDIT

Required additional hours for Associate of Arts Degree: 0-3

*(Developmental courses may not be used to fulfill this requirement.)*

TOTAL SEMESTER HOURS: 64-67

\* Fulfills a TCC Core Curriculum requirement

## **Computer Science**

Core Curriculum plus Field of Study for Computer Science is designed for students seeking a bachelor's degree with a major in computer science.

The Computer Science Field of Study Curriculum is designed to apply to the bachelor's degree of computer science but may also be applied to the Bachelor of Arts or other baccalaureate-level computer science degrees as deemed appropriate by the awarding institution. The Field of Study curriculum is furthermore intended to serve as a guide for community and technical colleges in structuring a transfer curriculum in computer science. Fields of Study are valid only when no course substitutions are made.

*Students should consult an advisor regarding transfer to a specific college or university.*

### **CORE CURRICULUM COURSES**

Select courses from the Core Curriculum

Semester Credit Hours: 34

### **COMPUTER SCIENCE FIELD OF STUDY\***

Computer Science	COSC 1436	Programming Fundamentals I**
	COSC 1437	Programming Fundamentals II**
	COSC 2425	Computer Organization and Machine Language***
	COSC 2436	Programming Fundamentals III
Mathematics	MATH 2513	Calculus with Analytic Geometry I****
	MATH 2414	Calculus with Analytic Geometry II
Physics	PHYS 2425	University Physics I****
	PHYS 2426	University Physics II****

Semester Credit Hours: 33

**TOTAL SEMESTER HOURS: 67**

\* It is recommended that students complete the math sequence, physics sequence, and computer science sequence at the same institution to reduce the likelihood of potential gaps in curriculum.

\*\* COSC 1436 and COSC 1437 are preparatory and sequential in nature. Not all courses are required for the Computer Science major at all universities, but may apply to general degree requirements.

1. COSC 1436 is not part of the Computer Science major requirements at The University of Texas at Austin, The University of Texas at Arlington, The University of Texas at Dallas, or Texas A&M University.
2. COSC 1437 is not part of the Computer Science major requirements at The University of Texas at Austin.

Preparatory courses such as COSC 1436 and COSC 1437 will assist students who need additional background but do not apply toward the Computer Science major requirements.

\*\*\* COSC 2425 is not part of the Computer Science major requirements at The University of Texas at Austin or Texas A&M University but may be applied to general degree requirements.

\*\*\*\* Fulfills a TCC Core Curriculum requirement.

## **Engineering**

The Engineering Field of Study Curriculum is designed to apply to the bachelor's degree of Engineering. The Field of Study curriculum is furthermore intended to serve as a guide for community and technical colleges in structuring a transfer curriculum in Engineering. Fields of Study are valid only when no course substitutions are made.

*Students should consult an advisor regarding transfer to a specific college or university.*

### **CORE CURRICULUM COURSES**

Select courses from the Core Curriculum

Semester Credit Hours: 35

### **ENGINEERING FIELD OF STUDY**

Required Mathematics

MATH 2513 Calculus with Analytical Geometry II\*

Engineering	ENGR 1201	Introduction to Engineering
	ENGR 1304	Engineering Graphics
	ENGR 2301	Mechanics I
	ENGR 2302	Mechanics II
	ENGR 2305	Circuit Analysis
	ENGR 2432	Mechanics of Materials

Mathematics	MATH 2414	Calculus with Analytical Geometry II
	MATH 2315	Calculus with Analytical Geometry III
	MATH 2320	Introduction to Differential Equations
	MATH 2318	Linear Algebra
	MATH 2421	Differential Equations and Linear Algebra

Physics	PHYS 2425	University Physics I*
	PHYS 2426	University Physics II*

**TOTAL SEMESTER HOURS: 64**

*\*Fulfills a TCC Core Curriculum requirement.*

**Journalism and Mass Communication**

Core Curriculum plus Field of Study for Journalism/Mass Communication is designed for students seeking a bachelor's degree with a major in Journalism/Mass Communication.

The following set of courses is designed to apply to the bachelor's degree of Journalism/Mass Communication but may also be applied to the Bachelor of Arts or other baccalaureate-level Journalism/Mass Communication degrees as deemed appropriate by the awarding institution. The Field of Study curriculum is furthermore intended to serve as a guide for community and technical colleges in structuring a transfer curriculum in Journalism/Mass Communication. Fields of Study are valid only when no course substitutions are made.

*Students should consult an advisor regarding transfer to a specific college or university.*

## Core Curriculum Courses

Select courses from the Core Curriculum      Semester Credit Hours: 39-46

### Historical/Theoretical/Analytical

Communication COMM 1307 Introduction to Mass Communication

COMM 2311 Reporting I

COMM 1335 Survey of Radio and Television

Semester Credit Hours: 6-9

## Writing/Performance/Production

Communication COMM 2305 Editing and Layout

COMM 2311 Reporting I

COMM 2315 Reporting II

COMM 1316 Studies in Contemporary Photography

COMM 2332 Radio and Television News

COMM 2339 Writing for Radio, Television and Film

Semester Credit Hours: 3-9

### **Elective Credit Courses**

Semester Credit Hours: 1

Total Semester Hours: 64

## **Music**

Core Curriculum plus Field of Study for Music designed for students seeking a bachelor's degree with a major in music.

The Field of Study Curriculum is designed to apply to the bachelor's degree of music but may also be applied to the Bachelor of Arts or other baccalaureate-level music degrees as deemed appropriate by the awarding institution. The Field of Study curriculum is furthermore intended to serve as a guide for community and technical colleges in structuring a transfer curriculum in music. Fields of Study are valid only when no course substitutions are made.

*Students should consult an advisor regarding transfer to a specific college or university.*

### **CORE CURRICULUM COURSES**

Select courses from the Core Curriculum

Semester Credit Hours: 46

### **MUSIC FIELD OF STUDY**

Ensemble	MUEN 12xx	Ensemble
	MUEN 22xx	Ensemble
Applied Music	MUAP 1291	Applied Music I
	MUAP 1292	Applied Music II
	MUAP 2291	Applied Music III
Theory	MUSI 1211	Music Theory I
	MUSI 1212	Music Theory II
	MUSI 1216	Ear Training I
	MUSI 1217	Ear Training II
	MUSI 2216	Ear Training II
	MUSI 2217	Ear Training IV
	MUSI 2211	Music Theory III
	MUSI 2212	Music Theory IV
Music Literature	MUSI 1308	Music Literature I*

Semester Credit Hours: 26-29

Total Semester Hours: 71-72

\*Fulfills a TCC Core Curriculum requirement.

## **Radio and Television Broadcasting and Broadcast Journalism**

Core Curriculum plus Field of Study for Radio and Television Broadcasting and Broadcast Journalism is designed for students seeking a bachelor's degree with a major in Radio and Television Broadcasting and Broadcast Journalism.

The following set of courses is designed to apply to the bachelor's degree of Radio and Television Broadcasting and Broadcast Journalism but may also be applied to the Bachelor of Arts or other baccalaureate-level Radio and Television Broadcasting and Broadcast Journalism degrees as deemed appropriate by the awarding institution. The Field of Study curriculum is furthermore intended to serve as a guide for community and technical colleges in structuring a transfer curriculum in Radio and Television Broadcasting and Broadcast Journalism. Fields of Study are valid only when no course substitutions are made.

*Students should consult an advisor regarding transfer to a specific college or university.*

## **CORE CURRICULUM COURSES**

Select courses from the Core Curriculum      Semester Credit Hours: 39-46

## HISTORICAL/THEORETICAL/ANALYTICAL

Communication	COMM 1307	Introduction to Mass Communication
	COMM 1335	Survey of Radio and Television
		Semester Credit Hours: 6-9

## **WRITING/PERFORMANCE/PRODUCTION**

Communication	COMM 1337	Television Production II
	COMM 2303	Audio/Radio Production
	COMM 2311	Reporting I
	COMM 2315	Reporting II
	COMM 2331	Television Production II
	COMM 2332	Radio and Television News
	COMM 2339	Writing for Radio, Television and Film

## **ELECTIVE CREDIT COURSES**

Semester Credit Hours: 1

Total Semester Credit Hours: 64

## **General Speech and Communication**

The following set of courses is designed to apply to the bachelor's degree of General Communication, Communication Studies, Speech Communication, Speech and Rhetorical Studies, and/or Organizational Communication but may also be applied to the Bachelor of Arts or other baccalaureate-level General Communication and Communication Studies, Speech Communication, Speech and Rhetorical Studies, and/or Organizational Communication degrees as deemed appropriate by the awarding institution. The Field of Study curriculum is furthermore intended to serve as a guide for community and technical colleges in structuring a transfer curriculum in General Communication, Communication Studies, Speech Communication, Speech and Rhetorical Studies, and/or Organizational Communication. Fields of Study are valid only when no course substitutions are made.

*Students should consult an advisor regarding transfer to a specific college or university.*

## **CORE CURRICULUM COURSES**

Select courses from the Core Curriculum      Semester Credit Hours: 39-46

Semester Credit Hours: 39-46

## **HISTORICAL/THEORETICAL/ANALYTICAL**

Communication	SPCH 2333 SPCH 1318 SPCH 1311	Discussion and Small Group Communication Interpersonal Communication Fundamentals of Speech Communication*
		Semester Credit Hours: 6-9

## **WRITING/PERFORMANCE/PRODUCTION**

Communication	SPCH 1321	Business and Professional Communication*
	SPCH 2341	Oral Interpretation
	SPCH 1315	Public Speaking
	SPCH 1342	Voice and Diction

Semester Credit Hours: 12

## **ELECTIVE CREDIT COURSES**

Semester Credit Hours: 1

Total Semester Credit Hours: 64

*\*Fulfills a TCC Core Curriculum Requirement*

## **The Associate of Applied Science Degree**

The Associate of Applied Science Degree Program offers unique curricula designed for students majoring in such fields as business administration and management, horticulture, industrial education, technical education, public services, health occupations, and human services. These curricula are designed to enable the graduate to enter an occupation with a marketable skill, an acceptable level of competency, and the ability to communicate intelligently. The curricula provide highly specialized courses to develop technical skill and general education courses to enable students to be effective members of society. Several AAS degree programs provide a foundation for transfer to a four-year institution offering Bachelor of Science degrees in occupational programs.

The Associate of Applied Science Degree is awarded for the completion of each of the following degree programs:

Accounting — Information Management (SO)  
Airframe Maintenance and Electronics Technology (NW)  
Architectural Technology (SE)  
Automotive Collision Repair (SO)  
Automotive Service Technology (SO)  
Aviation Maintenance Technology (NW)  
Aviation Technology – Professional Pilot (NW)  
Business Administration

- Accounting Assistant (NE NW SE)
- Administrative Professional (SO)
- Business (NE NW SO SE TR)
- Fashion Merchandising (NE)
- Management (NE SO SE)
- Marketing (TR)
- Postal Service Administration (NW)
- Railroad Dispatcher (NW)
- Small Business Management (NW)
- Software Applications (SO)

Child Development (NE)

Computer-Aided Drafting and Design Technology

- Building Technology (SO)
- Civil Technology (SO)
- Manufacturing Technology (SO)

Construction Management (SE)

Criminal Justice (NW)

Culinary Arts (SE)

Dental Hygiene (NE) #

Dietetic Technician (SE)

Electronics Technology

- Computer Hardware (SO)
- Electronics and Telecommunications (SO)
- Engineering Technology (SO)
- Oil and Gas Production (SO)
- Renewable Energy (SO)
- Robotics and Automation (SO)

Emergency Medical Services (NE) #

Fire Investigation Technology (NW)  
Fire Protection Technology (NW)  
Geographic Information Systems (TR)  
Graphic Communication (NE)  
Health Information Technology (TR) #  
Heating, Air Conditioning, and Refrigeration Technology (SO)  
Horticulture (NW)  
Hotel and Restaurant Administration (SE)  
Information Technology

- Convergence Technologies (NE)
- Game and Simulation Programming (SO)
- Network Support (NE NW SO SE)
- Programming (NE NW SO SE TR)
- Security (NE NW SO SE)
- Web and Internet Services (NE SE TR)

Library Technician (TR)  
Logistics and Supply Chain Management (NW)  
Mental Health – Substance Abuse Counseling (NE)  
Nursing (TR) #  
Occupational Safety and Environmental Technology (NW)  
Paralegal Studies (NE)  
Physical Therapist Assistant (TR) #  
Radio and Television Broadcasting (NE)  
Radiologic Technology (TR) #  
Real Estate (NE)  
Respiratory Care (TR) #  
Sign Language Interpreting (TR)  
Welding Technology (SO)

## Certificates of Completion

In addition to the associate degree programs, TCC offers certificate programs designed to meet specific needs of the community. These programs are normally one year in length. Upon completion of the prescribed courses, the student receives a Certificate of Completion.

A certificate is awarded for the completion of each of the following programs:

### Architectural Technology

- Architectural Paraprofessional (SE)
- Advanced Architectural Technical Skills Enhancement – Green Building Performance (SE)
- Architectural CAD Operator (SE)

### Automotive Collision Repair

- Automotive Metal Repair (SO)
- Automotive Refinishing (SO)

### Automotive Service Technology

- Engine Analysis Technician (SO)
- Heavy Line Technician (SO)

### Aviation Technology

- Advanced Composite Technology
- Aircraft Electronics Line Maintenance (NW)
- Airframe (NW)\*

- Commercial Pilot (NW)
- Flight Instructor (NW)
- Powerplant (NW)\*

#### Business Administration

- Accounting Assistant I (NE NW SO SE)
- Accounting Assistant II (NE NW SO SE)
- Administrative Professional (SO)
- Business (NE NW SO SE TR)
- Fashion Merchandising (NE)
- Management (NE SO SE)
- Marketing (TR)
- Postal Service Administration (NW)
- Railroad Dispatcher (NW)
- Small Business Management (NW)
- Software Applications (SO)

#### Child Development

- Child Care Administration (NE)\*
- Preschool Child Care Provider (NE)
- School Age Provider (NE)
- CDA Certificate (NE)

#### Computer-Aided Drafting and Design Technology

- Building Technology (SO)
- Civil Technology (SO)
- Manufacturing Technology (SO)

#### Construction Management (SE)

- Construction Inspection Technician (SE)
- Construction Management (SE)
- Construction Technology (SE)
- Interior Construction Design (SE)

#### Criminal Justice

- Basic Peace Officer Certification (NW)#+
- Security Management (NW)

#### Culinary Arts

- Catering/Private Chef (SE)
- Culinary Arts I (SE)
- Culinary Arts II (SE)

#### Dietetics Technician

- Dietetics I (SE)\*
- Child Nutrition Systems (SE)
- Dietary Manager (SE)

#### Electronics Technology

- Computer Maintenance (SO)
- Electronics Technology (SO)
- Electronics Engineering Technology (SO)
- Energy Technician (SO)
- Mechatronics Technician (SO)
- Oil and Gas Production Technology (SO)
- Renewable Energy Technology (SO)

#### Emergency Medical Services

- Emergency Medical Technician (NE)#+
- Paramedic Program (NE)#+

**Fire Protection Technology**

- Basic Fire Fighter Certification (NW)#+

**Geographic Information Systems**

- Geographic Information Systems (TR)
- Geographic Information Systems Programmer (TR)
- Geographic Information Systems Skills Enhancement (TR)

**Graphic Communication**

- Computer Graphics (NE)

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

- Installation Technician (SO)
- Service Technician (SO)

**Horticulture**

- Horticulture (NW)
- Landscape Specialist (NW)
- Plant Protection Specialist (NW)

**Hotel and Restaurant Administration**

- Event Management (SE)
- Restaurant Operations (SE)\*
- Restaurant Practitioner (SE)

**Information Technology**

- Advanced Convergence Technologies (NE)\*
- Convergence Technologies (NE)
- Cisco Support (NE SO SE)
- Advanced Cisco Support (NE SO)
- Home Technology Integration (NE)
- Game and Simulation Programming (SO)
- Information Technology Support (NE NW SO SE)
- Programming (NE NW SO SE TR)
- Security (NE NW SO SE)

**Library Technician**

- Library Technician (TR)

**Long Term Care Administration (TR)**

**Mental Health**

- Substance Abuse Counseling (NE)

**Occupational Health and Safety Technology**

- Environmental Health and Safety Technician (NW)

**Paralegal Studies (NE)**

**Radio and Television Broadcasting**

- Audio Production (NE)
- Video Production (NE)

**Real Estate (NE)**

**Sign Language**

- Basic American Sign Language Acquisition (TR)
- Sign Language Communicator (TR)

**Surgical Technology (TR)#+**

**Teacher Assistant**

- Bilingual Teacher Assistant (NE)
- Teacher Assistant (NE)

**Welding Technology**

- Welding – Basic (SO)
- Welding – Advanced (SO)

\* Students must meet requirements of the Texas Success Initiative (TSI), including assessment prior to enrollment in any college level coursework and any indicated developmental education or other strategy for achieving college readiness.

#Special admissions criteria applies

## **ACCOUNTING - INFORMATION MANAGEMENT**

*Associate of Applied Science Degree Program*

*ACCO.D002.UG • South Campus Only*

### **First Year**

<i>First Semester</i>			<i>Semester Hours</i>
ACCT	2301	Principles of Financial Accounting	3
ACNT	1311	Introduction to Computerized Accounting	3
BCIS	1405	Business Computer Applications; or COSC 1401	4
ENGL	1301	English Composition I      3	
	*	Mathematics or Science Elective	3

### *Second Semester*

ACCT	2302	Principles of Managerial Accounting	3
ACNT	1313	Computerized Accounting Applications	3
ITSW	1407	Introduction to Database      4	
POFT	2312	Business Correspondence and Communications; or ENGL 1302	3
GOVT	2305	United States Government; or GOVT 2306	3

### **Second Year**

#### *First Semester*

SPCH	1321	Business and Professional Communication; or SPCH 1311 or SPCH 1315	3
	**	Accounting Electives      9	
	***	Approved Business Electives	4

#### *Second Semester*

BUSI	2301	Business Law I; or BMGT 1341	3
BNKG	1356	Analyzing Financial Statements (Capstone)	3
	****	Humanities/Visual or Performing Arts Elective	3
	*****	Elective	3

**TOTAL DEGREE HOURS 60**

*\*Mathematics/Science Elective must be chosen from the corresponding section of the Core Curriculum.*

*\*\*Suggested accounting electives include:*

*ACNT 1329, ACNT 1331, ACNT 1391, ACNT 2303, or ACNT 2309*

*\*\*\*Approved Business Electives include courses offered in ACNT BMGT BUSG BUSI COSC ECON  
HECO ITCC ITNW ITSC ITSE ITSW ITSY MRKG POFI POFT or RELE. COSC-1401 cannot be used  
to fulfill this requirement.*

*\*\*\*\*Humanities/Visual or Performing Arts Elective must be chosen from the corresponding section of  
the Core Curriculum.*

*\*\*\*\*\*Developmental coursework cannot be used to fulfill this requirement.*

*NOTE: Mathematical competency is required for completion by TSI liable students. Satisfaction of  
this requirement may be met by completing MATH-0304 (Beginning Algebra) with a grade of C or  
higher, achieving a placement test score that qualifies the student for MATH-0350 (Intermediate  
Algebra), or completing a college-level mathematics course (1300 level or above).*

*Also see BUSINESS ADMINISTRATION CERTIFICATES on Page 84 for additional accounting  
program options.*

## **AIRFRAME MAINTENANCE AND ELECTRONICS TECHNOLOGY**

*Associate of Applied Science Degree Program*

*AIRF.D001.UG • Northwest Campus Only*

### **First Year**

<i>First Semester</i>		<i>Semester Hours</i>	
AERM	1101	Introduction to Aviation	1
AERM	1205	Weight and Balance	2
AERM	1208	Federal Aviation Regulations	2
AERM	1303	Shop Practices	3
AERM	1310	Ground Operations	3
AERM	1314	Basic Electricity	3
AERM	1315	Aviation Science	3
<i>Second Semester</i>			
AERM	1243	Instruments and Navigation/Communication	2
AERM	1254	Aircraft Composites	2
AERM	1345	Airframe Electrical Systems	3
AERM	1347	Airframe Auxiliary Systems	3
AERM	1349	Hydraulic, Pneumatic, and Fuel Systems	3
AERM	1350	Landing Gear Systems	3
<i>Summer Session</i>			
AERM	1253	Aircraft Welding	2
AERM	1241	Wood, Fabric, and Finishes	2
AERM	1452	Aircraft Sheet Metal	4
AERM	2233	Assembly and Rigging	2
AERM	2231	Airframe Inspection	2

### **Second Year**

<i>First Semester</i>		
AVNC	1303	Introduction to Aviation Electronics Systems; or CETT 1441
AVNC	1370	3
AERM	2171	* Aircraft Communications Systems Line Maintenance
AERM	2172	* Oral and Practical Exams, General
ENGL	1301	Oral and Practical Exams, Airframe
PSYC	2301	English Composition I
		3
		Introduction to Psychology;
		or PSYC 2315 or SOCI 1301 or SOCI 1306
<i>Second Semester</i>		
AVNC	1371	Aircraft Navigation Systems Line Maintenance
AVNC	1443	** Aviation Electrical and Electronic Systems Installation (Capstone)
MATH	1314	Functional Approach to College Algebra; or PHYS 1401 or PHYS 1405
SPCH	1321	Business and Professional Communication; or SPCH 1311 or SPCH 1315 or SPCH 1318 Humanities/Visual or Performing Arts Elective
		3
		3
		3
		TOTAL DEGREE HOURS
		75

\* AERM 2171 MUST be taken as a co-requisite with AERM 2172.

\*\* Enhanced Skills Course

### **Admission and Program Information:**

*NOTE: To begin the Aviation Maintenance training, students must demonstrate competency in fundamental reading skills by one of the following or have approval of the Division Dean:*

1. Pass the reading section of ACCUPLACER or an appropriate alternative test, or
2. Achieve the 11<sup>th</sup>-grade level (combined vocabulary and comprehension) score on the Nelson-Denny post test after completing RDNG 0361, or
3. Pass RDNG 0361 and RDNG 0363 and then earning the grade of C or higher in any of the reading restricted courses designated by the Coordinating Board.

*In order to meet Federal Aviation Administration regulation certificate requirements, a student must have successfully completed first semester-first year courses prior to enrollment in other AERM courses. A grade of 70 must be earned in all AERM courses in order to qualify for FAA certification.*

*Students must furnish their own hand tools.*

*NOTE: Mathematical competency is required for completion by TSI liable students. Satisfaction of this requirement may be met by completing MATH-0304 (Beginning Algebra) with a grade of C or higher, achieving a placement test score that qualifies the student for MATH-0350 (Intermediate Algebra), or completing a college-level mathematics course (1300 level or above).*

## **AIRCRAFT ELECTRONICS LINE MAINTENANCE**

*Certificate of Completion Program*

*AIRF.T001.UG • Northwest Campus Only*

<i>First Semester</i>		<i>Semester Hours</i>	
AERM	1205	Weight and Balance	2
AERM	1208	Federal Aviation Regulations	2
AERM	1314	Basic Electricity	3
AERM	1315	Aviation Science	3
<i>Second Semester</i>			
AERM	1243	Instruments and Navigation/Communication	2
AERM	1345	Airframe Electrical Systems	3
AVNC	1303	Introduction to Aviation Electronic Systems	3
AVNC	1370	Aircraft Communication Systems Line Maintenance	3
<i>Summer Session</i>			
AVNC	1371	Aircraft Navigation Systems Line Maintenance	3
AVNC	1443	Aviation Electrical and Electronic Systems Installation (Capstone)	4
		<b>TOTAL CERTIFICATE HOURS</b>	<b>28</b>

## **ARCHITECTURAL TECHNOLOGY**

*Associate of Applied Science Degree Program  
ARCH.D001.UG • Southeast Campus Only*

### *Summer Term*

			<i>Semester Hours</i>
ARCH	1311	Introduction to Architecture	3
ENGR	1304	Engineering Graphics	3

## **First Year**

### *First Semester*

ARCH	1315	Architectural Computer Graphics	3
ARCH	2312	Architectural Technology I	3
ARCT	1371	Professional Office Practices	3
CNBT	1344	Construction Materials Testing	3
MATH	1314	Functional Approach to College Algebra; or MATH 1316 or MATH 2513	3

### *Second Semester*

ARCE	1342	Codes, Specifications and Contract Documents	3
ARCH	2313	Architectural Technology II	3
ENGL	1301	English Composition I	3
ENGR	1307	Plane Surveying	3

## **Second Year**

### *First Semester*

ARCH	1303	Architectural Design I-Residential	3
ARCH	1307	Architectural Graphics I	3
CNBT	2342	Construction Management I	3
GOVT	2306	Texas State and Local Government; or GOVT 2305	3
		Humanities/Visual or Performing Arts Elective	3
SPCH	1321	Business and Professional Communication; or SPCH 1311 or SPCH 1315 or SPCH 1318	3

### *Second Semester*

ARCH	1301	Architectural History I	3
ARCH	1304	Architectural Design II - Commercial	3
ARCH	1308	Architectural Graphics II	3
ARCT	2367	Practicum (Capstone)	3
CNBT	1372	Special Topics in Soils and Foundations	3

TOTAL DEGREE HOURS    66

**ARCHITECTURAL CAD OPERATOR***Certificate of Completion Program**ARCH.T001.UG • Southeast Campus Only**First Semester*

		<i>Semester Hours</i>
ARCH	1315	Architectural Computer Graphics 3
ARCH	2312	Architectural Technology I 3
ENGR	1304	Engineering Graphics 3

*Second Semester*

ARCH	1303	Architectural Design I - Residential 3
ARCH	1304	Architectural Design II - Commercial 3
ARCT	2367	Practicum 3

TOTAL CERTIFICATE HOURS 18

**ADVANCED ARCHITECTURAL TECHNOLOGY SKILLS ENHANCEMENT - GREEN BUILDING PERFORMANCE***Certificate of Completion Program**ARCH.T004.UG • Southeast Campus Only**First Semester*

		<i>Semester Hours</i>
ARCT	1373	Building System Design and the Green Advantage 3
ARCT	1374	Energy Conservation Codes in Mechanical and Electrical Design 3
ARCT	1375	Architectural Retrofit Strategies 3

*Second Semester*

ARCT	1376	Sustainable Urbanism Design and Development Planning 3
ARCH	1308	Architectural Graphics II 3

TOTAL CERTIFICATE HOURS 15

**ARCHITECTURAL PARAPROFESSIONAL***Certificate of Completion Program**ARCH.T005.UG • Southeast Campus Only**First Semester*

		<i>Semester Hours</i>
ENGR	1304	Engineering Graphics 3
ARCH	1311	Introduction to Architecture 3

*Second Semester*

ARCH	1301	Architectural History I 3
ARCH	1303	Architectural Design I – Residential; or ARCH 1304 3
ARCH	2312	Architectural Technology I 3

**Second Year**

ARCH	2313	Architectural Technology II 3
ARCH	2301	Architectural Freehand Drawing 3
ARCH	1302	Architectural History II 3
ARCT	2367	Practicum 3

TOTAL CERTIFICATE HOURS 27

## **AUTOMOTIVE COLLISION REPAIR**

*Associate of Applied Science Degree Program*

*AUTC.D001.UG • South Campus Only*

### **First Year**

#### *First Semester*

			<i>Semester Hours</i>
ABDR	1207	Collision Repair Welding	2
ABDR	1419	Basic Metal Repair	4
ABDR	1555	Non-Structural Metal Repair	5
ENGL	1301	English Composition I	3

#### *Second Semester*

ABDR	2502	Auto Body Mechanical and Electrical Service	5
ABDR	2537	Structural Analysis and Damage Repair V	5
GOVT	2305	United States Government; or GOVT 2306	3
		Humanities/Visual or Performing Arts Elective	3

#### *Summer Session*

COSC	1401	Microcomputer Applications	4
*		Elective	3

### **Second Year**

#### *First Semester*

ABDR	1291	Special Topics in Automotive Body Repair	2
ABDR	1431	Basic Refinishing	4
ABDR	1558	Intermediate Refinishing	5
MATH	1332	Survey of Mathematics; or MATH 1314 or MATH 1324	3

#### *Second Semester*

ABDR	2549	Advanced Refinishing	5
ABDR	2551	Specialized Refinishing Techniques (Capstone)	5
SPCH	1321	Business and Professional Communication; or SPCH 1311 or SPCH 1315 or SPCH 1318	3

TOTAL DEGREE HOURS 64

\* The elective must be other than an Automotive Collision Repair (ABDR) course. A developmental course cannot be used to fulfill this requirement.

## **AUTOMOTIVE METAL REPAIR**

*Certificate of Completion Program  
AUTC.T001.UG • South Campus Only*

### *First Semester*

			<i>Semester Hours</i>
ABDR	1207	Collision Repair Welding	2
ABDR	1419	Basic Metal Repair	4
ABDR	1555	Non-Structural Metal Repair	5

### *Second Semester*

ABDR	2502	Auto Body Mechanical and Electrical Service (Capstone)	5
ABDR	2537	Structural Analysis and Damage Repair V	5
<b>TOTAL CERTIFICATE HOURS</b>			<b>21</b>

## **AUTOMOTIVE REFINISHING**

*Certificate of Completion Program  
AUTC.T002.UG • South Campus Only*

### *First Semester*

			<i>Semester Hours</i>
ABDR	1291	Special Topics in Automotive Body Repair	2
ABDR	1431	Basic Refinishing	4
ABDR	1558	Intermediate Refinishing	5

### *Second Semester*

ABDR	2549	Advanced Refinishing	5
ABDR	2551	Specialized Refinishing Techniques (Capstone)	5
<b>TOTAL CERTIFICATE HOURS</b>			<b>21</b>

## **AUTOMOTIVE SERVICE TECHNOLOGY**

*Associate of Applied Science Degree Program*

*AUTS.D001.UG • South Campus Only*

### **First Year**

#### *First Semester*

			<i>Semester Hours</i>
AUMT	1253	Automotive Electrical Systems Theory	2
AUMT	1257	Automotive Brake Systems Theory	2
AUMT	1307	Automotive Electrical Systems	3
AUMT	1310	Automotive Brake Systems	3
MATH	1332	Survey of Mathematics; or MATH 1314 or MATH 1324	3
SPCH	1321	Business and Professional Communication; or SPCH 1311 or SPCH 1315 or SPCH 1318	3

#### *Second Semester*

AUMT	2215	Automotive Engine Performance Analysis Theory I	2
AUMT	2231	Automotive Engine Performance Analysis Theory II	2
AUMT	2317	Automotive Engine Performance Analysis I	3
AUMT	2334	Automotive Engine Performance Analysis II	3
ENGL	1301	English Composition I	3

#### *Summer Session*

AUMT	2457	Automotive Alternative Fuels	4
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### **Second Year**

#### *First Semester*

AUMT	2209	Automotive Drive Train and Axle Theory	2
AUMT	2223	Automotive Automatic Transmission and Transaxle Theory	2
AUMT	2313	Automotive Drive Train and Axles	3
AUMT	2325	Automotive Automatic Transmission and Transaxle	3
GOVT	2305	United States Government; or GOVT 2306	3

#### *Second Semester*

AUMT	1241	Automotive Climate Control Systems	2
AUMT	1319	Automotive Engine Repair	3
AUMT	1345	Automotive Climate Control Systems (Capstone)	3
AUMT	2205	Automotive Engine Theory	2
COSC	1401	Microcomputer Applications	4

#### *Summer Session*

AUMT	1416	Automotive Suspension and Steering Systems	4
		Humanities/Visual or Performing Arts Elective	3

TOTAL DEGREE HOURS 67

*Students enrolled in the Automotive Service Technology Programs are required to furnish their own hand tools for use in laboratory classes.*

## **ENGINE ANALYSIS TECHNICIAN**

*Certificate of Completion Program  
AUTS.T001.UG • South Campus Only*

### *First Semester*

		<i>Semester Hours</i>
AUMT	1257	Automotive Brake Systems Theory                    2
AUMT	1310	Automotive Brake Systems                            3
AUMT	1253	Automotive Electrical Systems Theory              2
AUMT	1307	Automotive Electrical Systems                      3

### *Second Semester*

AUMT	2215	Automotive Engine Performance Analysis Theory I        2
AUMT	2317	Automotive Engine Performance Analysis I                3
AUMT	2231	Automotive Engine Performance Analysis Theory II     2
AUMT	2334	Automotive Engine Performance Analysis II (Capstone)        3

### *Summer Session*

AUMT	2457	Automotive Alternative Fuels                          4
TOTAL CERTIFICATE HOURS		24

## **HEAVY LINE TECHNICIAN**

*Certificate of Completion Program  
AUTS.T002.UG • South Campus Only*

### *First Semester*

		<i>Semester Hours</i>
AUMT	2209	Automotive Drive Train and Axle Theory              2
AUMT	2313	Automotive Drive Train and Axles                    3
AUMT	2223	Automotive Automatic Transmission and Transaxle Theory    2
AUMT	2325	Automotive Automatic Transmission and Transaxle        3

### *Second Semester*

AUMT	2205	Automotive Engine Theory                            2
AUMT	1319	Automotive Engine Repair                            3
AUMT	1241	Automotive Heating and Air Conditioning Theory    2
AUMT	1345	Automotive Climate Control Systems (Capstone)        3

### *Summer Session*

AUMT	1416	Automotive Suspension and Steering Systems            4
TOTAL CERTIFICATE HOURS		24

*Students enrolled in the Automotive Service Technology Programs are required to furnish their own hand tools for use in laboratory classes.*

## **AVIATION MAINTENANCE TECHNOLOGY**

*Associate of Applied Science Degree Program*

*AVIA.D001.UG • Northwest Campus Only*

### **First Year**

<i>First Semester</i>		<i>Semester Hours</i>
AERM 1101	Introduction to Aviation	1
AERM 1205	Weight and Balance	2
AERM 1208	Federal Aviation Regulations	2
AERM 1303	Shop Practices	3
AERM 1310	Ground Operations	3
AERM 1314	Basic Electricity	3
AERM 1315	Aviation Science	3
<i>Second Semester</i>		
AERM 1243	Instruments and Navigation/Communication	2
AERM 1345	Airframe Electrical Systems	3
AERM 1254	Aircraft Composites	2
AERM 1347	Airframe Auxiliary Systems	3
AERM 1349	Hydraulic, Pneumatic, and Fuel Systems	3
AERM 1350	Landing Gear Systems	3
<i>Summer Session</i>		
AERM 1241	Wood, Fabric, and Finishes	2
AERM 1253	Aircraft Welding	2
AERM 1452	Aircraft Sheet Metal	4
AERM 2231 #	Airframe Inspection	2
AERM 2233 #	Assembly and Rigging	2
<b>Second Year</b>		
<i>First Semester</i>		
AERM 2171 # *	Oral and Practical Exams, General	1
AERM 2172 #*	Oral and Practical Exams, Airframe	1
AERM 1240	Aircraft Propellers	2
AERM 1344	Aircraft Reciprocating Engines	3
AERM 1351	Aircraft Turbine Engine Theory	3
AERM 1456	Aircraft Powerplant Electrical	4
<i>Second Semester</i>		
AERM 2173 #*	Oral and Practical Exams, Powerplant	1
AERM 1357	Fuel Metering and Induction Systems	3
AERM 2252 #	Aircraft Powerplant Inspection (Capstone)	2
AERM 2351 #	Aircraft Turbine Engine Overhaul	3
AERM 2447 #	Aircraft Reciprocating Engine Overhaul	4
<i>Summer Session</i>		
ENGL 1301	English Composition I	3
MATH 1314	Functional Approach to College Algebra; or PHYS 1401 or PHYS 1405	3
PSYC 2301	Introduction to Psychology; or PSYC-2315 or SOCI 1301 or SOCI 1306	3
SPCH 1311	Fundamentals of Speech Communications; or SPCH 1315 or SPCH 1318 or SPCH 1321 Humanities/Visual or Performing Arts Elective	3
	<b>TOTAL DEGREE HOURS</b>	<b>87</b>

# Enhanced Skills Courses

\* AERM 2171 MUST be taken as a co-requisite with either AERM 2172 or AERM 2173

## **AVIATION MAINTENANCE TECHNOLOGY – AIRFRAME CERTIFICATE\***

*Certificate of Completion Program*

*AVIA.T001.UG • Northwest Campus Only*

### **First Year**

#### *First Semester*

		<i>Semester Hours</i>
AERM 1101	Introduction to Aviation	1
AERM 1205	Weight and Balance	2
AERM 1208	Federal Aviation Regulations	2
AERM 1303	Shop Practices	3
AERM 1310	Ground Operations	3
AERM 1314	Basic Electricity	3
AERM 1315	Aviation Science	3

#### *Second Semester*

AERM 1243	Instruments and Navigation/Communication	2
AERM 1254	Aircraft Composites	2
AERM 1345	Airframe Electrical Systems	3
AERM 1347	Airframe Auxiliary Systems	3
AERM 1349	Hydraulic, Pneumatic, and Fuel Systems	3
AERM 1350	Landing Gear Systems	3

#### *Summer Session*

AERM 1241	Wood, Fabric, and Finishes	2
AERM 1253	Aircraft Welding	2
AERM 1452	Aircraft Sheet Metal	4
AERM 2231	Airframe Inspection (Capstone)	2
AERM 2233	Assembly and Rigging	2

### **Second Year**

#### *First Semester*

AERM 2171 **	Oral and Practical Exams, General	1
AERM 2172 **	Oral and Practical Exams, Airframe	1

**TOTAL CERTIFICATE HOURS: 47**

\* Students must meet requirements of the Texas Success Initiative (TSI), including assessment prior to enrollment in any college-level coursework and any indicated developmental education or other strategy for achieving college readiness.

\*\* AERM 2171 MUST be taken as a co-requisite with AERM 2172.

## **AVIATION MAINTENANCE TECHNOLOGY – POWERPLANT CERTIFICATE\***

*Certificate of Completion Program*

*AVIA.T002.UG • Northwest Campus Only*

### **First Year**

#### *First Semester*

		<i>Semester Hours</i>
AERM 1101	Introduction to Aviation	1
AERM 1205	Weight and Balance	2
AERM 1208	Federal Aviation Regulations	2
AERM 1303	Shop Practices	3
AERM 1310	Ground Operations	3
AERM 1314	Basic Electricity	3
AERM 1315	Aviation Science	3

#### *Second Semester*

AERM 1240	Aircraft Propellers	2
AERM 1344	Aircraft Reciprocating Engines	3
AERM 1351	Aircraft Turbine Engine Theory	3
AERM 1456	Aircraft Powerplant Electrical	4

### **Second Year**

#### *First Semester*

AERM 2171 **	Oral and Practical Exams, General	1
AERM 2173 **	Oral and Practical Exams, Powerplant	1
AERM 1357	Fuel Metering and Induction Systems	3
AERM 2252	Aircraft Powerplant Inspection (Capstone)	2
AERM 2351	Aircraft Turbine Engine Overhaul	3
AERM 2447	Aircraft Reciprocating Engine Overhaul	4

TOTAL CERTIFICATE HOURS 43

\* Students must meet requirements of the Texas Success Initiative (TSI), including assessment prior to enrollment in any college-level coursework and any indicated developmental education or other strategy for achieving college readiness.

\*\* AERM 2171 MUST be taken as a co-requisite with AERM 2173.

## **ADVANCED COMPOSITE TECHNOLOGY**

*Certificate of Completion Program*

*AVIA.T004.UG • Northwest Campus Only*

### **First Year**

#### *First Semester*

		<i>Semester Hours</i>
DFTG 1425	Blueprint Reading and Sketching	4
AERM 1245	Aircraft Composites	2
PTRT 1313	Industrial Safety	3

#### *Second Semester*

AERM 2259	Advanced Composite Repair (Capstone)	2
PLTC 1203	Plastics Composites	2
ENTC 2331	Manufacturing Materials	3

TOTAL CERTIFICATE HOURS 16

**Admission and Program Information for Aviation Maintenance Degree and Certificates:**

To begin the Aviation Maintenance training students must demonstrate competency in fundamental reading skills by one of the following or have approval of the Division Dean:

1. Pass the reading section of ACCUPLACER or an appropriate alternative test: or
2. Achieve the 11<sup>th</sup>- grade level (combined vocabulary and comprehension) score on the Nelson-Denny post test after completing RDNG 0361; or
3. Pass RDNG 0361 and RDNG 0363 and then earning the grade of C or higher in any of the reading restricted courses designated by the Coordinating Board.

In order to meet Federal Aviation Administration regulation certificate requirements, a student must have successfully completed first semester-first year courses prior to enrollment in other AERM courses. A grade of 70 must be earned in all AERM courses in order to qualify for FAA certification.

Students must furnish their own hand tools.

*NOTE: Mathematical competency is required for completion of D001, T001, and T002 by TSI liable students. Satisfaction of this requirement may be met by completing MATH-0304 (Beginning Algebra) with a grade of C or higher, achieving a placement test score that qualifies the student for MATH-0350 (Intermediate Algebra), or completing a college-level mathematics course (1300 level or above).*

## **AVIATION TECHNOLOGY - PROFESSIONAL PILOT**

*Associate of Applied Science Degree Program*

*ATPP.D001.UG • Northwest Campus Only*

### **First Year**

#### *First Semester*

		<i>Semester Hours</i>
AIRP 1215	Private Flight	2
AIRP 1301	Air Navigation	3
AIRP 1307	Aviation Meteorology	3
AIRP 1317	Private Pilot Ground School	3
MATH 1314	Functional Approach to College Algebra	3

#### *Second Semester*

AIRP 1351	Instrument Ground School	3
AIRP 2250	Instrument Flight	2
AIRP 2331	Advanced Meteorology	3
AVIM 2337	Aviation Law	3
ENGL 1301	English Composition I	3

#### *Summer Session*

AIRP 1255	Intermediate Flight	2
AIRP 1341	Advanced Air Navigation	3

### **Second Year**

#### *First Semester*

AIRP 2239	Commercial Flight (Capstone)	2
AIRP 2337	Commercial Ground School	3
AIRP 1343	Aerodynamics	3
AIRP 2333	Aircraft Systems	3
PSYC 2301	Introduction to Psychology	3

#### *Second Semester*

AIRP 2355	Propulsion Systems	3
AIRP 2357	Turbine Aircraft Ground School	3
AIRP 1347	Human Factors in Aviation	3
SPCH 1311	Fundamentals of Speech Communications; or SPCH 1315 or SPCH 1318 or SPCH 1321 Humanities/Visual or Performing Arts Elective	3
	TOTAL DEGREE HOURS	62

*NOTE: Approval of the Southern Association of Colleges and Schools Commission on Colleges pending at time of publication.*

## **COMMERCIAL PILOT**

*Certificate of Completion Program  
ATPP.T001.UG • Northwest Campus Only*

### **First Year**

#### *First Semester*

		<i>Semester Hours</i>
AIRP 1215	Private Flight	2
AIRP 1301	Air Navigation	3
AIRP 1307	Aviation Meteorology	3
AIRP 1317	Private Pilot Ground School	3
AIRP 1347	Human Factors in Aviation	3

#### *Second Semester*

AIRP 1351	Instrument Ground School	3
AIRP 2250	Instrument Flight	2
AIRP 2331	Advanced Meteorology	3
AVIM 2337	Aviation Law	3
AIRP 1343	Aerodynamics	3

#### *Summer Session*

AIRP 1255	Intermediate Flight	2
AIRP 1341	Advanced Air Navigation	3

### **Second Year**

AIRP 2239	Commercial Flight (Capstone)	3
AIRP 2337	Commercial Ground School	3
AIRP 2355	Propulsion Systems	3
AIRP 2333	Aircraft Systems	3
AIRP 2357	Turbine Aircraft Ground School	3

TOTAL CERTIFICATE HOURS 47

*NOTE: Mathematical competency is required for completion by TSI liable students. Satisfaction of this requirement may be met by completing MATH-0304 (Beginning Algebra) with a grade of C or higher, achieving a placement test score that qualifies the student for MATH-0350 (Intermediate Algebra), or completing a college-level mathematics course (1300 level or above).*

## **FLIGHT INSTRUCTOR**

*Certificate of Completion Program  
ATPP.T002.UG • Northwest Campus Only*

### **First Year**

#### *First Semester*

		<i>Semester Hours</i>
AIRP 2236	Certified Flight Instructor - Airplane	2
AIRP 2242	Flight Instructor – Instrument Airplane (Capstone)	2
AIRP 2349	Instructor Ground School	3

TOTAL CERTIFICATE HOURS 7

## **BUSINESS ADMINISTRATION**

*Associate of Applied Science Degree Programs*

*BUAD.D001.UG • Accounting Assistant • Northeast, Northwest, Southeast Campuses Only*

*BUAD.D002.UG • Administrative Professional • South Campus Only*

*BUAD.D003.UG • Business • All Campuses*

*BUAD.D004.UG • Fashion Merchandising • Northeast Campus Only*

*BUAD.D005.UG • Management • Northeast, South, Southeast Campuses Only*

*BUAD.D006.UG • Marketing • Trinity River Campus Only*

*BUAD.D007.UG • Postal Service Administration • Northwest Campus Only*

*BUAD.D008.UG • Railroad Dispatcher • Northwest Campus Only*

*BUAD.D009.UG • Small Business Management • Northwest Campus Only*

*BUAD.D010.UG • Software Applications • South Campus Only*

<b>Academic Foundation (Required for Each Program)</b>			<i>Semester Hours</i>
BCIS	1405	Business Computer Applications; or COSC 1401	4
ENGL	1301	English Composition I	3
ENGL	1302	English Composition II; or ENGL 2311	3
GOVT	2305	United States Government; or GOVT 2306	3
SPCH	1321	Business and Professional Communication; or SPCH 1311	3
		Humanities/Visual or Performing Arts Elective	3
*		Mathematics or Science Elective	3
		TOTAL ACADEMIC FOUNDATION HOURS	22

\* May be any MATH 1300 level or above or a science course.

<b>Technical Foundation (Required for Each Program)</b>			<i>Semester Hours</i>
ACCT	2301	Principles of Financial Accounting	3
ACCT	2302	Principles of Managerial Accounting	3
BMGT	1327	Principles of Management	3
BMGT	1341	Business Ethics	3
BUSI	1301	Business Principles	3
BMGT	1305	Communications in Management; or POFT 2312	3
		TOTAL TECHNICAL FOUNDATION HOURS	18

*NOTE: Mathematical competency is required for completion by TSI liable students. Satisfaction of this requirement may be met by completing MATH-0304 (Beginning Algebra) with a grade of C or higher, achieving a placement test score that qualifies the student for MATH-0350 (Intermediate Algebra), or completing a college-level mathematics course (1300 level or above).*

<b>Specialization for Accounting Assistant</b>			<i>Semester Hours</i>
ACNT	1311	Introduction to Computerized Accounting	3
ACNT	1313	Computerized Accounting Applications	3
	*	Approved Business Electives	12
BUSG	2300	Business Leadership Application (Capstone)	3
		TOTAL DEGREE HOURS	61

*\*Business Electives include courses offered in ACNT BMGT BNKG BUSG BUSI COSC ECON HECO ITCC ITNW ITSC ITSE ITSW ITSY MRKG POFI POFT and RELE COSC-1401 may not be used as an elective.*

*Suggested accounting courses include ACNT-1329, ACNT-1331, ACNT-1391, ACNT-2303, ACNT-2309, ACNT-2380 or BNKG-1356*

<b>Specialization for Administrative Professional</b>			<i>Semester Hours</i>
ACNT	1303	Introduction to Accounting	3
POFI	1449	Spreadsheets	4
POFI	2401	Word Processing	4
POFT	1309	Administrative Office Procedures	3
POFT	1319	Records and Information Management	3
POFT	1329	Beginning Keyboarding*; or POFT 2301	3
POFT	1331	Business Machine Applications	3
BUSG	2300	Business Leadership Application (Capstone)	3
		TOTAL DEGREE HOURS	66

\* Credit for this course may be obtained through credit-by-examination.

<b>Specialization for Business</b>			<i>Semester Hours</i>
BUSI	2301	Business Law I	3
ECON	2301	Principles of Macroeconomics	3
ECON	2302	Principles of Microeconomics	3
MRKG	1311	Principles of Marketing	3
MRKG	2333	Principles of Selling	3
BUSG	2300	Business Leadership Application (Capstone)	3
*		Approved Business Electives	6
		TOTAL DEGREE HOURS	64

\*Business Electives must be chosen from subjects ACNT BMGT BNKG BUSG BUSI COSC FSHN HECO HRPO ITSC ITSW MRKG PBAD POFI POFT or RELE.  
COSC-1401 may not be used as an elective.

<b>Specialization for Fashion Merchandising</b>			<i>Semester Hours</i>
FSHN	2305	Fashion Retailing	3
FSHN	2309	Fashion Image	3
HECO	1320	Textiles	3
HECO	2311	Fashion Merchandising	3
BUSG	2300	Business Leadership Application (Capstone)	3
*		Approved Business Electives	6
		TOTAL DEGREE HOURS	61

\*Business Electives must be chosen from subjects ACNT BMGT BNKG BUSG BUSI COSC ECON FSHN HECO HRPO ITSC ITSW MRKG PBAD POFI POFT or RELE.  
COSC-1401 may not be used as an elective.

<b>Specialization for Management</b>			<i>Semester Hours</i>
BMGT	1301	Supervision	3
HRPO	1311	Human Relations	3
HRPO	2301	Human Resources Management	3
BUSG	2300	Business Leadership Application (Capstone)	3
	*	Management Electives	3
	**	Approved Business Electives	9
		TOTAL DEGREE HOURS	64

\*Management Elective must be chosen from BMGT-2309, BMGT-1382 or BMGT-2382.  
Enrollment in BMGT-1382 requires Department approval.

\*\*Business Electives must be chosen from subjects ACNT BMGT BNKG BUSG BUSI COSC ECON FSHN HECO HRPO ITSC ITSW MRKG PBAD POFI POFT or RELE.  
COSC-1401 may not be used as an elective.

<b>Specialization for Marketing</b>			<i>Semester Hours</i>
MRKG	1302	Principles of Retailing	3
MRKG	1311	Principles of Marketing	3
MRKG	2333	Principles of Selling	3
MRKG	2349	Advertising and Sales Promotion	3
BUSG	2300	Business Leadership Application (Capstone)	3
	*	Approved Business Electives	6
		TOTAL DEGREE HOURS	61

\*Business Electives must be chosen from subjects ACNT BMGT BNKG BUSG BUSI COSC ECON FSHN HECO HRPO ITSC ITSW MRKG PBAD POFI POFT or RELE.  
COSC-1401 may not be used as an elective.

<b>Specialization for Postal Service Administration</b>			<i>Semester Hours</i>
HRPO	1311	Human Relations	3
PBAD	1315	Postal Organization, Development, and Management	3
PBAD	1345	Postal Customer Services, Processing, and Distribution	3
PBAD	1370	Mail Processing, Distribution, and Transportation	3
PBAD	1391	Special Topics in Public Administration and Services	3
PBAD	2341	Legal Aspects of Public Management	3
BUSG	2300	Business Leadership Application (Capstone)	3
	*	Approved Business Electives	3
		TOTAL DEGREE HOURS	64

\*Business Electives must be chosen from subjects ACNT BMGT BNKG BUSG BUSI COSC ECON FSHN HECO HRPO ITSC ITSW MRKG PBAD POFI POFT or RELE.  
COSC-1401 may not be used as an elective.

<b>Specialization for Railroad Dispatcher</b>			<i>Semester Hours</i>
BMGT	1268	Practicum – Railroad Dispatcher; or BMGT 1301 or BMGT 2309	2
BMGT	1270	Introduction to Railroading	2
BMGT	2172	Rules Simulation	1
BMGT	2288	Internship; or BMGT 1301 or BMGT 2309	2
BMGT	2473	Traffic Control	4
BMGT	2574	Rules, Regulations, and Safety	5
BUSG	2300	Business Leadership Application (Capstone)	3
* Approved Business Electives			3
			<b>TOTAL DEGREE HOURS</b> <b>62</b>

\*Business Electives must be chosen from subjects ACNT BMGT BNKG BUSG BUSI COSC ECON FSHN HECO HRPO ITSC ITSW MRKG PBAD POFI POFT or RELE.  
*COSC-1401 may not be used as an elective.*

<b>Specialization for Small Business Management</b>			<i>Semester Hours</i>
BUSG	1315	Small Business Operations	3
BUSG	1341	Small Business Financing	3
BUSG	2309	Small Business Management	3
MRKG	1311	Principles of Marketing	3
MRKG	2349	Advertising and Sales Promotion	3
BUSG	2300	Business Leadership Application (Capstone)	3
* Approved Business Electives			3
			<b>TOTAL DEGREE HOURS</b> <b>61</b>

\*Business Electives must be chosen from subjects ACNT BMGT BNKG BUSG BUSI COSC ECON FSHN HECO HRPO ITSC ITSW MRKG PBAD POFI POFT or RELE.  
*COSC-1401 may not be used as an elective.*

<b>Specialization for Software Applications</b>			<i>Semester Hours</i>
ITSW	1407	Introduction to Database	4
ITSW	1410	Introduction to Presentation Graphics	4
POFI	1449	Spreadsheets	4
POFI	2401	Word Processing	4
POFI	2431	Desktop Publishing	4
POFT	1329 *	Beginning Keyboarding; or POFT 2301	3
BUSG	2300	Business Leadership Application (Capstone)	3
			<b>TOTAL DEGREE HOURS</b> <b>66</b>

\* Credit for POFT-1329 may be obtained through credit-by-examination.

## BUSINESS ADMINISTRATION CERTIFICATES

### ACCOUNTING ASSISTANT I

*Certificate of Completion Program*

*BUAD.TA01.UG • Northeast, Northwest, South, Southeast Campuses Only*

<i>First Semester</i>			<i>Semester Hours</i>
ACCT	2301	Principles of Financial Accounting	3
BCIS	1405	Business Computer Applications; or COSC 1401	4
ENGL	1301	English Composition I; or POFT 2312; or	3
	*	Mathematics Elective	
ACNT	1311	Introduction to Computerized Accounting (Capstone)	3
	**	Approved Business Elective	3
		TOTAL CERTIFICATE HOURS	16

*\*Mathematics elective must be chosen from the corresponding section of the Core Curriculum.*

*\*\*Business Electives must be chosen from subjects ACNT BMGT BNKG BUSG BUSI COSC ECON HECO ITCC ITNW ITSC ITSE ITSW ITSY MRKG POFI POFT and RELE.*

*COSC-1401 may not be used as an elective.*

*Suggested accounting electives include ACNT-1313, ACNT-1329, ACNT-1331 or ACNT-1391*

### ACCOUNTING ASSISTANT II

*Certificate of Completion Program*

*BUAD.TA02.UG • Northeast, Northwest, South, Southeast Campuses Only*

<i>First Semester</i>			<i>Semester Hours</i>
ACCT	2301	Principles of Financial Accounting	3
ACNT	1311	Introduction to Computerized Accounting	3
BCIS	1405	Business Computer Applications; or COSC 1401	4
ENGL	1301	English Composition I; or POFT 2312; or	3
	*	Mathematics Elective	
<i>Second Semester</i>			
ACCT	2302	Principles of Managerial Accounting	3
ACNT	1313	Computerized Accounting Applications (Capstone)	3
	**	Approved Business Elective	6
		TOTAL CERTIFICATE HOURS	25

*\*Mathematics elective must be chosen from the corresponding section of the Core Curriculum.*

*\*\*Business electives must be chosen from subjects ACNT BMGT BNKG BUSG BUSI COSC ECON HECO ITCC ITNW ITSC ITSE ITSW ITSY MRKG POFI POFT and RELE.*

*COSC-1401 may not be used as an elective.*

*Suggested accounting courses include ACNT-1329, ACNT-1331, ACNT-1391, ACNT-2303, ACNT-2309, ACNT-2380 or BNKG-1356*

*The Accounting Assistant II Certificate may be used as a foundation for either the AAS.Accounting-Information Management Degree or the AAS.Business Administration-Accounting Assistant Degree.*

## **ADMINISTRATIVE PROFESSIONAL**

*Certificate of Completion Program*

*BUAD.T002.UG • South Campus Only*

### *First Semester*

		<i>Semester Hours</i>
BCIS	1405	Business Computer Applications; or COSC 1401
POFT	1329 *	Beginning Keyboarding; or POFT 2301
ACNT	1303	Introduction to Accounting
POFT	1331	Business Machine Applications

### *Second Semester*

POFI	2401	Word Processing	4
POFI	1449	Spreadsheets	4
POFT	1319	Records and Information Management	3
POFT	2312	Business Correspondence and Communication	3
POFT	1309	Administrative Office Procedures (Capstone)	3
		<b>TOTAL CERTIFICATE HOURS</b>	<b>30</b>

\* Credit for POFT-1329 course may be obtained through credit-by-examination.

## **BUSINESS**

*Certificate of Completion Program*

*BUAD.T003.UG • All Campuses*

### *First Semester*

		<i>Semester Hours</i>
ACCT	2301	Principles of Financial Accounting
BUSI	1301	Business Principles
ECON	2301	Principles of Macroeconomics
POFT	1321	Business Mathematics; or MATH 1324

### *Second Semester*

ACCT	2302	Principles of Managerial Accounting	3
BUSG	2170 *	Portfolio Development (Capstone)	1
BUSI	2301	Business Law I	3
ECON	2302	Principles of Microeconomics	3
	**	Business Electives	3
		<b>TOTAL CERTIFICATE HOURS</b>	<b>25</b>

\*Capstone is taken in the last semester of the certificate degree plan.

\*\*Business Electives must be chosen from subjects ACNT BMGT BNKG BUSG BUSI COSC ECON FSHN HECO HRPO ITSC ITSW MRKG PBAD POFI POFT or RELE.

COSC-1401 may not be used as an elective.

## **FASHION MERCHANDISING**

*Certificate of Completion Program*

*BUAD.T004.UG • Northeast Campus Only*

*First Semester*

HECO	2311	Fashion Merchandising	3
HECO	1320	Textiles	3
BCIS	1405	Business Computer Applications; or COSC 1401	4
SPCH	1321	Business and Professional Communication; or SPCH 1311	3
FSHN	2305	Fashion Retailing	3
FSHN	2309	Fashion Image	3
BUSG	2170 *	Portfolio Development (Capstone)	1
		TOTAL CERTIFICATE HOURS	20

\*Capstone is taken in the last semester of the certificate degree plan.

## **MANAGEMENT**

*Certificate of Completion Program*

*BUAD.T005.UG • Northeast, South, Southeast Campuses Only*

*First Semester*

			Semester Hours
HRPO	1311	Human Relations	3
BMGT	1301	Supervision	3
BMGT	1327	Principles of Management	3
BMGT	1305	Communications in Management	3

*Second Semester*

BCIS	1405	Business Computer Applications; or COSC 1401	4
HRPO	2301	Human Resource Management	3
BMGT	2309 *	Leadership (Capstone)	3
	**	Management Elective	3
		TOTAL CERTIFICATE HOURS	25

\*Capstone is taken in the last semester of the certificate degree plan.

\*\* Management Elective must be chosen from BMGT-1382, BUSI-1301, BUSG-1302, HECO-1307, or ITSC-1415. Note that BMGT-1382 is a special admission course; students must consult a Program Coordinator prior to enrollment.

## **MARKETING**

*Certificate of Completion Program  
BUAD.T006.UG • Trinity River Campus Only*

<i>First Semester</i>		<i>Semester Hours</i>	
POFT	1321	Business Mathematics	3
MRKG	1311	Principles of Marketing	3
MRKG	2333	Principles of Selling	3
<i>Second Semester</i>			
MRKG	2349	Advertising and Sales Promotion	3
BCIS	1405	Business Computer Applications; or COSC 1401	4
MRKG	2348 *	Marketing Research and Strategies (Capstone)	3
	**	Elective	3
TOTAL CERTIFICATE HOURS		22	

\*Capstone is taken in the last semester of the certificate degree plan.

\*\* Elective must be chosen from BMGT-1327, HECO-1307, MRKG-1302, PSYC-2301 or SOCI-1301.

## **POSTAL SERVICE ADMINISTRATION**

*Certificate of Completion Program  
BUAD.T007.UG • Northwest Campus Only*

<i>First Semester</i>		<i>Semester Hours</i>	
ENGL	1301	English Composition I	3
PBAD	1315	Postal Organization, Development, and Management	3
PBAD	1345	Postal Customer Services, Processing, and Distribution	3
HRPO	1311	Human Relations	3
<i>Second Semester</i>			
PBAD	1370	Mail Processing, Distribution, and Transportation	3
PBAD	2341	Legal Aspects of Public Management	3
PBAD	1391	Special Topics in Public Administration and Services	3
SPCH	1321	Business and Professional Communication; or SPCH 1311	3
PBAD	2345	Postal Finance and Labor Relations (Capstone)	3
TOTAL CERTIFICATE HOURS		27	

## **RAILROAD DISPATCHER**

*Certificate of Completion Program*

*BUAD.T008.UG • Northwest Campus Only*

		<i>Semester Hours</i>
BMGT	1270	Introduction to Railroad 2
BMGT	2574	Rules, Regulations, and Safety 5
BMGT	2172	Rules Simulation 1
BMGT	2473	Traffic Control 4
BMGT	2288 *	Internship; or BMGT 1301 or BMGT 2309 2
BMGT	1268 *	Railroad Dispatcher Practicum (Capstone); or BMGT 1301 or BMGT 2309 2
		TOTAL CERTIFICATE HOURS 16

*\*A student must be currently working for a railroad to receive credit by experience for BMGT-1268 and BMGT 2288. If not currently working for a railroad, a student may take BMGT-1301 or BMGT-2309 to complete certificate requirements.*

## **SMALL BUSINESS MANAGEMENT**

*Certificate of Completion Program*

*BUAD.T009.UG • Northwest Campus Only*

### *First Semester*

		<i>Semester Hours</i>
BUSG	1315	Small Business Operations 3
MRKG	1311	Principles of Marketing 3
BCIS	1405	Business Computer Applications; or COSC 1401 4

### *Second Semester*

		<i>Semester Hours</i>
BUSG	1341	Small Business Financing 3
MRKG	2349	Advertising and Sales Promotion 3
BUSG	2309 *	Small Business Management (Capstone) 3
	**	Business Electives 3
		TOTAL CERTIFICATE HOURS 22

*\*Capstone is taken in the last semester of the certificate degree plan.*

*\*\*Business Electives must be chosen from subjects ACNT BMGT BNKG BUSG BUSI COSC ECON FSHN HECO HRPO ITSC ITSW MRKG PBAD POFI POFT or RELE.*

*COSC-1401 may not be used as an elective.*

## **SOFTWARE USER**

*Certificate of Completion Program  
BUAD.T010.UG • South Campus Only*

### *First Semester*

			<i>Semester Hours</i>
POFT	1329	*	Beginning Keyboarding; or POFT 2301
POFT	2312		Business Correspondence and Communication
BCIS	1405		Business Computer Applications; or COSC 1401
POFI	2401		Word Processing

### *Second Semester*

POFI	1449		Spreadsheets	4
POFI	2431	**	Desktop Publishing (Capstone)	4
ITSW	1410		Introduction to Presentation Graphics Software	4
ITSW	1407		Introduction to Database	4

TOTAL CERTIFICATE HOURS    30

\* Credit for POFT-1329 may be obtained through credit-by-examination.

\*\*Capstone is taken in the last semester of the certificate degree plan.

## **CHILD DEVELOPMENT**

*Associate of Applied Science Degree Program  
CHIL.D001.UG • Northeast Campus Only*

### **First Year**

<i>First Semester</i>		<i>Semester Hours</i>
ENGL	1301	English Composition I 3
PHED	1164	Concepts of Physical Activity 1
SOCI	1301	Introduction to Sociology 3
TECA	1303	Family, School, and Community 3
TECA	1318	Wellness of the Young Child 3
TECA	1354	Child Growth and Development 3

### *Second Semester*

CDEC	1321	The Infant and Toddler 3
CDEC	1419	Child Guidance 4
ENGL	1302	English Composition II 3
TECA	1311	Educating Young Children 3
		Physical Education Activity 1

### *Summer Session*

BCIS	1405	Business Computer Applications; or COSC 1401 4
GOVT	2305	United States Government; or GOVT 2306 3

### **Second Year**

#### *First Semester*

CDEC	1356	Emergent Literacy for Early Childhood 3
CDEC	1413	Curriculum Resources for Early Childhood Programs 4
CDEC	1323	Observation and Assessment 3
		Science or Mathematics Elective 3
		Humanities/Visual or Performing Arts Elective 3

#### *Second Semester*

CDEC	1358	Creative Arts for Early Childhood 3
CDEC	1359	Children with Special Needs 3
CDEC	2386	Internship-Child Care Provider/Assistant (Capstone) 3
	*	Child Development Elective 3
SPCH	1311	Fundamentals of Speech Communication; or SPCH 1315 or SPCH 1318 or SPCH 1321 3

TOTAL DEGREE HOURS 68

\*Child Development Elective must be chosen from CDEC-2307, CDEC-2326 or CDEC-2328.

*NOTE: Mathematical competency is required for completion by TSI liable students. Satisfaction of this requirement may be met by completing MATH-0304 (Beginning Algebra) with a grade of C or higher, achieving a placement test score that qualifies the student for MATH-0350 (Intermediate Algebra), or completing a college-level mathematics course (1300 level or above).*

## **CHILD CARE ADMINISTRATION\***

*Certificate of Completion Program  
CHIL.T002.UG • Northeast Campus Only*

### **First Year**

<i>First Semester</i>		<i>Semester Hours</i>
ENGL	1301	English Composition I
TECA	1303	Family, School, and Community
TECA	1318	Wellness of the Young Child
TECA	1354	Child Growth and Development

### *Second Semester*

CDEC	1321	The Infant and Toddler	3
CDEC	1419	Child Guidance	4
ENGL	1302	English Composition II	3
TECA	1311	Educating Young Children	3

### **Second Year**

#### *First Semester*

CDEC	1359	Children with Special Needs	3
CDEC	1413	Curriculum Resources for Early Childhood Programs	4
CDEC	2326	Administration of Programs for Children I	3

#### *Second Semester*

BCIS	1405	Business Computer Applications; or COSC 1401	4
CDEC	2328	Administration of Programs for Children II	3
PHED	1164	Concepts of Physical Activity	1
** Child Development Elective			3

TOTAL CERTIFICATE HOURS 46

\* Students must meet requirements of the Texas Success Initiative (TSI), including assessment prior to enrollment in any college-level coursework and any indicated developmental education or other strategy for achieving college readiness.

\*\*Child Development Elective must be chosen from CDEC-1356, CDEC-1394, or CDEC-2341.

NOTE: Mathematical competency is required for completion by TSI liable students. Satisfaction of this requirement may be met by completing MATH-0304 (Beginning Algebra) with a grade of C or higher, achieving a placement test score that qualifies the student for MATH-0350 (Intermediate Algebra), or completing a college-level mathematics course (1300 level or above).

## **PRESCHOOL CHILD CARE PROVIDER**

*Certificate of Completion Program*

*CHIL.T003.UG • Northeast Campus Only*

<i>First Semester</i>		<i>Semester Hours</i>	
CDEC	1419	Child Guidance	4
ENGL	1301	English Composition I	3
TECA	1311	Educating Young Children	3
TECA	1318	Wellness of the Young Child	3
TECA	1354	Child Growth and Development	3
<i>Second Semester</i>			
BCIS	1405	Business Computer Applications; or COSC 1401	4
CDEC	1321	The Infant and Toddler	3
CDEC	1359	Children with Special Needs	3
CDEC	1413	Curriculum Resources for Early Childhood Programs	4
PHED	1164	Concepts of Physical Activity	1
		*Child Development Elective	3
		<b>TOTAL CERTIFICATE HOURS</b>	<b>34</b>

*\*Child Development Elective must be chosen from CDEC-1356, CDEC-2307, or CDEC-1323.*

## **SCHOOL AGE PROVIDER**

*Certificate of Completion Program*

*CHIL.T004.UG • Northeast Campus Only*

<i>First Semester</i>		<i>Semester Hours</i>	
CDEC	2341	The School Age Child	3
ENGL	1301	English Composition I	3
TECA	1303	Family, School, and Community	3
TECA	1318	Wellness of the Young Child	3
TECA	1354	Child Growth and Development	3
<i>Second Semester</i>			
BCIS	1405	Business Computer Applications; or COSC 1401	4
CDEC	1419	Child Guidance	4
EDUC	1301	Introduction to the Teaching Profession	3
ENGL	1302	English Composition II	3
PHED	1164	Concepts of Physical Activity	1
	*	* Child Development Elective	3
		<b>TOTAL CERTIFICATE HOURS</b>	<b>33</b>

*\*Child Development Elective must be chosen from CDEC-1359, CDEC-2326, CDEC-2328, or TECA-1311.*

## **CDA CERTIFICATE#**

*Certificate of Completion Program*

*CHIL.T001.UG • Northeast Campus Only*

CDEC	1317	Child Development Associate Training I	3
CDEC	2322	Child Development Associate Training II	3
CDEC	2324	Child Development Associate Training III	3
		<b>TOTAL CERTIFICATE HOURS</b>	<b>9</b>

*#Child Development Associate National Credential (CDA)*

## **COMPUTER-AIDED DRAFTING AND DESIGN TECHNOLOGY**

*Associate of Applied Science Degree Programs*

*CADD.D002.UG • Building Technology • South Campus Only*

*CADD.D003.UG • Civil Technology • South Campus Only*

*CADD.D004.UG • Manufacturing Technology • South Campus Only*

<b>Academic Foundation (Required for Each Program)</b>			<i>Semester Hours</i>
ENGL	1301	English Composition I	3
GOVT	2305	United States Government; or GOVT 2306	3
MATH	1314	Functional Approach to College Algebra; or MATH 1324 or MATH 1332	3
SPCH	1321	Business and Professional Communication; or SPCH 1311 Humanities/Visual or Performing Arts Elective	3
		TOTAL ACADEMIC FOUNDATION HOURS	15

<b>Technical Foundation (Required for Each Program)</b>			<i>Semester Hours</i>
DFTG	1405	Technical Drafting	4
DFTG	1409	Basic Computer-Aided Drafting (CAD)	4
DFTG	1425	Blueprint Reading and Sketching	4
DFTG	2419	Intermediate Computer-Aided Drafting (CAD)	4
DFTG	2438	Final Project in Advanced Drafting (Capstone)	4
		TOTAL TECHNICAL FOUNDATION HOURS	20

<b>Specialization for Building Technology</b>			<i>Semester Hours</i>
DFTG	1417	Architectural Drafting – Residential	4
DFTG	2428	Architectural Drafting – Commercial	4
DFTG	2431	Advanced Technologies in Architectural Design and Drafting	4
*		Architectural/Structure/Commercial Drafting Electives	16
		TOTAL DEGREE HOURS	63

\*Drafting Electives must be chosen from DFTG-2406, DFTG-2407, DFTG-2408, DFTG-2436, DFTG-2445, DFTG-2458 or INMT-1445.

<b>Specialization for Civil Technology</b>			<i>Semester Hours</i>
DFTG	1493	Special Topics in Civil Drafting and Civil Engineering	4
DFTG	2421	Topographical Drafting	4
DFTG	2427	Landscape Drafting	4
DFTG	2430	Civil Drafting	4
*		Drafting Electives	16
		TOTAL DEGREE HOURS	67

\*Drafting Electives must be chosen from DFTG-2406, DFTG-2407, DFTG-2408, DFTG-2436, DFTG-2445, DFTG-2458 or INMT-1445.

<b>Specialization for Manufacturing Technology</b>			<i>Semester Hours</i>
DFTG	1445	Parametric Modeling and Design	4
DFTG	1458	Electrical and Electronics Drafting	4
DFTG	2402	Machine Drafting	4
DFTG	2423	Pipe Drafting	4
DFTG	2440	Solid Modeling and Design	4
DFTG	2442	Aeronautical Drafting	4
*		Drafting Electives	8
		TOTAL DEGREE HOURS	67

\**Drafting Electives must be chosen from DFTG-2406, DFTG-2407, DFTG-2408, DFTG-2436, DFTG-2445, DFTG-2458, INMT-1445, MCHN-2403, MCHN-2431, MCHN-2434 or MCHN-2444.*

## **COMPUTER-AIDED DRAFTING AND DESIGN CERTIFICATES**

### **BUILDING TECHNOLOGY**

*Certificate of Completion Program  
CADD.T008.UG • South Campus Only*

<i>First Semester</i>			<i>Semester Hours</i>
DFTG	1405	Technical Drafting	4
DFTG	1425	Blueprint Reading and Sketching	4
DFTG	1409	Basic Computer-Aided Drafting	4
ENGL	1301	English Composition I	3

### *Second Semester*

DFTG	1417	Architectural Drafting - Residential	4
DFTG	2428	Architectural Drafting - Commercial	4
DFTG	2431	Advanced Technologies in Architectural Design and Drafting	4
DTFG	2438	Final Project - Advanced Drafting (Capstone)	4

TOTAL CERTIFICATE HOURS 31

## **CIVIL TECHNOLOGY**

*Certificate of Completion Program  
CADD.T009.UG • South Campus Only*

### *First Semester*

		<i>Semester Hours</i>
DFTG	1405	Technical Drafting 4
DFTG	1425	Blueprint Reading and Sketching 4
DFTG	1409	Basic Computer-Aided Drafting 4
ENGL	1301	English Composition I 3

### *Second Semester*

DFTG	2421	Topographical Drafting 4
DFTG	2430	Civil Drafting 4
DFTG	2427	Landscape Drafting 4
DFTG	2438	Final Project - Advanced Drafting (Capstone) 4

### *Summer Session*

DFTG	1493	Special Topics in Civil Drafting and Civil Engineering 4
TOTAL CERTIFICATE HOURS		35

## **MANUFACTURING TECHNOLOGY**

*Certificate of Completion Program  
CADD.T010.UG • South Campus Only*

### *First Semester*

		<i>Semester Hours</i>
DFTG	1405	Technical Drafting 4
DFTG	1425	Blueprint Reading and Sketching 4
DFTG	1409	Basic Computer-Aided Drafting 4
ENGL	1301	English Composition I 3

### *Second Semester*

DFTG	1458	Electrical/Electronic Drafting 4
DFTG	2402	Machine Drafting 4
DFTG	2423	Pipe Drafting 4
DFTG	2440	Solid Modeling and Design 4

### *Summer Session*

*	Drafting Elective 4	
TOTAL CERTIFICATE HOURS		35

\**Drafting Elective must be chosen from DFTG-2406, DFTG-2407, DFTG-2408, DFTG-2436, DFTG-2445, DFTG-2458, INMT-1445, MCHN-2403, MCHN-2431, MCHN-2434 or MCHN-2444.*

## **CONSTRUCTION MANAGEMENT**

*Associate of Applied Science Degree Program  
CONS.D002 UG • Southeast Campus Only*

### **First Year**

#### *First Semester*

		<i>Semester Hours</i>
CNBT	1300	Residential and Light Commercial Blueprint Reading      3
CNBT	1311	Construction Methods and Materials      3
CNBT	1342	Building Codes and Inspections      3
CNBT	1344	Construction Materials Testing      3
MATH	1314	Functional Approach to College Algebra      3

#### *Second Semester*

ENGL	1301	English Composition I      3
CNBT	1372	Soils and Foundations      3
ENGR	1304	Engineering Graphics      3
COSC	1401	Introduction to Computing      4
SRVY	1301	Introduction to Surveying; or ENGR 1307      3

#### *First Summer Session*

GEOL	1305	Environmental Geology      3
SPCH	1311	Fundamentals of Speech Communication; or SPCH 1315 or SPCH 1318 or SPCH 1321      3

#### *Second Summer Session*

SPAN	1100	Beginning Spanish Conversation I; or SPAN 1411      1
GOVT	2305	United States Government; or GOVT 2306      3

### **Second Year**

#### *First Semester*

CNBT	1346	Construction Estimating I      3
CNBT	2342	Construction Management I      3
ARCH	2313	Architectural Technology II      3
BMGT	1327	Principles of Management      3
		Humanities/Visual or Performing Arts Elective      3

#### *Second Semester*

CNBT	2266	Practicum (Capstone)      2
CNBT	2317	Green Building      3
CNBT	2337	Construction Estimating II      3
CNBT	2344	Construction Management II      3
*	Approved Elective	3
		TOTAL DEGREE HOURS      70

\*Approved Elective must be chosen from BMGT-1301, BUSI-2301 or ECON-2301.

## **CONSTRUCTION INSPECTION TECHNICIAN**

*Certificate of Completion Program*

*CONS.T004.UG • Southeast Campus Only*

### *First Semester*

		<i>Semester Hours</i>
CNBT	1300	Residential and Light Commercial Blueprint Reading      3
CNBT	1342	Building Codes and Inspections      3
CNBT	1346	Construction Estimating I      3
CNBT	1344	Construction Materials Testing      3
<i>Second Semester</i>		
SRVY	1301	Introduction to Surveying      3
CNBT	1372	Soils and Foundations      3
		TOTAL CERTIFICATE HOURS      18

## **CONSTRUCTION MANAGEMENT**

*Certificate of Completion Program*

*CONS.T002.UG • Southeast Campus Only*

### *First Semester*

		<i>Semester Hours</i>
CNBT	1300	Residential and Light Commercial Blueprint Reading      3
CNBT	1311	Construction Methods and Materials      3
CNBT	2342	Construction Management I      3
CNBT	1342	Building Codes and Inspection      3
CNBT	1346	Construction Estimating I      3
<i>Second Semester</i>		
CNBT	2344	Construction Management II      3
CNBT	2317	Green Building      3
SRVY	1301	Introduction to Surveying      3
CNBT	2337	Construction Estimating II      3
CNBT	2266	Practicum (Capstone)      2
		TOTAL CERTIFICATE HOURS      29

## **CONSTRUCTION TECHNOLOGY**

*Certificate of Completion Program*

*CONS.T007.UG • Southeast Campus Only*

### *First Semester*

		<i>Semester Hours</i>
CNBT	1300	Residential and Light Commercial Blueprint Reading      3
CNBT	1311	Construction Methods and Materials      3
CNBT	1344	Construction Materials Testing      3
CNBT	1342	Building Codes and Inspection      3
CNBT	1346	Construction Estimating I      3
<i>Second Semester</i>		
CNBT	1316	Construction Technology I      3
CNBT	1372	Soils and Foundations      3
SRVY	1301	Introduction to Surveying      3
CNBT	1350	Construction Technology II      3
CNBT	2266	Practicum (Capstone)      2
		TOTAL CERTIFICATE HOURS      29

## **INTERIOR CONSTRUCTION DESIGN**

*Certificate of Completion Program*

*CONS.T006.UG • Southeast Campus Only*

### **First Year**

#### *First Semester*

			<i>Semester Hours</i>
ARTS	1320	Interior Design I	3
ENGR	1304	Engineering Graphics	3
CNBT	1300	Residential and Light Commercial Blueprint Reading	3
CNBT	1311	Construction Methods and Materials	3
INDS	1341	Color Theory and Application	3

#### *Second Semester*

SPCH	1311	Fundamentals of Speech Communication; or SPCH 1315 or SPCH 1318 or SPCH 1321	3
ARTS	1321	Interior Design II	3
ARCH	1311	Introduction to Architecture	3
CNBT	2317	Green Building	3
SPAN	1411	Elementary Spanish I	4

### **Second Year**

#### *First Semester*

ARCH	1303	Architectural Design I – Residential	3
ARCH	1307	Architectural Graphics I	3
CNBT	1346	Construction Estimating I	3
CNBT	2342	Construction Management I	3
CNBT	2266	Practicum (Capstone)	2

TOTAL CERTIFICATE HOURS      45

\* Students must meet requirements of the Texas Success Initiative (TSI), including assessment prior to enrollment in any college-level coursework and any indicated developmental education or other strategy for achieving college readiness.

NOTE: Mathematical competency is required for completion by TSI liable students. Satisfaction of this requirement may be met by completing MATH-0304 (Beginning Algebra) with a grade of C or higher, achieving a placement test score that qualifies the student for MATH-0350 (Intermediate Algebra), or completing a college-level mathematics course (1300 level or above).

CRIMINAL JUSTICE

*Associate of Applied Science Degree Program  
CRIM.D001.UG • Northwest Campus Only*

First Year

		<i>Semester Hours</i>
<i>First Semester</i>		
CRIJ	1301	Introduction to Criminal Justice
CRIJ	1310	Fundamentals of Criminal Law
ENGL	1301	English Composition I
SOCI	1301	Introduction to Sociology
		Mathematics or Science Elective
<i>Second Semester</i>		
CRIJ	1307	Crime in America
CRIJ	2328	Police Systems and Practices
		Humanities/Visual or Performing Arts Elective
CRIJ	2313	Correctional Systems and Practices
SPCH	1321	Business and Professional Communication; or SPCH 1311 or SPCH 1315 or SPCH 1318
PHED	1164	Concepts of Physical Activity
<i>Summer Session</i>		
GOVT	2306	Texas State and Local Government
<b>Second Year</b>		
<i>First Semester</i>		
CRIJ	2323	Legal Aspects of Law Enforcement
COSC	1401	Introduction to Computing; or BCIS 1405
GOVT	2305	United States Government
*		Approved Electives
<i>Second Semester</i>		
CRIJ	2314	Criminal Investigation
CRIJ	1306	Court Systems and Practices
CJSA	2388	Internship - Criminal Justice Studies (Capstone); or CJSA 2334
*		Approved Electives
		<b>TOTAL DEGREE HOURS</b>
		68

*\*All electives must have prior approval of the Program Coordinator. Suggested electives include: CJSA-1347, CJSA-1348, CJSA-2331, CRJL-1313, CJLE-1111, CJLE-1345, CJLE-1371, CJLE-1394, CJLE-1506, CJLE-1512, CJLE-1518, CJLE-2247, HMSY-1337, SLPS-2288, SLPS-1371, SLPS-1391, or SLPS-2371*

*NOTE: Mathematical competency is required for completion by TSI liable students. Satisfaction of this requirement may be met by completing MATH-0304 (Beginning Algebra) with a grade of C or higher, achieving a placement test score that qualifies the student for MATH-0350 (Intermediate Algebra), or completing a college-level mathematics course (1300 level or above).*

## **BASIC PEACE OFFICER CERTIFICATION#**

*Certificate of Completion Program*

*CRIM.T003.UG • Northwest Campus Only*

<i>First Semester</i>		<i>Semester Hours</i>
CJLE 1506	Basic Peace Officer I	5
CJLE 1512	Basic Peace Officer II	5
CJLE 1518	Basic Peace Officer III	5
CJLE 2247	Tactical Skills for Police	2
CJLE 1111	Basic Firearms	1
	<b>TOTAL CERTIFICATE HOURS</b>	<b>18</b>

### **Admissions and Program Information for Basic Peace Officer:**

*The courses listed above are taught in an academy format (Monday through Friday from 8 a.m. - 5 p.m.) and have specialized admission requirements. Consent of the Academy Coordinator is required for enrollment. Once admitted to the program, students must complete and earn a minimum grade of C in each course. The endorsement of eligibility for the State Peace Officer Licensing Exam will only be issued to a student who has completed each course with a minimum grade of C during that specific academy.*

*Enrollment is based on space availability for those who meet admission criteria.*  
*Admission Criteria:*

- 1. Students must provide evidence of completion of the ACCUPLACER Test or approved alternative test. (This requirement may be waived by the Division Dean.)*
- 2. Students must demonstrate competency in fundamental reading skills by a placement score of a minimum performance level. For those students who do not meet the minimum performance level, remediation followed by further testing may qualify them for a future academy.*
- 3. Students must have a personal interview with an academy coordinator.*
- 4. Students must complete the police academy application (available at the Criminal Justice Training Center).*
- 5. Students must meet minimum licensing requirements as established by TCLEOSE.*

## **SECURITY MANAGEMENT**

*Certificate of Completion Program*

*CRIM.T004.UG • Northwest Campus Only*

<i>First Semester</i>		<i>Semester Hours</i>
SLPS 1371	Introduction to Security Management	3
BMGT 1327	Principles of Management	3
PSYC 2301	Introduction to Psychology	3
ITSY 1400	Fundamentals of Information Security	4
SLPS 1391	Special Topics in Security and Loss Prevention Services	3
<i>Second Semester</i>		
SLPS 2371	Fundamentals of Physical Security	3
CRIJ 2314	Criminal Investigation	3
CRIJ 2323	Legal Aspects of Law Enforcement	3
SLPS 2288 *	Internship - Security and Loss Prevention Services	2
	<b>TOTAL CERTIFICATE HOURS</b>	<b>27</b>

\* Enrollment in the Capstone Course requires approval of Department Chairperson.

Students must have completed 16 semester hours in the program prior to enrolling.

## **CULINARY ARTS**

*Associate of Applied Science Degree Program  
CULL.D003.UG • Southeast Campus Only*

### **First Year**

#### *First Semester*

			<i>Semester Hours</i>
CHEF	1301	Basic Food Preparation	3
CHEF	1205	Sanitation and Safety	2
PSTR	1401	Fundamentals of Baking	4
RSTO	1304	Dining Room Service	3
RSTO	1325	Purchasing for Hospitality Operations	3

#### *Second Semester*

CHEF	1345	International Cuisine	3
CHEF	2301	Intermediate Food Preparation	3
HAMG	1340	Hospitality Legal Issues; or HAMG 1324	3
ENGL	1301	English Composition I	3
	*	Approved Technical Elective	3

#### *First Summer Session*

HECO	1322	Nutrition and Diet Therapy	3
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#### *Second Summer Session*

SPCH	1311	Fundamentals of Speech Communication; or SPCH 1315 or SPCH 1318 or SPCH 1321	3
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### **Second Year**

#### *First Semester*

IFWA	2446	Quantity Procedures	4
CHEF	1310	Garde Manger	3
CHEF	1341	American Regional Cuisine	3
CHEF	1302	Principles of Healthy Cuisine	3

#### *Second Semester*

CHEF	1264	Practicum (Capstone)	2
		Humanities/Visual or Performing Arts Elective	3
		Behavioral or Social Science Elective	3
		Science Elective	3

TOTAL DEGREE HOURS 60

\*Approved Technical Elective must be chosen from HAMG-1321, HAMG-2301, HAMG-2305, HAMG-2307, PSTR-2331, or RSTO-1306.

*NOTE: Mathematical competency is required for completion by TSI liable students. Satisfaction of this requirement may be met by completing MATH-0304 (Beginning Algebra) with a grade of C or higher, achieving a placement test score that qualifies the student for MATH-0350 (Intermediate Algebra), or completing a college-level mathematics course (1300 level or above).*

## **CATERING/PRIVATE CHEF**

*Certificate of Completion Program*

*CULL.T006.UG • Southeast Campus Only*

### **First Year**

#### *First Semester*

		<i>Semester Hours</i>
CHEF	1205	2
CHEF	1301	3
PSTR	1401	4
RSTO	1325	3
RSTO	1304	3

#### *Second Semester*

CHEF	2301	3
HECO	1322	3
BUSG	1315	3

### **Second Year**

#### *First Semester*

POFT	1321	3
TRVM	1201	2
CHEF	1302	3
IFWA	2446	4
CHEF	1341	3

#### *Second Semester*

BUSG	2309	3
CHEF	1264	2
<b>TOTAL CERTIFICATE HOURS</b>		<b>44</b>

\* Students must meet requirements of the Texas Success Initiative (TSI), including assessment prior to enrollment in any college-level coursework and any indicated developmental education or other strategy for achieving college readiness.

*NOTE: Mathematical competency is required for completion by TSI liable students. Satisfaction of this requirement may be met by completing MATH-0304 (Beginning Algebra) with a grade of C or higher, achieving a placement test score that qualifies the student for MATH-0350 (Intermediate Algebra), or completing a college-level mathematics course (1300 level or above).*

## **CULINARY ARTS I**

*Certificate of Completion Program*

*CULI.T007.UG • Southeast Campus Only*

### *First Semester*

			<i>Semester Hours</i>
CHEF	1301	Basic Food Preparation (Capstone)	3
CHEF	1205	Sanitation and Safety	2
PSTR	1401	Fundamentals of Baking	4
RSTO	1304	Dining Room Service	3
RSTO	1325	Purchasing for Hospitality Operations	3
		<b>TOTAL CERTIFICATE HOURS</b>	<b>15</b>

## **CULINARY ARTS II**

*Certificate of Completion Program*

*CULI.T008.UG • Southeast Campus Only*

### *First Semester*

			<i>Semester Hours</i>
CHEF	1301	Basic Food Preparation	3
CHEF	1205	Sanitation and Safety	2
PSTR	1401	Fundamentals of Baking	4
RSTO	1304	Dining Room Service	3
RSTO	1325	Purchasing for Hospitality Operations	3

### *Second Semester*

			<i>Semester Hours</i>
CHEF	2301	Intermediate Food Preparation	3
CHEF	1345	International Cuisine	3
CHEF	1310	Garde Manger	3
CHEF	1341	American Regional Cuisine	3
CHEF	1302	Principles of Healthy Cuisine	3
		<b>TOTAL CERTIFICATE HOURS</b>	<b>30</b>

**DENTAL HYGIENE#**

*Associate of Applied Science Degree Program  
DENH.D001.UG • Northeast Campus Only*

<i>First Summer Session</i>		<i>Semester Hours</i>
BIOL 2401	Anatomy and Physiology I	4

*Second Summer Session*

BIOL 2402	Anatomy and Physiology II	4
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**First Year***First Semester*

CHEM 1406	Essentials of General and Biological Chemistry	4
DHYG 1207	General and Dental Nutrition	2
DHYG 1301	Orofacial Anatomy, Histology, and Embryology	3
DHYG 1327	Preventive Dental Hygiene Care	3
DHYG 1431	Preclinical Dental Hygiene	4

*Second Semester*

BIOL 2420	Microbiology	4
DHYG 1260	Clinical - Dental Hygienist	2
DHYG 1304	Dental Radiology	3
DHYG 1319	Dental Materials	3
DHYG 2301	Contemporary Dental Hygiene Care I	3

*First Summer Session*

ENGL 1301	English Composition I	3
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*Second Summer Session*

DHYG 2331	Contemporary Dental Hygiene Care II	3
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**Second Year***First Semester*

DHYG 1215	Community Dentistry	2
DHYG 1235	Pharmacology for the Dental Hygienist	2
DHYG 1239	General and Oral Pathology	2
DHYG 1311	Periodontology	3
DHYG 2360	Clinical - Dental Hygienist	3

*Second Semester*

DHYG 1191	Special Topics in Dental Hygienist	1
DHYG 2253	Dental Hygiene Practice	2
DHYG 2361	Clinical - Dental Hygienist	3
PSYC 2315	Psychology of Adjustment and Human Relations; or PSYC 2301	3
	Sociology Elective	3
	Humanities/Visual or Performing Arts Elective	3

TOTAL DEGREE HOURS 72

## **Admission and Program Information for Dental Hygiene:**

A selection committee reviews applications and selects those applicants who best meet the following criteria (listed in random order):

- Students must demonstrate competency in mathematics, reading, and writing by
  - completion of previous applicable coursework, or
  - passing each of those sections of ACCUPLACER or an appropriate alternative test, or
  - earning a grade of C or higher in MATH 0350, RDNG 0363, and ENGL 0325.
- Grade point average (GPA) of all high school or undergraduate college classes or GED scores if high school/college are not applicable.
- Bonus points for college-level general education and science courses required for the program for which a grade of C or higher was made. **NOTE:** Science courses must have been completed within five years of the semester containing the program deadline date.
- Bonus points proportionate to the number of semester hours from a regionally accredited college or university for which a grade of C or higher was made up to a maximum of 120 semester hours.
- Bonus point for bachelor's degree from a regionally accredited college or university
- Bonus points for observation experience in dental care setting or for employment experience as dental assistant.

Students who are selected for admission must undergo screening for substances of abuse and a criminal background check. All offers for admission to the Dental Hygiene Program are provisional until satisfactory results are received for these two evaluations.

International students must contact the International Admission Office 817-515-1570 and also the EMS & Dental Hygiene Office 817-515-6435.

Only the criteria listed are evaluated and considered for the purpose of selection and admission to this program. No specific minimum grade point average or test score, or a set minimum number of courses must be completed for admission. Selection is based on how each applicant compares with others in the applicant pool. In general, the higher the grades, the more competitive the applicant will be for the positions available.

Once admitted to the program, students must complete and earn a minimum grade of C in each specialized course.

Most/all of the specialized courses are taught only during the daytime.

After successful completion of the above curriculum, the student is eligible to take the necessary examinations to become a registered dental hygienist through the Texas State Board of Dental Examiners, Western Regional Examining Board, and the National Exam for dental hygienists through the American Dental Association.

## **DIETETIC TECHNICIAN**

*Associate of Applied Science Degree Program  
DIET.D001.UG • Southeast Campus Only*

### **First Year**

<i>First Semester</i>		<i>Semester Hours</i>
HECO	1315	Food Preparation and Meal Management
HECO	1322	Nutrition and Diet Therapy
FDNS	1103	Introduction to Dietetics
FDNS	2400	Food Management Systems
ENGL	1301	English Composition I
CHEF	1205	Sanitation and Safety; or BIOL 2420

### *Second Semester*

IFWA	2446	Quantity Procedures	4
FDNS	1164	Practicum in Food Management	1
FDNS	1341	Nutrition in the Life Cycle	3
FDNS	1345	Medical Nutrition Therapy I	3
BIOL	2401 *	Anatomy and Physiology I	4

### *First Summer Session*

FDNS	1346	Medical Nutrition Therapy II	3
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### *Second Summer Session*

SPCH	1311	Fundamentals of Speech Communication; or SPCH 1315 or SPCH 1318 or SPCH 1321	3
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### **Second Year**

#### *First Semester*

FDNS	1309	Nutrition in the Community	3
FDNS	1447	Medical Nutrition Therapy III	4
BIOL	2402	Anatomy and Physiology II	4
COSC	1401	Introduction to Computing; or BCIS 1405	4
FDNS	2164	Practicum in Community Nutrition	1

#### *Second Semester*

FDNS	1371	Child Nutrition Care	3
BMGT	1301	Supervision	3
PSYC	2301	Introduction to Psychology; or PSYC 2302 or SOCI 1301	3
PHED	1164	Concepts of Physical Activity	1
FDNS	2165	Practicum (Capstone) Humanities/Visual or Performing Arts Elective	1
			TOTAL DEGREE HOURS
			67

\* Student must demonstrate mathematical competency with a grade of C or higher in MATH-0350 or equivalent prior to enrolling in BIOL-2401.

After successful completion of the above curriculum and verification by the program director, the student is eligible to take the national examination to become a Dietetic Technician Registered (DTR) through the American Dietetic Association Commission on Dietetic Registration.

NOTE: Mathematical competency is required for completion by TSI liable students. Satisfaction of this requirement may be met by completing MATH-0304 (Beginning Algebra) with a grade of C or higher, achieving a placement test score that qualifies the student for MATH-0350 (Intermediate Algebra), or completing a college-level mathematics course (1300 level or above).

## **CHILD NUTRITION SYSTEMS**

*Certificate of Completion Program*

*DIET.T003.UG • Southeast Campus Only*

### *First Semester*

		<i>Semester Hours</i>
HECO	1322	3
HECO	1315	3
FDNS	2400	4
FDNS	1371	3

### *Second Semester*

IFWA	2446	4
FDNS	1164	1
FDNS	1341	3
TOTAL CERTIFICATE HOURS		21

*NOTE: Satisfaction of the mathematical competency for this program may be met by completing MATH-0304 (Beginning Algebra) with a grade of C or higher, by achieving a placement test score that qualifies the student for MATH-0350 (Intermediate Algebra), or by completing a college-level mathematics course (1300 level or above).*

## **DIETARY MANAGER**

*Certificate of Completion Program*

*DIET.T004.UG • Southeast Campus Only*

### *First Semester*

		<i>Semester Hours</i>
HECO	1322	3
FDNS	2400	4
FDNS	1345	3
CHEF	1301	3

### *Second Semester*

CHEF	1205	2
IFWA	2446	4
FDNS	1341	3
BMGT	1301	3
FDNS	1164	1
TOTAL CERTIFICATE HOURS		26

*NOTE: Satisfaction of the mathematical competency for this program may be met by completing MATH-0304 (Beginning Algebra) with a grade of C or higher, by achieving a placement test score that qualifies the student for MATH-0350 (Intermediate Algebra), or by completing a college-level mathematics course (1300 level or above).*

**DIETETICS I\***

*Certificate of Completion Program  
DIET.T002.UG • Southeast Campus Only*

**First Year***First Semester*

		<i>Semester Hours</i>
HECO	1315	Food Preparation and Meal Management 3
HECO	1322	Nutrition and Diet Therapy 3
FDNS	2400	Food Management Systems 4
ENGL	1301	English Composition I 3

*Second Semester*

IFWA	2446	Quantity Procedures 4
CHEM	1411	General Chemistry I 4
MATH	1314	Functional Approach to College Algebra 3
PHED	1164	Concepts of Physical Activity 1

*First Summer Session*

		3
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*Second Summer Session*

SPCH	1311	Fundamentals of Speech Communications; or 3
		SPCH 1315 or SPCH 1321

**Second Year***First Semester*

FDNS	1309	Nutrition in the Community (Capstone) 3
COSC	1401	Introduction to Computing; or BCIS 1405 4
PSYC	2301	Introduction to Psychology 3
CHEM	1412	General Chemistry II 4

TOTAL CERTIFICATE HOURS 45

\* Students must meet requirements of the Texas Success Initiative (TSI), including assessment prior to enrollment in any college-level coursework and any indicated developmental education or other strategy for achieving college readiness.

After successful completion of the above curriculum, the student is eligible to apply to programs designed to train Registered Dietitians (RD) and accredited by the American Dietetic Association. Completion of this program does not, however, ensure the student's acceptance into an RD program.

## **ELECTRONICS TECHNOLOGY**

*Associate of Applied Science Degree Programs*

*ELEC.D003.UG • Computer Hardware • South Campus Only*

*ELEC.D004.UG • Electronics and Telecommunication • South Campus Only*

*ELEC.D005.UG • Electronics Engineering Technology • South Campus Only*

*ELEC.D006.UG • Robotics and Automation • South Campus Only*

*ELEC.D007.UG • Oil and Gas Production • South Campus Only*

*ELEC.D008.UG • Renewable Energy • South Campus Only*

<b>Academic Foundation (Required for Each Program)</b>			<i>Semester Hours</i>
ENGL	1301	English Composition I	3
GOVT	2306	Texas State and Local Government; or GOVT 2305	3
MATH	1314	Functional Approach to College Algebra; or MATH 1316 or MATH 1324 or MATH 1332 or MATH 2412 or MATH 2513	3
SPCH	1321	Business and Professional Communication; or SPCH 1311 or SPCH 1315 or SPCH 1318 Humanities/Visual or Performing Arts Elective	3
		TOTAL ACADEMIC FOUNDATION HOURS	15

<b>Technical Foundation (Required for Each Program)</b>			<i>Semester Hours</i>
CETT	1409	DC-AC Circuits	4
CETT	1449	Digital Systems	4
RBTC	1401	Programmable Logic Controllers	4
CETT	1441	Solid State Circuits	4
CETT	1445	Microprocessor	4
CETT	2435	Advanced Microprocessors	4
CETT	1431	Programming for Discrete Electronic Devices	4
ENGR	1304	Engineering Graphics	3
		TOTAL TECHNICAL FOUNDATION HOURS	31

<b>Specialization for Computer Hardware</b>			<i>Semester Hours</i>
CPMT	1411	Introduction to Computer Maintenance	4
CPMT	1445	Computer Systems Maintenance	4
CPMT	1449	Computer Networking Technology	4
CSIR	1459	Digital Data Communication	4
CPMT	1491	A+ Certification Training (Capstone)	4
		TOTAL DEGREE HOURS	66

<b>Specialization for Electronics and Telecommunications</b>			<i>Semester Hours</i>
CETT	1457	Linear Integrated Circuits	4
EECT	2439	Communication Circuits	4
EECT	2435	Telecommunications	4
CSIR	1459	Digital Data Communication	4
CETT	2449	Research and Project Design (Capstone)	4
		TOTAL DEGREE HOURS	66

<b>Specialization for Electronics Engineering Technology</b>			<i>Semester Hours</i>
ENGR	1201	Introduction to Engineering	2
PHYS	2425	University Physics I	4
PHYS	2426	University Physics II	4
ENGR	2301	Mechanics I (Statics)	3
ENGR	2302	Mechanics II (Dynamics)	3
ENGR	2432	Mechanics of Materials	4
ENGR	2305	Circuit Analysis (Capstone)	3
		TOTAL DEGREE HOURS	69

<b>Specialization for Robotics and Automation</b>			<i>Semester Hours</i>
HYDR	1345	Hydraulics and Pneumatics	3
ELPT	2455	Programmable Logic Control II	4
RBTC	1447	Electro-Mechanical Devices	4
RBTC	1351	Robotic Mechanisms	3
CETT	2449	Research and Design Project	4
RBTC	2445	Robot Application, Set-Up and Testing (Capstone)	4
		TOTAL DEGREE HOURS	68

<b>Specialization for Oil and Gas Production</b>			<i>Semester Hours</i>
PTRT	1313	Industrial Safety	3
PTRT	1307	Recovery and Production Methods	3
PTRT	1317	Natural Gas Processing I	3
PTRT	2323	Natural Gas Production	3
PTRT	1324	Petroleum Instrumentation	3
HYDR	1345	Hydraulics and Pneumatics	3
INMT	2345	Industrial Troubleshooting (Capstone)	3
		TOTAL DEGREE HOURS	67

<b>Specialization for Renewable Energy</b>			<i>Semester Hours</i>
PTRT	1313	Industrial Safety	3
HART	1411	Solar Fundamentals	4
ELMT	2437	Electronic Troubleshooting, Service, and Repair	4
CSIR	1459	Digital Data Communications	4
WIND	2459	Wind Power Delivery System	4
RBTC	1351	Robotic Mechanisms	3
INTC	2359	Distributive Control Systems (Capstone)	3
		TOTAL DEGREE HOURS	71

## ELECTRONICS TECHNOLOGY CERTIFICATES

### COMPUTER MAINTENANCE

*Certificate of Completion Program*

*ELEC.T004.UG • South Campus Only*

#### *First Semester*

			<i>Semester Hours</i>
CETT	1449	Digital Systems	4
CPMT	1411	Introduction to Computer Maintenance	4
CPMT	1449	Computer Networking Technology	4
<i>Second Semester</i>			
CETT	1409	DC-AC Circuits	4
CPMT	1445	Computer Systems Maintenance	4
CPMT	1491	A+ Certification Training (Capstone)	4
TOTAL CERTIFICATE HOURS			24

### ELECTRONICS TECHNOLOGY

*Certificate of Completion Program*

*ELEC.T001.UG • South Campus Only*

#### *First Semester*

			<i>Semester Hours</i>
MATH	1314	Functional Approach to College Algebra; or MATH 1316 or MATH 1324 or MATH 1332 or MATH 2513	3
CETT	1409	DC-AC Circuits	4
CETT	1449	Digital Systems	4
RBTC	1401	Programmable Logic Controllers	4
<i>Second Semester</i>			
CETT	1441	Solid State Circuits	4
CETT	1445	Microprocessors (Capstone)	4
TOTAL CERTIFICATE HOURS			23

### ELECTRONICS ENGINEERING TECHNOLOGY

*Certificate of Completion Program*

*ELEC T002.UG • South Campus Only*

#### *First Semester*

			<i>Semester Hours</i>
ENGR	1201	Introduction to Engineering	2
ENGR	1304	Engineering Graphics	3
CETT	1449	Digital Systems	4
CETT	1431	Programming for Discrete Electronic Devices	4
CETT	1409	DC-AC Circuits; or ENGR 2305	4

#### *Second Semester*

RBTC	1351	Robotic Mechanisms; or ENGR 2301	3
RBTC	1401	Programmable Logic Controllers; or ENGR 2302	4
CETT	2449	Research and Project Design	4
CETT	1445	Microprocessors	4
PHYS	1401	College Physics I; or PHYS 2425	4

#### *Summer Term*

PHYS	1402	College Physics II; or PHYS 2426	4
TOTAL CERTIFICATE HOURS			40

## **MECHATRONICS TECHNICIAN**

*Certificate of Completion Program  
ELEC.T003.UG • South Campus Only*

<i>First Semester</i>		<i>Semester Hours</i>
MATH	1314	Functional Approach to College Algebra; or MATH 1316 or MATH 1332
CETT	1409	DC-AC Circuits
CETT	1449	Digital Systems
RBTC	1401	Programmable Logic Controllers
<i>Second Semester</i>		
RBTC	1351	Robotic Mechanisms
CETT	1441	Solid State Circuits
CETT	1445	Microprocessors
RBTC	2445	Robot Applications, Set-Up and Testing (Capstone)
		TOTAL CERTIFICATE HOURS 30

## **OIL AND GAS PRODUCTION TECHNOLOGY**

*Certificate of Completion Program  
ELEC.T005.UG • South Campus Only*

<i>First Semester</i>		<i>Semester Hours</i>
CETT	1409	DC-AC Circuits
CETT	1449	Digital Systems
RBTC	1401	Programmable Logic Controllers
MATH	1314	Functional Approach to College Algebra; or MATH 1316 or MATH 1324 or MATH 1332 or MATH 2412 or MATH 2513
<i>Second Semester</i>		
PTRT	1313	Industrial Safety
PTRT	1317	Natural Gas Processing I
PTRT	1324	Petroleum Instrumentation
PTRT	2323	Natural Gas Production
INMT	2345	Industrial Troubleshooting (Capstone)
		TOTAL CERTIFICATE HOURS 30

## **RENEWABLE ENERGY TECHNOLOGY**

*Certificate of Completion Program  
ELEC.T006.UG • South Campus Only*

<i>First Semester</i>		<i>Semester Hours</i>
CETT	1409	DC-AC Circuits
CETT	1449	Digital Systems
HART	1411	Solar Fundamentals
MATH	1314	Functional Approach to College Algebra; or MATH 1316 or MATH 1324 or MATH 1332 or MATH 2412 or MATH 2513
<i>Second Semester</i>		
PTRT	1313	Industrial Safety
WIND	2459	Wind Power Delivery System
RBTC	1401	Programmable Logic Controllers
INTC	2359	Distributed Control Systems (Capstone)
		TOTAL CERTIFICATE HOURS 29

**ENERGY TECHNICIAN**

*Certificate of Completion Program  
ELEC.T007.UG • South Campus Only*

*First Semester*

			<i>Semester Hours</i>
PTRT	1313	Industrial Safety (Capstone)	3
ENER	1350	Overview of Energy Industry	3
ENER	1340	Employee Success in Energy Industry	3
ELPT	1315	Electrical Calculations I	3

*Second Semester*

ENER	1330	Basic Mechanical Skills for Energy	3
CETT	1409	DC-AC Circuits	4
ENGL	2311	Technical Writing	3
INCR	1302	Physics of Instrumentation	3

TOTAL CERTIFICATE HOURS 25

**EMERGENCY MEDICAL SERVICES#**

*Associate of Applied Science Degree Program  
EMER.D002.UG • Northeast Campus Only*

**General Education Courses (To be Completed Before First Semester)**

			<i>Semester Hours</i>	
BIOL	2401	*	Anatomy and Physiology I	4
BIOL	2402		Anatomy and Physiology II	4
COSC	1401		Introduction to Computing	4
ENGL	1301		English Composition I	3
EMSP	1160	**	Clinical - Emergency Medical Technology	1
EMSP	1501	**	Emergency Medical Technician	5
HPRS	2200		Pharmacology for Health Professions	2
PSYC	2315		Psychology of Adjustment and Human Relations; or PSYC 2301	3
			Speech Elective	3
			Humanities/Visual or Performing Arts Elective	3
		***	Approved Elective	3

**First Year**

			<i>Semester Hours</i>	
<i>First Semester</i>				
EMSP	1356		Patient Assessment and Airway Management	3
EMSP	1438		Introduction to Advanced Practice	4
EMSP	2160		Clinical - EMT Paramedic	1

*Second Semester*

EMSP	1355	Trauma Management	3
EMSP	2161	Clinical - EMT Paramedic	1
EMSP	2444	Cardiology	4

*Summer Session*

EMSP	2534	Medical Emergencies	5
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**Second Year**

			<i>Semester Hours</i>
<i>First Semester</i>			
EMSP	2162	Clinical - EMT Paramedic	1
EMSP	2338	EMS Operations	3
EMSP	2430	Special Populations	4

*Second Semester*

EMSP	2243	Assessment Based Management	2
EMSP	2267	Practicum – EMT Paramedic	2

**TOTAL DEGREE HOURS    68**

\* Student must demonstrate mathematical competency with a grade of C or higher in MATH 0350 or equivalent prior to enrolling in BIOL-2401.

\*\*Reading competency through RDNG-0363 or equivalent, mathematical competency through MATH 0304 or equivalent, and writing competency through ENGL-0325 or equivalent are required for enrollment in EMSP-1501 and EMSP-1160. The completion of EMSP-1501 and EMSP-1160 does not assure admission into the AAS.Emergency Medical Services or the CRT.Paramedic Program.

\*\*\*Approved Elective may be chosen from BIOL-2420, BIOL- 2421, EMSP-2458, PSYC-2301, PSYC-2302, PSYC-2308, PSYC-2314, PSYC-2315, SOCI-1301, SOCI-1306, SOCI-2301 or SOCI-2326. (NOTE: EMSP-2163 must be taken concurrently with EMSP-2458.)

## **PARAMEDIC PROGRAM#**

*Certificate of Completion Program*

*EMER.T002.UG • Northeast Campus Only*

**Prerequisite:** Current Texas Department of State Health Services EMT-Basic Certification may be earned by taking EMSP 1160 and EMSP 1501.\*

### **First Year**

<i>First Semester</i>		<i>Semester Hours</i>
EMSP	1356	Patient Assessment and Airway Management
		3
EMSP	1438	Introduction to Advanced Practice
		4
EMSP	2160	Clinical – EMT Paramedic
<i>Second Semester</i>		
EMSP	1355	Trauma Management
		3
EMSP	2161	Clinical – EMT Paramedic
		4
EMSP	2444	Cardiology
<i>Summer Session (12 Weeks)</i>		
EMSP	2534	Medical Emergencies
		5

### **Second Year**

<i>First Semester</i>		
EMSP	2162	Clinical – EMT Paramedic
EMSP	2338	EMS Operations
EMSP	2430	Special Populations
<i>Second Semester (12 Weeks)</i>		
EMSP	2243	Assessment Based Management
EMSP	2267	Practicum – EMT Paramedic
TOTAL CERTIFICATE HOURS		33

\*The completion of EMSP 1501 and EMSP 1160 does not assure admission into the AAS.Emergency Medical Services or the CRT.Paramedic Program.

### ***Admission and Program Information for the AAS.Emergency Medical Services and the CRT.Paramedic Program***

A selection committee reviews the applications and selects those applicants who best meet the following criteria (listed in random order):

- Grade point average (GPA) of all high school/college classes.
- GED scores if high school/college is not applicable.
- Bonus points for college general education courses required for the program for which a grade of C or better was made.
- Bonus points for college science courses required for the program and the GPA of those courses.
- Priority preference will be given to applicants who have completed Anatomy and Physiology I and II.
- Mathematical competency through MATH 0350 or equivalent is required for admission.

Applicants must hold a current Texas EMT certificate.

*Only the criteria listed are evaluated and considered for the purpose of selection and admission to this program. No specific minimum grade point average or test score, or a set minimum number of courses must be completed for admission. Selection is based on how each applicant compares with others in the applicant pool. In general, the higher the grades, the more competitive the applicant will be for the positions available.*

*Student must complete and earn a grade of C or better in each specialized course.*

*The Tarrant County College Emergency Medical Services Program is accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP), 1361 Park Street, Clearwater, FL 33756. Phone 727-210-2350*

*After successful completion of this program, the student will be eligible to take the examination for certification as an Emergency Medical Technician - Paramedic by the Texas Department of Health.*

## **EMERGENCY MEDICAL TECHNICIAN**

*Certificate of Completion Program*

*EMER.T003.UG • Northeast Campus Only*

### **First Year**

<i>First Semester</i>		<i>Semester Hours</i>
EMSP	1501	Emergency Medical Technician
EMSP	1160	Clinical - Emergency Medical Technology
TOTAL CERTIFICATE HOURS		6

*\*The completion of EMSP 1501 and EMSP 1160 does not assure admission into the AAS.Emergency Medical Services or the CRT.Paramedic Program.*

### ***Admission and Program Information for the CRT.Emergency Medical Technician***

*In order to register for these classes, students must demonstrate competency in mathematics, reading, and writing by*

- *Completion of previous applicable coursework,*
- *Passing each of the sections of ACCUPLACER or an appropriate alternative test, or*
- *Earning a grade of C or higher in MATH 0304, RDNG 0363, and ENGL 0325.*

*Students must undergo screening for substances of abuse and a criminal background check in order to remain enrolled in this program. Details are provided at an orientation meeting prior to the beginning of classes.*

*Students must earn a grade of C or higher in both courses to receive an EMT certificate in this program.*

*After satisfactory completion of the above curriculum, the student is eligible to take the National Registry EMT examination.*

## **FIRE INVESTIGATION TECHNOLOGY**

*Associate of Applied Science Degree Program  
FIRI.D001.UG • Northwest Campus Only*

### **First Year**

#### *First Semester*

			<i>Semester Hours</i>
FIRT	1338	Fire Protection Systems	3
FIRT	1329	Building Codes and Construction	3
ENGL	1301	English Composition I	3
COSC	1401	Introduction to Computing; or BCIS 1405	4
PHED	1164	Concepts of Physical Activity	1

#### *Second Semester*

FIRT	1303	Fire and Arson Investigation I	3
FIRT	1307	Fire Prevention Codes and Inspections	3
CRIJ	1301	Introduction to Criminal Justice	3
CHEM	1406	Essentials of General and Biological Chemistry	4
		Humanities/Visual or Performing Arts Elective	3
*		* Fire Elective	3

### **Second Year**

#### *First Semester*

CRIJ	2323	Legal Aspects of Law Enforcement	3
FIRT	1305	Public Education Programs	3
FIRT	1309	Fire Administration I	3
FIRT	2333	Fire and Arson Investigation II	3
FIRT	1333	Fire Chemistry I	3
SPCH	1321	Business and Professional Communication; or SPCH 1311 or SPCH 1315 or SPCH 1318	3

#### *Second Semester*

GOVT	2306	Texas State and Local Government	3
CRIJ	2314	Criminal Investigation	3
CRIJ	1306	Court Systems and Practices	3
FIRT	1315	Hazardous Materials I	3
PSYC	2301	Introduction to Psychology	3
FIRT	2388	Internship - Fire Protection and Safety Technology/ Technician (Capstone); or FIRT 2331	3

TOTAL DEGREE HOURS    69

*\*Electives must have prior approval of the department chairperson. Suggested electives include FIRS-1301, FIRS-1313, FIRS-1319, FIRS-1323, FIRS-1329, FIRT-1301, FIRT-1311, FIRT-1349, FIRT-1391 or FIRT-2309*

*NOTE: Mathematical competency is required for completion by TSI liable students. Satisfaction of this requirement may be met by completing MATH-0304 (Beginning Algebra) with a grade of C or higher, achieving a placement test score that qualifies the student for MATH-0350 (Intermediate Algebra), or completing a college-level mathematics course (1300 level or above).*

## **FIRE PROTECTION TECHNOLOGY**

*Associate of Applied Science Degree Program  
FIRP.D001.UG • Northwest Campus Only*

### **First Year**

#### *First Semester*

			<i>Semester Hours</i>
COSC	1401	Introduction to Computing; or BCIS 1405	4
FIRT	1301	Fundamentals of Fire Protection	3
ENGL	1301	English Composition I	3
GOVT	2306	Texas State and Local Government	3
SPCH	1321	Business and Professional Communication; or SPCH 1311 or SPCH 1315 or SPCH 1318	3
SOCI	1301	Introduction to Sociology; or any Psychology course	3

#### *Second Semester*

FIRT	1338	Fire Protection Systems	3
FIRT	1307	Fire Prevention Codes and Inspection	3
FIRT	1329	Building Codes and Construction	3
CHEM	1406	Essentials of General and Biological Chemistry	4
		Humanities/Visual or Performing Arts Elective	3
PHED	1164	Concepts of Physical Activity	1

### **Second Year**

#### *First Semester*

FIRT	1333	Fire Chemistry I	3
FIRT	1311	Fire Service Hydraulics	3
FIRT	1309	Fire Administration I	3
*		Fire Technology Electives	3

#### *Second Semester*

FIRT	1349	Fire Administration II	3
FIRT	1315	Hazardous Materials I	3
FIRT	2388	Internship: Fire Protection and Safety Technology/ Technician (Capstone); or FIRT 2331	3
**		Fire Technology Electives	9

TOTAL DEGREE HOURS    66

\* Electives must have prior approval of the department chairperson. Suggested electives include FIRS-1301, FIRS-1313, FIRS-1319, FIRS-1323, FIRS-1329 or FIRT-1391

\*\*Suggested electives include: FIRS-1301, FIRS-1313, FIRS-1319, FIRS-1323, FIRS-1329,  
FIRT-1303, FIRT-1305, FIRT-1345, FIRT-1391, FIRT-2309 or FIRT-2333

**NOTE:** Mathematical competency is required for completion by TSI liable students. Satisfaction of this requirement may be met by completing MATH-0304 (Beginning Algebra) with a grade of C or higher, achieving a placement test score that qualifies the student for MATH-0350 (Intermediate Algebra), or completing a college-level mathematics course (1300 level or above).

## **BASIC FIREFIGHTER CERTIFICATION#**

*Certificate of Completion*

*FIRP.T002.UG • Northwest Campus Only*

<i>First Semester</i>		<i>Semester Hours</i>	
FIRS	1301	Firefighter Certification I	3
FIRT	1338	Fire Protection Systems	3
FIRS	1313	Firefighter Certification III	3
FIRS	1319	Firefighter Certification IV	3
FIRS	1323	Firefighter Certification V	3
FIRS	1329	Firefighter Certification VI	3
		TOTAL CERTIFICATE HOURS 18	

### ***Admission and Program Information for Basic Firefighter***

*The courses listed above are taught in an academy format (daytime - Monday through Friday from 8 a.m. - 5 p.m. and nighttime Monday and Thursday from 6 p.m. - 10 p.m., and Saturday 8 a.m. - 5 p.m.) and have specialized admission requirements. Consent of the academy coordinator required for enrollment. Once admitted to the program, students must complete and earn a minimum grade of C in each course. Final endorsement of eligibility for the State Firefighter Licensing Exam will only be issued to a student who has completed each course (with a minimum grade of C) during that specific academy.*

*Enrollment is based on space availability for those who meet admission criteria.*

#### *Admission Criteria:*

1. *Students must contact the Fire Academy for academy dates and application deadlines.*
2. *Prior to enrolling, students must provide evidence of EMT Certification.*
3. *Students must provide evidence of completion of the ACCUPLACER Test or approved alternative test.\**
4. *Students must take the physical abilities test.*
5. *Student must complete the Fire Academy application (available at the Fire Academy).*
6. *Students must have a personal interview with the Academy Coordinator.*

*\* This requirement may be waived by the Division Dean.*

## **GEOGRAPHIC INFORMATION SYSTEMS**

*Associate of Applied Science Degree Program*

*GINS.D001.UG • Trinity River Campus Only*

### **First Year**

<i>First Semester</i>		<i>Semester Hours</i>
ENGL	1301	English Composition I 3
BCIS	1405	Business Computer Applications; or COSC 1401 4
GISC	1402	Understanding Geographic Information Systems (GIS) 4
MATH	1314	Functional Approach to College Algebra 3
ARCH	1315	Architectural Computer Graphics; or ENGR 1304 3

### *Second Semester*

ENGL	1302	English Composition II 3
GISC	2404	Geographic Information Systems (GIS) 4
		Design with Vector Analysis
COSC	1436	Programming Fundamentals I 4
MATH	1342	Elementary Statistics 3
GOVT	2305	United States Government; or GOVT 2306 3

### **Second Year**

<i>First Semester</i>		
GISC	2402	Geographic Information Systems (GIS) 4
		Design with Raster Analysis
ITSW	1407	Introduction to Database 4
GISC	2420	Intermediate Geographic Information Systems (GIS) 4
SPCH	1311	Fundamentals of Speech Communication; 3 or SPCH 1315 or SPCH 1318 or SPCH 1321 Humanities/Visual or Performing Arts Elective 3

### *Second Semester*

GISC	2411	Geographic Information Systems (GIS) Applications 4
ITSE	2405	Windows Programming 4
GISC	2401	Data Acquisition and Analysis in 4 Geographic Information Systems (GIS)
GISC	2264	Practicum: Cartography (Capstone) 2
TOTAL DEGREE HOURS		66

## **GEOGRAPHIC INFORMATION SYSTEMS (GIS) SKILLS ENHANCEMENT**

*Certificate of Completion Program*

*GINS.T002.UG • Trinity River Campus Only*

<i>First Semester</i>		<i>Semester Hours</i>
GISC	1402	Understanding Geographic Information Systems (GIS) 4
GISC	2402	Geographic Information Systems (GIS) 4
		Design with Raster Analysis
GISC	2404	Geographic Information Systems (GIS) 4
		Design with Vector Analysis
GISC	2411	Geographic Information Systems (GIS) Applications 4
GISC	2420	Intermediate Geographic Information Systems (GIS) 4
TOTAL CERTIFICATE HOURS		20

## **GEOGRAPHIC INFORMATION SYSTEMS**

*Certificate of Completion Program*

*GINS.T001.UG • Trinity River Campus Only*

### *First Semester*

		<i>Semester Hours</i>
GISC	1402	Understanding Geographic Information Systems (GIS) 4
BCIS	1405	Business Computer Applications; or COSC 1401 4
GISC	2402	Geographic Information Systems (GIS) 4
		Design with Raster Analysis
ARCH	1315	Architectural Computer Graphics; or ENGR 1304 3

### *Second Semester*

GISC	2404	Geographic Information Systems (GIS) 4
		Design with Vector Analysis
GISC	2411	Geographic Information Systems (GIS) Applications 4
GISC	2401	Data Acquisition and Analysis in GIS/GPS 4

### *Summer Term*

ITSE	2405	Windows Programming 4
ITSW	1407	Introduction to Database 4
GISC	2420	Intermediate Geographic Information Systems (GIS) 4
TOTAL CERTIFICATE HOURS		39

## **GEOGRAPHIC INFORMATION SYSTEMS (GIS) PROGRAMMER**

*Certificate of Completion Program*

*GINS.T003.UG • Trinity River Campus Only*

### *First Semester*

		<i>Semester Hours</i>
GISC	1402	Understanding Geographic Information Systems (GIS) 4
COSC	1401	Introduction to Computing 4
GISC	2402	Geographic Information Systems (GIS) 4
		Design with Raster Analysis
ITSE	1411	Beginning Web Programming 4

### *Second Semester*

GISC	2401	Data Acquisition and Analysis 4
GISC	2404	Geographic Information Systems (GIS) 4
		Design with Vector Analysis
COSC	1436	Programming Fundamentals I 4
GISC	2420	Intermediate Geographic Information Systems (GIS) 4

### *Summer Term*

COSC	1437	Programming Fundamentals II 4
GISC	2435	Programming for Geographic Information Systems (GIS) 4
(Capstone)		TOTAL CERTIFICATE HOURS 40

## **GRAPHIC COMMUNICATION**

*Associate of Applied Science Degree Program  
GRPH.D001.UG • Northeast Campus Only*

### **First Year**

#### *First Semester*

			<i>Semester Hours</i>
ARTC	1305	Basic Graphic Design	3
SPCH	1321	Business and Professional Communication; or SPCH 1311 or SPCH 1315 or SPCH 1318	3
ARTS	1311	Design I	3
ARTS	1316	Drawing I	3
ARTC	1313	Digital Publishing I	3

#### *Second Semester*

ARTC	1402	Digital Imaging I	4
ARTC	1453	Computer Illustration I	4
ARTC	2313	Digital Publishing II	3
ARTS	2356	Photography I	3

#### *First Summer Session*

ENGL	1301	English Composition I	3
PSYC	2315	Psychology of Adjustment and Human Relations; or PSYC 2301	3

#### *Second Summer Session*

*	Approved Elective	3
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### **Second Year**

#### *First Semester*

ARTC	2305	Digital Imaging II	3
IMED	1416	Web Design I	4
ARTV	1403	Basic Animation	4
ARTC	2440	Computer Illustration II	4

#### *Second Semester*

ARTC	2335 **	Portfolio Development for Graphic Design (Capstone)	3
IMED	2415	Web Design II	4
MATH	1332	Survey of Mathematics; or MATH 1314 or MATH 1342	3
ARTS	2313	Design Communication I	3

**TOTAL DEGREE HOURS      66**

*\*All students are required to take 3 hours of electives which must be courses other than Graphic Communication. Suggested electives include:*

*ACCT-2301, ACNT-1303, ARTS-1312, ARTS-1317, ARTS-1314, ARTS-2323, ARTS-2333,  
ARTS-2357, ENGL-2311, FLMC-1431, PHTC-1300, PHTC-1343, PHTC-1353, PHTC-2331,  
PHTC-2343 or PHTC-2349*

*\*\*Capstone is taken during the graduating semester.*

## **COMPUTER GRAPHICS**

*Certificate of Completion Program  
GRPH.T004.UG • Northeast Campus Only*

### **First Year**

#### *First Semester*

			<i>Semester Hours</i>
ARTC	1305	Basic Graphic Design	3
ARTC	1313	Digital Publishing I	3
ARTC	1453	Computer Illustration I	4
ARTS	1316	Drawing I	3

#### *Second Semester*

ARTC	1402	Digital Imaging I	4
ENGL	1301	English Composition I	3
ARTS	1311	Design I	3
ARTV	1403	Basic Animation	4

### **Second Year**

#### *First Semester*

IMED	1416	Web Design I	4
ARTC	2305	Digital Imaging II	3
ARTS	2313	Design Communication I	3
ARTC	2335 *	Portfolio Development for Graphic Design (Capstone)	3
TOTAL CERTIFICATE HOURS			40

\*Capstone is taken during the graduating semester.

## **HEALTH INFORMATION TECHNOLOGY#**

*Associate of Applied Science Degree Program*

*HITT.D001.UG • Trinity River Campus Only*

### **First Year**

#### *First Semester*

			<i>Semester Hours</i>
HITT	1401	Health Data Content and Structure	4
HITT	1445	Health Care Delivery Systems	4
HPRS	1206	Essentials of Medical Terminology	2
BIOL	2401	Anatomy and Physiology I	4
POFI	1449	Spreadsheet	4

#### *Second Semester*

HPRS	2201	Pathophysiology	2
HITT	1441	Coding and Classification Systems	4
HITT	1442	Ambulatory Coding	4
HPRS	2200	Pharmacology for Health Professions	2
BIOL	2402	Anatomy and Physiology II	4

#### *Summer Session*

HITT	2335	Coding and Reimbursement Methodologies	3
HITT	2346	Advanced Medical Coding	3

### **Second Year**

#### *First Semester*

HITT	1253	Legal and Ethical Aspects of Health Information	2
HITT	2260	Clinical - Health Information and Medical Records Technology/Technician	2
HITT	2443	Quality Assessment and Performance Improvement	4
ITSW	1407	Introduction to Database	4
		Humanities/Visual or Performing Arts Elective	3

#### *Second Semester*

HITT	2261	Clinical - Health Information and Medical Records Technology/Technician	2
BMGT	1327	Principles of Management	3
ENGL	1301	English Composition I	3
PSYC	2301	Introduction to Psychology; or PSYC 2316	3
SPCH	1321	Business and Professional Communication; or SPCH 1311 or SPCH 1315 or SPCH 1318 or SPCH 1342 or SPCH 2341	3

TOTAL DEGREE HOURS 69

## **Admission and Program Information for Health Information Technology:**

A selection committee reviews applications and selects those applicants who best meet the following criteria (listed in random order):

- Students must demonstrate competency in mathematics, reading, and writing by
  - completion of previous applicable coursework, or
  - passing each of those sections of ACCUPLACER or an appropriate alternative test, or
  - earning a grade of C or higher in MATH-0350, RDNG-0363, and ENGL-0325.
- Grade point average (GPA) of all high school or undergraduate college classes or GED scores if high school/college are not applicable.
- Bonus points for college-level general education and science courses required for the program for which a grade of C or higher was made. **NOTE:** Science courses must have been completed within five years of the semester containing the program deadline date.
- Bonus points proportionate to the number of semester hours from a regionally accredited college or university for which a grade of C or higher was made up to a maximum of 120 semester hours.
- Bonus points for bachelor's degree from a regionally accredited college or university.

Only the criteria listed are evaluated and considered for the purpose of selection and admission to this program. No specific minimum grade point average or test score, or a set minimum number of courses must be completed for admission. Selection is based on how each applicant compares with others in the applicant pool. In general, the higher the grades, the more competitive the applicant will be for the positions available.

Students who are selected for admission must undergo screening for substances of abuse and a criminal background check. All offers for admission to the Health Information Technology Program are provisional until satisfactory results are received for these two evaluations.

International students must contact the International Admission Office 817-515-1570 and also the Trinity River Advisement Office 817-515-1055.

Once admitted to the program students must complete and earn a minimum grade of C in each specialized course.

Most/all of the specialized courses are taught only during the daytime.

After satisfactory completion of the above curriculum, the student is eligible to take the national examination to become certified as a Registered Health Information Technologist (RHIT). Graduates may also choose to sit for several medical coding certification exams.

## **HEALTH INFORMATION TECHNOLOGY**

*Certificate of Completion Program*

*HITT.T002.UG • Trinity River Campus Only*

### **First Year**

#### *First Semester*

			<i>Semester Hours</i>
HITT	1401	Health Data Content and Structure	4
HITT	1445	Health Care Delivery Systems	4
BIOL	2401	Anatomy and Physiology I	4

#### *Second Semester*

HITT	1253	Legal and Ethical Aspects of Health Information	2
HPRS	1206	Essentials of Medical Terminology	2
ITSW	1407	Introduction to Database	4
BIOL	2402	Anatomy and Physiology II	4

TOTAL DEGREE HOURS 24

*Students must complete and earn a minimum grade of C in each course in order to receive the Certificate of Completion in Health Information Technology.*

*Students may contact the Trinity River Advisement Office 817-515-1055 for additional information.*

*After satisfactorily completing the coursework in this certificate, students may continue to take additional courses needed to earn the Associate of Applied Science Degree in Health Information Technology.*

## **HEATING, AIR CONDITIONING, AND REFRIGERATION TECHNOLOGY**

*Associate of Applied Science Degree Program*

*HEAT.D001.UG • South Campus Only*

### **First Year**

<i>First Semester</i>		<i>Semester Hours</i>
HART	1401	Basic Electricity for Heating, Ventilation and Air Conditioning (HVAC) 4
HART	1407	Refrigeration Principles 4
HART	2438	Air Conditioning Installation and Startup 4
MATH	1332	Survey of Mathematics; or MATH 1314 or MATH 1324 3

### *Second Semester*

MAIR	1449	Refrigerators, Freezers, Window Air Conditioners 4
HART	2445	Residential Air Conditioning Systems Design 4
SPCH	1321	Business and Professional Communication; or SPCH 1311 or SPCH 1315 or SPCH 1318 3
ENGL	1301	English Composition I 3
PHED	1164	Concepts of Physical Activity 1

### *Summer Session*

DFTG	1405	Technical Drafting; or COSC 1401 4
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### **Second Year**

<i>First Semester</i>		
HART	2431	Advanced Electricity for Heating, Ventilation and Air Conditioning (HVAC) 4
HART	1445	Gas and Electric Heating 4
HART	1403	Air Conditioning Control Principles 4
		Humanities/Visual or Performing Arts Elective 3

### *Second Semester*

HART	2442	Commercial Refrigeration 4
HART	2436 *	Air Conditioning Troubleshooting (Capstone) 4
HART	2449 *	Heat Pumps 4
GOVT	2305	United States Government; or GOVT 2306 3
TOTAL DEGREE HOURS		64

*\*All other courses must be successfully completed before enrolling in these courses.*

*Students enrolled in the Heating, Air Conditioning and Refrigeration Technology Program are required to furnish their own hand tools for use in laboratory classes.*

**INSTALLATION TECHNICIAN**  
*Certificate of Completion Program*  
*HEAT.T001.UG • South Campus Only*

<i>First Semester</i>		<i>Semester Hours</i>
HART	1401	Basic Electricity for Heating, Ventilation and Air Conditioning 4
HART	1407	Refrigeration Principles 4
HART	2445	Residential Air Conditioning Systems Design 4
<i>Second Semester</i>		
MAIR	1449	Refrigerators, Freezers, Window Air Conditioners 4
HART	2438	Air Conditioning Installation and Startup (Capstone) 4
		TOTAL CERTIFICATE HOURS 20

*Students enrolled in the Heating, Air Conditioning and Refrigeration Technology Program are required to furnish their own hand tools for use in laboratory classes.*

**SERVICE TECHNICIAN**  
*Certificate of Completion Program*  
*HEAT.T002.UG • South Campus Only*

<i>First Semester</i>		
HART	2431	Advanced Electricity for Heating, Ventilation and Air Conditioning 4
HART	1445	Gas and Electric Heating 4
HART	1403	Air Conditioning Control Principles 4
<i>Second Semester</i>		
HART	2442	Commercial Refrigeration 4
HART	2436 *	Air Conditioning Troubleshooting (Capstone) 4
HART	2449 *	Heat Pumps 4
		TOTAL CERTIFICATE HOURS 24

*\*All other courses must be successfully completed before enrolling in these courses.*

*Students enrolled in the Heating, Air Conditioning and Refrigeration Technology Program are required to furnish their own hand tools for use in laboratory classes.*

## **HORTICULTURE**

*Associate of Applied Science Degree Program  
HORT.D001.UG • Northwest Campus Only*

### **First Year**

<i>First Semester</i>		<i>Semester Hours</i>
HALT	1301	Principles of Horticulture 3
HALT	1313	Economic Entomology 3
CHEM	1406	Essentials of General and Biological Chemistry; or CHEM 1411 4
	*	Horticulture Electives 6

### *Second Semester*

HALT	1307	Plant Diseases 3
AGCR	2418	Soil Science 4
HALT	2314	Plant Propagation 3
ENGL	1301	Composition I 3
	*	Horticulture Elective 3

### **Second Year**

<i>First Semester</i>		
HALT	2318	Soil Fertility and Fertilizers 3
GOVT	2305	U.S. Government; or GOVT 2306 or HIST 1301 or HIST 1302 3
		Humanities/Visual or Performing Arts Elective 3
	*	Horticulture Electives 9

### *Second Semester*

HALT	2323	Horticultural Pest Control 3
HALT	1303	Herbaceous Plants (Capstone) 3
SPCH	1321	Business and Professional Communication; or SPCH 1311 or SPCH 1315 or SPCH 1318 3
	**	Approved Electives 6
		TOTAL DEGREE HOURS 65

\*Suggested Horticulture Electives include:

*HALT-1309, HALT-1311, HALT-1317, HALT-1333, HALT-1353, HALT-1392, HALT-1422, HALT-2301, HALT-2302, HALT-2308, HALT-2315 and HALT-2320*

\*\*Electives must have prior approval of program advisor. Suggested general electives include courses from subjects ACCT, ACNT, BMGT, BUSG, BUSI, COSC, DFTG, ECON, MRKG, SMER, SPAN, or PSYC 2301.

**NOTE:** Mathematical competency is required for completion by TSI liable students. Satisfaction of this requirement may be met by completing MATH-0304 (Beginning Algebra) with a grade of C or higher, achieving a placement test score that qualifies the student for MATH-0350 (Intermediate Algebra), or completing a college-level mathematics course (1300 level or above).

## **HORTICULTURE**

*Certificate of Completion Program  
HORT.T001.UG • Northwest Campus Only*

### **First Year**

#### *First Semester*

			<i>Semester Hours</i>
HALT	1301	Principles of Horticulture	3
HALT	1313	Economic Entomology	3
*		Horticulture Electives	6

#### *Second Semester*

HALT	1307	Plant Diseases	3
AGCR	2418	Soil Science	4
HALT	2314	Plant Propagation	3
*		Horticulture Elective	6

### **Second Year**

#### *First Semester*

HALT	2318	Soil Fertility and Fertilizers	3
HALT	2323	Horticultural Pest Control	3
HALT	1303	Herbaceous Plants (Capstone)	3
*		Horticulture Electives	6

TOTAL CERTIFICATE HOURS      43

*\*Suggested Horticulture Electives include:*

*HALT-1309, HALT-1311, HALT-1317, HALT-1333, HALT-1353, HALT-1392, HALT-1422,  
HALT-2301, HALT-2302, HALT-2308, HALT-2315 and HALT-2320*

*\* Students must meet requirements of the Texas Success Initiative (TSI), including assessment prior to enrollment in any college-level coursework and any indicated developmental education or other strategy for achieving college readiness.*

*NOTE: Mathematical competency is required for completion by TSI liable students. Satisfaction of this requirement may be met by completing MATH-0304 (Beginning Algebra) with a grade of C or higher, achieving a placement test score that qualifies the student for MATH-0350 (Intermediate Algebra), or completing a college-level mathematics course (1300 level or above).*

**LANDSCAPE SPECIALIST***Certificate of Completion Program**HORT.T002.UG • Northwest Campus Only***First Year***First Semester*

		<i>Semester Hours</i>
HALT	1301	Principles of Horticulture
HALT	1422	Landscape Design
HALT	1317	Trees; or HALT 1333

*Second Semester*

HALT	1311	Shrubs, Vines, and Groundcovers	3
HALT	1353	Computer Landscape Design	3
HALT	2315	Landscape Maintenance	3

TOTAL CERTIFICATE HOURS      19

**PLANT PROTECTION SPECIALIST***Certificate of Completion Program**HORT.T003.UG • Northwest Campus Only***First Year***First Semester*

		<i>Semester Hours</i>
HALT	1301	Principles of Horticulture
HALT	1313	Economic Entomology
HALT	2323	Horticultural Pest Control

*Second Semester*

AGCR	2418	Soil Science	4
HALT	1307	Plant Diseases	3
HALT	2318	Soil Fertility and Fertilizers	3

TOTAL CERTIFICATE HOURS      19

## **HOTEL AND RESTAURANT ADMINISTRATION**

*Associate of Applied Science Degree Program*

*HRAD.D001.UG • Southeast Campus Only*

### **First Year**

#### *First Semester*

			<i>Semester Hours</i>
HAMG	1321	Introduction to the Hospitality Industry	3
RSTO	1306	Facilities Layout and Design	3
RSTO	1304	Dining Room Service	3
HAMG	2301	Principles of Food and Beverage Operations	3
CHEF	1205	Sanitation and Safety	2

#### *Second Semester*

TRVM	1201	Customer Sales and Service	2
CHEF	1301	Basic Food Preparation	3
HAMG	1324	Hospitality Human Resources Management	3
RSTO	1325	Purchasing for Hospitality Operations	3
HAMG	2305	Hospitality Management and Leadership	3

#### *First Summer Session*

COSC	1401	Introduction to Computing; or BCIS 1405	4
SPCH	1311	Fundamentals of Speech Communication; or SPCH 1315 or SPCH 1318 or SPCH 1321	3

#### *Second Summer Session*

SPAN	1100	Beginning Spanish Conversation I; or SPAN 1411 or FREN 1411	1
ENGL	1301	English Composition I	3

### **Second Year**

#### *First Semester*

HAMG	2302	Hospitality Security and Loss Prevention	3
HAMG	2307	Hospitality Marketing and Sales	3
CHEF	2301	Intermediate Food Preparation	3
HAMG	1340	Hospitality Legal Issues	3
HAMG	2330	Convention and Group Management and Services	3

#### *Second Semester*

TRVM	1327	Special Events Design	3
HAMG	1213	Front Office Procedures	2
HAMG	2167	Practicum (Capstone)	1
		Behavioral or Social Science Elective	3
		Mathematics or Science Elective	3
		Humanities/Visual or Performing Arts Elective	3
		TOTAL DEGREE HOURS	69

*NOTE: Mathematical competency is required for completion by TSI liable students. Satisfaction of this requirement may be met by completing MATH-0304 (Beginning Algebra) with a grade of C or higher, achieving a placement test score that qualifies the student for MATH-0350 (Intermediate Algebra), or completing a college-level mathematics course (1300 level or above).*

## **EVENT MANAGEMENT**

*Certificate of Completion Program*

*HRAD.T001.UG • Southeast Campus Only*

### **First Year**

#### *First Semester*

			<i>Semester Hours</i>
HAMG	1321	Introduction to the Hospitality Industry	3
RSTO	1306	Facilities Layout and Design	3
HAMG	2301	Principles of Food and Beverage Operations	3
HAMG	2330	Convention and Group Management and Services	3
RSTO	1304	Dining Room Service	3

#### *First Summer Session*

COSC	1401	Introduction to Computing; or BCIS 1405	4
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#### *Second Summer Session*

SPCH	1311	Fundamentals of Speech Communication; or SPCH 1315 or SPCH 1318 SPCH 1321	3
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#### *Second Semester*

TRVM	1327	Special Event Design	3
TRVM	1201	Customer Sales and Service	2
HAMG	1324	Hospitality Human Resources Management	3
HAMG	1340	Hospitality Legal Issues	3

TOTAL CERTIFICATE HOURS 33

## **RESTAURANT PRACTITIONER**

*Certificate of Completion Program*

*HRAD.T003.UG • Southeast Campus Only*

### **First Year**

#### *First Semester*

			<i>Semester Hours</i>
HAMG	1321	Introduction to the Hospitality Industry	3
RSTO	1306	Facilities Layout and Design	3
RSTO	1304	Dining Room Service	3
HAMG	2301	Principles of Food and Beverage Operations	3
CHEF	1205	Sanitation and Safety	2

#### *First Summer Session*

COSC	1401	Introduction to Computing; or BCIS 1405	4
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#### *Second Summer Session*

SPCH	1311	Fundamentals of Speech Communication; or SPCH 1315 or SPCH 1318 SPCH 1321	3
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#### *Second Semester*

TRVM	1201	Customer Sales and Service	2
HAMG	1324	Hospitality Human Resources Management	3
CHEF	1301	Basic Food Preparation	3

TOTAL CERTIFICATE HOURS 29

**RESTAURANT OPERATIONS\***  
*Certificate of Completion Program*  
 HRAD.T002.UG • Southeast Campus Only

**First Year**

<i>First Semester</i>		<i>Semester Hours</i>	
HAMG	1321	Introduction to the Hospitality Industry	3
RSTO	1306	Facilities Layout and Design	3
RSTO	1304	Dining Room Service	3
HAMG	2301	Principles of Food and Beverage Operations	3
CHEF	1205	Sanitation and Safety	2

*Second Semester*

TRVM	1201	Customer Sales and Service	2
CHEF	1301	Basic Food Preparation	3
HAMG	1324	Hospitality Human Resources Management	3
TRVM	1327	Special Events Design	3
HAMG	2305	Hospitality Management and Leadership	3

*First Summer Session*

COSC	1401	Introduction to Computing; or BCIS 1405	4
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*Second Summer Session*

SPCH	1311	Fundamentals of Speech Communication; or SPCH 1315 or SPCH 1318 or SPCH 1321	3
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**Second Year**

*First Semester*

CHEF	2301	Intermediate Food Preparation	3
RSTO	1325	Purchasing for Hospitality Operations	3
HAMG	2307	Hospitality Marketing and Sales	3
HAMG	2167	Practicum (Capstone)	1

TOTAL CERTIFICATE HOURS    45

\* Students must meet requirements of the Texas Success Initiative (TSI), including assessment prior to enrollment in any college-level coursework and any indicated developmental education or other strategy for achieving college readiness.

NOTE: Mathematical competency is required for completion by TSI liable students. Satisfaction of this requirement may be met by completing MATH-0304 (Beginning Algebra) with a grade of C or higher, achieving a placement test score that qualifies the student for MATH-0350 (Intermediate Algebra), or completing a college-level mathematics course (1300 level or above).

## **INFORMATION TECHNOLOGY**

*Associate of Applied Science Degree Programs*

*ITCS.D001.UG • Game and Simulation Programming • South Campuses Only*

*ITCS.D002.UG • Network Support • Northeast, Northwest, South, Southeast*

*Campuses Only*

*ITCS.D003.UG • Programming • All Campuses*

*ITCS.D004.UG • Security • Northeast, Northwest, South, Southeast Campuses Only*

*ITCS.D005.UG • Web and Internet Services • Northeast, Southeast, Trinity River*

*Campuses Only*

<b>Academic Foundation (Required for Each Program)</b>			<i>Semester Hours</i>
COSC	1401	Introduction to Computing; or BCIS 1405	4
ENGL	1301	English Composition I	3
MATH	1314	Functional Approach to College Algebra; or MATH 1316 or MATH 2412 or MATH 2513	3
SPCH	1321	Business and Professional Communication; or SPCH 1311 or SPCH 1315 or SPCH 1318	3
	*	Social or Behavioral Science Elective	3
	**	Humanities/Visual or Performing Arts Elective	3
		TOTAL ACADEMIC FOUNDATION HOURS	19

*\*Social or Behavioral Science Elective must be chosen from the corresponding section of the Core Curriculum.*

*\*\*Humanities/Visual or Performing Arts Elective must be chosen from the corresponding section of the Core Curriculum.*

<b>Technical Foundation (Required for Each Program)</b>			<i>Semester Hours</i>
COSC	1436	Fundamentals of Programming I	4
ITSC	1405	Introduction to PC Operating Systems	4
ITSC	1425	Personal Computer Hardware	4
ITCC	1401	Cisco Exploration 1: Network Fundamentals; or ITNW 1425	4
ITSY	1400	Fundamentals of Information Security	4
		TOTAL TECHNICAL FOUNDATION HOURS	19

<b>Specialization for Game and Simulation Programming</b>			<i>Semester Hours</i>
GAME	1304	Level Design	3
GAME	1403	Introduction to Game Design and Development	4
COSC	1437	Programming Fundamentals II	4
GAME	1302	Interactive Storyboarding	3
GAME	2412	Interactive Audio	4
GAME	2308	Portfolio for Game Development (Capstone)	3
		TOTAL DEGREE HOURS	60

<b>Specialization for Network Support</b>			<i>Semester Hours</i>
ITNW	1408	Implementing and Supporting Client Operating Systems	4
ITNW	1454	Implementing and Supporting Servers	4
ITSC	1407	UNIX Operating Systems I	4
ITCC	1404	Cisco Exploration 2: Routing Protocols and Concepts	4
ITCC	2408	Cisco Exploration 3: LAN Switching and Wireless	4
ITCC	2410	Cisco Exploration 4: Accessing the WAN (Capstone)	4
		TOTAL DEGREE HOURS	63

<b>Specialization for Programming</b>			<i>Semester Hours</i>
COSC	1437	Programming Fundamentals II	4
COSC	1420	C Programming; or ITSE 2417	4
ITSE	2405	Windows Programming; or ITSE-1430	4
COSC	2436	Fundamentals of Programming III	4
ITSE	2409	Database Programming	4
ITSE	1450	Systems Analysis and Design (Capstone)	4
		TOTAL DEGREE HOURS	63

<b>Specialization for Security</b>			<i>Semester Hours</i>
ITNW	1408	Implementing and Supporting Client Servers; or ITNW 1454	4
ITSC	1407	UNIX Operating System I	4
ITSY	2400	Operating System Security	4
ITSY	2401	Firewalls and Network Security	4
ITSY	2443	Computer System Forensics	4
ITSY	2459	Security Assessment and Auditing (Capstone)	4
		TOTAL DEGREE HOURS	63

<b>Specialization for Web and Internet Services</b>			<i>Semester Hours</i>
COSC	1437	Programming Fundamentals II	4
ITSE	1411	Beginning Web Programming	4
ITSW	1407	Introduction to Database	4
ITSE	2409	Database Programming	4
ITSE	2402	Intermediate Web Programming	4
INEW	2434	Advanced Web Programming (Capstone)	4
		TOTAL DEGREE HOURS	63

## **INFORMATION TECHNOLOGY CERTIFICATES**

### **CISCO SUPPORT**

*Certificate of Completion Program*

*ITCS.T001.UG • Northeast, South, Southeast Campuses Only*

			<i>Semester Hours</i>
ITCC	1401	Cisco Exploration 1 - Network Fundamentals	4
ITCC	1404	Cisco Exploration 2 - Routing Protocols and Concepts	4
ITCC	2408	Cisco Exploration 3 - LAN Switching and Wireless	4
ITCC	2410	Cisco Exploration 4 - Accessing the WAN	4
		TOTAL CERTIFICATE HOURS	16

*The capstone experience for this program will be the Cisco CCNA examinations. The above curriculum is designed to assist the student in preparing for the examinations required to become a Cisco Certified Network Associate (CCNA).*

## **ADVANCED CISCO SUPPORT**

*Certificate of Completion Program*

*ITCS.T002.UG • Northeast and South Campuses Only*

			<i>Semester Hours</i>
ITCC	2454	CCNP Routing-Implementing IP Routing	4
ITCC	2455	CCNP Switch-Implementing IP Switching	4
ITCC	2456	CCNP TSHOOT-Maintaining and Troubleshooting IP Networks	4
TOTAL CERTIFICATE HOURS		12	

*The Capstone experience for this program will be the Cisco CCNP examinations. The above curriculum is designed to assist the student in preparing for the examinations required to become a Cisco Certified Network Professional (CCNP).*

## **GAME AND SIMULATION PROGRAMMING**

*Certificate of Completion Program*

*ITCS.T003.UG • South Campus Only*

			<i>Semester Hours</i>
ARTC	1305	Basic Graphic Design	3
ARTC	1402	Digital Imaging I	4
COSC	1436	Programming Fundamentals I	4
GAME	1304	Level Design	3
COSC	1437	Programming Fundamentals II	4
GAME	1403	Introduction to Game Design and Development	4
GAME	1302	Interactive Storyboarding	3
GAME	2412	Interactive Audio	4
GAME	2308	Portfolio for Game Development (Capstone)	3
TOTAL CERTIFICATE HOURS		32	

## **INFORMATION TECHNOLOGY SUPPORT**

*Certificate of Completion Program*

*ITCS.T004.UG • All Campuses*

			<i>Semester Hours</i>
ITSC	1405	Introduction to PC Operating Systems	4
ITSC	1425	Personal Computer Hardware	4
ITCC	1401	Cisco Exploration 1: Network Fundamentals; or ITNW 1425	4
ITSY	1400	Fundamentals of Information Security	4
ITNW	1408	Implementing and Supporting Client Operating Systems	4
TOTAL CERTIFICATE HOURS		20	

## **PROGRAMMING**

*Certificate of Completion Program*

*ITCS.T005.UG • All Campuses*

COSC	1436	Fundamentals of Programming I	4
COSC	1437	Fundamentals of Programming II	4
COSC	1420	C Programming; or ITSE 2417	4
ITSE	2405	Windows Programming; or ITSE 1430	4
TOTAL CERTIFICATE HOURS			16

## **SECURITY**

*Certificate of Completion Program*

*ITCS.T006.UG • Northeast, Northwest, South, Southeast Campuses Only*

ITSC	1405	Introduction to PCF Operating Systems	4
ITCC	1401	Cisco Exploration 1: Network Fundamentals; or ITNW 1425	4
ITSY	1400	Fundamentals of Information Security	4
ITSY	2400	Operating System Security	4
ITSY	2443	Computer System Forensics	4
TOTAL CERTIFICATE HOURS			20

**INFORMATION TECHNOLOGY  
CONVERGENCE TECHNOLOGY**  
*Associate of Applied Science Degree Program  
ITCT.D001.UG • Northeast Campus Only*

**First Year**

<i>First Semester</i>			<i>Semester Hours</i>
CPMT	1451	IT Essentials: PC Hardware and Software	4
ITCC	1401	* Cisco Exploration 1 - Network Fundamentals	4
ITCC	1404	* Cisco Exploration 2 - Routing Protocols and Concepts	4
ENGL	1301	English Composition I	3

*Second Semester*

ITNW	1408	Implementing and Supporting Client Operating Systems	4
ITCC	2408	* Cisco Exploration 3 - LAN Switching and Wireless	4
ITCC	2410	* Cisco Exploration 4 - Accessing the WAN	4
SPCH	1321	Business and Professional Communication; or SPCH 1311 or SPCH 1315 or ENGL 2311	3

*First Summer Session*

ITNW	1454	Implementing and Supporting Servers	4
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*Second Summer Session*

		Humanities/Visual or Performing Arts Elective	3
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**Second Year**

*First Semester*

ITNW	1451	Fundamentals of Wireless LANs	4
CPMT	2402	Home Technology Integration	4
ITSY	1400	Fundamentals of Information Security	4
GOVT	2305	United States Government; or GOVT 2306	3

*Second Semester*

ITSC	1407	UNIX Operating Systems I	4
ITNW	1471	Voice-Over-Internet Protocol (VOIP) (Capstone)	4
ITNW	1492	Special Topics in Computer Systems Networking And Telecommunications	4
** Mathematics Elective			3

**TOTAL DEGREE HOURS**    **67**

*\*ITCC 1401 is a prerequisite for ITCC 1404.*

*ITCC 1404 is a prerequisite for ITCC 2408.*

*ITCC 2408 is a prerequisite for ITCC 2410.*

*\*\*Does not include developmental mathematics courses or MATH 1332.*

## **HOME TECHNOLOGY INTEGRATION**

*Certificate of Completion Program*

*ITCT.T001.UG • Northeast Campus Only*

### *First Semester*

			<i>Semester Hours</i>
CPMT	1451	IT Essentials: PC Hardware and Software	4
ITCC	1401	Cisco Exploration 1 - Network Fundamentals	4
ITCC	1404 *	Cisco Exploration 2 - Routing Protocols and Concepts	4

### *Second Semester*

CPMT	2402	Home Technology Integration	4
ITNW	1408	Implementing and Supporting Client Operating Systems	4
ITNW	1454	Implementing and Supporting Servers	4
		Humanities/Visual or Performing Arts Elective	3

### *Summer Session*

ITNW	1451	Fundamentals of Wireless LANs	4
ITSY	1400	Fundamentals of Information Security (Capstone)	4
<b>TOTAL CERTIFICATE HOURS</b>			<b>35</b>

\*ITCC 1401 is a prerequisite for ITCC 1404.

## **CONVERGENCE TECHNOLOGIES**

*Certificate of Completion Program*

*ITCT.T002.UG • Northeast Campus Only*

### *First Semester*

			<i>Semester Hours</i>
CPMT	1451	IT Essentials: PC Hardware and Software	4
ITCC	1401 *	Cisco Exploration 1 - Network Fundamentals	4
ITCC	1404 *	Cisco Exploration 2 - Routing Protocols and Concepts	4

### *Second Semester*

ITCC	2408 *	Cisco Exploration 3 - LAN Switching and Wireless	4
ITCC	2410 *	Cisco Exploration 4 - Accessing the WAN	4
ITNW	1408	Implementing and Supporting Client Operating Systems	4
ITNW	1454	Implementing and Supporting Servers (Capstone)	4

### *Summer Session*

ITSY	1400	Fundamentals of Information Security	4
		Humanities/Visual or Performing Arts Elective	3
<b>TOTAL CERTIFICATE HOURS</b>			<b>35</b>

\*ITCC 1401 is a prerequisite for ITCC 1404.

ITCC 1404 is a prerequisite for ITCC 2408.

ITCC 2408 is a prerequisite for ITCC 2410.

**ADVANCED CONVERGENCE TECHNOLOGIES\***

*Certificate of Completion Program  
ITCT.T003.UG • Northeast Campus Only*

**First Year***First Semester*

		<i>Semester Hours</i>
ITNW	1451	Fundamentals of Wireless LANs 4
CPMT	2402	Home Technology Integration 4

*Second Semester*

ITSC	1407	UNIX Operating Systems I 4
ITNW	1471	Voice-Over-Internet Protocol (VOIP) 4
ITCC	2441	CCNA Security 4

**Second Year**

ITSY	2417	Wireless Security Development 4
ITNW	1492	Special Topics in Computer Systems Networking 4
And Telecommunications		4
TOTAL CERTIFICATE HOURS		28

## **LIBRARY TECHNICIAN**

*Associate of Applied Science Degree Program  
LIBR.D001.UG • Trinity River Campus Only*

### **First Year**

		<i>Semester Hours</i>
<i>First Semester</i>		
ENGL	1301	English Composition I 3
LBRA	1371	Introduction to Library Technology 3
SPCH	1311	Fundamentals of Speech Communication; 3 or SPCH 1315 or SPCH 1321
HIST	1301	United States History to 1876 3
COSC	1401	Introduction to Computing; or BCIS 1405 4
<i>Second Semester</i>		
ENGL	1302	English Composition II; or ENGL 2311 3
HIST	1302	United States History Since 1876 3
LBRA	1372	Organization of Information 3
PSYC	2301	Introduction to Psychology 3
	*	Visual and Performing Arts Elective 3

### **Second Year**

		<i>Semester Hours</i>
<i>First Semester</i>		
GOVT	2305	United States Government 3
LBRA	1373	Public Services 3
PHED	1164	Concepts of Physical Activity 1
ENGL	2328	American Literature Since 1865 3
	*	Mathematics Elective 3
	*	Social or Behavioral Science Elective 3
<i>Second Semester</i>		
GOVT	2306	Texas State and Local Government 3
LBRA	1375	Information Sources and Services 3
POFT	1319	Records and Information Management; or POFT 2312 3
LBRA	1174	Practicum in Library Technology (Capstone) 1
	*	Science Elective 4
		<b>TOTAL DEGREE HOURS 61</b>

*\*Visual and Performing Arts, Mathematics, Social or Behavioral Science, and Science Electives must be chosen from the corresponding section of the Core Curriculum.*

## **LIBRARY TECHNICIAN**

*Certificate of Completion Program  
LIBR.T001.UG • Trinity River Campus Only*

		<i>Semester Hours</i>
<i>First Semester</i>		
LBRA	1371	Introduction to Library Technology 3
SPCH	1311	Fundamentals of Speech Communication; 3 or SPCH 1315 or SPCH 1321
COSC	1401	Introduction to Computing; or BCIS 1405 4
<i>Second Semester</i>		
LBRA	1375	Information Sources and Services 3
LBRA	1373	Public Services 3
LBRA	1372	Organization of Information 3
LBRA	1174	Practicum in Library Technology 1
		<b>TOTAL CERTIFICATE HOURS 20</b>

## **LOGISTICS AND SUPPLY CHAIN MANAGEMENT**

*Associate of Applied Science Degree Program*

*LOGI.D001.UG • Northwest Campus Only*

### **First Year**

<i>First Semester</i>		<i>Semester Hours</i>
ENGL	1301	English Composition I 3
BCIS	1405	Business Computer Applications; or COSC 1401 4
MATH	1314	Functional Approach to College Algebra; or MATH 1324 3
BMGT	1301	Supervision 3
LMGT	1319	Introduction to Business Logistics 3

### *Second Semester*

LMGT	1325	Warehouse and Distribution Center Management 3
SPCH	1321	Business and Professional Communication; or SPCH 1311 3
IBUS	1301	Principles of Exports 3
IBUS	1302	Principles of Imports 3
ECON	2302	Principles of Microeconomics 3

### **First Summer Term**

	*	Visual and Performing Arts Elective 3
BUSI	2301	Business Law I 3

### **Second Summer Term**

ACCT	2301	Principles of Accounting I 3
MRKG	1311	Principles of Marketing 3

### **Second Year**

#### *First Semester*

BMGT	1313	Principles of Purchasing 3
BMGT	2331	Principles of Quality Management 3
LMGT	1323	Domestic and International Transportation Management 3
BMGT	1331	Production and Operations Management 3
LMGT	2334	Principles of Traffic Management 3

#### *Second Semester*

LMGT	2388	Internship: Logistics and Materials Management (Capstone) 3
TOTAL DEGREE HOURS		61

*\*Visual and Performing Arts, Mathematics, Social or Behavioral Science, and Science Electives must be chosen from the corresponding section of the Core Curriculum.*

*NOTE: Approval of the Southern Association of Colleges and Schools Commission on Colleges pending at time of publication.*

## **TRANSPORTATION MANAGEMENT**

*Certificate of Completion Program*

*LOGI.T001.UG • Northwest Campus Only*

### *First Semester*

### *Semester Hours*

BCIS	1405	Business Computer Applications; or COSC 1401	4
LMGT	1319	Introduction to Business Logistics	3
LMGT	1345	Economics of Transportation and Distribution	3
LMGT	1323	Domestic and International Transportation Operations	3
LMGT	2334	Principles of Traffic Management	3
		TOTAL CERTIFICATE HOURS	16

## **WAREHOUSE MANAGEMENT**

*Certificate of Completion Program*

*LOGI.T002.UG • Northwest Campus Only*

### *First Semester*

### *Semester Hours*

BCIS	1405	Business Computer Applications; or COSC 1401	4
LMGT	1319	Introduction to Business Logistics	3
LMGT	1325	Warehouse and Distribution Center Management	3
IBUS	1301	Principles of Exports	3
IBUS	1302	Principles of Imports	3
		TOTAL CERTIFICATE HOURS	16

## **LONG TERM CARE ADMINISTRATION**

*Certificate of Completion Program*

*LONG.T001.UG • Trinity River Campus Only*

<i>First Semester</i>		<i>Semester Hours</i>
LTCA 1311	Introduction to Long Term Care Administration	3
LTCA 1312	Resident Care in the Long Term Care Facility	3
LTCA 1313	Organization and Management of Long Term Care Facilities	3
LTCA 2314	Long Term Care Law	3
LTCA 2315	Financial Management of Long Term Facilities	3
LTCA 2660	Clinical - Hospital and Health Facilities Administration/ Management	6
LTCA 2661	Clinical - Hospital and Health Facilities Administration/ Management	6
	TOTAL CERTIFICATE HOURS	27

### ***Admission and Program Information for Long Term Care Administration***

*The Nursing Home Administration course is offered in five, three-semester hour credit courses and is designed to provide the didactic requirements of the Texas Department of Aging and Disability Services (DADS). It is also intended to assist the participant in preparing for the state licensure examination. DADS requirements for individuals to sit for the licensure exam are:*

- (1) *Bachelor's degree*
- (2) *Completion of 15 academic credit hours in long term care administration*
- (3) *Completion of a 1,000-hour internship in an approved facility*

*Internship courses are for those individuals unable to obtain their own required internship experiences in an approved facility.*

*Classes are usually taught on Friday evenings and all day Saturdays.*

## **MENTAL HEALTH SUBSTANCE ABUSE COUNSELING**

*Associate of Applied Science Degree Program*

*MENT.D003.UG • Northeast Campus Only*

### **First Year**

<i>First Semester</i>		<i>Semester Hours</i>
ENGL	1301	English Composition I
PSYC	2301	Introduction to Psychology
PSYC	2315	Psychology of Adjustment and Human Relations
SOCW	2361	Introduction to Social Work
PHED	1164	Concepts of Physical Activity
		Mathematics or Science Elective

### *Second Semester*

DAAC	1304	Pharmacology of Addiction	3
ENGL	1302	English Composition II	3
PSYC	2314	Life Span Growth and Development; or PSYC 2308	3
PSYT	2339	Counseling Theories	3
PSYT	2345	Principles of Behavior Management and Modification	3
SOCW	2362	Social Welfare as a Social Institution	3

### **Second Year**

#### *First Semester*

DAAC	2307	Addicted Family Intervention	3
DAAC	2341	Counseling Alcohol and Other Drug Addictions	3
GOVT	2305	United States Government; or GOVT 2306	3
PSYT	2370	Laws and Standards Affecting Mental Health	3
SCWK	2305	The Special Problems of Youth	3
SPCH	1311	Fundamentals of Speech Communication; or SPCH 1315 or SPCH 1318 or SPCH 1321	3

#### *Second Semester*

PSYT	2266 *	Practicum in Substance Abuse and Addiction Counseling; or DAAC 2166 and DAAC 2167 (Capstone)	2
DAAC	2343 **	Current Issues	
PSYT	2301	Psychology of Group Dynamics	3
PSYT	2321	Crisis Intervention	3
		Humanities/Visual or Performing Arts Elective	3
		TOTAL DEGREE HOURS	66

\* Enrollment in the Practicum requires Departmental Approval.

\*\*Must be taken concurrent with the Practicum

*Individuals seeking a Licensed Chemical Dependency Counselor license from the State of Texas must meet all requirements set forth by legislation: 1) minimum of an associate degree, 2) 300 clock hours of practicum, 3) 4,000 clock hours of work experience in a Clinical Training Institute agency approved by the Texas Department of State Health Services, 4) undergo a criminal background history check. This degree meets all educational requirements for preparation for the state license examination for the LCDC.*

*NOTE: Mathematical competency is required for completion by TSI liable students. Satisfaction of this requirement may be met by completing MATH-0304 (Beginning Algebra) with a grade of C or higher, achieving a placement test score that qualifies the student for MATH-0350 (Intermediate Algebra), or completing a college-level mathematics course (1300 level or above).*

## **SUBSTANCE ABUSE COUNSELING**

*Certificate of Completion Program*

*MENT.T003.UG • Northeast Campus Only*

### *First Semester*

		<i>Semester Hours</i>
DAAC	1304	3
DAAC	2307	3
DAAC	2341	3
PSYT	2339	3

### *Second Semester*

PSYT	2301	3
PSYT	2331	3

### *Third Semester*

DAAC	2343	3
DAAC	2266 *	2

Practicum in Substance Abuse and Addiction Counseling;

or DAAC 2166 and DAAC 2167

TOTAL CERTIFICATE HOURS 23

\*These courses provide the 300-hour practicum required to apply for Registered Counselor Intern seeking LCDC status through the Texas Department of State Health Services.

After successful completion of the above curriculum, a student is eligible to apply for a Registered Counselor Intern designation through the Texas Department of State Health Services. Other licensing requirements must be met as set forth by legislation, including passing a criminal background history, a minimum of an associate degree in Mental Health, or equivalency degree as determined by the Texas Department of State Health Services.

**NURSING#**

*Associate of Applied Science Degree Program  
NURS.D003.UG • Trinity River Campus Only*

**General Education and Related Courses**

**The following science courses must be completed prior to applying for admission to the Nursing Program.**

		<i>Semester Hours</i>
CHEM	1406	Essentials of General and Biological Chemistry      4
BIOL	2401	Anatomy and Physiology I      4
BIOL	2402	Anatomy and Physiology II      4
BIOL	2420	Microbiology      4

**The following general education courses must be completed prior to the graduating semester.**

		<i>Semester Hours</i>
ENGL	1301	English Composition I      3
PSYC	2301	Introduction to Psychology      3
PHED	1164	Concepts of Physical Activity      1
One of the following:		3
ENGL 1302 English Composition II		3
PSYC 2314 Life Span Growth and Development		3
One of the following:		3
SPCH 1311 Fundamentals of Speech Communication		3
SPCH 1315 Public Speaking		3
SPCH 1321 Business and Professional Speaking		3
* Humanities/Visual or Performing Arts Elective		3

**First Year**

		<i>Semester Hours</i>
<i>First Semester</i>		
RNSG	1413 ***#	Foundations for Nursing Practice      4
RNSG	1460 ***#	Clinical - Foundations for Nursing Practice      4
RNSG	1105 ***#	Nursing Skills      1
<i>Second Semester</i>		
RNSG	1441	Common Concepts of Adult Health      4
RNSG	1461	Clinical - Common Concepts of Adult Health      4
RNSG	1193	Special Topics in Nursing A      1
<i>Summer Session</i>		
RNSG	2213	Mental Health Nursing      2
RNSG	2263	Clinical - Mental Health Nursing      2

**Second Year**

		<i>Semester Hours</i>
<i>First Semester</i>		
RNSG	2208	Maternal and Newborn Nursing and Women's Health      2
RNSG	2260	Clinical - Maternal and Newborn Nursing and Women's Health      2
RNSG	2201	Care of Children and Families      2
RNSG	2261	Clinical - Care of Children and Families      2
<i>Second Semester</i>		
RNSG	1443	Complex Concepts of Adult Health      4
RNSG	2461	Clinical - Complex Concepts of Adult Health      4
RNSG	1293	Special Topics in Nursing B      2

TOTAL DEGREE HOURS      72

*\*The Humanities/Visual or Performing Arts Elective must be chosen from the corresponding section of the Core Curriculum.*

*Students are strongly urged to complete all general education requirements prior to entering the program.*

*\*\*Mathematics I competency is a prerequisite for this course.*

*# Credit-By-Examination may be earned for this course by LVNs and paramedics. Complete details of the Fast Track Option are provided at [www.tccd.edu/nursing](http://www.tccd.edu/nursing).*

*Testing fees are assessed for all nursing theory courses.*

*Satisfaction of mathematical competency may be met by completion of Math-0350 (Intermediate Algebra) with a grade of C or better, a placement test score of a minimum level of intermediate algebra, or completion of a college-level math course.*

## ***Admission and Program Information for Nursing***

### **Requirements for Applicants:**

- All biology courses (BIOL-2401, BIOL-2402 and BIOL-2420) must have been completed within five years prior to application to the Nursing Program.
- Completion of all courses required for the program with a grade of C or better.

### **Admission Criteria:**

- Science GPA based on the four required courses: CHEM-1406, BIOL-2401, BIOL-2402, BIOL-2420.\*
- Score on a standardized admissions test\*\*

*\*Only the highest grade earned in the first two (2) attempts of any repeated course will be used for admission purposes.*

*\*\*Each applicant is assigned a score based on science GPA (50%) and the standardized admissions test results (50%).*

*Complete details of the nursing admissions process can be found at [www.tccd.edu/nursing](http://www.tccd.edu/nursing).*

### **Additional Requirements for Transfer Student Applicants:**

- Admission to Tarrant County College
- Letter of good standing from Dean or Director of previously attended nursing program
- Copy of official transcript(s)
- Completion of tests for clinical component of program (DFWHC Orientation, HIPAA, TCC Nursing Student Handbook Examination, Dosage Calculation Examination) with passing scores

*Some transfer students may be required to audit RNSG-1105 Nursing Skills.*

Requirements for Students Admitted to the Nursing Program:

- Negative drug screen
- Background check
- Proof of medical insurance
- Current healthcare provider CPR course (approved by either the American Heart Association or the American Red Cross) completion card
- Social Security card
- Participation in a one-day Nursing Program Orientation
- Current immunizations for the duration of the program
- Completion of all courses required for the program with a grade of C or better

*Applicants with a history of criminal convictions, mental illness, or chemical dependency must request a Declaratory Order from the Texas Board of Nursing to determine eligibility for licensure prior to admission to the Nursing Program.*

*Any student admitted to the Nursing Program must meet the legal requirements for licensure by the National League for Nursing Accrediting Commission. Upon successful completion of the program, the student is eligible to take the National Council Licensing Examination (NCLEX) for registered nurses.*

*The TCC Nursing Program is accredited by the National League for Nursing Accrediting Commission, Inc., 61 Broadway, 33<sup>rd</sup> Floor, New York, NY 10006.*

## OCCUPATIONAL SAFETY AND ENVIRONMENTAL TECHNOLOGY

*Associate of Applied Science Degree Program*

*ENVI.D003.UG • Northwest Campus Only*

### First Year

#### First Semester

		Semester Hours
ENGL	1301	3
GOVT	2305	3
MATH	1314	3
EPCT	1307	3
OSHT	1321	3

#### Second Semester

CHEM	1405	4
ENGL	2311	3
PHED	1164	1
EPCT	1401	4
EPCT	1313	3

#### Summer Session

COSC	1401	4
SPCH	1311	3

### Second Year

#### First Semester

EPCT	1311	3
OSHT	2401	4
OSHT	1313	3
EPCT	1341	3
*	Approved Elective	3

#### Second Semester

EPCT	1440	4
EPCT	1344	3
OSHT	2388	3
	Humanities/Visual or Performing Arts Elective	3

TOTAL DEGREE HOURS      66

*\*\*Approved Electives include BIOL-2406, CNBT-2317, EPCT-1347, EPCT-1349, EPCT-1391, EPCT-2300, FIRT-1303, FIRT-1307, FIRT-1315, FIRT-1329, FIRT-1333, GEOL-1405, OSHT-1305, OSHT-1391, OSHT-2309, OSHT-2320 or OSHT-2405*

## **ENVIRONMENTAL HEALTH AND SAFETY TECHNICIAN**

*Certificate of Completion Program*

*ENVI.T004.UG • Northwest Campus Only*

### *First Semester*

		<i>Semester Hours</i>
EPCT	1307	Introduction to Environmental Safety and Health 3
EPCT	1341	Principles of Industrial Hygiene 3
EPCT	1344	Environmental Sampling and Analysis 3

### *Second Semester*

EPCT	1401	Hazardous Waste Operations and Emergency Response (HAZWOPER) Training and Related Topics 4
OSHT	2401	OSHA Regulations – General Industry 4
OSHT	1305	OSHA Regulations – Construction Industry 3
OSHT	2388	Internship: Occupational Safety and Health Technology/ Technician 3
TOTAL CERTIFICATE HOURS		23

## **PARALEGAL STUDIES**

*Associate of Applied Science Degree Program  
LEGA.D002.UG • Northeast Campus Only*

### **First Year**

<i>First Semester</i>		<i>Semester Hours</i>
LGLA	1307	Introduction to Law and the Legal Professions 3
LGLA	1303	Legal Research 3
ACCT	2301	Principles of Financial Accounting 3
ENGL	1301	English Composition I 3
PSYC	2315	Psychology of Adjustment and Human Relations 3
<i>Second Semester</i>		
LGLA	1305	Legal Writing 3
LGLA	1345	Civil Litigation 3
BCIS	1405	Business Computer Applications; or COSC 1401 4
ENGL	1302	English Composition II 3
PHED	1164	Concepts of Physical Activity 1
		Mathematics or Science Elective 3

  

<i>Second Year</i>		
<i>First Semester</i>		
LGLA	1353	Wills, Trusts, and Probate Administration 3
LGLA	2303	Torts and Personal Injury Law 3
LGLA	2380 *	Cooperative Education - Legal Assistant/Paralegal; or LGLA 2281 and LGLA 2288 3
BUSI	2301	Business Law I 3
SPCH	1321	Business and Professional Communication 3
	**	Approved Elective 3
<i>Second Semester</i>		
LGLA	1355	Family Law 3
LGLA	2311	Business Organizations 3
CRIJ	1306	Court Systems and Practices 3
GOVT	2306	Texas State and Local Government 3
		Humanities/Visual or Performing Arts Elective 3
		<b>TOTAL DEGREE HOURS 65</b>

\* *LGLA-2281 and LGLA-2288 taken in consecutive semesters may be substituted for LGLA-2380 in order to fulfill the Cooperative Education requirement of this program. LGLA-2380 may be taken in the student's final semester. All Cooperative Education and Internship classes require consent of the program coordinator.*

\*\**Approved Electives include CJSO-1318, CRIJ-1310, GOVT-2305, LGLA-1341, LGLA-1391, PHIL-2306, PSYT-2370, RELE-1303, RELE-1311, RELE-1315, RELE-1319 and RELE-2301*

**NOTE:** Mathematical competency is required for completion by TSI liable students. Satisfaction of this requirement may be met by completing MATH-0304 (Beginning Algebra) with a grade of C or higher, achieving a placement test score that qualifies the student for MATH-0350 (Intermediate Algebra), or completing a college-level mathematics course (1300 level or above).

## **PARALEGAL STUDIES**

*Certificate of Completion Program*

*LEGA.T002.UG • Northeast Campus Only*

<i>First Semester</i>		<i>Semester Hours</i>
LGLA	1307	Introduction to Law and the Legal Professions
LGLA	1303	Legal Research
LGLA	1305	Legal Writing
LGLA	1345	Civil Litigation
<i>Second Semester</i>		
LGLA	1353	Wills, Trusts, and Probate Administration
LGLA	2303	Torts and Personal Injury Law
LGLA	2380 *	Cooperative Education - Legal Assistant/Paralegal; or LGLA 2281 and LGLA 2288
BUSI	2301	Business Law I
<i>Third Semester</i>		
LGLA	1355	Family Law
LGLA	2311	Business Organizations
CRIJ	1306	Court Systems and Practices
TOTAL CERTIFICATE HOURS		33

\* *LGLA-2281 and LGLA-2288 taken in consecutive semesters may be substituted for LGLA-2380 in order to fulfill the Cooperative Education requirement of this program. LGLA 2380 may be taken in the student's final semester. All Cooperative Education and Internship classes require consent of the program coordinator.*

*The Certificate of Completion will be awarded only to students who have earned a baccalaureate degree prior to beginning the certificate program and who wish to complete the requirements to take the Certified Legal Assistant (CLA) examination given by the National Association of Legal Assistants, Inc. (NALA).*

**PHYSICAL THERAPIST ASSISTANT#**

*Associate of Applied Science Degree Program  
PTHA.D001.UG • Trinity River Campus Only*

**First Year**

<i>First Semester</i>			<i>Semester Hours</i>
BIOL	2401	Anatomy and Physiology I	4
ENGL	1301	English Composition I	3
HPRS	1206	Essentials of Medical Terminology	2
PTHA	1201	The Profession of Physical Therapy	2
PTHA	1321	Pathophysiology for Physical Therapist Assistant	3
PTHA	1431	Physical Agents	4
<i>Second Semester</i>			
BIOL	2402	Anatomy and Physiology II	4
HPRS	2201	Pathophysiology	2
HPRS	2200	Pharmacology for Health Professions	2
PSYC	2308	Child Growth and Development; or PSYC 2314	3
PTHA	1405	Basic Patient Care Skills	4
PTHA	1413	Functional Anatomy	4
<i>First Summer Session</i>			
PTHA	1325	Communication in Health Care	3
PTHA	2201	Essentials of Data Collection	2
<i>Second Summer Session</i>			
PSYC	2301	Introduction to Psychology	3
PTHA	1260	Clinical: Physical Therapist Assistant	2
<b>Second Year</b>			
<i>First Semester</i>			
PTHA	2260	Clinical - Physical Therapist Assistant	2
PTHA	2261	Clinical - Physical Therapist Assistant	2
PTHA	2409	Therapeutic Exercise	4
PTHA	2431	Management of Neurological Disorders	4
<i>Second Semester</i>			
PTHA	2239	Professional Issues	2
PTHA	2363	Clinical - Physical Therapist Assistant	3
PTHA	2435	Rehabilitation Techniques	4
		Humanities/Visual or Performing Arts Elective	3
		TOTAL DEGREE HOURS	71

## ***Admissions and Program Information for Physical Therapist Assistant***

*A selection committee reviews applications and selects those applicants who best meet the following criteria (listed in random order):*

- *Students must demonstrate competency in mathematics, reading, and writing by*
  - *completion of previous applicable coursework, or*
  - *passing each of those sections of ACCUPLACER or an appropriate alternative test, or*
  - *earning a grade of C or higher in MATH 0350, RDNG 0363, and ENGL 0325.*
- *Grade point average (GPA) of all high school or undergraduate college classes or GED scores if high school/college are not applicable.*
- *Students must submit a research paper about the field of physical therapy and career as a physical therapist assistant. For details, go to [www.tccd.edu/pta](http://www.tccd.edu/pta).*
- *Bonus points for college-level general education and science courses required for the program for which a grade of C or higher was made. **NOTE:** Science courses must have been completed within five years of the semester containing the program deadline date.*
- *Bonus points proportionate to the number of semester hours from a regionally accredited college or university for which a grade of C or higher was made up to a maximum of 120 semester hours.*
- *Bonus point for bachelor's degree from a regionally accredited college or university.*
- *Bonus points proportionate to the amount of documented work experience as a tech/aide or volunteer/observation in a physical therapy clinic (must be within the past five years). For details, go to [www.tccd.edu/pta](http://www.tccd.edu/pta).*

*Prior to application, students with international college credits must contact the International Admission Office 817-515-1570 and also the Trinity River Advisement Office 817-515-1055.*

*Only the criteria listed are evaluated and considered for the purpose of selection and admission to this program. No specific minimum grade point average or test score, or a set minimum number of courses must be completed for admission. Selection is based on how each applicant compares with others in the applicant pool. In general, the higher the grades, the more competitive the applicant will be for the positions available.*

*Students who are selected for admission must undergo screening for substances of abuse and a criminal background check. All offers for admission to the Physical Therapist Assistant Program are provisional until satisfactory results are received for these two evaluations.*

*Once admitted to the program, students must complete and earn a minimum grade of C in each specialized course.*

*Most/all of the specialized courses are taught only during the daytime.*

*Successful completion of the above curriculum satisfies the academic requirement for applying for state licensure as a physical therapist assistant.*

## **RADIO AND TELEVISION BROADCASTING**

*Associate of Applied Science Degree Program*

*RTVB.D002.UG • Northeast Campus Only*

### **First Year**

<i>First Semester</i>		<i>Semester Hours</i>
RTVB	1425	TV Studio Production 4
RTVB	1402	Computer Applications for Media Production 4
RTVB	1409	Audio/Radio Production I 4
ENGL	1301	English Composition I 3
PHED	1164	Concepts of Physical Activity 1

### *Second Semester*

RTVB	1421	TV Field Production 4
RTVB	1355	Radio and Television Announcing 3
ENGL	1302	English Composition II 3
COMM	2366	Film Appreciation; or FLMC 1311 or DRAM 2366 3
RTVB	1447	Audio/Radio Production II; or RTVB 1405 4

### **Second Year**

#### *First Semester*

RTVB	2347	Management and Operations of Electronic Media Facilities 3
SPCH	1311	Fundamentals of Speech Communication; or SPCH 1321 3
COMM	2339	Writing for Radio, Television and Film 3
COMM	1335	Survey of Radio and Television 3
FLMC	2434	Directing for Film or Video; or FLMC 1404 4

#### *Second Semester*

COMM	2332	Radio and Television News 3
RTVB	2430	Film and Video Editing 4
RTVB	2487 *	Internship - Radio and Television 4
GOVT	2305	United States Government; or GOVT 2306 3
		Science or Mathematics Elective 3
		TOTAL DEGREE HOURS 66

\* Requires approval of Program Coordinator.

*NOTE: Mathematical competency is required for completion by TSI liable students. Satisfaction of this requirement may be met by completing MATH-0304 (Beginning Algebra) with a grade of C or higher, achieving a placement test score that qualifies the student for MATH-0350 (Intermediate Algebra), or completing a college-level mathematics course (1300 level or above).*

## **AUDIO PRODUCTION**

*Certificate of Completion Program  
RTVB.T003.UG • Northeast Campus Only*

### **First Year**

<i>First Semester</i>		<i>Semester Hours</i>
RTVB	1425	TV Studio Production 4
RTVB	1409	Audio/Radio Production I 4
RTVB	1402	Computer Applications for Media Production 4
ENGL	1301	English Composition I 3
RTVB	1150	Radio Experience I 1

### *Second Semester*

RTVB	1355	Radio and Television Announcing or MUSI 1391 3
RTVB	2250	Radio Experience II 2
RTVB	1447	Audio/Radio Production II 4
RTBV	1405	Introduction to Television Technology 4

### **Second Year**

<i>First Semester</i>		<i>Semester Hours</i>
RTVB	2347	Management and Operation of Electronic Media Facilities 3
RTVB	2265 *	Practicum: Radio and Television 2
		<b>TOTAL CERTIFICATE HOURS 34</b>

\*Requires approval of Program Coordinator.

## **VIDEO PRODUCTION**

*Certificate of Completion Program  
RTVB.T002.UG • Northeast Campus Only*

### **First Year**

<i>First Semester</i>		<i>Semester Hours</i>
RTVB	1402	Computer Applications for Media Production 4
COMM	2339	Writing for Radio, Television and Film 3
COMM	1335	Survey of Radio and Television; or RTVB 1405 3
RTVB	1425	TV Studio Production 4

### *Second Semester*

RTVB	1421	TV Field Production 4
RTVB	2430	Film and Video Editing 4
ENGL	1301	English Composition I 3
FLMC	1404	Lighting for Film or Video 4

### **Second Year**

<i>First Semester</i>		<i>Semester Hours</i>
RTVB	2347	Management and Operations of Electronic Media Facilities 3
RTVB	2265	Practicum - Radio and Television 2
		<b>TOTAL CERTIFICATE HOURS 34</b>

## **RADIOLOGIC TECHNOLOGY#**

*Associate of Applied Science Degree Program  
RADT.D001.UG • Trinity River Campus Only*

**The following courses are prerequisites for admission to the Radiologic Technology Program. A grade of C or better is required for all science courses.**

		<i>Semester Hours</i>
BIOL	2401	Anatomy and Physiology I
BIOL	2402	Anatomy and Physiology II

		<i>Semester Hours</i>
<i>First Summer Session</i>		
RADR	1201	Introduction to Radiography
RADR	1203	Patient Care
<i>Second Summer Session</i>		
RADR	1311	Basic Radiographic Procedures
HPRS	1206	Essentials of Medical Terminology

### **First Year**

#### *First Semester*

RADR	1266	Practicum - Radiologic Technology	2
RADR	1313	Principles of Radiographic Imaging I	3
RADR	2301	Intermediate Radiographic Procedures	3
ENGL	1301	English Composition I	3

#### *Second Semester*

RADR	1267	Practicum - Radiologic Technology	2
RADR	2305	Principles of Radiographic Imaging II	3
RADR	2331	Advanced Radiographic Procedures	3
		Computer or Information Technology Elective	4

#### *Summer Session (12 Weeks)*

RADR	1366	Practicum - Radiologic Technology	3
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### **Second Year**

#### *First Semester*

RADR	2309	Radiographic Imaging Equipment	3
RADR	2333	Advanced Medical Imaging	3
RADR	2366	Practicum - Radiologic Technology	3
HPRS	2201	Pathophysiology	2
		Speech Elective	3
		Humanities/Visual or Performing Arts Elective	3

#### *Second Semester*

RADR	2213	Radiation Biology and Protection	2
RADR	2217	Radiographic Pathology	2
RADR	2235	Radiologic Technology Seminar	2
RADR	2367	Practicum - Radiologic Technology	3
PSYC	2301	Introduction to Psychology or PSYC 2315	3

TOTAL DEGREE HOURS      72

## **Admission and Program Information for Radiologic Technology**

### **MISSION STATEMENT**

*Our mission is to provide ARRT(R) registry eligible radiographers who demonstrate competency, professionalism, and quality patient care skills.*

### **PROGRAM GOALS**

*Successful completion of the two-year program should allow the graduate to meet program goals:*

1. Successful student completion of the ARRT radiography examination
2. Demonstration of competency in the skills necessary to function as an RT(R)
3. Demonstration of professional behaviors consistent with ARRT standards and ethics and the ASRT Code of Ethics

*A selection committee reviews applications and selects those applicants who best meet the following criteria (listed in random order):*

- Students must demonstrate competency in mathematics, reading, and writing by
  - completion of previous applicable coursework, or
  - passing each of those sections of ACCUPLACER or an appropriate alternative test, or
  - earning a grade of C or higher in MATH 0350, RDNG 0363, and ENGL 0325.
- Grade point average (GPA) of all high school or undergraduate college classes or GED scores if high school/college are not applicable.
- Bonus points for college-level general education and science courses required for the program for which a grade of C or higher was made. NOTE: Science courses must have been completed within five years of the semester containing the program deadline date.
- Bonus points proportionate to the number of semester hours from a regionally accredited college or university for which a grade of C or higher was made up to a maximum of 120 semester hours.
- Bonus point for bachelor's degree from a regionally accredited college or university.

*Only the criteria listed are evaluated and considered for the purpose of selection and admission to this program. No specific minimum grade point average or test score, or a set minimum number of courses must be completed for admission. Selection is based on how each applicant compares with others in the applicant pool. In general, the higher the grades, the more competitive the applicant will be for the positions available.*

*Successful completion of this program requires a grade of C or better in all science, general education and specialized (RADR) courses. A student admitted to the program with a grade of less than C in a general education course in the curriculum must repeat the course and earn a grade of C or better in order to complete this program.*

*Students who are selected for admission must undergo screening for substances of abuse and a criminal background check. All offers for admission to the Radiologic Technology Program are provisional until satisfactory results are received.*

*International students contact the International Admission Office 817-515-1570 and the Trinity River Advisement Office 817-515-1055.  
Most/all of the specialized courses are taught only during the daytime.*

*After satisfactory completion of the above curriculum and additional clinical hours the student meets the academic requirements to take the registry examination for certification as a Registered Radiologic Technologist by the American Registry of Radiologic Technologists.*

## **REAL ESTATE**

*Associate of Applied Science Degree Program  
REAL.D001.UG • Northeast Campus Only*

### **First Year**

<i>First Semester</i>		<i>Semester Hours</i>
RELE	1406	Principles of Real Estate 4
RELE	1319	Real Estate Finance 3
BUSI	1301	Business Principles 3
ENGL	1301	English Composition I 3
SPCH	1321	Business and Professional Communication; or SPCH 1311 or SPCH 1315 or SPCH 1318 3

### *Second Semester*

RELE	1307	Real Estate Investments 3
RELE	1300	Contract Forms and Addenda
GOVT	2306	Texas State and Local Government 3
BCIS	1405	Business Computer Applications; or COSC 1401 4

### **Second Year**

#### *First Semester*

RELE	2301	Law of Agency 3
RELE	1315	Property Management 3
ECON	2301	Principles of Macroeconomics 3
MRKG	1311	Principles of Marketing 3
		Science Elective 4
		Humanities/Visual or Performing Arts Elective 3

#### *Second Semester*

RELE	1303	Real Estate Appraisal 3
RELE	1311	Law of Contracts 3
ACCT	2301	Principles of Financial Accounting 3
BUSI	2301	Business Law I 3

TOTAL DEGREE HOURS 60

*NOTE: Mathematical competency is required for completion by TSI liable students. Satisfaction of this requirement may be met by completing MATH-0304 (Beginning Algebra) with a grade of C or higher, achieving a placement test score that qualifies the student for MATH-0350 (Intermediate Algebra), or completing a college-level mathematics course (1300 level or above).*

## **REAL ESTATE**

*Certificate of Completion Program*

*REAL.T001.UG • Northeast Campus Only*

### *First Semester*

			<i>Semester Hours</i>
RELE	1406	Real Estate Principles	4
RELE	1311	Law of Contracts	3
RELE	1300	Contract Forms and Addenda	3
RELE	2301	Law of Agency	3
RELE	1319	Real Estate Finance	3
		TOTAL CERTIFICATE HOURS	16

*The curriculum for this program is specifically designed to satisfy the State of Texas education requirements to obtain a Texas Real Estate License and prepare the student to complete successfully the state examination for licensure.*

*A minimum of 9 semester hours of RELE courses must be completed in residence at TCC.*

## **RESPIRATORY CARE#**

*Associate of Applied Science Degree Program  
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**The following science courses are prerequisites to selection for the Respiratory Care Program. A grade of C or better is required.**

		<i>Semester Hours</i>
BIOL	2401	Anatomy and Physiology I
BIOL	2402	Anatomy and Physiology II
BIOL	2420	Microbiology
CHEM	1406	Essentials of General and Biological Chemistry

### **First Year**

		<i>Semester Hours</i>
<i>First Semester</i>		
RSPT	1101	Introduction to Respiratory Care
RSPT	1166	Practicum - Respiratory Care Therapy/Therapist
RSPT	1429	Respiratory Care Fundamentals I
HPRS	1206	Essentials of Medical Terminology
HPRS	2200	Pharmacology for Health Professions
		Humanities/Visual or Performing Arts Elective
<i>Second Semester</i>		
HPRS	2201	Pathophysiology
RSPT	1207	Cardiopulmonary Anatomy and Physiology
RSPT	1266	Practicum - Respiratory Care Therapy/Therapist
RSPT	1331	Respiratory Care Fundamentals II

### *Summer Session (12 Weeks)*

RSPT	1267	Practicum - Respiratory Care Therapy/Therapist	2
RSPT	2139	Advanced Cardiac Life Support	1
RSPT	2414	Mechanical Ventilation	4

### **Second Year**

			<i>Semester Hours</i>
<i>First Semester</i>			
RSPT	2133	Respiratory Care Case Management	1
RSPT	2210	Cardiopulmonary Disease	2
RSPT	2266	Practicum - Respiratory Care Therapy/Therapist	2
RSPT	2405	Pulmonary Diagnostics	4
		Speech Elective	3
<i>Second Semester</i>			
RSPT	1141	Respiratory Home Care and Rehabilitation	1
RSPT	2131	Simulations in Respiratory Care	1
RSPT	2133	Respiratory Care Case Management	1
RSPT	2147	Specialties in Respiratory Care	1
RSPT	2267	Practicum - Respiratory Care Therapy/Therapist	2
RSPT	2353	Neonatal and Pediatric Cardiopulmonary Care	3
ENGL	1301	English Composition I	3
		Psychology Elective	3
		TOTAL DEGREE HOURS	72

## **Admission and Program Information for Respiratory Care**

A selection committee reviews applications and selects those applicants who best meet the following criteria (listed in random order):

- Students must demonstrate competency in mathematics, reading, and writing by
  - completion of previous applicable coursework, or
  - passing each of those sections of ACCUPLACER or an appropriate alternative test, or
  - earning a grade of C or higher in MATH-0350, RDNG-0363, and ENGL-0325.
- Grade point average (GPA) of all high school or undergraduate college classes or GED scores if high school/college are not applicable.
- Bonus points for college-level general education and science courses required for the program for which a grade of C or higher was made. **NOTE:** Science courses must have been completed within five years of the semester containing the program deadline date.
- Bonus points proportionate to the number of semester hours from a regionally accredited college or university for which a grade of C or higher was made up to a maximum of 120 semester hours.
- Bonus point for bachelor's degree from a regionally accredited college or university.

Only the criteria listed are evaluated and considered for the purpose of selection and admission to this program. No specific minimum grade point average or test score or a set minimum number of courses must be completed for admission. Selection is based on how each applicant compares with others in the applicant pool. In general, the higher the grades, the more competitive the applicant will be for the positions available.

Prior to application students with international college credits must contact the International Admission Office 817-515-1570 and also the Trinity River Advisement Office 817-515-1055.

Students who are selected for admission must undergo screening for substances of abuse and a criminal background check. All offers for admission to the Respiratory Care Program are provisional until satisfactory results are received.

Successful completion of this program requires a grade of C or better in all science, general education, and specialized (RSPT) courses. A student admitted to the program with a grade of less than C in a general education course in the program curriculum must repeat the course and earn a grade of C or better in order to complete the program.

Most/all of the specialized courses are taught only during the daytime.

After successful completion of the above curriculum, the student meets the academic requirements to take the necessary examinations to become a registered respiratory therapist through the National Board for Respiratory Care and the Texas Department of State Health Services.

## **SIGN LANGUAGE INTERPRETING**

*Associate of Applied Science Degree Program  
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		<i>Semester Hours</i>	
<b>First Year</b>			
<i>First Summer Session</i>			
SLNG	1404	American Sign Language (ASL) I	4
<i>Second Summer Session</i>			
SLNG	1405	American Sign Language (ASL) II	4
<i>First Semester</i>			
SLNG	1347	Deaf Culture	3
SLNG	1215	Visual/Gestural Communication	2
SLNG	1444	American Sign Language (ASL) III	4
ENGL	1301	English Composition I	3
SOCI	1301	Introduction to Sociology	3
<i>Second Semester</i>			
SLNG	1211	Fingerspelling and Numbers	2
SLNG	1321	Introduction to the Interpreting Profession	3
SLNG	1445	American Sign Language (ASL) IV	4
ENGL	1302	English Composition II	3
GOVT	2306	Texas State and Local Government	3
<b>Second Year</b>			
<i>First Summer Session</i>			
SLNG	2401	Interpreting I	4
<i>First Semester</i>			
SLNG	2402	Interpreting II	4
SLNG	2166	Practicum I - Sign Language Interpretation and Translation	1
SLNG	1350	Sign To Voice	3
PSYC	2301	Introduction to Psychology; or PSYC 2302	3
SPCH	1311	Fundamentals of Speech Communication; or SPCH 1315 or SPCH 1318 or SPCH 1321 or SPCH 1342 Humanities/Visual or Performing Arts Elective	3
<i>Second Semester</i>			
SLNG	2431	Interpreting III (Capstone)	4
SLNG	2167	Practicum II - Sign Language Interpretation and Translation	1
SLNG	2303	Transliterating	3
PHED	1164	Concepts of Physical Activity	1
* Mathematics or Science Elective		3	
		<b>TOTAL DEGREE HOURS</b>	
		<b>71</b>	

\*Mathematics or Science Elective must be chosen from the corresponding section of the Core Curriculum.

NOTE: Mathematical competency is required for completion by TSI liable students. Satisfaction of this requirement may be met by completing MATH-0304 (Beginning Algebra) with a grade of C or higher, achieving a placement test score that qualifies the student for MATH-0350 (Intermediate Algebra), or completing a college-level mathematics course (1300 level or above).

## **SIGN LANGUAGE COMMUNICATOR**

*Certificate of Completion Program*

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### *First Summer Session*

		<i>Semester Hours</i>
SLNG 1404	American Sign Language (ASL) I	4

### *Second Summer Session*

SLNG 1405	American Sign Language (ASL) II	4
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## **First Year**

### *First Semester*

SLNG 1444	American Sign Language (ASL) III	4
SLNG 1215	Visual/Gestural Communication	2
SLNG 1347	Deaf Culture	3
ENGL 1301	English Composition I	3

### *Second Semester*

SLNG 1211	Fingerspelling and Numbers	2
SLNG 1445	American Sign Language (ASL) IV (Capstone)	4
SLNG 1321	Introduction to the Interpreting Profession	3
ENGL 1302	English Composition II	3

TOTAL CERTIFICATE HOURS 32

## **BASIC AMERICAN SIGN LANGUAGE ACQUISITION**

*Certificate of Completion Program*

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### *First Summer Session*

		<i>Semester Hours</i>
SLNG 1404	American Sign Language (ASL) I	4

### *Second Summer Session*

SLNG 1405	American Sign Language (ASL) II	4
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## **First Year**

### *First Semester*

SLNG 1444	American Sign Language (ASL) III	4
ENGL 1301	English Composition I	3

TOTAL CERTIFICATE HOURS 15

## **SURGICAL TECHNOLOGY#**

*Certificate of Completion Program*

*SURG.T001.UG • Trinity River Campus Only*

### *First Semester*

		<i>Semester Hours</i>
SRGT	1266	Practicum - Surgical Technology/Technologist 2
SRGT	1405	Introduction to Surgical Technology 4
SRGT	1409	Fundamentals of Perioperative Concepts and Techniques 4
BIOL	2401	Anatomy and Physiology I 4
HPRS	1206	Essentials of Medical Terminology 2

### *Second Semester*

SRGT	1267	Practicum - Surgical Technology/Technologist 2
SRGT	1441	Surgical Procedures I 4
SRGT	1442	Surgical Procedures II 4
BIOL	2402	Anatomy and Physiology II 4
BIOL	2420	Microbiology 4
HPRS	2200	Pharmacology for Health Professions 2

### *Summer Session (8 Weeks)*

SRGT	2130	Professional Readiness 1
SRGT	2266	Practicum - Surgical Technology/Technologist 2

TOTAL CERTIFICATE HOURS 39

### ***Admission and Program Information for Surgical Technology***

*A selection committee reviews applications and selects those applicants who best meet the following criteria (listed in random order):*

- *Grade point average (GPA) of all high school or undergraduate college classes or GED scores if high school/college are not applicable.*
- *Bonus points for HPRS and science courses required for the program for which a grade of C or higher was made. NOTE: Science courses must have been completed within five years of the semester containing the program deadline date.*
- *Bonus points proportionate to the number of semester hours from a regionally accredited college or university for which a grade of C or higher was made up to a maximum of 120 semester hours.*
- *Bonus point for bachelor's degree from a regionally accredited college or university.*

*Only the criteria listed are evaluated and considered for the purpose of selection and admission to this program. No specific minimum grade point average or test score, or a set minimum number of courses must be completed for admission. Selection is based on how each applicant compares with others in the applicant pool. In general, the higher the grades, the more competitive the applicant will be for the positions available.*

*Students who are selected for admission must undergo screening for substances of abuse and a criminal background check. All offers for admission to the Surgical Technology Program are provisional until satisfactory results are received.*

*International students must contact the International Admission Office 817-515-1570 and also the Trinity River Advisement Office 817-515-1055.*

*Once admitted to the program students must complete and earn a minimum grade of C in each specialized course.*

*Most/all of the specialized courses are taught only during the day.*

*After successful completion of the above curriculum, the student is eligible to take the certification examination to become a certified Surgical Technologist through the Association of Surgical Technologists.*

*The Tarrant County College Surgical Technology Program is accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP), 1361 Park Street, Clearwater, FL 33756. Phone 727-210-2350.*

## **TEACHER ASSISTANT**

*Certificate of Completion Program*

*EDUC.T001.UG • Northeast Campus Only*

<i>First Semester</i>		<i>Semester Hours</i>
TECA	1354	Child Growth and Development
ENGL	1301	English Composition
CDEC	1359	Children with Special Needs
EDUC	1301	Introduction to the Teaching Profession
CDEC	1419	Child Guidance
		4
<i>Second Semester</i>		
CDEC	1356	Emergent Literacy for Early Childhood
EDUC	2301	Introduction to Special Populations
EDTC	1313	Educational Software and Technology
SPCH	1311	Fundamentals of Speech Communication; or SPCH 1315 or SPCH 1318 or SPCH 1321
CDEC	1413	Curriculum Resources for Early Childhood Programs
PHED	1164	Concepts of Physical Activity
		TOTAL CERTIFICATE HOURS 33

## **BILINGUAL TEACHING ASSISTANT**

*Certificate of Completion Program*

*EDUC.T002.UG • Northeast Campus Only*

<i>First Semester</i>		<i>Semester Hours</i>
CDEC	1356	Emergent Literacy for Early Childhood
ENGL	1301	English Composition I
SPAN	1411	Elementary Spanish I
EDUC	1301	Introduction to the Teaching Profession
EDTC	1321	Bilingual Education
<i>Second Semester</i>		
EDUC	1325	Principles of Multicultural Education
EDTC	1313	Educational Software and Technology
SPCH	1311	Fundamentals of Speech Communication; or SPCH 1315 or SPCH 1318 or SPCH 1321
SPAN	1412	Elementary Spanish II
PHED	1164	Concepts of Physical Activity
<i>First Summer Session</i>		
SPAN	2311	Intermediate Spanish I
TECA	1354	Child Growth and Development
		TOTAL CERTIFICATE HOURS 36

## **WELDING TECHNOLOGY**

*Associate of Applied Science Degree Program  
WELD.D001.UG • South Campus Only*

### **First Year**

<i>First Semester</i>		<i>Semester Hours</i>
WLDG	1428	Introduction to Shielded Metal Arc Welding (SMAW) 4
WLDG	1430	Introduction to Gas Metal Arc Welding (GMAW) 4
MATH	1332	Survey of Mathematics; or MATH 1314 or MATH 1324 3
ENTC	2331	Manufacturing Materials 3
ENGL	1301	English Composition I 3

### *Second Semester*

WLDG	1412	Introduction to Flux Cored Arc Welding (FCAW) 4
WLDG	1435	Introduction to Pipe Welding 4
DFTG	1425	Blueprint Reading and Sketching 4
		Humanities/Visual or Performing Arts Elective 3

### **Second Year**

#### *First Semester*

WLDG	1434	Introduction to Gas Tungsten Arc Welding (GTAW) 4
DFTG	1409	Basic Computer-Aided Drafting (CAD) 4
PSYC	2315	Psychology of Adjustment and Human Relations 3
WLDG	1417	Introduction to Layout and Fabrication 4

#### *Second Semester*

GOVT	2305	United States Government; or GOVT 2306 3
SPCH	1321	Business and Professional Communication; 3 or SPCH 1311 or SPCH 1315 or SPCH 1318
WLDG	2451	Advanced Gas Tungsten Arc Welding (GTAW) 4
WLDG	2453	Advanced Pipe Welding (Capstone) 4

TOTAL DEGREE HOURS 61

**WELDING - BASIC**

*Certificate of Completion Program • South Campus  
WELD.T002.UG • South Campus Only*

*First Semester*

		<i>Semester Hours</i>
WLDG	1428	Introduction to Shielded Metal Arc Welding (SMAW) 4
WLDG	1430	Introduction to Gas Metal Arc Welding (GMAW) 4

*Second Semester*

WLDG	1417	Introduction to Layout and Fabrication 4
DFTG	1425	Blueprint Reading and Sketching 4
WLDG	1434	Introduction to Gas Tungsten Arc Welding (GTAW) 4
TOTAL CERTIFICATE HOURS		20

**WELDING - ADVANCED**

*Certificate of Completion Program • South Campus  
WELD.T003.UG • South Campus Only*

*First Semester*

		<i>Semester Hours</i>
WLDG	1435	Introduction to Pipe Welding 4
WLDG	1417	Introduction to Layout and Fabrication 4

*Second Semester*

WLDG	2453	Advanced Pipe Welding 4
WLDG	2451	Advanced Gas Tungsten Arc Welding (GTAW) 4
TOTAL CERTIFICATE HOURS		16

# COURSE DESCRIPTIONS

## Course Numbering System

During past years Tarrant County College changed all course numbers to comply with a statewide plan to identify most courses with common numbers. The numbers are assigned in three ways:

1. The **Texas Common Course Numbering System (TCCNS)** was adopted by most Texas public and private colleges and universities in the early 1980s. It is designed to facilitate maximum transferability of academic courses among Texas institutions. TCCNS courses must be accepted in transfer by any Texas public college or university that offers the same course. **TITLES IN BOLD MARKED WITH ‘+’ ARE COURSES COVERED BY THE TRANSFER GUARANTEE.**
2. The **Texas Workforce Education Numbering System (WECM)** was mandated by the Texas Higher Education Coordinating Board. It is designed to identify equivalent occupational courses, to facilitate their transfer between occupational degree programs, and to assure the recognition by business and industry.
3. Courses not identified by TCCNS or WECM numbers are assigned a local Tarrant County College course number. All developmental courses have an assigned number.

### NUMBERING OF COURSES:

#### Common Course Number System

All have four-letter department abbreviations.

Each course has a four-digit number.

- The first digit indicates the level at which a course is taught, as follows:
  - 1= Freshman or introductory level.
  - 2= Sophomore or intermediate or advanced.
- The second digit indicates the semester credit hour value of the course.
- The third and fourth digits establish type of instruction and course sequence.

Courses with TCCN numbers are highlighted with ‘+’ following the course title. Three figures in parentheses follow each course title indicating the number of semester hours credit, the number of lecture hours per week, and the number of laboratory hours per week. In addition, many course descriptions also include notations to indicate the following special instructions or considerations:

\* Waiver of a prerequisite or co-requisite may be authorized by the department chairperson.

# Specialized admission requirements; consent of the Department Chairperson required.

## **(ABDR) AUTOMOTIVE BODY REPAIR**

ABDR-1207 Collision Repair Welding

(2-1-3) A study of collision repair welding and cutting procedures.

*Required Co-Requisite:* ABDR-1419

ABDR-1291 Special Topics in Automotive Body Repair

(2-2-0) 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. *Required Co-Requisite:* ABDR-1431

ABDR-1419 Basic Metal Repair

(4-3-3) Covers basic metal principles and working techniques including proper tool usage and product application. *Required Co-Requisite:* ABDR-1207

ABDR-1431 Basic Refinishing

(4-3-4) An introduction to current refinishing products, shop safety, and equipment used in the automotive refinishing industry. Emphasis on surface preparation, masking techniques, and refinishing of replacement parts. *Required Co-Requisite:* ABDR-1291

ABDR-1555 Non-Structural Metal Repair

(5-3-6) A course in sheet metal repair principles using mechanical and hydraulic equipment. Emphasis on attachment devices used to straighten and align exterior body panels. *Required Prerequisite:* ABDR-1419

ABDR-1558 Intermediate Refinishing

(5-3-6) Expanded training in mixing and spraying of automotive topcoats. Emphasis on formula ingredient, reducing, thinning, and special spraying techniques. Introduction to partial panel refinishing techniques and current industry paint removal techniques.

*Recommended Prerequisite:* ABDR-1431

ABDR-2502 Auto Body Mechanical and Electrical Service

(5-3-6) A course in the repair, replacement, and/or service of collision damaged mechanical or electrical systems. Topics include drive train removal, reinstallation and service; cooling system service and repair; exhaust system service; and emission control systems. Additional topics include wire and connector repair, reading wiring diagrams, and troubleshooting. *Recommended Prerequisite:* ABDR-1419

ABDR-2537 Structural Analysis and Damage Repair

(5-3-6) Operation of equipment and the procedures involved in the repair of body structures. Special emphasis on conducting a thorough damage analysis as well as demonstrating proper pulling and anchoring techniques.

*Required Prerequisite:* ABDR-1419

ABDR-2549 Advanced Refinishing

(5-3-6) Application of multistage refinishing techniques. Further development in analysis of problems and solutions in color matching and partial panel refinishing.

*Recommended Prerequisite:* ABDR-1431

**ABDR-2551 Specialized Refinishing Techniques**

(5-3-6) Advanced topics in specialty automotive refinishing. Emphasis on refinishing plastics, fiberglass, aluminum, and galvanized panels as well as custom graphics and current industry innovations.

*Recommended Prerequisite:* ABDR-1431

## **(ACCT) ACCOUNTING**

**ACCT-2301 Principles of Financial Accounting +**

(3-3-0) Accounting concepts and applications in transaction analysis and financial statement preparation, analysis of financial statements, and asset and equity accounting in proprietorships, partnerships, and corporations.

*Required Prerequisite:* MATH-0302 with a grade of C or satisfactory score on approved placement test and RDNG-0363 with a grade of C or satisfactory score on approved placement test or achieving an 11<sup>th</sup> grade level on the Nelson Denny

*This course may be taken for honors credit. Consult the department for information.*

**ACCT-2302 Principles of Managerial Accounting +**

(3-3-0) Continuation of ACCT-2301. Introduction to cost behavior, budgeting, responsibility accounting, cost control, and product costing.

*Required Prerequisites:* ACCT-2301

## **(ACNT) ACCOUNTING TECHNICIAN**

**ACNT-1303 Introduction to Accounting**

(3-3-0) A study of analyzing, classifying, and recording business transactions in a manual and computerized environment. Emphasis on understanding the complete accounting cycle and preparing financial statements, bank reconciliations, and payroll. For non-accounting majors.

**ACNT-1311 Introduction to Computerized Accounting**

(3-3-0) Introduction to utilizing the computer in maintaining accounting records with primary emphasis on a general ledger package.

*Recommended Prerequisite/Co-Requisite:* ACCT-2301

**ACNT-1313 Computerized Accounting Applications**

(3-3-0) Use of the computer to develop and maintain accounting records and to process common business applications for managerial decision-making.

*Recommended Prerequisite:* ACCT-2301

**ACNT-1329 Payroll and Business Tax Accounting**

(3-3-0) A study of payroll procedures, taxing entities, and reporting requirements of local, state, and federal taxing authorities in a manual and a computerized environment.

*Recommended Prerequisite:* ACCT-2301

**ACNT-1331 Federal Income Tax: Individual**

(3-3-0) A study of the federal tax law for preparation of individual income tax returns.

*Recommended Prerequisite:* ACCT-2301

**ACNT-1391 Special Topics in Accounting**

(3-3-0) 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.

**ACNT-2303 Intermediate Accounting I**

(3-3-0) Analysis of generally accepted accounting principles, concepts, and theory underlying the preparation of financial statements. *Required Prerequisite:* ACCT-2302

**ACNT-2309 Cost Accounting**

(3-3-0) A study of budgeting, cost analysis and cost control systems using traditional and contemporary costing methods and theories in decision making.

*Required Prerequisite:* ACCT-2302

**ACNT-2380 Cooperative Education in Accounting**

(3-1-19) Career-related activities encountered in the student's area of specialization are offered through an individualized agreement among the College, employer, and student. Under supervision of the College and the employer, the student combines classroom learning with work experience. Includes a lecture component.

*Prerequisite:* Consent of instructor based on the preparation of a co-op application, employer approval, prior completion of a minimum of 15 credit hours including 9 hours of accounting with an overall 2.5 or higher GPA. Student must have formally declared an accounting major.

**(AERM) AIRCRAFT MECHANIC/TECHNICAN**

**AERM-1101 Introduction to Aviation**

(1-1-0) An overview of aviation maintenance including the history of aviation, the mechanic's roles and duties, and nomenclature of aircraft and safety.

**AERM-1205 Weight and Balance**

(2-1-2) An introduction to the study of the Federal Aviation Administration (FAA) required subjects relating to the weighing of aircraft, the performance of weight and balance calculations, and appropriate maintenance record entries. Research is done via computer.

*Required Prerequisite/Co-Requisite:* AERM-1208

**AERM-1208 Federal Aviation Regulations**

(2-1-3) A course in the use and understanding of the Federal Aviation Administration (FAA) and aircraft manufacturers' publications, forms, and records; and the exercise of mechanic privileges within prescribed limitations. Regulations and research via CD-ROM.

**AERM-1240 Aircraft Propellers**

(2-1-3) Fundamentals of propeller design, function, and construction. Skill development in inspection, servicing, and repair of fixed-pitch, constant-speed, and feathering propellers and governing systems. Instruction in removal, balancing, and installation of propellers and fundamentals of safety are also addressed.

**AERM-1241 Wood, Fabric, and Finishes**

(2-1-2) A course in the use and care of various covering materials, finishes and wood structures including approved methods and procedures. Safety also addressed.

**AERM-1243 Instruments and Navigation/Communication**

(2-1-2) A study of aircraft instruments and electronic flight instrument systems including testing and installing instruments; inspecting, checking, and troubleshooting navigation and communication systems; and inspecting and repairing antennas and electronics equipment installations. Computer applications.

**AERM-1253 Aircraft Welding**

(2-1-2) Skill development in repair procedures for steel, magnesium, brass, and aluminum materials used in aircraft assembly and selection and application of appropriate methods of welding, brazing, and soldering steel, magnesium, brass, and aluminum. Fundamentals of safety procedures are also addressed.

**AERM-1254 Aircraft Composites**

(2-1-2) Comprehensive concepts of the inspection and repair of composite, fiberglass, honeycomb and laminated structural materials including doors, windows, bonded structures, and interior furnishings. Safety procedures will also be addressed.

**AERM-1303 Shop Practices**

(3-2-3) An introduction to shop safety, the correct use of hand tools, equipment and precision measurement, identification of aircraft hardware, and the fabrication of fluid lines and tubing. Emphasis on procedures for testing, heat treating, and inspection of aircraft structures.

**AERM-1310 Ground Operations**

(3-2-3) An introductory course in fuels, servicing methods, safety procedures, aircraft movement, securing and operations of aircraft, external power equipment, aircraft cleaning, and corrosion control.

**AERM-1314 Basic Electricity**

(3-2-4) A study of aircraft electrical systems and their requirements including the use of the ammeter, voltmeter, and ohmmeter; series and parallel circuits; inductance and capacitance; magnetism; converting alternating current (AC) to direct current (DC); controlling devices; maintenance and servicing of aircraft batteries; and reading and interpreting aircraft electrical diagrams to include solid state devices and logic functions. Fundamentals of electrical safety also addressed.

**AERM-1315 Aviation Science**

(3-2-2) Fundamentals of mathematics, physics, and drawing as they apply to aircraft principles and operations as required by the Federal Aviation Administration (FAA) for airframe and powerplant mechanics.

**AERM-1344 Aircraft Reciprocating Engines**

(3-2-3) Reciprocating engines, their development, operating principles, and theory. Includes engine instruments, lubrication, and exhaust systems. Also addresses fundamentals of safety.

**AERM-1345 Airframe Electrical Systems**

(3-2-4) A study of airframe electrical systems including installation, removal, disassembly, and repair of electrical components and related wiring. Fundamentals of electrical safety also addressed. *Recommended Prerequisite: AERM-1314*

**AERM-1347 Airframe Auxiliary Systems**

(3-2-3) A comprehensive study of airframe auxiliary systems including cabin atmospheric control systems, ice and rain control systems for aircraft and engines, and fire detection and protection systems. Fundamentals of safety procedures also addressed.

**AERM-1349 Hydraulic, Pneumatic, and Fuel Systems**

(3-2-4) Skill development in inspecting, servicing and maintaining aircraft fluid systems including hydraulics, pneumatics, and fuel. Application of basic concepts through detailed maintenance procedures. Fundamentals of safety procedures also addressed.

**AERM-1350 Landing Gear Systems**

(3-2-3) General principles of inspection, servicing, overhaul, and repair of fixed and retractable landing gear systems and the operation and repair of position and warning systems. Includes coverage of systems, components, operation, and fundamentals of safety procedures.

**AERM-1351 Aircraft Turbine Engine Theory**

(3-2-3) General principles of theory, history, and servicing of turbine engines to include lubrication, instrumentation, auxiliary power units, and exhaust systems. Fundamentals of safety procedures are also addressed.

**AERM-1357 Fuel Metering and Induction Systems**

(3-2-4) Skill development in fuel metering and induction systems used on reciprocating and turbine engines including fuel metering systems, carburetors, induction systems, heat exchangers and cooling systems. Fundamentals of safety procedures will also be addressed.

**AERM-1391 Special Topics in Aircraft Mechanic/Technician Airframe**

(3-3-0) 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.

**AERM-1452 Aircraft Sheet Metal**

(4-2-7) Skill development in inspection and repair of sheet metal structures including forming, lay out, and bending of sheet metal and identification, selection, and installation of rivets and fasteners. Fundamentals of safety procedures also addressed.

**AERM-1456 Aircraft Powerplant Electrical**

(4-2-6) General principles of theory, operation, and maintenance of powerplant electrical systems including ignition, starting, and fire protection systems. Fundamentals of safety procedures will also be addressed.

**AERM-2171 Oral and Practical Exams, General**

(1-0-3) The Oral and Practical exams are required for the FAA Mechanic certificate. The exams are scheduled individually with a Designated Mechanic Examiner to meet the requirements for the General portion of the Airframe and/or Powerplant rating.

**AERM-2172 Oral and Practical Exams, Airframe**

(1-0-3) The Oral and Practical exams are required for the FAA Mechanic certificate. The exams are scheduled individually with a Designated Mechanic Examiner to meet the requirements for the Airframe portion of the Airframe and/or Powerplant rating.

### **AERM-2173 Oral and Practical Exams, Powerplant**

(1-0-3) The Oral and Practical exams are required for the FAA Mechanic certificate. The exams are scheduled individually with a Designated Mechanic Examiner to meet the requirements for the Powerplant portion of the Airframe and/or Powerplant rating.

### **AERM-2231 Airframe Inspection**

(2-1-2) In depth coverage of methods and procedures to perform airframe conformity and air worthiness inspections (including One Hundred Hour Inspections) in accordance with Federal Aviation Regulations and manufacturer's service information. Safety procedures will also be addressed.

### **AERM-2233 Assembly and Rigging**

(2-1-2) A comprehensive study of the assembly and rigging of fixed and rotary-wing aircraft including structural alignment, balancing and rigging of control systems and assembly of aircraft components. Fundamentals of safety procedures are also addressed.

### **AERM-2252 Aircraft Powerplant Inspection**

(2-1-2) In depth coverage of methods and procedures to perform powerplant conformity and air worthiness inspections (including One Hundred Hour Inspections) in accordance with Federal Aviation Regulations and manufacturer's information. Safety procedures will also be addressed. All materials and procedures are computer based.

*Prerequisite/Co-Requisite:* Consult Department Chairperson

### **AERM-2259 Advanced Composite Repair**

(2-1-2) An advanced study and practical application of composite repair, processes, and tooling. Includes complex repair and manufacturing techniques.

*Required Prerequisite:* AERM-1254 with a minimum grade of C

### **AERM-2351 Aircraft Turbine Engine Overhaul**

(3-2-4) A comprehensive study in inspection, disassembly, reassembly, and replacement of gas turbine engines, sections, and components including operational troubleshooting, analysis, and safety. *Recommended Prerequisite:* AERM-1351

### **AERM-2447 Aircraft Reciprocating Engine Overhaul**

(4-2-8) A comprehensive study of reciprocating engine overhaul including measurement and inspection procedures. Instruction in removal and installation, inspections, checks, servicing, and repair of engines. Safety procedures will be addressed.

*Recommended Prerequisite:* AERM-1344

## **(AGCR) AGRONOMY**

### **AGCR-2418 Soil Science**

(4-3-2) Introduction to the physical, chemical, and biological properties of soils. Topics include the relationship between crops and soils, conservation of soil and water resources, and the economic use of fertilizer.

## **(AIRP) AIRLINE/COMMERCIAL/PROFESSIONAL PILOT**

### **AIRP-1215 Private Flight**

(2-0-4) Flight training to prepare the student for the completion of the Federal Aviation Administration private pilot certificate, including dual and solo flight in the areas of maneuvers and cross-country navigation.

**AIRP-1255 Intermediate Flight**

(2-0-5) Provides students with flight hours and skills necessary to fulfill solo cross-country hours required for the Federal Aviation Administration Commercial Pilot, single engine land, airplane certificate.

**AIRP-1301 Air Navigation**

(3-3-0) Instruction in Visual Flight rules navigation in the National Airspace System. Topics include sectional charts, flight computers, plotters, and navigation logs and publications. Qualifies as part of a program leading to Federal Aviation Administration Private Pilot certification.

**AIRP-1307 Aviation Meteorology**

(3-3-0) In-depth coverage of meteorological phenomena affecting aircraft flight. Topics include basic concepts of aviation meteorology in the study of temperature, pressure, moisture, stability, clouds, air masses, fronts, thunderstorms, icing, and fog. Also includes analysis and use of weather data for flight planning.

**AIRP-1317 Private Pilot Ground School**

(3-3-0) Basic ground school for the Federal Aviation Administration Private Pilot Certificate, providing the student with the necessary aeronautical knowledge that can be used for private pilot certification. Topics include principles of flight, radio procedures, weather, navigation, aerodynamics, and Federal Aviation Administration regulations.

**AIRP-1341 Advanced Air Navigation**

(3-3-0) Skill development in advanced airplane systems and performance including radio navigation and cross-country flight planning. Includes an introduction to instrument flight operations and navigation. This course may be used as part of a program leading to Federal Aviation Administration certification.

**AIRP-1343 Aerodynamics**

(3-3-0) Study of the general principles of the physical laws of flight. Topics include physical terms and the four forces of flight: lift, weight, thrust, and drag. Aircraft design, stability control, and high-speed flight characteristics are also included.

**AIRP-1347 Human Factors in Aviation**

(3-3-0) Instruction in flight physiology, the decision-making process, pilot health maintenance, psychological aspects of flight, human behavior as related to the aircraft flight deck, and aeromedical information of significance to flight crews.

**AIRP-1351 Instrument Ground School**

(3-3-0) A study of basic instrument radio and navigation fundamentals used in instrument flight. Topics include a description and practical use of navigation systems and instruments, charts used for instrument flight, and Federal Aviation Administration regulations. Qualifies as part of a program leading to Federal Aviation Administration certification.

**AIRP-2236 Certified Flight Instructor - Airplane**

(2-0-3) Flight instruction necessary to qualify for the Federal Aviation Administration Certified Flight Instructor - Airplane certificate. Topics include ground and flight instruction.

**AIRP-2239 Commercial Flight**

(2-0-5) Flight instruction necessary to qualify for the Federal Aviation Administration Commercial Pilot Certificate. Instruction includes both dual and solo flight training to prepare the student for mastery of all commercial pilot maneuvers.

**AIRP-2242 Flight Instructor - Airplane Certificate**

(2-0-2) Skill development for flight instructors necessary to qualify for the Federal Aviation Administration Certified Flight Instructor Instrument Rating - Airplane.

**AIRP-2250 Instrument Flight**

(2-0-4) Preparation for completion of the Federal Aviation Administration Instrument Pilot Rating with mastery of all instrument flight procedures.

**AIRP-2331 Advanced Meteorology**

(3-3-0) Preparation for advanced aviation students to apply knowledge of varying meteorological factors including weather hazards to flight, techniques for minimizing weather hazards, and aviation weather services.

**AIRP-2333 Aircraft Systems**

(3-3-0) Study of the general principles, operation, and application of pneumatic, hydraulic, electrical, fuel, environmental, protection, and warning systems. Emphasis on subsystems and control systems.

**AIRP-2337 Commercial Ground School**

(3-3-0) A study of the advanced aviation topics that can be used for Federal Aviation Administration certification at the commercial pilot level. Includes preparation for the Federal Aviation Administration Commercial Airplane written test.

**AIRP-2349 Instructor Ground School**

(3-3-0) Skill development in the fundamentals of teaching and learning in an aviation-oriented environment. Introduction to the techniques of instruction and analysis of flight maneuvers. Topics include flight instructor responsibilities and Federal Aviation Regulations relating to the instructor rating.

**AIRP-2355 Propulsion Systems**

(3-3-0) In-depth coverage of aircraft engine theory and principles of operation of various types of aircraft engines. Topics include propellers, superchargers, engine accessories, controls, and instrumentation.

**AIRP-2357 Turbine Aircraft Systems Ground School**

(3-3-0) Instruction in the systems of specific turbine aircraft. Emphasis on the “glass cockpit”, auxiliary power, aircraft systems, and the first officer's operational role.

## **(ANTH) ANTHROPOLOGY**

### **ANTH-2346 General Anthropology +**

(3-3-0) Study of human beings, their antecedents and related primates, and their cultural behavior and institutions. Introduces the major subfields: physical and cultural anthropology, archeology, linguistics, and ethnology.

## **(ARCE) ARCHITECTURAL DESIGN – ALSO SEE DRAFTING (DFTG)**

### **ARCE-1342 Codes, Specifications, and Contract Documents**

(3-3-0) Study of ordinances, codes and legal documents as they relate to specifications and drawing. Discussion of owner-architect-contractor responsibilities, duties, and legal relationships.

## **(ARCH) ARCHITECTURE**

### **ARCH-1301 Architectural History I +**

(3-3-0) Study of the history of architecture from ancient civilizations to present. Emphasis on the relationship of culture, geography, climate, natural resources and materials to the methods of construction. Includes an analytical review of the art of architecture and design with physical, religious, social, economic and political factors that impact ancient civilizations through the Middle Ages.

### **ARCH-1302 Architectural History II +**

(3-3-0) Study of the history of architecture from the ancient civilizations to the present. Emphasis on relationship of culture, geography, climate, natural resources, and materials to the method of construction. Includes an analytical review of the art of architecture and design physical, religion, social, economic and political factors that impact the Middle Ages through the present.

### **ARCH-1303 Architectural Design I-Residential +**

(3-2-4) Introduction to architectural concepts. The visual characteristics of two- and three-dimensional forms and spaces. Architectural drawing procedures and practices for residential and/or light frame construction. Construction practices and techniques with emphasis on residential construction methods. Office procedures for coordinating CAD drawings in the office. *Recommended Prerequisite:* ENGR-1304

### **ARCH-1304 Architectural Design II-Commercial +**

(3-2-4) A continuation of architectural concepts introduced in Architectural Design I. The visual characteristics of two- and three-dimensional forms and spaces. Architectural drafting procedures, practices and symbols including the preparation of detailed working drawings for a commercial building, with emphasis on commercial construction methods.

*Recommended Prerequisite:* ENGR-1304

### **ARCH-1307 Architectural Graphics I +**

(3-2-4) Architectural drafting techniques including orthographic and axonometric studies. Principles of shade and shadow, and perspective drawing. Presentation of advance architectural topics with applications in computer-aided environment utilizing three-dimensional objects or spaces. *Recommended Prerequisite:* ARCH-1303 or ARCH-1304

**ARCH-1308 Architectural Graphics II +**

(3-2-4) Architectural drafting techniques including orthographic and axonometric studies. Principles of shades and shadows, and perspective drawing. These techniques will be implemented through the use and instruction of Building Information Management System software.

**ARCH-1311 Introduction to Architecture +**

(3-3-0) An introduction to the elements of the architectural profession. Examination of the interrelationships of societal, cultural and environmental contexts in the building environment.

**ARCH-1315 Architectural Computer Graphics +**

(3-2-4) Introduction to computer graphics systems with emphasis on architectural applications. *Required Prerequisite:* ENGR-1304

**ARCH-2301 Architectural Freehand Drawing +**

(3-2-4) Representational drawing using various media. Emphasis on principles of light, shade, scale, proportion, line and tonal quality.

**ARCH-2312 Architectural Technology I +**

(3-3-0) Introduction to the properties, specifications, and application of materials related to architectural structures. Emphasis on the methods of construction and the effect of design.

**ARCH-2313 Architectural Technology II +**

(3-3-0) A continuation of Architectural Technology I and a continuation of the properties, specifications, and application of materials related to architectural structures. Emphasis on the methods of construction and the effect of design. Included is the study of codes, vendor references and uses of mechanical, plumbing, conveying, and electrical systems as related to architecture for residential and commercial construction.

*Recommended Prerequisite:* ARCH-2312

**(ARCT) ARCHITECTURAL ENGINEERING  
TECHNOLOGY/TECHNICIAN – ALSO SEE DRAFTING (DFTG)****ARCT-1371 Professional Office Practices**

(3-3-0) The roles of architects and contractors in the construction industry. The building enterprise, general conditions of construction contracts, architect/contractor business management, office procedures, and types of business operation.

*Prerequisite:* Consent of Department Chairperson.

**ARCT-1373 Building System Design and The Green Advantage**

(3-3-0) A study of the architectural design of structures as a complex interrelated system of people, building technologies, and the environment. Course includes a study of energy efficient and environmentally responsible design; and the Green Advantage.

**ARCT-1374 Energy Conservation Codes in Mechanical and Electrical Design**

(3-3-0) A study the use of lighting, electrical, mechanical requirements, and techniques to lower energy and water consumption in the architectural structures. Includes a study in the application of architectural onsite power generation with an emphasis on renewable energy. Includes a survey of energy conservation codes.

**ARCT-1375 Architectural Retrofit Strategies**

(3-3-0) Evaluation of existing architectural structures yielding to redesign and retrofitting strategies in order to improve energy efficiency and environment quality.

**ARCT-1376 Sustainable Urbanism Design and Development Planning**

(3-3-0) Immersion in building green, sustainable urbanism practices, theories, metrics, thresholds, and implementation strategies; including hands-on exercises using LEED-ND and local case studies. Environmental development planning topics including information and hands-on tools to establish realistic carbon reduction goals and implementation strategies to reach them. Survey of methods and materials used for the design of architectural structures that conserve energy, water and human resources. Includes USGBC rating system and a preparation course for the LEED (Leadership in Energy and Environmental Design) examinations.

**ARCT-1391 Special Topics in Architectural Engineering Technology/Technician**

(3-3-0) Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve the proficiency of the student.

**ARCT-2367 Practicum in Architectural Engineering Technology/Technician**

(3-0-21) Practical, general workplace training supported by an individualized learning plan developed by the employer, College and student. This experience may be paid or non-paid.

*Required Prerequisite:* Department Chair approval

**(ARTC) GRAPHIC DESIGN, COMMERCIAL ART AND ILLUSTRATION**

**ARTC-1305 Basic Graphic Design**

(3-2-2) Graphic design with emphasis on the visual communication process. Topics include basic terminology and graphic design principles.

**ARTC-1313 Digital Publishing I**

(3-2-4) The fundamentals of using digital layout as a primary publishing tool and the basic concepts and terminology associated with typography and page layout.

**ARTC-1402 Digital Imaging I**

(4-3-3) Digital imaging using raster image editing and/or image creation software: scanning, resolution, file formats, output devices, color systems, and image-acquisitions.

**ARTC-1453 Computer Illustration**

(4-3-3) Use of the tools and transformation options of an industry-standard vector drawing program to create complex illustrations or drawings.

**ARTC-2305 Digital Imaging II**

(3-2-4) 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 or fine art applications.

*Recommended Prerequisite:* ARTC-1402

**ARTC-2313 Digital Publishing II**

(3-2-4) Includes layout procedures from thumbnails and roughs to final comprehensive and print output. Emphasis on design principles for the creation of advertising and publishing materials, and techniques for efficient planning and documenting projects.

*Recommended Prerequisite:* ARTC-1313

**ARTC-2335 Portfolio Development for Graphic Design**

(3-2-2) 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. *Required Prerequisite:* Consent of Program Coordinator

**ARTC-2440 Computer Illustration II**

(4-3-3) Advanced use of software applications and/or various media with emphasis on output procedures, the resolution of complex design issues, and concept development.

**(ARTS) ART**

**ARTS-1301 Art Appreciation +**

(3-3-0) Exploration of purposes and processes in the visual arts including evaluation of selected works of painting, sculpture, architecture and industrial design related to everyday life. General education course open to all; design principles from the layman's point of view.

**ARTS-1303 Art History Survey I +**

(3-3-0) Examination of painting, sculpture, architecture and other arts from prehistoric times to 1000 A.D. Freshman studio core.

**ARTS-1304 Art History Survey II +**

(3-3-0) Examination of painting, sculpture, architecture and other arts from 1000 A.D. to the present. Freshman studio core.

**ARTS-1311 Design I +**

(3-2-4) Elements and principles of art using two-dimensional design concepts; fundamentals of line, color, form, texture, shape, space and arrangement. Freshman studio core.

**ARTS-1312 Design II +**

(3-2-4) Continuation of ARTS-1311 using three-dimensional design concepts. Freshman studio core. *Recommended Prerequisite:* ARTS-1311

**ARTS-1316 Drawing I +**

(3-2-4) Investigation of drawing media and techniques including descriptive and expressive possibilities. Variety of media, techniques, and subjects, exploring perceptual and descriptive possibilities with consideration of drawing as a developmental process, as well as an end in itself. Freshman studio core.

**ARTS-1317 Drawing II +**

(3-2-4) A further investigation of drawing media and techniques including descriptive and expressive possibilities. Freshman studio core.

*Recommended Prerequisites:* ARTS-1311 and ARTS-1316

**ARTS-1320 Interior Design I +**

(3-2-4) Studio course in interior design. Includes instruction in professional techniques of designing the interiors of homes, offices and industrial buildings.

**ARTS-1321 Interior Design II +**

(3-2-4) Continuation of ARTS-1320 with emphasis on advanced design techniques.

**ARTS-2313 Design Communications I +**

(3-2-4) Communication of ideas through processes and techniques of graphic design and illustration.

*Recommended Prerequisites:* ARTS-1311 and ARTS-1316 and basic computer literacy

**ARTS-2314 Design Communications II +**

(3-2-4) Continuation of ARTS-2313. Advanced study of graphic design techniques.

*Recommended Prerequisite:* ARTS-2313

**ARTS-2316 Painting I +**

(3-2-4) Exploration of ideas using painting media and techniques. Emphasis on color and composition.

*Recommended Prerequisites:* ARTS-1311 or ARTS-1316

**ARTS-2317 Painting II +**

(3-2-4) Continuation of ARTS-2316 with emphasis on individual expression.

*Recommended Prerequisite:* ARTS-2316

**ARTS-2323 Life Drawing I +**

(3-2-4) Basic study of the human form. A studio course emphasizing structures and action of the human figure.

*Recommended Prerequisite:* ARTS-1317

**ARTS-2326 Sculpture I +**

(3-2-4) Exploration of ideas using sculpture media and techniques. Basic approaches in a variety of media, including additive and subtractive techniques. *Recommended Prerequisite:* ARTS-1312

**ARTS-2327 Sculpture II +**

(3-2-4) A continuation of ARTS-2326 with emphasis on individual expression.

*Recommended Prerequisite:* ARTS-2326

**ARTS-2333 Printmaking I +**

(3-2-4) Exploration of ideas using various printmaking processes. Emphasis on basic processes, including planographic, intaglio, stencil and relief.

*Recommended Prerequisite:* ARTS-1311 or ARTS-1316

**ARTS-2334 Printmaking II +**

(3-2-4) A continuation of ARTS-2333 with emphasis on advanced printmaking processes for planographic, intaglio, stencil and relief.

*Recommended Prerequisite:* ARTS-2333

**ARTS-2336 Fiber Arts I +**

(3-2-4) Structure and design of woven and non-woven fiber forms. A studio course.

**ARTS-2337 Fiber Art II +**

(3-2-4) Further investigation of structure and design of woven and non-woven fiber forms. A studio course.

**ARTS-2341 Art Metals I +**

(3-2-4) Exploration of ideas using basic techniques in jewelry and metal construction working with non-ferrous metals. *Recommended Prerequisite:* ARTS-1312

**ARTS-2346 Ceramics I +**

(3-2-4) Exploration of ideas using basic ceramic processes.

**ARTS-2347 Ceramics II +**

(3-2-4) A continuation of ARTS-2346 with opportunities for specialization in ceramic processes.

**ARTS-2348 Digital Art I +**

(3-2-4) A studio art course that explores the potential of the computer hardware and software medium for their visual, conceptual and practical uses in the visual arts.

*Recommended Prerequisites:* Basic computer literacy and ARTS-1311 or ARTS-1316

**ARTS-2349 Digital Art II +**

(3-2-4) A studio art course that explores the potential of the computer hardware and software medium for their visual, conceptual, and practical uses in the visual arts.

*Recommended Prerequisite:* ARTS-2348

**ARTS-2356 Photography I +**

(3-2-4) Introduction to the basics of photography. Includes camera operation, techniques, knowledge of chemistry, and presentation skills. Emphasis on design, history, and contemporary trends as a means of developing an understanding of photographic aesthetics. Utilizes film and traditional darkroom laboratories.

*Prerequisite:* Freshman studio core. (Prerequisite applies to art majors only.)

**ARTS-2357 Photography II +**

(3-2-4) Continuation of ARTS-2356. Extends the students' knowledge of technique and guides them in developing personal outlooks toward specific applications of the photographic process.

**ARTS-2366 Watercolor I +**

(3-2-4) Exploration of ideas using water-based painting media and techniques.

**ARTS-2367 Watercolor II +**

(3-2-4) Conceptual development through water-based painting media; work in non-transparent aqua-based media on paper surfaces; historical survey of watercolor.

**(ARTV) ANIMATION****ARTV-1403 Basic Animation**

(4-3-3) Examination of animation concepts, principles, and storyboard for basic production. Emphasizes creating movement and expression utilizing traditionally or digitally generated image sequences.

## **(AUMT) AUTOMOTIVE MECHANIC/TECHNICIAN**

### **AUMT-1241 Automotive Climate Control Systems**

(2-2-1) Theory of automotive climate control systems. Emphasis on the basic refrigeration cycle and system malfunctions. Includes manual and electronic climate control systems.

*Required Co-Requisite: AUMT-1345*

### **AUMT-1253 Automotive Electrical Systems Theory**

(2-1-2) A course in automotive electrical systems including operational theory, testing and diagnosis of batteries, charging and starting systems, and electrical accessories. Use of electrical schematic diagrams and service.

*Required Co-Requisite: AUMT-1307*

### **AUMT-1257 Automotive Brake Systems Theory**

(2-1-2) Theory and principles related to the design, operation, and servicing of automotive braking systems. Includes disc and drum-type brakes, hydraulic systems, power assist components, anti-lock brake systems, and diagnosis and reconditioning procedures.

*Required Co-Requisite: AUMT-1310*

### **AUMT-1307 Automotive Electrical Systems**

(3-1-5) An overview of automotive electrical systems including topics in operational theory, testing, diagnosis and repair of charging and starting systems, and electrical accessories. Emphasis on electrical principles, schematic diagrams, and service manuals. May be taught manufacturer specific. *Required Co-Requisite: AUMT-1253*

### **AUMT-1310 Automotive Brake Systems**

(3-1-5) Operation and repair of drum/disk type brake systems. Topics include brake theory, diagnosis and repair of power, manual, anti-lock brake systems, and parking brakes. May be taught with manufacturer specific instructions.

### **AUMT-1319 Automotive Engine Repair**

(3-1-5) Fundamentals of engine operation, diagnosis and repair. Emphasis on identification, inspection, measurements, disassembly, repair, and reassembly of the engine. May be taught manufacturer specific. *Required Co-Requisite: AUMT-2205*

### **AUMT-1345 Automotive Climate Control Systems**

(3-1-5) Diagnosis and repair of manual and electronic climate control systems; includes the refrigeration cycle and EPA guidelines for refrigerant handling. May be taught manufacturer specific. *Required Co-Requisite: AUMT-1241*

### **AUMT-1416 Automotive Suspension and Steering Systems**

(4-3-4) Diagnosis and repair of automotive suspension and steering systems including electronically controlled systems. Includes component repair, alignment procedures and tire and wheel service. May be taught manufacturer specific.

### **AUMT-2205 Automotive Engine Theory**

(2-1-2) Fundamentals of engine operation and diagnosis including lubrication and cooling systems. Emphasis on identification of components, measurements, inspections and repair methods. *Required Co-Requisite: AUMT-1319*

**AUMT-2209 Automotive Drive Train and Axle Theory**

(2-1-2) A study of automotive clutches, clutch operation devices, manual transmissions and transaxles, and differentials. Emphasis on theory of transmission and transaxle and drive line components. *Required Co-Requisite:* AUMT-2313

**AUMT-2215 Automotive Engine Performance Analysis Theory I**

(2-2-0) Operation and diagnosis of basic engine dynamics including the study of the ignition system, fuel delivery systems, and the use of engine performance diagnostic equipment. *Required Prerequisites:* AUMT-1253 and AUMT-1307

*Required Co-Requisite:* AUMT-2317

**AUMT-2223 Automotive Automatic Transmission and Transaxle Theory**

(2-1-2) Theory of operation, hydraulic principles, and electronic circuits of modern automatic transmissions and transaxles. Discussion of diagnosing and repair techniques.

*Required Prerequisite:* AUMT-2209 *Required Co-Requisite:* AUMT-2325

**AUMT-2231 Automotive Engine Performance Analysis Theory II**

(2-1-2) A study of emission systems, computerized engine performance, and advanced ignition and fuel systems, including advanced engine performance diagnostic equipment.

*Required Prerequisite:* AUMT-2215 *Required Co-Requisite:* AUMT-2334

**AUMT-2313 Automotive Drive Train and Axles**

(3-1-5) A study of automotive clutches, clutch operation devices, manual transmissions and transaxles, and differentials with emphasis on diagnosis and repair. May be taught with manufacturer specific instructions.

**AUMT-2317 Automotive Engine Performance Analysis I**

(3-1-5) Theory, operation, diagnosis of drivability concerns, and repair of ignition, and fuel delivery systems. Use of current engine performance diagnostic equipment. May be taught with manufacturer specific instructions. *Required Co-Requisite:* AUMT-2215

**AUMT-2325 Automotive Automatic Transmission and Transaxle**

(3-1-5) A study of the operation, hydraulic circuits and electronic controls of modern automatic transmissions and transaxles. Diagnosis, disassembly, and assembly procedures with emphasis on the use of special tools and repair techniques. May be taught manufacturer specific. *Required Co-Requisite:* AUMT-2223

**AUMT-2334 Automotive Engine Performance Analysis II**

(3-1-5) Diagnosis and repair of emission systems, computerized engine performance systems, and advanced ignition and fuel systems. Includes use of advanced engine performance diagnostic equipment. May be taught manufacturer specific.

*Required Co-Requisite:* AUMT-2231

**AUMT-2457 Automotive Alternative Fuels**

(4-3-4) A study of the composition and use of various alternative automobile fuels including retrofit procedures and applications, emission standards, availability, and cost effectiveness. Overview of federal and state regulations concerning fuels.

*Required Prerequisite:* AUMT-2231

## **(AVIM) AVIATION/AIRWAY MANAGEMENT AND OPERATIONS**

AVIM-2337 Aviation Law

(3-3-0) A study of domestic and international aviation law.

## **(AVNC) AVIATION ELECTRONIC SYSTEMS AND MAINTENANCE TECHNOLOGY/TECHNICIAN**

AVNC-1303 Introduction to Aviation Electronics Systems

(3-2-3) An introduction to the relationship between aviation electronic systems and aircraft flight and navigational systems with emphasis on the operation and function of the systems.

AVNC-1370 Aircraft Communication Systems Line Maintenance

(3-2-3) A course in the theory, operation, testing and troubleshooting of common aircraft communications systems to include aircraft audio distribution systems, VHF communication systems, UHF communication systems, satellite communication systems, telephone systems, public address systems, and intercom systems. The student will receive training on the setup and use of common and peculiar test equipment associated with the testing of aircraft communication systems. Furthermore, the student will receive training in aircraft communication systems troubleshooting and repair practices/procedures using the correct materials and processes.

AVNC-1371 Aircraft Navigation Systems Line Maintenance

(3-2-3) A course (aircraft line maintenance) in the theory, operation, testing and troubleshooting of common aircraft navigation systems, to include VOR/LOC navigation systems, instrument landing systems, global positioning systems, Distance Measurement Equipment, and Air Traffic Control Radar Beacon Systems. The student will receive training on the setup and use of common and peculiar test equipment associated with the testing of aircraft navigation systems. Furthermore, the student will receive training in aircraft navigation systems troubleshooting and repair practices/procedures.

AVNC-1443 Aviation Electrical and Electronic Systems Installation

(4-3-3) A comprehensive study of and practical experience in the installation of avionic systems in aircraft, mounting electronic equipment, construction and installation of electrical wiring and cables, proper use of tools, selection of materials, and safety.

## **(BCIS) BUSINESS COMPUTER INFORMATION SYSTEMS**

**BCIS-1405 Business Computer Applications +**

(4-3-2) Computer terminology, hardware, software, operating systems, and information systems relating to the business environment. The main focus of this course is on business applications of software, including word processing, spreadsheets, databases, presentation graphics, and business-oriented utilization of the Internet.

*This course may be taken for honors credit. Consult the department for information.*

## **(BIOL) BIOLOGY**

### **BIOL-1406 Biology for Science Majors I +**

(4-3-3) Fundamental principles of living organisms including physical and chemical properties of life, organization, function, evolutionary adaptation, and classification. Concepts of reproduction, genetics, ecology, and the scientific method are included. Topics include concepts of chemistry, cell structure and function, bioenergetics, and survey of the protista and animal kingdoms from a taxonomic, morphological, and physiological standpoint.

*Required Co-Requisite:* Laboratory BIOL-1406L

*This course may be taken for honors credit. Consult the department for information.*

### **BIOL-1407 Biology for Science Majors II +**

(4-3-3) Continuation of BIOL-1406. Topics include reproduction and development, classical and molecular genetics, ecology, evolution, and a survey of the monera, fungi, and plant kingdoms from a taxonomic, morphological, and physiological standpoint.

*Required Prerequisite:* BIOL-1406

*Required Co-Requisite:* Laboratory BIOL-1407L

*This course may be taken for honors credit. Consult the department for information.*

### **BIOL-1408 Biology for Non-Science Majors I +**

(4-3-2) Fundamental principles of living organisms including physical and chemical properties of life, organization, function, evolutionary adaptation, and classification. Concepts of reproduction, genetics, ecology, and the scientific method are included. Topics include the nature of science, cells, chemistry, structures, and processes; tissues and the integumentary, biomechanic, circulatory, respiratory, digestive, excretory, nervous, and endocrine systems.

*Required Co-Requisite:* Laboratory BIOL-1408L

*This course may be taken for honors credit. Consult the department for information.*

### **BIOL-1409 Biology for Non-Science Majors II +**

(4-3-2) Fundamental principles of living organisms including physical and chemical properties of life, organization, function, evolutionary adaptation, and classification. Concepts of reproduction, genetics, ecology, and the scientific method are included. Topics include reproduction, development, classical, and molecular genetics; a survey of kingdoms, ecology, behavior, and evolution.

*Required Co-Requisite:* Laboratory BIOL-1409L

*This course may be taken for honors credit. Consult the department for information.*

### **BIOL-1411 General Botany +**

(4-3-3) Study of structure and function of plant cells, tissues, and organs. Includes an evolutionary survey and life histories of the following representative groups: algae, fungi, mosses, liverworts, ferns, and seed producing organisms. Plant reproductive and functional interactions with their environment and with humans. Selected laboratory exercises.

*Required Prerequisite:* BIOL-1407 *Required Co-Requisite:* Laboratory BIOL-1411L

### **BIOL-2306 Environmental Biology +**

(3-3-0) Human interaction with and effect upon plant and animal communities. Conservation, pollution, energy and other contemporary ecological problems.

**BIOL-2316 Genetics +**

(3-3-0) Study of the principles of molecular and classical genetics and the function and transmission of heredity material. May include population genetics, genetic engineering and human genetics.

**BIOL-2401 Anatomy and Physiology I +**

(4-3-2) Study of the structure and function of human anatomy, including the neuroendocrine, integumentary, musculoskeletal, digestive, urinary, reproductive, respiratory, and circulatory systems. Laboratory experiments in vertebrate physiology and the dissection of a mammal.

*Required Prerequisite:* MATH-0350 with a grade of C or satisfactory score on approved placement test *Required Co-Requisite:* BIOL-2401L

**BIOL-2402 Anatomy and Physiology II +**

(4-3-2) Continuation of BIOL-2401.

*Required Prerequisite:* BIOL-2401 *Required Co-Requisite:* Laboratory BIOL-2402L

**BIOL-2406 Environmental Biology +**

(4-3-3) Human interaction with and effect upon plant and animal communities. Conservation, pollution, energy and other contemporary ecological problems.

*Required Co-Requisite:* BIOL-2406L

**BIOL-2420 Microbiology for Non-Science Majors +**

(4-3-4) Study of the morphology, physiology, and taxonomy of representative groups of pathogenic and nonpathogenic microorganisms. Pure cultures of microorganisms grown on selected media are used in learning laboratory techniques. Includes a brief preview of food microbes, public health, and immunology. Topics include microorganisms, their characteristics, response to environment, and influence on their surroundings. The relationship to the oral and intestinal cavities, aspects of parasitism, infection, body defenses, and methods of prevention and controlling infection. Effects and control of microorganisms in food, water, milk and sanitation.

*Required Co-Requisite:* BIOL-2420L

**BIOL-2421 Microbiology for Science Majors +**

(4-3-4) Study of the morphology, physiology, and taxonomy of representative groups of pathogenic and nonpathogenic microorganisms. Pure cultures of microorganisms grown on selected media are used in learning laboratory techniques. Includes a brief preview of food microbes, public health, and immunology. Topics include microscopic and chemical basis of microbial life; the macromolecules, enzymes, bioenergetics, and nutrition requirements of bacteria. Survey of the eucaryotes, prokaryotes, viruses, and 10 orders of bacteria. Principles of disinfection, sterilization, antibiotics, infection, immunology and serology.

*Recommended Prerequisite:* One year of biology

*Required Co-Requisite:* Laboratory BIOL-2421L

**(BMGT) BUSINESS ADMINISTRATION AND MANAGEMENT, GENERAL****BMGT-1268 Railroad Dispatcher Practicum**

(2-0-14) Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student. A field experience that allows students

to participate in the dispatching operations area to identify the major job responsibilities of railroad dispatchers and other railroad employees.

**BMGT-1270 Introduction to Railroad**

(2-2-0) An overview of railroad organization and general operations, policies, and practices that ensure railroad safety, and basic dispatching functions.

**BMGT-1301 Supervision**

(3-3-0) The role of the supervisor. Includes managerial functions as applied to leadership, counseling, motivation, and human relations skills.

**BMGT-1305 Communications in Management**

(3-3-0) Basic theory and processes of communication skills necessary for the management of an organization's workforce.

**BMGT-1313 Principles of Purchasing**

(3-3-0) The purchasing process as it relates to such topics as inventory control, price determination, vendor selection, supply chain management, negotiation techniques, and ethical issues in purchasing.

**BMGT-1327 Principles of Management**

(3-3-0) Concepts, terminology, principles, theories, and issues in the field of management.

**BMGT-1331 Production and Operations Management**

(3-3-0) Fundamentals of the various techniques used in the practice of production and operations management. Includes location, design, and resource allocation.

**BMGT-1341 Business Ethics**

(3-3-0) Discussion of ethical issues, the development of a moral frame of reference and the need for an awareness of social responsibility in management practices and business activities. Includes ethical corporate responsibility.

**BMGT-1382 Cooperative Education - Business Administration and Management, General**

(3-1-20) 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.

*Recommended Prerequisites:* Completion of 12 hours of college coursework and 3 hours of management coursework

**BMGT-1409 Information and Project Management**

(4-3-2) Critical path methods for planning and controlling projects. Includes time and cost tradeoffs, resource utilization, stochastic considerations, task determination, time management, scheduling management, status reports, budget management, customer service, professional attitude, and project supervision.

**BMGT-2172 Rules Simulation**

(1-0-2) A practical application of the rules and regulations in a computer-aided environment.

**BMGT-2288 Internship – Business Administration and Management, General**  
(2-0-6) 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-2309 Leadership**

(3-3-0) Concepts of leadership and its relationship to management. Prepares the student with leadership and communication skills needed to motivate, influence and identify leadership styles.

**BMGT-2331 Principles of Quality Management**

(3-3-0). Quality throughout organizations. Includes planning and implementing quality programs in an organization and analyzing cost/benefit of quality. Also covers the impact of employee empowerment.

**BMGT-2382 Cooperative Education - Business Administration and Management, General**  
(3-1-20) 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-2473 Traffic Control**

(4-3-4) Course covers centralized traffic control equipment, computerized track warrant equipment and management information systems. Includes identification and resolution of authority.

**BMGT-2574 Rules, Regulations, and Safety**

(5-4-4) A study of the general code of operating rules, maintenance of way operating rules, and the train dispatchers manual of policies and practices for safe and effective train movement and maintenance operations. This prepares the student for observation of actual dispatching operations.

**(BNKG) BANKING AND FINANCIAL SUPPORT SERVICES**

**BNKG-1356 Analyzing Financial Statements**

(3-3-0) A study of the process of evaluating financial statements, cash flow, and ratio analysis of individuals and businesses. Emphasis on the relationship of comparative analysis and industry standards. *Required Prerequisite:* ACCT-2302

**(BUSG) BUSINESS, GENERAL**

**BUSG-1191 Special Topics in Business, General**

(1-1-0) 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.

**BUSG-1302 E-Business Management**

(3-3-0) Introduction to business. Includes the Internet, infrastructure for electronic commerce, markup languages, web-based tools and software, security issues, and electronic payment systems. Also covers strategies for marketing, sales, and purchasing; legal, ethical, and tax issues; and management functions.

**BUSG-1315 Small Business Operations**

(3-3-0) Operating a small business. Emphasizes management functions including planning, leading, organizing, staffing, and controlling operations.

**BUSG-1341 Small Business Financing**

(3-3-0) Financial structure of a small business. Includes business financing, budgeting, record keeping, taxation, insurance, and banking.

**BUSG-1391 Special Topics in Business, General**

(3-3-0) 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.

**BUSG-2170 Portfolio Development**

(1-1-0) A capstone course in preparing and presenting a professional portfolio based on the student's specific area of study. Includes resume preparation, employment seeking skills and interviewing techniques, and career goal setting. Must be taken in last semester of certificate degree plan.

**BUSG-2300 Business Leadership Application**

(3-3-0) Application of leadership skills that address social, political, economic, environmental, and legal issues.

**BUSG-2309 Small Business Management and Entrepreneurship**

(3-3-0) Starting, operating, and growing a small business. Includes essential management skills, how to prepare a business plan, accounting, financial needs, staffing, marketing strategies, and legal issues.

**(BUSI) BUSINESS**

**BUSI-1301 Business Principles +**

(3-3-0) Introduction to the role of business in modern society. Includes overview of business operations, analysis of the specialized fields within the business organization, and development of a business vocabulary.

**BUSI-2301 Business Law I +**

(3-3-0) Principles of law which form the legal framework for business activity. Topics include nature and source of law, courts and court procedures, law of contracts, agency, and negotiable instruments.

**(CDEC) CHILD DEVELOPMENT**

**CDEC-1317 Child Development Associate Training I**

(3-3-0) Based on the requirements for the Child Development Associate credential(CDA). Topics include CDA overview, observation skills, and child growth and development. The four functional areas of study are creative, cognitive, physical and communication.

**CDEC-1321 The Infant and Toddler**

(3-3-0) A study of appropriate infant and toddler programs (birth to age 3), including an overview of development, quality routines, learning environments, materials and activities, and teaching and guidance techniques.

**CDEC-1323 Observation and Assessment**

(3-3-0) A study of observation skills, assessment techniques, and documentation of children's development.

**CDEC-1356 Emergent Literacy for Early Childhood**

(3-3-0) An exploration of principles, methods, and materials for teaching young children language and literacy through a play-based integrated curriculum.

**CDEC-1358 Creative Arts for Early Childhood**

(3-3-0) An exploration of principles, methods, and materials for teaching children music, movement, visual arts, and dramatic play through process-oriented experiences to support divergent thinking.

**CDEC-1359 Children with Special Needs**

(3-3-0) A survey of information regarding children with special needs including possible causes and characteristics of exceptionalities, intervention strategies, available resources, referral processes, the advocacy role, and legislative issues.

**CDEC-1394 Special Topics in Child Care Provider/Assistant**

(3-3-0). Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

**CDEC-1413 Curriculum Resources for Early Childhood Programs**

(4-3-4) A study of the fundamentals of developmentally appropriate curriculum design and implementation in early care and education programs for children.

*Required Prerequisite:* CDEC-1419

**CDEC-1419 Child Guidance**

(4-3-2) An exploration of guidance strategies for promoting prosocial behaviors with individual and groups of children. Emphasis on positive guidance principles and techniques, family involvement, and cultural influences. Practical application through direct participation with children in a laboratory setting.

**CDEC-2307 Math and Science for Early Childhood**

(3-3-0) An exploration of principles, methods, and materials for teaching children math and science concepts and process skills through discovery and play.

**CDEC-2322 Child Development Associate Training II**

(3-3-0) A continuation of the study of the requirements for the Child Development Associate credential (CDA). The six functional areas of study include safe, healthy, learning environment, self, social and guidance.

**CDEC-2324 Child Development Associate Training III**

(3-2-2) Continuation of the requirements for the Child Development Associate credential(CDA). The three functional areas of study include family, program management and professionalism. *Required Prerequisites:* CDEC-1317 and CDEC-2322

**CDEC-2326 Administration of Programs for Children I**

(3-3-0) Application of management procedures for early care and education programs. Includes planning, operating, supervising, and evaluating programs. Topics cover philosophy, types of programs, policies, fiscal management, regulations, staffing, evaluation, and communication.

**CDEC-2328 Administration of Programs for Children II**

(3-3-0) 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.

**CDEC-2341 The School Age Child**

(3-3-0) A study of programs for the school age child (5 to 13 years), including an overview of development, learning environments, materials, and activities and teaching/guidance techniques.

**(CETT) ELECTRONICS TECHNOLOGY/TECHNICIAN**

**CETT-1409 DC-AC Circuits**

(4-3-3) Fundamentals of DC circuits and AC circuits operation including Ohm's law, Kirchhoff's laws, networks, transformers, resonance, phasors, capacitive and inductive and circuit analysis techniques. Emphasis on circuit simulation using PSpice. Course includes soldering techniques, hand tools, circuit fabrication techniques, troubleshooting techniques and circuit analysis using Mathcad. For majors in Electronics and Telecommunications Technology, computer Hardware Technology, and Robotics and automation Technology.

*Required Prerequisite:* MATH-0304 or satisfactory score on approved placement test

**CETT-1431 Programming for Discrete Electronic Devices**

(4-3-3) Introduction to a high level programming language. Includes structured programming and problem solving applicable to discrete electronic devices.

*Recommended Prerequisite:* CETT-1409 *Recommended Co-Requisite:* CETT-1449

**CETT-1441 Solid State Circuits**

(4-3-3) A study of various semiconductor devices incorporated in circuits and their applications. Emphasis on circuit construction, measurements, and analysis.

*Recommended Prerequisites:* CETT-1409 and MATH-0350

**CETT-1445 Microprocessor**

(4-3-3) An introductory course in microprocessor software and hardware: architecture, timing sequence, operation, and programming. Discussion of appropriate software diagnostic language and tools. *Recommended Prerequisite:* CETT-1449

**CETT-1449 Digital Systems**

(4-3-3) A course in electronics covering digital systems. Emphasis on application and troubleshooting digital systems using counters, registers, code converters, multiplexers, analog-to-digital-to-analog circuits, and large-scale integrated circuits.

*Required Prerequisite:* MATH-0304 or satisfactory score on approved placement test

### CETT-1457 Linear Integrated Circuits

(4-3-3) A study of characteristics, operations, stabilization, and testing of linear integrated circuits. Applications of computation, measurements, instrumentation, and active filtering.  
*Recommended Prerequisites:* MATH-1314 and CETT-1409

### CETT-2435 Advanced Microprocessors

(4-3-3) An advanced course utilizing the microprocessor in control systems and interfacing. Emphasis on microprocessor hardware and implementation of peripheral interfacing. *Recommended Prerequisite:* CETT-1445

### CETT-2449 Research and Project Design

(4-3-3) Principles of electrical/electronic design encompassing schematics wiring diagrams, materials lists, operating characteristics, completion schedules, and cost estimates.

*Recommended Prerequisites:* MATH-1314 CETT-1409 CETT-1445 and CETT-1431

## **(CHEF) CULINARY ARTS AND CHEF TRAINING**

### CHEF-1191 Special Topics in Culinary Arts and Chef Training

(1-1-0) Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

### CHEF-1205 Sanitation and Safety

(2-2-0) A study of personal cleanliness; sanitary practices in food preparation; causes, investigation, and control of illnesses caused by food contamination (Hazard Analysis Critical Control Points); and workplace safety standards.

### CHEF-1264 Practicum in Culinary Arts and Chef Training

(2-0-14) Practical general workplace training supported by an individualized learning plan developed by the employer, the College, and the student.

*Required Prerequisites:* CHEF-1301 CHEF-1205 CHEF-2301 CHEF-1345 HECO-1315 HAMG-1324 and HAMG-1340

### CHEF-1291 Special Topics in Culinary Arts and Chef Training

(2-2-0) Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

### CHEF-1301 Basic Food Preparation

(3-2-3) A study of the fundamental principles of food preparation and cookery to include Brigade System, cooking techniques, material handling, heat transfer, sanitation, safety, nutrition, and professionalism. *Recommended Prerequisite or Co-Requisite:* CHEF-1205

### CHEF-1302 Principles of Healthy Cuisine

(3-2-3) Introduction to the principles of planning, preparation, and presentation of nutritionally balanced meals. Adaptation of basic cooking techniques to lower the fat and caloric content. Alternative methods and ingredients will be used to achieve a healthier cooking style. Licensure/Certification Agency: American Culinary Federation Educational Institute. *Required Prerequisites:* CHEF-1301 and CHEF-1205

**CHEF-1310 Garde Manger**

(3-2-3) A study of specialty foods and garnishes. Emphasis on design, techniques, and display of fine foods. *Required Prerequisites:* CHEF-1301 and CHEF-1205

**CHEF-1341 American Regional Cuisine**

(3-2-3) A study of the development of regional cuisines in the United States with emphasis on the similarities in production and service systems. Application of skills to develop, organize, and build a portfolio of recipe strategies and production systems. Licensure/Certification Agency: American Culinary Federation Educational Institute.

*Required Prerequisites:* CHEF-1301 and CHEF-1205

**CHEF-1345 International Cuisine**

(3-2-3) The study of classical cooking skills associated with the preparation and service of international and ethnic cuisines. Topics include similarities between food production systems used in the United States and other regions of the world.

*Required Prerequisites:* CHEF-1301 and CHEF-1205

**CHEF-2301 Intermediate Food Preparation**

(3-2-3) Continuation of previous food preparation course. Topics include the concept of pre-cooked food items, as well as scratch preparation. Covers full range of food preparation techniques. Licensure/Certification Agency: American Culinary Federation Educational Institute. *Required Prerequisite:* CHEF-1301

**(CHEM) CHEMISTRY**

**CHEM-1405 Introductory Chemistry I +**

(4-3-3) Survey course introducing chemistry. Topics may include inorganic, organic, biochemistry, food/physiological chemistry, and environmental/consumer chemistry. Emphasis on chemical and physical properties of matter, atomic structure, chemical bonding, molecular structure, and stereochemistry. Designed for non-science students.

*Required Prerequisite:* MATH-0304 or equivalent

*Required Co-Requisite:* Laboratory CHEM-1405L

**CHEM-1406 Introductory Chemistry I (Allied Health Emphasis) +**

(4-3-3) Survey course introducing chemistry. Topics include inorganic, organic and biochemistry. Emphasis on importance of chemical concepts to living organisms - including humans. Designed for allied health students.

*Required Prerequisite:* MATH-0304 or equivalent

*Required Co-Requisite:* Laboratory CHEM-1406L

**CHEM-1407 Introductory Chemistry II +**

(4-3-3) Continuation of CHEM-1405. Emphasis on basic chemistry of reactions, energy of reactions, organic chemistry, biological chemistry, and applications to environmental problems.

*Required Prerequisite:* CHEM-1406 CHEM-1405 or CHEM-1411

*Required Co-Requisite:* Laboratory CHEM-1407L

**CHEM-1411 General Chemistry I +**

(4-3-3) Fundamental principles of chemistry for majors in the sciences, health sciences, and engineering; topics include measurements, fundamental properties of matter, states of

matter, chemical reactions, chemical stoichiometry, periodicity of elemental properties, atomic structure, chemical bonding, molecular structure, solutions, properties of gases, and an introduction to thermodynamics and descriptive chemistry. Laboratory required.

*Required Prerequisite:* MATH-1314 or equivalent academic preparation, or satisfactory score on approved placement test. High school chemistry is strongly recommended.

*Required Co-Requisite:* CHEM-1411L

*This course may be taken for honors credit. Consult the department for information.*

### **CHEM-1412 General Chemistry II +**

(4-3-3) Chemical equilibrium; phase diagrams and spectrometry; acid-base concepts; thermodynamics; kinetics; electrochemistry; nuclear chemistry; an introduction to organic chemistry and descriptive inorganic chemistry. Laboratory required.

*Required Prerequisite:* CHEM-1411 and MATH-1314 or equivalent academic preparation

*Required Co-Requisite:* CHEM-1412L

*This course may be taken for honors credit. Consult the department for information.*

### **CHEM-2423 Organic Chemistry I +**

(4-3-4) Study of the properties and behavior of hydrocarbon compounds and their derivatives. Designed for students in science or pre-professional programs. Topics include chemistry of carbon compounds, integration of aromatic and aliphatic compounds, treating the principal classes of each. Emphasis on molecular structure theory, stereochemistry, structure and reactivity, and reaction mechanisms.

*Required Prerequisite:* CHEM-1412 *Required Co-Requisite:* Laboratory CHEM-2423L

### **CHEM-2425 Organic Chemistry II +**

(4-3-4) Continuation of CHEM-2423. Emphasis on the classes of aliphatic and aromatic compounds not previously discussed; spectroscopy; and the use of instrumentation in organic chemistry. Qualitative analysis will be included in the laboratory work.

*Required Prerequisite:* CHEM-2423 *Required Co-Requisite:* Laboratory CHEM-2425L

## **(CJLE) LAW ENFORCEMENT AND POLICE SCIENCE**

### **CJLE-1111 Basic Firearms**

(1-0-3) Firearm safety, cleaning and care techniques, proper shooting principles, and firearms proficiency.

*Required Co-Requisites:* CJLE-1506 CJLE-1512 CJLE-1518 and CJLE-2247

### **CJLE-1345 Intermediate Crime Scene Investigation**

(3-3-0) Topics include objectives, preparations, procedures, and methods of crime scene search; value of crime scene sketches and their relationship to crime scene photographs; fingerprints as physical evidence, fingerprint identification and classification, types of impressions and techniques for locating and developing impressions. Satisfies Texas Commission on Law Enforcement (TCLEOSE) Course #2106.

### **CJLE-1371 Global Terrorism and Local Public Safety**

(3-3-0) Terrorism, as a global threat in modern society, is explored from a historical perspective. The effects of terrorism and the threat of terrorism impact all government agencies, including public safety. The course surveys the roles of federal and state agencies, including military, but concentrates on the role of public safety agencies in planning and response.

**CJLE-1394 Special Topics in Law Enforcement and Police Science**  
(3-3-0) 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.

**CJLE-1506 Basic Peace Officer I**

(5-3-8) Basic preparation for a new peace officer. Should be taken in conjunction with Basic Peace Officer II, III and IV to satisfy the Texas Commission on Law Enforcement (TCLEOSE) approved Basic Peace Officer Training Academy. *This course may only be offered by institutions licensed as a police academy by TCLEOSE.*

**CJLE-1512 Basic Peace Officer II**

(5-3-8) Basic preparation for a new peace officer. Should be taken in conjunction with Basic Peace Officer I, III and IV to satisfy the Texas Commission on Law Enforcement (TCLEOSE) approved Basic Peace Officer Academy. *This course may only be offered by institutions licensed as a Police Academy by TCLEOSE.*

**CJLE-1518 Basic Peace Officer III**

(5-3-8) Basic preparation for a new peace officer. Should be taken in conjunction with Basic Peace Officer I, II and IV to satisfy the Texas Commission on Law Enforcement (TCLEOSE) approved Basic Peace Officer Academy. *This course may only be offered by institutions licensed as a Police Academy by TCLEOSE.*

**CJLE-2247 Tactical Skills for Police**

(2-1-4) Development of proficiency with a range of impact weapons and/or chemical agents and defensive techniques necessary to control a violent person.

*Required Co-Requisites:* CJLE-1506 CJLE-1512 CJLE-1518 and CJLE-1111

**(CJSA) CRIMINAL JUSTICE AND LAW ENFORCEMENT ADMINISTRATION**

**CJSA-1347 Police Organization and Administration**

(3-3-0) Study of the principles of organizational structure and administration. Topics include theories or management, motivation, and leadership. Focus on a quality approach toward police community interaction.

**CJSA-1348 Ethics in Criminal Justice**

(3-3-0) Ethical philosophies and issues pertaining to the various professions in the criminal justice system. Includes ethical issues emanating from constitutional conflict with public protection and individual rights, civil liberties and correctional policies.

**CJSA-1393 Special Topics in Criminal Justice Studies**

(3-3-0) 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 content of this course may vary and may address the capstone experience through a technical writing curriculum.

**CJSA-2331 Child Abuse: Prevention and Investigation**

(3-3-0) Forms of child abuse and neglect and the traits of typical abusers. Includes strategies to investigate abuse, interview victims and witnesses, document evidence in accordance with state law, and conduct case studies.

**CJSA-2334 Contemporary Issues in Criminal Justice**

(3-3-0) A series of lectures and class participation exercises presenting selected topics currently confronting criminal justice personnel and the public they serve. As a course involving simulation of the workplace, competencies acquired throughout the program will be applied to case studies, employment scenarios, and projects related to firefighting. This is the Capstone Course and must be taken during the last semester of the program.

**CJSA-2388 Internship in Criminal Justice and Safety Studies**

(3-0-9) 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.

**(CNBT) CONSTRUCTION AND BUILDING TECHNOLOGY/  
TECHNICIAN**

**CNBT-1300 Residential and Light Commercial Blueprint Reading**

(3-2-3) Introductory blueprint reading for residential and light commercial construction.

**CNBT-1311 Construction Methods and Materials**

(3-3-0) Introduction to construction materials and methods and their applications.

**CNBT-1316 Construction Technology I**

(3-2-3) Introduction to site preparation, foundations, form work, safety, tools, and equipment.

**CNBT-1342 Building Codes and Inspections**

(3-3-0) Building codes and standards applicable to building construction and inspection processes.

**CNBT-1344 Construction Materials Testing**

(3-2-3) Laboratory testing and field inspection procedures associated with construction materials.

**CNBT-1346 Construction Estimating I**

(3-2-3) Fundamentals of estimating materials and labor costs in construction.

*Required Prerequisite:* CNBT-1300

**CNBT-1350 Construction Technology II**

(3-2-3) Framing in residential and light commercial construction. Includes safety, tools, and equipment used in floor, wall, ceiling, and roof framing methods and systems.

**CNBT-1372 Soils and Foundations**

(3-2-3) An introductory course in soils and foundations. This course is focused on the study of the nature of soils and how various soil materials may influence certain construction operations. Topics include formation of soil deposits, engineering properties of soils, soil exploration, soil compaction and stabilization, and types of foundations.

**CNBT-1391 Special Topics in Construction and Building Technology/Technician**

(3-3-0) Topics address recently identified current events, skills, knowledges, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the

professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

**CNBT-2266 Practicum in Construction Engineering Technology/Technician**  
(2-0-14) Practical, general workplace training supported by an individualized learning plan developed by employer, College, and student. This is a Capstone course.

*Required Prerequisite:* Approval of Department Chair

**CNBT-2317 Green Building**

(3-2-2) Methods and materials used for buildings that conserve energy, water, and human resources.

**CNBT-2337 Construction Estimating II**

(3-2-3) Advanced estimating concepts using computer software for construction and crafts.

*Required Prerequisite:* CNBT-1346

**CNBT-2342 Construction Management I**

(3-3-0) Management skills on the job site. Topics include written and oral communications, leadership and motivation, problem solving, and decision making.

*Required Prerequisite:* CNBT-1300

**CNBT-2344 Construction Management II**

(3-2-3) A management course in contract documents, safety, planning, scheduling, production control, law and labor issues. Topics include contracts, planning, cost and production, peripheral documents, and cost and work analysis.

*Recommended Prerequisite:* CNBT-2342

## **(COMM) COMMUNICATION**

**COMM-1307 Introduction to Mass Communication +**

(3-3-0) Study of the media by which entertainment and information messages are delivered. Includes an overview of the traditional mass media: their functions, structures, supports, and influences.

**COMM-1316 News Photography +**

(3-2-4) Problems and practices of photography for newspapers. Includes instruction in camera and equipment operation and maintenance, film and plate developing, and printing media.

**COMM-1335 Survey of Radio and Television +**

(3-3-0) Study of the development, regulation, economics, social impact, and industry practices in broadcasting and cable communication. Includes non-broadcast television, new technologies, and other communication systems.

**COMM-2305 Editing and Layout +**

(4-3-3) Editing and layout processes, with emphasis on accuracy and fairness, including the principles and techniques of design. Laboratory provides practical experience editing and designing for the student newspaper.

*Required Prerequisites:* COMM-2311 and COMM-2315

**COMM-2311 News Gathering and Writing I +**

(3-3-2) Fundamentals of writing news for the mass media. Includes instruction in methods and techniques for gathering, processing, and delivering news in a professional manner. Laboratory provides practical experience in reporting for student newspaper.

*Recommended Prerequisite:* Average keyboarding skills

**COMM-2315 News Gathering and Writing II +**

(3-3-2) Continuation of the aims and objectives of news gathering and writing with emphasis on advanced reporting techniques.

*Recommended Prerequisite:* Average keyboarding skills

**COMM-2332 Radio/Television News +**

(3-3-3) Preparation and analysis of news styles for the electronic media.

**COMM-2339 Writing for Radio, Television & Film +**

(3-3-0) Introduction to basic script formats, terminology, and writing techniques, including the writing of commercials, public service announcements, promotions, news, documentary, and fictional materials.

**COMM-2366 Introduction to Film +**

(3-2-2) Emphasis on the analysis of the visual and aural aspects of selected motion pictures, dramatic aspects of narrative films, and historical growth and sociological effect of film as an art. Students may not earn credit for both COMM-2366 and DRAM-2366.

**(COSC) COMPUTER SCIENCE****COSC-1401 Introduction to Computing +**

(4-3-2) Overview of computer systems - hardware, operating systems, and microcomputer application software, including the Internet, word processing, spreadsheets, presentation graphics, and databases. Current issues such as the effect of computers on society, and the history and use of computers in business, educational, and other modern settings are also studied. This course is not intended to count toward a student's major field of study in business or computer science.

*This course may be taken for honors credit. Consult the department for information.*

**COSC-1420 C Programming +**

(4-3-2) Introduces the fundamental concepts of structured programming in the "C" language. Topics include data types; control structures; functions, structures, arrays, pointers, pointer arithmetic, unions, and files; the mechanics of running, testing, and debugging programs; introduction to programming; and introduction to the historical and social context of computing. *Recommended Prerequisite:* COSC-1436

**COSC-1436 Programming Fundamentals I +**

(4-3-2) Introduces the fundamental concepts of structured programming. Topics include software development methodology, data types, control structures, functions, arrays, and the mechanics of running, testing, and debugging. This course assumes computer literacy.

*Recommended Prerequisite:* COSC-1401

**COSC-1437 Programming Fundamentals II +**

(4-3-2) Review of control structures and data types with emphasis on structured data types. Applies the object-oriented programming paradigm, focusing on the definition and

use of classes along with the fundamentals of object-oriented design. Includes basic analysis of algorithms, searching and sorting techniques, and an introduction to software engineering. *Required Prerequisite:* COSC-1436

**COSC-2425 Computer Organization and Machine Language +**

(4-3-2) Basic computer organization; machine cycle, digital representation of data and instructions; assembly language programming, assembler, loader, macros, subroutines, and program linkages. *Required Prerequisite:* COSC-1436

**COSC-2436 Programming Fundamentals III +**

(4-3-2) Further applications of programming techniques, introducing the fundamental concepts of data structures and algorithms. Topics include recursion, fundamental data structures (including stacks, queues, linked lists, hash tables, trees and graphs), and algorithmic analysis. *Required Prerequisite:* COSC-1437

**(CPMT) COMPUTER INSTALLATION AND REPAIR TECHNOLOGY/TECHNICIAN**

**CPMT-1411 Introduction to Computer Maintenance**

(4-3-3) Introduction to the installation, configuration, and maintenance of a microcomputer system.

**CPMT-1445 Computer Systems Maintenance**

(4-3-3) A study of the components within a computer system. Development of testing and troubleshooting skills.

**CPMT-1449 Computer Networking Technology**

(4-3-3) Networking fundamentals, terminology, hardware, software, and network architecture. Includes local and wide area networking concepts and networking installations and operations.

**CPMT-1451 IT Essentials I: PC Hardware & Software**

(4-3-2). An introduction to the computer hardware and software skills needed to help meet the growing demand for entry-level information and communication technology (ICT) professionals. The curriculum covers the fundamentals of PC technology, networking, and security, and also provides an introduction to advanced concepts. Hands-on labs and Virtual Laptop and Virtual Desktop learning tools help students develop critical thinking and complex problem-solving skills. Cisco Packet Tracer simulation-based learning activities promote the exploration of network and networking security concepts and allow students to experiment with network behavior.

**CPMT-1491 A+ Certification Training (Special Topics)**

(4-3-3) 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.

*Recommended Prerequisite:* CPMT-1411 and CPMT-1449

**CPMT-2402 Home Technology Integration**

(4-3-3) A study of integration and maintenance of various home technology subsystems. Includes home automation, security and surveillance, home networks, video and audio networks, and structured wiring.

**CPMT-2433 Computer Integration**

(4-3-3) Integration of hardware, software, and applications. Customization of computer systems for specific applications such as engineering, multimedia, or data acquisition.  
*Recommended Prerequisites:* CPMT-1411 and CETT-1415

**CPMT-2437 Microcomputer Interfacing**

(4-3-3) Concepts and terminology involved in interfacing the internal architecture of the microcomputer with commonly used external devices.

*Recommended Prerequisites:* CPMT-1411 and CETT-1415

## **(CRIJ) CRIMINAL JUSTICE**

**CRIJ-1301 Introduction to Criminal Justice +**

(3-3-0) History, philosophy and ethical considerations of criminal justice; the nature and impact of crime; and an overview of the criminal justice system, including law enforcement and court procedures.

**CRIJ-1306 Court Systems and Practices +**

(3-3-0) Study of the judiciary in the American criminal justice system and the adjudication processes and procedures. Topics include structure of American court system, prosecution, right to counsel, pre-trial release, grand juries, adjudication process, types and rules of evidence, sentencing. *Recommended Prerequisite:* CRIJ-1310

**CRIJ-1307 Crime in America +**

(3-3-0) The study of American crime problems in historical perspective, social and public policy factors affecting crime, impact and crime trends, social characteristics of specific crimes, and crime prevention. *Recommended Prerequisite:* SOCI-1301

**CRIJ-1310 Fundamentals of Criminal Law +**

(3-3-0) Study of criminal law, its philosophical and historical development, major definitions and concepts, classifications and elements of crime, penalties using Texas statutes as illustrations, and criminal responsibility.

**CRIJ-1313 Juvenile Justice System +**

(3-3-0) A study of the juvenile justice process to include specialized juvenile law, role of the juvenile law, role of the juvenile courts, role of police agencies, role of correctional agencies, and theories concerning delinquency.

**CRIJ-2313 Correctional Systems and Practices +**

(3-3-0) Corrections in the criminal justice system, organization of correctional systems, correctional role, institutional operations, alternatives to institutionalization, treatment and rehabilitation, current and future issues.

**CRIJ-2314 Criminal Investigation +**

(3-3-0) Investigative theory, collection and preservation of evidence, sources of information, interview and interrogation, uses of forensic sciences, case and trial preparation. *Recommended Prerequisite:* CRIJ-1310

**CRIJ-2323 Legal Aspects of Law Enforcement +**

(3-3-0) Police authority; responsibilities; constitutional constraints; laws of arrest, search and seizure; police liability.

**CRIJ-2328 Police Systems and Practices +**

(3-3-0) The police profession; organization of law enforcement systems; the police role; police discretion; ethics; police-community interaction; current and future issues.

**(CSIR) COMMUNICATIONS SYSTEM INSTALLER AND REPAIRER****CSIR-1459 Digital Data Communication**

(4-3-3) Introduction to the theory and troubleshooting skills needed in the digital data communication field. This course covers the principles of communications involving digital data and analog signals. Pulse modulation, multiplexing, and microwave communications are introduced. Emphasis on measurements and diagnostic troubleshooting techniques. *Recommended Prerequisite:* CETT-1403 and CETT-1445

**(DAAC) SUBSTANCE ABUSE AND ADDICTION COUNSELING****DAAC-1304 Pharmacology of Addiction**

(3-3-0) Emphasizes pharmacological effects of addiction, tolerance, dependence, cross addiction, drug interaction, withdrawal, and recovery. Describes the psychological and physiological effects of substance use and behaviors.

**DAAC-2166 Practicum in Substance Abuse Counseling**

(1-0-10) Practical, general workplace training supported by an individualized learning plan developed by the employer, the College, and the student. The guided external experiences may be paid or unpaid. As legislated, a student must complete six courses related to chemical dependency counseling prior to enrolling in the practicum class in order to receive credit toward LCDC practicum hours. DAAC-2166 and DAAC-2167 fulfill required 300 hours. *Recommended Co-Requisite:* DAAC-2343

**DAAC-2167 Practicum in Substance Abuse Counseling**

(1-0-10) Practical, general workplace training supported by an individualized learning plan developed by the employer, the College, and the student. The guided external experiences may be paid or unpaid. As legislated, a student must complete six courses related to chemical dependency counseling prior to enrolling in the practicum class in order to receive credit toward LCDC practicum hours. *Recommended Co-Requisite:* DAAC-2166

**DAAC-2266 Practicum in Substance Abuse Counseling**

(2-0-20) Practical, general workplace training supported by an individualized learning plan developed by the employer, the College, and the student. The guided external experiences may be paid or unpaid. As legislated, a student must complete six courses related to chemical dependency counseling prior to enrolling in the practicum class in order to receive credit toward LCDC practicum hours. This course fulfills required 300 hours practicum for LCDC. *Required Co-Requisite:* DAAC-2343

**DAAC-2307 Addicted Family Intervention**

(3-3-0) Examination of family systems focusing on the effects of addiction and recovery on family roles, rules, and behavior patterns. Includes the effects of mood altering substances, behaviors, and therapeutic alternatives as they relate to the family from a multicultural and transgenerational perspective.

**DAAC-2341 Counseling Alcohol and Other Drug Addictions**

(3-3-0) Advanced examination of skills, confidentiality, and ethical guidelines applied in the counseling, treatment, and recovery of substance use disorders. Special skills and techniques in the application of counseling skills for the Alcohol and Other Drug (AOD) client. Development and utilization of advanced treatment planning and management. Includes review of confidentiality and ethical issues.

**DAAC-2343 Current Issues**

(3-3-0) Examination of current issues in addiction. Includes special populations, dual diagnosis, ethics, gambling, and infectious diseases associated with addiction counseling.

**(DANC) DANCE**

**DANC-1110 Tap I +**

(1-0-3) Instruction and participation in Tap dance technique. This course will explore “the who, what, when, where and why” of Tap. The goal is to experience the freedom, find the beat within and understand the cultural diversity of this art form.

**DANC-1111 Tap II +**

(1-0-3) Instruction and participation in Tap dance technique. This course will explore “the who, what, when, where and why” of Tap. The goal is to experience the freedom, find the beat within and understand the cultural diversity of this art form.

**DANC-1112 Dance Practicum I +**

(1-0-3) A practicum in dance as a performing art.

**DANC-1113 Dance Practicum II +**

(1-0-3) A practicum in dance as a performing art.

**DANC-1128 Ballroom Dance I +**

(1-0-3) Instruction and participation in ballroom dance technique.

**DANC-1129 Ballroom Dance II +**

(1-0-3) Instruction and participation in ballroom dance technique.

**DANC-1141 Ballet I+**

(1-0-3) Instruction and participation in ballet technique.

**DANC-1142 Ballet II +**

(1-0-3) Instruction and participation in ballet technique.

**DANC-1145 Modern Dance I +**

(1-0-3) Instruction and participation in modern dance technique.

**DANC-1146 Modern Dance II +**

(1-0-3) Instruction and participation in modern dance technique.

**DANC-1147 Jazz Dance I +**

(1-0-3) Instruction and participation in jazz technique.

**DANC-1148 Jazz Dance II +**

(1-0-3) Instruction and participation in jazz technique.

**DANC-1149 Ballet Folklorico I +**

(1-0-3) Instruction and participation in folk dance technique.

**DANC-1150 Ballet Folklorico II +**

(1-0-3) Instruction and participation in folk dance technique.

**DANC-1151 Dance Performance I +**

(1-0-3) Instruction and participation in dance performance. May include ballet, modern dance and/or jazz dance.

**DANC-1152 Dance Performance II +**

(1-0-3) Instruction and participation in dance performance. May include ballet, modern dance and/or jazz dance.

**DANC-1210 Tap I +**

(2-1-2) Instruction and participation in Tap dance technique. This course will explore “the who, what, when, where and why” of Tap. The goal is to experience the freedom, find the beat within and understand the cultural diversity of this art form.

**DANC-1211 Tap II +**

(2-1-2) Instruction and participation in Tap dance technique. This course will explore “the who, what, when, where and why” of Tap. The goal is to experience the freedom, find the beat within and understand the cultural diversity of this art form.

**DANC-1301 Dance Composition +**

(3-3-0) Development of basic principles and theories involved in composition. Emphasis is placed on movement principles, group and structural forms. Improvisation is introduced as a choreographic tool.

**DANC-1305 World Dance I +**

(3-3-0) Instruction in dance forms from at least three major cultures from three continents, with an emphasis on rhythmic awareness and movement development. The cultural origins, significance, and motivation, as well as the use of costumes and music will be explored in lecture and research. Instruction will include experiential and written assignments, live performances, guest artists, and multimedia resources.

**DANC-1341 Ballet I +**

(3-3-0) Instruction and participation in ballet technique.

**DANC-1342 Ballet II +**

(3-3-0) Instruction and participation in ballet technique. Continuation of DANC-1341.

**DANC-1345 Modern Dance I +**

(3-3-0) Instruction and participation in modern dance technique.

**DANC-1346 Modern Dance II +**

(3-3-0) Instruction and participation in modern dance technique.

**DANC-1347 Jazz I +**

(3-3-0) Instruction and participation in jazz technique.

**DANC-1348 Jazz II +**

(3-3-0) Instruction and participation in jazz technique Continuation of DANC-1347.  
*Recommended Prerequisite:* DANC-1347

**DANC-2110 Tap III +**

(1-0-3) Instruction and participation in Tap dance technique. This course will explore “the who, what, when, where and why” of Tap. The goal is to experience the freedom, find the beat within and understand the cultural diversity of this art form.

**DANC-2111 Tap IV +**

(1-0-3) Instruction and participation in Tap dance technique. This course will explore “the who, what, when, where and why” of Tap. The goal is to experience the freedom, find the beat within and understand the cultural diversity of this art form.

**DANC-2112 Dance Practicum III +**

(1-0-3) A practicum in dance as a performing art.

**DANC-2113 Dance Practicum IV +**

(1-0-3) A practicum in dance as a performing art.

**DANC-2141 Ballet III +**

(1-0-3) Instruction and participation in ballet technique.

**DANC-2142 Ballet IV +**

(1-0-3) Instruction and participation in ballet technique.

**DANC-2145 Modern Dance III +**

(1-0-3) Instruction and participation in modern dance technique.

**DANC-2146 Modern Dance IV +**

(1-0-3) Instruction and participation in modern dance technique.

**DANC-2151 Dance Performance III +**

(1-0-3) Instruction and participation in dance performance. May include ballet, modern dance and/or jazz dance.

**DANC-2152 Dance Performance IV +**

(1-0-3) Instruction and participation in dance performance. May include ballet, modern dance and/or jazz dance.

**DANC-2208 Tap III +**

(2-1-2) Instruction and participation in Tap dance technique. This course will explore “the who, what, when, where and why” of Tap. The goal is to experience the freedom, find the beat within and understand the cultural diversity of this art form.

**DANC-2209 Tap IV +**

(2-1-2) Instruction and participation in Tap dance technique. This course will explore “the who, what, when, where and why” of Tap. The goal is to experience the freedom, find the beat within and understand the cultural diversity of this art form.

**DANC-2303 Dance Appreciation +**

(3-3-0) Survey of primitive, classical, and contemporary dance and its interrelationship with cultural developments and other art forms.

**DANC-2325 Anatomy & Kinesiology for Dance +**

(3-3-0) An introductory course in principles of kinesiology for dance. Students study concepts and principles of anatomy, physiology and movement analysis. Through lectures, readings, and laboratory experiences, students will evaluate skeletal and muscular systems, individual differences, common dance injuries, and proper conditioning for dancers. Instruction and participation in ballet, jazz, or modern dance technique.

**(DFTG) DRAFTING AND DESIGN TECHNOLOGY/TECHNICIAN****DFTG-1405 Technical Drafting**

(4-3-3) Introduction to the principles of drafting to include terminology and fundamentals, including size and shape descriptions, projection methods, geometric construction, sections, and auxiliary views.

**DFTG-1409 Basic Computer-Aided Drafting (CAD)**

(4-3-3) 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. *Recommended Prerequisite:* DFTG-1405

**DFTG-1410 Specialized Basic Computer-Aided Drafting (CAD)**

(4-3-3) A supplemental course to Basic Computer-Aided Drafting using an alternative computer-aided drafting (CAD) software to create detail and working drawings.

**DFTG-1417 Architectural Drafting-Residential**

(4-3-3) Architectural drafting procedures, practices, terms, and symbols. Preparation of detailed working drawings for residential structures. Emphasis on light frame construction methods. *Recommended Prerequisite:* DFTG-1409.

**DFTG-1425 Blueprint Reading and Sketching**

(4-3-3) An introduction to reading and interpreting working drawings for fabrication processes and associated trades. Use of sketching techniques to create pictorial and multiple-view drawings.

*Recommended Prerequisite:* DFTG 1409.

**DFTG-1433 Mechanical Drafting**

(4-3-3) Study of mechanical drawings using dimensioning and tolerances, sectioning techniques, orthographic projection, and pictorial drawings.

**DFTG-1445 Parametric Modeling and Design**

(4-3-3) Parametric-based design software for 3D design and drafting.

**DFTG-1458 Electrical and Electronics Drafting**

(4-3-3) Electrical and electronic drawings stressing modern representation used for block diagrams, schematic diagrams, logic diagrams, wiring/assembly drawings, printed circuit board layouts, motor control diagrams, power distribution diagrams, and electrical one-line diagrams.

*Recommended Prerequisite:* DFTG 1405

**DFTG-1491 Special Topics in Drafting and Design Technology/Technician**

(4-3-3) Topics address recently identified current events, skills, knowledge, and/or attitudes and behavior pertinent to the technology or occupation and relevant to the professional development of the student.

**DFTG-1493 Special Topics in Civil Drafting and Civil Engineering CAD/CADD**

(4-3-3) Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

**DFTG-2170 Certification Exam Preparation**

(1-1-0) A Capstone experience to prepare for taking the National Certification Examinations in various applications.

**DFTG-2402 Machine Drafting**

(4-3-3) Production of detail and assembly drawings of machines, threads, and gears, utilizing tolerances, limit dimensioning, and surface finishes.

*Recommended Prerequisite:* DFTG-1405

**DFTG-2406 Machine Design**

(4-3-3) Theory and practice of design. Projects in problem-solving, including press fit, bolted and welded joints, and transmission components.

**DFTG-2407 Electrical Drafting**

(4-3-3) A study of area lighting, control systems and power layouts, electrical and safety codes, load factors and distribution requirements.

**DFTG-2408 Instrumentation Drafting**

(4-3-3) Principles of instrumentation applicable to industrial applications; fundamentals of measurement and control devices; currently used ISA (Instrument Society of America) symbology; basic flow sheet layout and drafting practices.

**DFTG-2419 Intermediate Computer-Aided Drafting**

(4-3-3) A continuation of practices and techniques used in basic computer-aided drafting including the development and use of prototype drawings, construction of pictorial drawings, extracting date, and basics of 3D.

**DFTG-2421 Topographical Drafting**

(4-3-3) Plotting of surveyor's field notes. Includes drawing elevations, contour lines, plan and profiles, and laying out traverses.

*Recommended Prerequisite:* DFTG-1405

**DFTG-2423 Pipe Drafting**

(4-3-3) 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. *Recommended Prerequisite:* DFTG-1409

**DFTG-2427 Landscape Drafting**

(4-3-3) A study of site planning and landscape design.

**DFTG-2428 Architectural Drafting - Commercial**

(4-3-3) Architectural drafting procedures, practices, governing codes, terms and symbols including the preparation of detailed working drawings for a commercial building, with emphasis on commercial construction methods.

**DFTG-2430 Civil Drafting**

(4-3-3) An in-depth study of drafting methods and principles used in civil engineering.

**DFTG-2431 Advanced Technologies in Architectural Design and Drafting**

(4-3-3) Use of architectural specific software to execute the elements required in designing standard architectural exhibits utilizing custom features to create walls, windows and specific design requirements for construction in residential/commercial and industrial architecture.

**DFTG-2436 Computer-Aided Drafting Programming**

(4-3-3) Use of programming language to enhance CAD software.

**DFTG-2438 Final Project in Advanced Drafting**

(4-3-3) A drafting course in which students participate in a comprehensive project from conception to conclusion.

**DFTG-2440 Solid Modeling and Design**

(4-3-3) 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. *Recommended Prerequisite:* DFTG-1409\*

**DFTG-2445 Advanced Pipe Drafting**

(4-3-3) A continuation of pipe drafting concepts building on the basic principles acquired in pipe drafting.

**DFTG-2447 Advanced Technical Animation and Rendering**

(4-3-3) Advanced three-dimensional (3D) modeling, rendering, and animation techniques using industry standard software. Emphasizes advanced use of camera settings, lighting, and surface to create detailed environments.

**DFTG-2450 Geometric Dimensioning and Tolerancing**

(4-3-3) Geometric dimensioning and tolerancing, according to standards, application of various geometric dimensions and tolerances to production drawings.

*Recommended Prerequisite:* DFTG-1409

**DFTG-2458 Advanced Machine Design**

(4-3-3) Design process skills for the production of complete design package, which includes jig and fixture design, extrusion dies, and injection mold design.

**(DHYG) DENTAL HYGIENE/HYGIENIST #**

**DHYG-1191 Special Topics in Dental Hygienist**

(1-0-3) Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

**DHYG-1207 General and Dental Nutrition**

(2-2-0) General nutrition and nutritional biochemistry emphasizing the effect nutrition has on oral health.

**DHYG-1215 Community Dentistry**

(2-1-3) The principles and concepts of community public health and dental health education emphasizing community assessment, educational planning, implementation, and evaluation including methods and materials used in teaching dental health education in various community settings.

**DHYG-1235 Pharmacology for The Dental Hygienist**

(2-2-1) Classification of drugs and their uses, actions, interactions, side effects, contraindications, with emphasis on dental applications.

**DHYG-1239 General and Oral Pathology**

(2-2-0) Disturbances in human body development, diseases of the body, and disease prevention measures with emphasis on the oral cavity and associated structures.

**DHYG-1260 Clinical-Dental Hygiene/Hygienist**

(2-0-8) A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

**DHYG-1301 Orofacial Anatomy, Histology, Embryology**

(3-2-2) The histology and embryology of oral tissues, gross anatomy of the head and neck, tooth morphology, and individual tooth identification.

**DHYG-1304 Dental Radiology**

(3-2-3) Fundamentals of oral radiography, including techniques, interpretation, quality assurance, and ethics. Topics include radiation physics, biology, hygiene, and safety theories with an emphasis on the fundamentals of oral radiographic techniques and interpretation of radiographs. Includes exposure of intra-oral radiographs, quality assurance, radiographic interpretation, patient selection criteria, and other ancillary radiographic techniques.

**DHYG-1311 Periodontology**

(3-3-0) Normal and diseased periodontium including the structural, functional, and environmental factors. Emphasis on etiology, pathology, treatment modalities, and therapeutic and preventive periodontics.

**DHYG-1319 Dental Materials**

(3-2-3) Physical and chemical properties of dental materials including the application and manipulation of the various materials used in dentistry.

**DHYG-1327 Preventive Dental Hygiene Care**

(3-2-3) The role of the dental hygienist as a therapeutic oral health care provider with emphasis on concepts of disease management, health promotion, communication, and behavior modification. Communication and behavior- modification skills are utilized to facilitate the role of the dental hygienist as an educator.

**DHYG-1431 Preclinical Dental Hygiene**

(4-2-6) Foundational knowledge for performing clinical skills on patients with emphasis on procedures and rationale for performing dental hygiene care. Introduction to ethical principles as they apply to dental hygiene care.

**DHYG-2253 Dental Hygiene Practice**

(2-2-0). Emphasis on the laws governing the practice of dentistry and dental hygiene, moral standards, and the ethical standards established by the dental hygiene profession. Practice settings for the dental hygienist, office operations, and preparation for employment.

**DHYG-2301 Contemporary Dental Hygiene Care I**

(3-3-0) Dental hygiene care for the medically or dentally compromised patient including supplemental instrumentation techniques.

**DHYG-2331 Contemporary Dental Hygiene Care II**

(3-2-3) A continuation of Contemporary Dental Hygiene Care I. Dental hygiene care for the medically or dentally compromised patient including advanced instrumentation techniques.

**DHYG-2360 Clinical-Dental Hygiene/Hygienist**

(3-0-16) A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

**DHYG-2361 Clinical-Dental Hygiene/Hygienist**

(3-0-16) A health-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) DRAMA**

**DRAM-1120 Theatre Practicum I +**

(1-0-3) Practicum in theatre with emphasis on technique and procedures with experience gained in play productions.

**DRAM-1121 Theatre Practicum II +**

(1-0-3) Practicum in theatre with emphasis on technique and procedures with experience gained in play productions.

**DRAM-1161 Musical Theatre I +**

(1-0-3) Study and performance of works from the musical theatre repertoire. Training in all facets of music theatre production. Production of a musical or a musical review.

**DRAM-1310 Introduction to Theatre +**

(3-3-0) Survey of all phases of theatre including its history, dramatic works, stage techniques, production procedures, and relation to the fine arts. Participation in major productions may be required. Increases awareness and appreciation of the theatre.

**DRAM-1320 Theatre Practicum I (Music Theatre Workshop) +**

(3-3-3) Practicum in theatre with emphasis on technique and procedures with experience gained in play productions. Training in all facets of music theatre production. Production of a musical or a musical review.

**DRAM-1330 Stagecraft I +**

(3-2-4) Study and application of visual aesthetics of design which may include the physical theatre, scenery construction and painting, properties, lighting, costume, makeup, and backstage.

**DRAM-1351 Acting I +**

(3-3-3) Development of basic skills and techniques of acting including increased sensory awareness, ensemble performing, character analysis, and script analysis. Emphasis on the mechanics of voice, body, emotion, and analysis as tools for the actor.

**DRAM-1352 Acting II +**

(3-3-3) Continuation of DRAM-1351.

*Recommended Prerequisite:* DRAM-1351 or consent of Department Chairperson

**DRAM-2120 Theatre Practicum III +**

(1-0-3) Practicum in theatre with emphasis on technique and procedures with experience gained in play productions.

**DRAM-2121 Theatre Practicum IV +**

(1-0-3) Practicum in theatre with emphasis on technique and procedures with experience gained in play productions.

**DRAM-2331 Stagecraft II +**

(3-2-4) A continuation of DRAM-1330. Topics will alternate with DRAM-1330.

**DRAM-2336 Voice for The Theatre +**

(3-3-0) Application of the performer's use of the voice as a creative instrument of effective communication. Encourages an awareness of the need for vocal proficiency and employs techniques designed to improve the performer's speaking abilities.

**DRAM-2351 Acting III +**

(3-3-3) Continuation of DRAM-1352. Explores techniques involved in building a character and scene study. Prepares students for auditioning for professional employment.

**DRAM-2366 Development of the Motion Picture+**

(3-2-2) Emphasis on the analysis of the visual and aural aspects of selected motion pictures, dramatic aspects of narrative films, and historical growth and sociological effect of film as an art. Students may not earn credit for both DRAM-2366 and COMM-2366.

**(ECON) ECONOMICS****ECON-2301 Principles of Macroeconomics +**

(3-3-0) An analysis of the economy as a whole including measurement and determination of Aggregate Demand and Aggregate Supply, national income, inflation, and unemployment. Other topics include international trade, economic growth, business cycles, and fiscal policy and monetary policy. Emphasis on the U.S. economy. Required for business and economics majors.

*This course may be taken for honors credit. Consult the department for information.*

**ECON-2302 Principles of Microeconomics +**

(3-3-0) Analysis of the behavior of individual economic agents, including consumer behavior and demand, producer behavior and supply, price and output decisions by firms under various market structures, factor markets, market failures, and international trade. Required for business and economics majors. *Recommended Prerequisite:* ECON-2301\*  
*This course may be taken for honors credit. Consult the department for information.*

## **(EDTC) TEACHER ASSISTANT/AIDE**

### **EDTC-1301 Educational Systems**

(3-2-2) A study of the role and responsibilities of educational personnel with emphasis on development of professionalism and effective communication strategies with adults. Topics include the various codes of ethics governing the educational field, the issue of confidentiality, learners' rights and responsibilities, and challenges facing schools.

### **EDTC-1313 Education Software and Technology**

(3-2-2) Introduction to the use of educational software, instructional applications, and technology in the educational setting. Evaluate the use of technology for guided practice and self-paced student remediation.

### **EDTC-1321 Bilingual Education**

(3-3-0) An overview of bilingual education. Topics include awareness of cultural diversity, assessment strategies, teaching techniques, instructional activity development, and historical/philosophical concepts of bilingual/bicultural education.

## **(EDUC) EDUCATION**

### **EDUC-1301 Introduction to The Teaching Profession +**

(3-2-2) An enriched, integrated pre-service course and content experience that: 1) provides active recruitment and institutional support of students interested in a teaching career, especially in high need fields; 2) provides students with opportunities to participate in early field observations at all levels of P-12 schools with varied and diverse student populations; 3) provides students with support from college and school faculty, preferably in small cohort groups, for the purpose of introduction to and analysis of the culture of schooling and classrooms; and 4) offers course content aligned as applicable with State Board for Educator Certification Pedagogy and Professional Responsibilities standards. This course requires 32 hours of field observation; 16 hours must be in P-12 schools. Criminal background check required prior to enrolling. Field experience required.

### **EDUC-1325 Principles and Practices of Multicultural Education +**

(3-3-0) 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 psychosocial stressors encountered by diverse cultural groups.

### **EDUC-2301 Introduction to Special Populations +**

(3-2-2) An enriched, integrated pre-service course and content experience that: 1) provides an overview of schooling and classrooms from the perspectives of language, gender, socioeconomic status, ethnic and academic diversity, and equity with an emphasis on factors that facilitate learning; 2) provides students with opportunities to participate in early field observations of P-12 special populations; and 3) aligns as applicable with State Board for Educator Certification Pedagogy and Professional Responsibilities standards.

This course requires 32 hours of field experience in P-12 classrooms with special populations. Criminal background check required prior to enrolling.

*Required Prerequisite:* EDUC-1301

## **(EECT) ELECTRICAL, ELECTRONICS AND COMMUNICATIONS ENGINEERING TECHNOLOGY**

EECT-1391 Special Topics in Electrical, Electronic and Communications Engineering Technology  
(3-2-3) 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-2435 Telecommunications

(4-3-3) A study of modern telecommunications systems incorporating microwave, satellite, optical, and wire/cable-based communications systems. Instruction in installation, testing, and maintenance of communications systems components.

*Recommended Prerequisites:* EECT-2439 and CETT-1457

EECT-2439 Communications Circuits

(4-3-3) 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.

*Recommended Prerequisites:* CETT-1405 CETT-1441 and CETT-1457

## **(ELMT) ELECTROMECHANICAL TECHNOLOGY/TECHNICIAN**

ELMT-2435 Certified Electronics Technician Training

(4-3-3) Review of electronics concepts and principles in preparation for sitting for a certification examination administered by an outside organization or agency.

*Recommended Prerequisite:* CETT-1457

ELMT-2437 Electronic Troubleshooting, Service and Repair

(4-3-3) In-depth coverage of electronic systems, maintenance, troubleshooting, and repair. Topics include symptom identification, proper repair procedures, repair checkout, and preventative maintenance. Emphasis on safety and use of test equipment. May be offered as a capstone course.

## **(ELPT) ELECTRICAL AND POWER TRANSMISSION INSTALLATION/INSTALLER, GENERAL**

ELPT-1315 Electrical Calculations I

(3-3-0) Introduction to mathematical applications utilized to solve problems in the electrical field. Topics include fractions, decimals, percentages, simple equations, ratio and proportion, unit conversions, and applied geometry.

ELPT-2455 Programmable Logic Controllers II

(4-3-3) Advanced concepts in programmable logic controllers and their applications and interfacing to industrial controls.

## **(EMSP) EMERGENCY MEDICAL TECHNOLOGY/ TECHNICIAN #**

### **EMSP-1160 Clinical-Emergency Medical Technology**

(1-0-5) A health-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.

*Required Prerequisite:* RDNG-0363 with grade of C or satisfactory score on approved placement test *Required Co-Requisite:* EMSP-1501

### **EMSP-1355 Trauma Management**

(3-2-2) Knowledge and skills in the assessment and management of patients with traumatic injuries.

*Recommended Prerequisites:* EMSP-1356 and EMSP-1438

### **EMSP-1356 Patient Assessment and Airway Management**

(3-2-2) Knowledge and skills required to perform patient assessment, airway management, and artificial ventilation.

*Required Prerequisite:* Texas certification as an EMT

*Required Co-Requisite:* EMSP-2160

### **EMSP-1438 Introduction to Advanced Practice**

(4-3-2) Fundamental elements associated with emergency medical services to include preparatory practices, pathophysiology, medication administration, and related topics.

*Required Prerequisite:* Texas certification as an EMT

*Required Co-Requisite:* EMSP-2160

### **EMSP-1501 Emergency Medical Technician**

(5-4-4) Preparation for certification as an Emergency Medical Technician (EMT). Includes all the skills necessary to provide emergency medical care at a basic life support level with an emergency service or other specialized services.

*Required Prerequisite:* MATH-0350 with a minimum grade of C or satisfactory score on approved placement test *Required Co-Requisite:* EMSP-1160

### **EMSP-2160 Clinical - EMT Paramedic**

(1-0-5) A health-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.

*Recommended Prerequisites/Co- Requisites:* EMSP-1356 and EMSP-1438

### **EMSP-2161 Clinical - EMT Paramedic**

(1-0-5) A health-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.

*Recommended Prerequisites/Co-Requisites:* EMSP-1355 and EMSP-2338

### **EMSP-2162 Clinical - EMT Paramedic**

(1-0-6) A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

*Recommended Prerequisites/Co-Requisites:* EMSP-2430 and EMSP-2534

EMSP-2163 Clinical - EMT Paramedic

(1-0-5) A health-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. *Recommended Prerequisite/Co-Requisite:* EMSP-2458

#### **EMSP-2243 Assessment Based Management**

(2-1-4) A Capstone course covering comprehensive, assessment-based patient care management. Includes specific care when dealing with pediatric, adult, geriatric, and special-needs patients.

*Recommended Co-Requisite:* EMSP-2267

#### **EMSP-2267 Practicum –EMT Paramedic**

(2-0-15) Practical, general workplace training supported by an individualized learning plan developed by the employer, College, and student.

*Recommended Prerequisites:* EMSP-2162, EMSP-2430 and EMSP-2338

#### **EMSP-2338 EMS Operations**

(3-3-0) Knowledge and skills to safely manage multi-casualty incidents and rescue situations; utilize air medical resources; identify hazardous materials and other specialized incidents. *Required Co-Requisite:* EMSP-2162

#### **EMSP-2430 Special Populations**

(4-3-2) Knowledge and skills necessary to assess and manage ill or injured patients in diverse populations to include neonatology, pediatrics, geriatrics, and other related topics.

*Required Prerequisite:* EMSP-2534 *Required Co-Requisite:* EMSP-2162

#### **EMSP-2444 Cardiology**

(4-3-2) Assessment and management of patients with cardiac emergencies. Includes single and multi-lead ECG interpretation.

*Required Prerequisites:* EMSP-1438, EMSP-1356, and EMSP-2160

*Required Co-Requisite:* EMSP-2161

#### **EMSP-2458 Critical Care Paramedic**

(4-3-3) Prepares health care personnel to function as members of a critical care transport team. *Recommended Prerequisite:* Completion of or concurrent enrollment in a college level paramedic program, two-years experience as a paramedic or nurse, current certification in CPR, ACLS, BTLS/PHTLS/TNCC, and PALS/PEPP

*Required co-Requisite:* EMSP-2163

#### **EMSP-2534 Medical Emergencies**

(5-4-2) Knowledge and skills in the assessment and management of patients with medical emergencies, including medical overview, neurology, gastroenterology, immunology, pulmonology, urology, hematology, endocrinology, toxicology, and other related topics.

*Required Prerequisites:* EMSP-2444, EMSP-1355 and EMSP-2161

## **(ENER) ENERGY INDUSTRY**

### **ENER-1330 Basic Mechanical Skills for Energy**

(3-2-3) Basic mechanical skills using hand and power tools in an industrial environment. Topics include tool use and maintenance, lubrication, measuring, threads and fasteners,

bench works, basic mechanical drawings, and basic shop calculations (English and metric). Also addresses rigging procedures to include chain falls, jacks, cable, fulcrum, port-a-power, and come-alongs.

**ENER-1340 Employee Success in Energy Industry**

(3-3-0) A study of successful employee characteristics and employer expectations in the energy industry. Topics include benefits, career management, e-communications, and personal financial management. Addresses values, inclusion, and community and environmental roles.

**ENER-1350 Overview of Energy Industry**

(3-3-0) Introduction to the major sectors of the energy industry including fossil fuels, alternative energy systems, power generation facilities, and electrical transmission. Includes a comparison of energy industry careers.

**(ENGL) ENGLISH**

**ENGL-0324 Writing Techniques I**

(3-3-0) A basic writing course focusing on the fundamental writing skills such as grammar, usage, mechanics, sentence structure and the utilization of standard English. Students will generate ideas for and organize paragraphs and essays with an emphasis on revision. This course is also appropriate for anyone who wishes to enhance his or her real-life writing skills. Placement is based on writing scores on a TCC-approved placement test. A grade of C or higher shall constitute satisfactory completion of the course and eligibility to enroll in ENGL-0325. *This is a developmental course and cannot be used to fulfill degree requirements.*

**ENGL-0325 Writing Techniques II**

(3-3-0) A writing review course focusing on unity, organization, development, and appropriateness in the essay. Placement is based on scores on a TCC-approved placement test. A grade of C or higher shall constitute satisfactory completion of the course. *This is a developmental course and cannot be used to fulfill degree requirements.*

**ENGL-1301 English Composition I +**

(3-3-0) Intensive study of and practice in writing processes, from invention and researching to drafting, revising, and editing, both individually and collaboratively. Emphasis on effective rhetorical choices, including audience, purpose, arrangement, and style. Focus on writing the academic essay as a vehicle for learning, communicating, and critical analysis.

*Required Prerequisite:* ENGL-0325 with a grade of C or satisfactory score on approved placement test

*This course may be taken for honors credit. Consult the department for information.*

**ENGL-1302 English Composition II +**

(3-3-0) Intensive study of and practice in the strategies and techniques for developing research-based expository and persuasive texts. Emphasis on effective and ethical rhetorical inquiry, including primary and secondary research methods; critical reading of verbal, visual, and multimedia texts; systematic evaluation, synthesis, and documentation of information sources; and critical thinking about evidence and conclusions.

*Required Prerequisite:* ENGL-1301

*This course may be taken for honors credit. Consult the department for information.*

**ENGL-2307 Creative Writing I +**

(3-3-0) Practical experience in the techniques of imaginative writing. May include fiction, nonfiction, poetry, screenwriting, or drama. Includes lectures on recognition and use of literary devices. *Recommended Prerequisite:* ENGL-1301

**ENGL-2308 Creative Writing II +**

(3-3-0) Practical experience in the techniques of imaginative writing. May include fiction, nonfiction, poetry, screenwriting, or drama. Designed to increase the student's pleasure and skill in reading creative writing and in producing original creative works.

*Recommended Prerequisite:* ENGL-2307

**ENGL-2311 Technical and Business Writing +**

(3-3-0) Intensive study of and practice in professional settings. Focus on the types of documents necessary to make decisions and take action on the job, such as proposals, reports, instructions, policies and procedures, email messages, letters, and descriptions of products and services. Practice individual and collaborative processes involved in the creation of ethical and efficient documents. *Recommended Prerequisite:* ENGL-1301

*This course may be taken for honors credit. Consult the department for information.*

**ENGL-2322 British Literature I to 1800 +**

(3-0-0) A survey of the development of British literature from the Anglo-Saxon period to the Eighteenth Century. Students will study works of prose, poetry, drama, and fiction in relation to their historical, linguistic, and cultural contexts. Texts will be selected from a diverse group of authors and traditions. *Required Prerequisite:* ENGL-1302

*Required Prerequisite:* RDNG-0361 or RDNG-0363 with a grade of C plus achieve 11<sup>th</sup> grade level score on Nelson-Denny, or an approved alternative

**ENGL-2323 British Literature II Since 1800 +**

(3-3-0) A survey of the development of British literature from the Romantic period to the present. Students will study works of prose, poetry, drama, and fiction in relation to their historical and cultural contexts. Texts will be selected from a diverse group of authors and traditions. *Required Prerequisite:* ENGL-1302

*Required Prerequisite:* RDNG-0361 or RDNG-0363 with a grade of C plus achieve 11<sup>th</sup> grade level score on Nelson-Denny, or an approved alternative

**ENGL-2327 American Literature I to 1865 +**

(3-3-0) A survey of American literature from the period of exploration and settlement through the Civil War. Students will study works of prose, poetry, drama, and fiction in relation to their historical and cultural contexts. Texts will be selected from among a diverse group of authors for what they reflect and reveal about the evolving American experience and character. *Required Prerequisite:* ENGL-1302

*Required Prerequisite:* RDNG-0361 or RDNG-0363 with a grade of C plus achieve 11<sup>th</sup> grade level score on Nelson-Denny, or an approved alternative

**ENGL-2328 American Literature II Since 1865 +**

(3-3-0) A survey of American literature from the Civil War to the present. Students will study works of prose, poetry, drama, and fiction in relation to their historical and cultural contexts. Texts will be selected from among a diverse group of authors for what they reflect and reveal about the evolving American experience and character.

*Required Prerequisite:* ENGL-1302

*Required Prerequisite:* RDNG-0361 or RDNG-0363 with a grade of C plus achieve 11<sup>th</sup> grade level score on Nelson-Denny, or an approved alternative

**ENGL-2332 World Literature I to 1650 +**

(3-3-0) A survey of world literature from the ancient world through the sixteenth century. Students will study works of prose, poetry, drama, and fiction in relation to their historical and cultural contexts. Texts will be selected from a diverse group of authors and traditions. *Required Prerequisite:* ENGL-1302

*Required Prerequisite:* RDNG-0361 or RDNG-0363 with a grade of C plus achieve 11<sup>th</sup> grade level score on Nelson-Denny, or an approved alternative

*This course may be taken for honors credit. Consult the department for information.*

**ENGL-2333 World Literature II From 1650 +**

(3-3-0) A survey of world literature from the seventeenth century to the present. Students will study works of prose, poetry, drama, and fiction in relation to their historical and cultural contexts. Texts will be selected from a diverse group of authors and traditions.

*Required Prerequisite:* ENGL-1302

*Required Prerequisite:* RDNG-0361 or RDNG-0363 with a grade of C plus achieve 11<sup>th</sup> grade level score on Nelson-Denny, or an approved alternative

*This course may be taken for honors credit. Consult the department for information.*

**ENGL-2342 Forms of Literature I +**

(3-3-0) The study of one or more literary genres including, but not limited to, poetry, fiction, drama and film. *Required Prerequisite:* ENGL-1302

**ENGL-2343 Forms of Literature II +**

(3-3-0) The study of one or more literary genres including, but not limited to, poetry, fiction, drama and film. *Required Prerequisite:* ENGL-1302

**ENGL-2351 Mexican-American Literature +**

(3-3-0) A survey of Mexican-American/Chicano literature including fiction, non-fiction, poetry and drama. *Required Prerequisite:* ENGL-1302

**ENGL-2389 Academic Cooperative +**

(3-2-4) 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 English language and literature. The course will use the workshop style of cooperative learning and team evaluation. The end product is the formal publication of the literary journal.

*Required Prerequisites:* ENGL-2307 and either RDNG-0363 with a grade of C or satisfactory score on approved placement test

**(ENGR) ENGINEERING**

**ENGR-1201 Introduction to Engineering +**

(2-2-0) An introduction to the engineering profession with emphasis on technical communication and team-based engineering design. Includes instruction in the application of mathematical and scientific principles to the solution of practical problems for the benefit of society. *Required Prerequisite:* MATH-1314 or equivalent academic preparation

**ENGR-1304 Engineering Graphics +**

(3-2-4) Introduction to computer-aided drafting using CAD software and sketching to generate two- and three-dimensional drawings based on the conventions of engineering graphical communication; topics include spatial relationships, multi-view projections and sectioning, dimensioning, graphical presentation of data, and fundamentals of computer graphics.

**ENGR-1307 Plane Surveying +**

(3-2-3) Development of skills necessary to recognize and solve problems in surveying; introduction and use of various precision instruments used for surveying, including level, theodolites, electronic distance measuring equipment, and total stations for collecting field data; introduction of Global Positioning Systems (GPS) and Geographic Information Systems (GIS) and their use in surveying; and use of graphic design software, such as AutoCAD or Microstation in surveying problems.

*Required Prerequisite:* MATH-1316 or satisfactory score on approved placement test and ENGR-1304

**ENGR-2301 Engineering Mechanics I -Statics +**

(3-3-0) Basic theory of engineering mechanics, using calculus, involving the description of forces, moments, and couples acting on stationary engineering structures; equilibrium in two and three dimensions; free-body diagrams; friction; centroids; centers of gravity; and moments of inertia. *Required Prerequisites:* MATH-2513 and PHYS-2425

**ENGR-2302 Engineering Mechanics II - Dynamics +**

(3-3-0) Basic theory of engineering mechanics, using calculus, involving the motion of particles, rigid bodies, and systems of particles; Newton's Laws; work and energy relationships; principles of impulse and momentum; application of kinetics and kinematics to the solution of engineering problems. *Required Prerequisite:* ENGR-2301

**ENGR-2305 Electrical Circuits I +**

(3-3-0) Principles of electrical circuits and systems. Basic circuit elements (resistance, inductance, mutual inductance, capacitance, independent and dependent controlled voltage, and current sources). Topology of electrical networks; Kirchhoff's laws; node and mesh analysis; DC circuit analysis; operational amplifiers; transient and sinusoidal steady-state analysis; AC circuit analysis; first- and second-order circuits; Bode plots; and use of computer simulation software to solve circuit problems.

*Required Prerequisite:* PHYS-2425 and MATH-2414

*Required Prerequisite or Co-Requisite:* MATH-2320

**ENGR-2432 Mechanics of Materials +**

(4-4-0) Stresses, deformations, stress-strain relationships, torsions, beams, shafts, columns, elastic deflections in beams, combined loading, and combined stresses.

**(ENTC) ENGINEERING TECHNOLOGY, GENERAL****ENTC-2331 Manufacturing Materials**

(3-2-3) Identification of materials used in manufacturing including metals, plastics, composite materials, concrete, ceramics, and wood. Includes application of material properties and quality standards for selection of materials to manufacture components.

## **(EPCT) ENVIRONMENTAL AND POLLUTION CONTROL TECHNOLOGY/TECHNICIAN**

**EPCT-1307 Introduction to Environmental Safety and Health**

(3-3-0) An historic overview of environmental safety and health. Emphasis on the use of occupational safety and health codes.

**EPCT-1311 Introduction to Environmental Science**

(3-3-0) An overview of environmental science and current global concerns, and a brief history of environmental ethics, resource use, and conservation. Discussion of fundamental principles of resource economics and environmental health.

**EPCT-1313 Contingency Planning**

(3-3-0) An introduction to the development of an emergency response contingency plan for a facility or community. Emphasis on analyzing the hazards, writing and implementing the contingency plans, and evaluating the effectiveness of the contingency plan.

**EPCT-1341 Principles of Industrial Hygiene**

(3-2-2) Concepts in threshold limits, dose response, and general recognition of occupational hazards, including sampling statistics, calibration, and equipment use. A study of the control of occupational hazards and sample collection and evaluation methods.

**EPCT-1344 Environmental Sampling and Analysis**

(3-2-2) Sampling protocol, procedures, quality control, preservation technology, and field analysis. Emphasis on analysis commonly performed by the field technician.

**EPCT-1347 Waste Minimization and Pollution Prevention**

(3-3-0) Exploration of the options available for source reduction, waste minimization, and pollution prevention including regulatory standards applicable to these activities.

**EPCT-1349 Environmental Regulation Interpretation and Applications**

(3-3-0) An in-depth study of the major federal and state environmental regulations.

**EPCT-1391 Special Topics in Environmental and Pollution Control Technology/Technician**

(3-3-0) 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.

**EPCT-1401 Hazardous Waste Operations and Emergency Response (HAZWOPER) Training and Related Topics**

(4-3-2) Minimum certification requirements in the Code of Federal Regulations (CFR) for a hazardous waste site worker as found in 29 CFR-1910.120 and 40 CFR.264.16.

**EPCT-1440 Industrial Chemical Processes**

(4-3-2) An overview of chemical processes used in the chemical industry.

*Recommended Prerequisite: CHEM-1405*

**EPCT-2300 Department of Transportation (DOT) Regulations**

(3-3-0) A detailed study of the United States Department of Transportation regulations with emphasis on identifying applicable regulations recommending compliance strategies in the transport of dangerous and hazardous materials. Examination of the regulatory requirements for employees and employers involved in all modes of transportation, including road, rail, aircraft, and marine vessels.

**(ESOL) ENGLISH FOR SPEAKERS OF OTHER LANGUAGES**

**ESOL-0301 Oral Communication I**

(3-3-0) Practical applications of vocabulary, phonetics and grammar in comprehending and producing spoken English. Designed for speakers of other languages.

*This is a developmental course and cannot be used to fulfill degree requirements.*

**ESOL-0302 Oral Communication II**

(3-3-0) Practical applications of vocabulary, phonetics and grammar in comprehending and producing spoken English. Designed for speakers of other languages.

*This is a developmental course and cannot be used to fulfill degree requirements.*

**ESOL-0303 Oral Communication III**

(3-3-0) Practical applications of vocabulary, phonetics and grammar in comprehending and producing spoken English. Designed for speakers of other languages.

*This is a developmental course and cannot be used to fulfill degree requirements.*

**ESOL-0304 Writing and Grammar I**

(3-3-0) Practical applications of vocabulary, phonetics and grammar in comprehending and producing spoken English. Designed for speakers of other languages.

*This is a developmental course and cannot be used to fulfill degree requirements.*

**ESOL-0305 Writing and Grammar II**

(3-3-0) Practical applications of grammar and sentence syntax in written English. Designed for speakers of other languages.

*This is a developmental course and cannot be used to fulfill degree requirements.*

**ESOL-0306 Writing and Grammar III**

(3-3-0) Practical applications of grammar and sentence syntax in written English. Designed for speakers of other languages.

*This is a developmental course and cannot be used to fulfill degree requirements.*

**ESOL-0307 Reading and Vocabulary I**

(3-3-0) Development and improvement of reading skills through vocabulary, fluency and comprehension strategies. Designed for speakers of other languages.

*This is a developmental course and cannot be used to fulfill degree requirements.*

**ESOL-0308 Reading and Vocabulary II**

(3-3-0) Development and improvement of reading skills through vocabulary, fluency and comprehension strategies. Designed for speakers of other languages.

*This is a developmental course and cannot be used to fulfill degree requirements.*

**ESOL-0309 Reading and Vocabulary III**

(3-3-0) Development and improvement of reading skills through vocabulary, fluency and comprehension strategies. Designed for speakers of other languages.

*This is a developmental course and cannot be used to fulfill degree requirements.*

**ESOL-0310 Composition I**

(3-3-0) Development and improvement of reading skills through vocabulary, fluency and comprehension strategies. Designed for speakers of other languages.

*This is a developmental course and cannot be used to fulfill degree requirements.*

**ESOL-0311 Composition II**

(3-3-0) Practical applications of grammar, usage and sentence structure in paragraph and essay writing. Designed for speakers of other languages.

*This is a developmental course and cannot be used to fulfill degree requirements.*

**ESOL-0312 Composition III**

(3-3-0) Practical applications of grammar, usage and sentence structure in paragraph and essay writing. Designed for speakers of other languages.

*This is a developmental course and cannot be used to fulfill degree requirements.*

**(FDNS) FOODS, NUTRITION, AND WELLNESS STUDIES****FDNS-1103 Introduction to Dietetics**

(1-1-0) An introduction to the profession of dietetics in health-care delivery systems. Includes roles and responsibilities of dietetics team members, standards, and ethics in dietetic practice. Emphasis on effective professional communications.

**FDNS-1164 Practicum – Foods, Nutrition, and Wellness Studies, General**

(1-0-10) Practical general workplace training supported by an individualized learning plan developed by employer, College, and student. The plan relates the workplace training and experiences to the student's general and technical course of study. Application of food management techniques and principles in institutional food service.

*Recommended Prerequisites:* FDNS-2300 and IFWA-2446

**FDNS-1192 Special Topics in Foods, Nutrition, and Wellness Studies, General**

(1-1-0) Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

*Recommended Prerequisite:* Consent of Program Coordinator

**FDNS-1309 Nutrition in the Community**

(3-3-0) A study of the nutritional status of populations at the national, state, and local community levels. Socioeconomic, cultural, and psychological influences on eating behavior, national, and state health objectives; marketing strategies for objective implementation; and community nutrition programs serving risk-group populations. Basic teaching/counseling methods for the nutrition education of small groups and individual clients/patients. *Recommended Prerequisite:* HECO-1322

**FDNS-1341 Nutrition in the Life Cycle**

(3-3-0) Analysis of nutrition assessment indicators for each age group. Social consideration to growth standards, maternal weight gains, eating behaviors of various age groups, and the physiology of aging as it relates to nutrient adequacy in the mature adult.

*Required Prerequisite:* HECO-1322

**FDNS-1345 Medical Nutrition Therapy I**

(3-3-0) Applications of nutrition principles and techniques of nutrition care for healthy individuals and patients/clients at low nutrition risk. Nutrition risk screening, interviewing/counseling methods, diet evaluation, basic diet calculations, documentation.

*Required Prerequisite:* HECO-1322

**FDNS-1346 Medical Nutrition Therapy II**

(3-3-0) Principles and techniques of nutrition care for clients/patients at low to moderate nutrition risk. Includes a study of the scientific basis of diets for individuals with diabetes mellitus, pulmonary and cardiovascular disease, and weight-control needs. Nutrition assessment parameters, nutrition care planning and evaluation, and menu-editing methods.

*Required Prerequisite:* FDNS-1345

*Recommended Pre/Co-Requisite:* BIOL-2401

**FDNS-1371 Child Nutrition Care**

(3-3-0) Child nutrition regulatory processes and the nutritional requirements for children ages 0-18. Includes federal child nutrition programs.

**FDNS-1391 Special Topics in Foods and Nutrition Studies**

(3-3-0) 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.

**FDNS-1391 Special Topics Food & Nutrition Science**

(3-3-0). 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.

**FDNS-1447 Medical Nutrition Therapy III**

(4-4-0) Advanced principles and techniques of nutrition care for clients/patients at low to moderate risk. Includes a study of the scientific basis of diets for individuals with cancer, gastrointestinal disease, and renal disease. Also includes nutrition assessment parameters, nutrition care planning and evaluation, and menu-editing methods.

*Required Prerequisite:* FDNS- 1346

*Recommended Prerequisite/Co-Requisite:* BIOL-2401

**FDNS-2164 Practicum – Foods, Nutrition, and Wellness Studies**

(1-0-10). Practical general workplace training supported by an individualized learning plan developed by the employer, College, and student. The plan relates the workplace training and experiences to the student's general and technical course of study. The guided external experiences may be paid or unpaid. Application of nutrition care principles and techniques in health-care environments serving risk-group populations in the community.

*Recommended Co-Requisite:* FDNS-1309

**FDNS-2165 Practicum – Foods, Nutrition, and Wellness Studies**

(1-0-10) Practical, general workplace training supported by an individualized learning plan developed by the employer, College, and student. The plan relates the workplace training and experiences to the student's general and technical course of study. Application of nutrition care techniques and principles in acute or long-term health care institutions.

*Required Prerequisite:* FDNS-1447

**FDNS-2400 Food Management Systems**

(4-4-0) Aspects of the organization and management of institutional food service systems. Includes menu planning and evaluation, purchasing, receiving and storage of food supplies, inventory control, sanitation and safety, and quality assurance.

**(FDST) FOOD SCIENCE**

**FDST-1391 Special Topics in Food Science**

(3-3-0) 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.

**(FIRS) FIRE SCIENCE/FIREFIGHTING #**

**FIRS-1301 Firefighter Certification I**

(3-2-4) One in a series of courses in basic preparation for a new firefighter. Should be taken in conjunction with Firefighter Certification III, IV, V, and VI to satisfy the Texas Commission on Fire Protection (TCFP) curriculum for Basic Structural Fire Suppression, Course #100. *This course may only be offered by institutions certified as a training facility by TCFP.*

*Required Co-Requisites:* FIRS-1313 FIRS-1319 FIRS-1323 FIRS-1329 and FIRT-1338

**FIRS-1313 Firefighter Certification III**

(3-2-4) One in a series of courses in basic preparation for a new firefighter. Should be taken in conjunction with Firefighter Certification I, IV, V, and VI to satisfy the Texas Commission on Fire Protection (TCFP) curriculum for Basic Structural Fire Suppression, Course #100. *This course may only be offered by institutions certified as a training facility by the Texas Commission on Fire Protection (TCFP).*

*Required Co-Requisites:* FIRS-1301 FIRS-1319 FIRS-1323 FIRS-1329 and FIRT-1338

**FIRS-1319 Firefighter Certification IV**

(3-2-4) One in a series of courses in basic preparation for a new firefighter. Should be taken in conjunction with Firefighter Certification I, III, V, and VI to satisfy the Texas Commission on Fire Protection (TCFP) curriculum for Basic Structural Fire Suppression, Course #100. *This course may only be offered by institutions certified as a training facility by the Texas Commission on Fire Protection (TCFP).*

*Required Co-Requisites:* FIRS-1301 FIRS-1313 FIRS-1323 FIRS-1329 and FIRT-1338

**FIRS-1323 Firefighter Certification V**

(3-1-5) One in a series of courses in basic preparation for a new firefighter. Should be taken in conjunction with Firefighter Certification I, III, IV, and VI to satisfy the Texas Commission on Fire Protection (TCFP) curriculum for Basic Structural Fire Suppression, Course #100. *This course may only be offered by institutions certified as a training facility by the Texas Commission on Fire Protection (TCFP).*

*Required Co-Requisites:* FIRS-1301 FIRS-1313 FIRS-1319 FIRS-1329 and FIRT-1338

#### FIRS-1329 Firefighter Certification VI

(3-2-4) One in a series of courses in basic preparation for a new firefighter. Should be taken in conjunction with Firefighter Certification I, III, IV, and V to satisfy the Texas Commission on Fire Protection (TCFP) curriculum for Basic Structural Fire Suppression, Course #100. *This course may only be offered by institutions certified as a training facility by the Texas Commission on Fire Protection (TCFP).*

*Required Co-Requisites:* FIRS-1301 FIRS-1313 FIRS-1319 FIRS 1323 and FIRT-1338

### **(FIRT) FIRE PROTECTION AND SAFETY TECHNOLOGY/TECHNICIAN**

#### FIRT-1301 Fundamentals of Fire Protection

(3-3-0) Orientation to the fire service, career opportunities, and related fields.

#### FIRT-1303 Fire and Arson Investigation I

(3-2-2) Basic fire and arson investigation practices. Emphasis on fire behavior principles related to fire cause and origin determination.

#### FIRT-1305 Public Education Programs

(3-3-0) 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 and Inspections

(3-3-0) Local building and fire prevention codes. Fire prevention inspections, practices, and procedures.

#### FIRT-1309 Fire Administration I

(3-3-0) Introduction to the organization and management of a fire department and the relationship of government agencies to the fire service. Emphasis on fire service leadership from the perspective of the company officer.

#### FIRT-1311 Fire Service Hydraulics

(3-3-0) Application of hydraulic principles to analyze and solve water supply problems related to fire protection.

#### FIRT-1315 Hazardous Materials I

(3-2-2) The chemical characteristics and behavior of various materials. Storage, transportation, handling hazardous emergency situations, and the most effective methods of hazard mitigation.

#### FIRT-1329 Building Codes and Construction

(3-3-0) Examination of building codes and requirements, construction types, and building materials. Includes walls, floorings, foundations, and various roof types and the associated dangers of each.

#### FIRT-1333 Fire Chemistry I

(3-2-2) Chemical nature and properties of compounds as related to the fire service. Fundamental laws of chemistry, states of matter, gas laws, chemical bonding, and thermodynamics.

**FIRT-1338 Fire Protection Systems**

(3-3-0) Design and operation of fire detection and alarm systems, heat and smoke control systems, special protection and sprinkler systems, water supply for fire protection, and portable fire extinguishers.

**FIRT-1349 Fire Administration II**

(3-3-0) In-depth study of fire service management as pertaining to budgetary requirements, administration, organization of divisions within the fire service, and relationships between the fire service and outside agencies. *Recommended Prerequisite:* FIRT-1309

**FIRT-1391 Special Topics in Fire Protection and Safety Technology/Technician**

(3-3-0) 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 may be repeated multiple times to improve student proficiency. *Required Prerequisite:* Consent of Department Chairperson

**FIRT-2309 Firefighting Strategies and Tactics I**

(3-3-0) Analysis of the nature of fire problems and selection of initial strategies and tactics including an in-depth study of efficient and effective use of staffing and equipment to mitigate the emergency.

**FIRT-2331 Firefighting Strategies and Tactics II**

(3-3-0) Emphasis on use of incident management in large scale command problems and other specialized fire problems. *This is the Capstone Course and must be taken during the last semester of the program.*

**FIRT-2333 Fire and Arson Investigation II**

(3-2-2) Fire investigation techniques and defense of findings in a court room setting.  
*Required Prerequisite:* FIRT-1303

**FIRT-2388 Internship – Fire Protection and Safety Technology/Technician**

(3-0-9) A work-based learning experience that enables the student to apply specialized occupational theory, skills and concepts. A learning plan is developed by the College and the employer. This may be a paid or unpaid experience.

**(FLMC) FILM AND VIDEO MAKING/CINEMATOGRAPHY AND PRODUCTION**

**FLMC-1311 Survey of the Motion Picture**

(3-2-2) Overview of film history and techniques including introduction to cinematic elements and approaches to analysis and criticism.

**FLMC-1404 Lighting for Film or Video**

(4-3-3) Fundamentals of lighting techniques for film or video production employing filters, in-camera effects, and mood setting techniques.

**FLMC-1431 Video Graphics and Visual Effects I**

(4-3-3) A course in applications of computers for video production. Design of computer graphic workstations and development of a rationale for selecting software, hardware, and peripherals.

**FLMC-2431 Video Graphics and Visual Effects II**

(4-3-3) Advanced concepts in designing vector and raster graphics, executing rendering techniques, designing and producing three-dimensional (3D) materials, and selecting hardware, software, and peripherals for video production.

*Recommended Prerequisite:* RTVB-1431

**FLMC-2434 Directing for Film or Video**

(4-3-3) Analysis of directing styles to formulate a personal directing style. Includes directing a film or video production.

*Required Prerequisite:* RTVB-1421 or consent of Program Coordinator

**(FREN) FRENCH**

**FREN-1100 Conversational French I +**

1-0-2) Basic practice in comprehension and production of the spoken language. Consists of the following options for developing good conversational skills in French. A total of six courses under the numbers FREN-1100 and FREN-1110 may be taken for elective credit as the topic varies.

- A. Oral Expression. Practice in oral expression, including comprehension, control of structure, vocabulary building, and pronunciation for production of the spoken language. One hour of scheduled classroom lab and one hour of arranged independent-study lab per week. May be taken three times as topic varies.
- B. Listening Comprehension. Practice in comprehension of the spoken language. Independent-study lab course with practice developing listening skills from sources such as audio, video, radio, film, and Internet.
- C. Grammar I. Review of novice-mid grammar for better control in production of the spoken language. Independent-study lab course with self-correcting format.
- D. Grammar II. Review of novice-high grammar for better control in production of the spoken language. Independent-study lab course with self-correcting format.
- E. Vocabulary Building I. Reading of novice-mid level French language texts for building vocabulary to be used in oral expression of ideas in French. Includes oral reading for fluency practice. Independent-study lab course.
- F. Vocabulary Building II. Reading of novice-high level French language texts for building vocabulary to be used in oral expression of ideas in French. Includes oral reading for fluency practice. Independent-study lab course.
- G. Culture Topics. Study of French culture topics through research and discussion, for the production of the spoken language in the expression and comparison of ideas.

**FREN-1110 Conversational French II +**

(1-0-2) Basic practice in comprehension and production of the spoken language. Consists of the following options for developing good conversational skills in French. A total of six courses under the numbers FREN-1100 and FREN-1110 may be taken for elective credit as the topic varies.

- A. Oral Expression. Practice in oral expression, including comprehension, control of structure, vocabulary building, and pronunciation for production of the spoken language. One hour of scheduled classroom lab and one hour of arranged independent-study lab per week. May be taken three times as topic varies.+
- B. Listening Comprehension. Practice in comprehension of the spoken language. Independent-study lab course with practice developing listening skills from sources such as audio, video, radio, film, and Internet.
- C. Grammar III. Review of intermediate-mid grammar for better control in production of the spoken language. Independent-study lab course with self-correcting format.
- D. Grammar IV. Review of intermediate-high grammar for better control in production of the spoken language. Independent-study lab course with self-correcting format.
- E. Vocabulary Building III. Reading of intermediate-mid level French language texts for building vocabulary to be used in oral expression of ideas in French. Includes oral reading for fluency practice. Independent-study lab course.
- F. Vocabulary Building IV. Reading of intermediate-high level French language texts for building vocabulary to be used in oral expression of ideas in French. Includes oral reading for fluency practice. Independent-study lab course.
- G. Culture Topics. Study of French culture topics through research and discussion, for the production of the spoken language in the expression and comparison of ideas. May be taken three times as topic varies.+

#### **FREN-1411 Beginning French I +**

(4-3-2) Fundamental skills in listening comprehension, speaking, reading, and writing. Includes acquisition of language functions, basic vocabulary, grammatical structures, and culture through contextualized presentations, interactive activities, and extensive laboratory practice.

#### **FREN-1412 Beginning French II +**

(4-3-2) Continuation of FREN-1411 with emphasis on conversation. Laboratory practice.  
*Recommended Prerequisite:* FREN-1411

#### **FREN-2311 Intermediate French I +**

(3-3-0) Review and application of skills in listening comprehension, speaking, reading, and writing. Emphasizes conversation, vocabulary acquisition, reading, composition, and culture. Class conducted largely in French. *Recommended Prerequisite:* FREN-1412

#### **FREN-2312 Intermediate French II +**

(3-3-0). Continuation of FREN-2311. *Recommended Prerequisite:* FREN-2311

### **(FSHN) FASHION MERCHANDISING**

#### **FSHN-2305 Fashion Retailing**

(3-3-0) An overview of fashion retailing procedures used in various types of retail fashion companies. A study of profit and loss, pricing, markup, inventory control, shortages, forecasting, store organization, and events. Examination of the wide variety of job opportunities available in the retail fashion industry.

### **FSHN-2309 Fashion Image**

(3-3-0) Introduction in the techniques used to analyze the fashion image of individual clients. Emphasis on personal coloring, color harmonies, appropriate fabric textures, body proportion and silhouette, figure, facial and hair analysis, and wardrobe coordination. Study of fashion image consultant business practices and job qualifications.

## **(GAME) ANIMATION, INTERACTIVE TECHNOLOGY, VIDEO GRAPHICS, AND SPECIAL EFFECTS**

### **GAME-1302 Interactive Storyboarding**

(3-2-3) In-depth coverage of storyboarding for the development of interactive media. Addresses target audience analysis, purpose, goals and objectives, content outline, flow chart, and interactive storyboarding.

### **GAME-1304 Level Design**

(3-3-2) Introduction to the tools and concepts used to create levels for games and simulations. Incorporates level design, architecture theory, concepts of critical path and flow, balancing, play testing, and storytelling. Includes utilization of toolsets from industry titles.

### **GAME-1403 Introduction to Game Design and Development**

(4-3-2) Introduction to electronic game development and game development careers. Includes examination of history and philosophy of games, the game production process, employee factors for success in the field, and current issues and practices in the game development industry.

### **GAME-2308 Portfolio for Game Development**

(3-2-3) Design and management of an industry standard portfolio. Includes techniques in self-promotion, resume writing, portfolio distribution systems, and interviewing.

### **GAME-2412 Interactive Audio**

(4-3-3) Music and sound effects. Includes formats, working within memory budgets, interactive systems, and foley libraries. Addresses a range of practical audio-related areas.

## **(GEOG) GEOGRAPHY**

### **GEOG-1301 Physical Geography +**

(3-3-0) Introduction to the concepts which provide a foundation for continued study of geography. Includes the different elements of natural environment as related to human activities, modes of living, and map concepts. Emphasizes basic physical elements of geography, maps, weather and climate, landforms, and natural resources.

### **GEOG-1302 Cultural Geography +**

(3-3-0) Continuation of GEOG-1301. Emphasizes human/cultural geography including: demographic changes, migration and settlement, cultural diffusion, ethnic patterns, and political and economic systems.

### **GEOG-1303 World Regional Geography +**

(3-3-0) Study of the major world regions with emphasis on prevailing conditions and developments, including emerging conditions and trends, and the awareness of diversity of ideas and practices found in those regions. Course content may include one or more

regions. Emphasis on use of natural and human resources in selected regions and countries of the world.

*This course may be taken for honors credit. Consult the department for information.*

## **(GEOL) GEOLOGY**

### **GEOL-1305 Environmental Geology +**

(3-3-0) The earth as a habitat. Interrelationships between humans and the environment. Geologic factors in urban and regional land use planning.

### **GEOL-1401 Earth Sciences +**

(4-3-3) Survey of physical and historical geology, astronomy, meteorology, oceanography, and related sciences. Emphasis on the relationship between the geosphere, the atmosphere and the hydrosphere and their effect on man.

*Required Co-Requisite:* Laboratory GEOL-1401L

*This course may be taken for honors credit. Consult the department for information.*

### **GEOL-1403 Physical Geology +**

(4-3-3). Principles of physical geology. Study of the earth's composition, structure, and internal and external processes. Includes minerals, rocks, geological processes and structural geology.

*Required Co-Requisite:* Laboratory GEOL-1403L

*This course may be taken for honors credit. Consult the department for information.*

### **GEOL-1404 Historical Geology +**

(4-3-3) Principles of historical geology. Includes the geologic history of the earth and the evolution of life. Emphasis on fossils, origin and character of selected formations.

*Required Prerequisite:* GEOL-1403 *Required Co-Requisite:* Laboratory GEOL-1403L

*This course may be taken for honors credit. Consult the department for information.*

### **GEOL-1405 Environmental Geology +**

(4-3-3) The earth as a habitat. Interrelationships between humans and the environment. Geologic factors in urban and regional land use planning. Students may not take this course and GEOL-1305 for credit. *Required Co-Requisite:* Laboratory GEOL-1405L

### **GEOL-1445 Oceanography +**

(4-3-3) A one-semester introduction to the physical, biological, and geological processes, which shape the world's oceans, with emphasis on man's impact on the oceans and the ocean's impact on man. *Required Co-Requisite:* Laboratory GEOL-1445L

### **GEOL-1447 Meteorology +**

(4-3-3) survey of meteorology and related sciences. May not be used as a prerequisite for GEOL-1404. *Required Co-Requisite:* Laboratory GEOL-1447L

### **GEOL-2407 Geological Field Methods +**

(4-3-3) Collection of field data, interpretation and construction of geologic and topographic maps, and examination of petrologic systems in a field setting.

*Required Prerequisite:* Consent of instructor

*Required Co-Requisite:* Laboratory GEOL-2407L

## **(GERM) GERMAN**

**GERM-1411 Beginning German I +**

(4-3-2) Fundamental skills in listening comprehension, speaking, reading, and writing. Includes acquisition of language functions, basic vocabulary, grammatical structures, and culture through contextualized presentations, interactive activities, and extensive laboratory practice.

**GERM-1412 Beginning German II +**

(4-3-2) Continuation of GERM 1411 with emphasis on conversation.

*Recommended Prerequisite:* GERM-1411

**GERM-2311 Intermediate German I +**

I (3-3-0) Review and application of skills in listening comprehension, speaking, reading, and writing. Emphasizes conversation, vocabulary acquisition, reading, composition, and culture. Class conducted largely in German. *Recommended Prerequisite:* GERM-1412

**GERM-2312 Intermediate German II +**

(3-3-0). Continuation of GERM-2163. *Recommended Prerequisite:* GERM-2311

**(GISC) GEOGRAPHIC INFORMATION SYSTEMS AND CARTOGRAPHY****GISC-1402 Understanding Geographic Information Systems**

(4-3-2) Understanding Geographic Information Systems Theory and application of geographic information science (GIS). Includes an overview of the general principles of GIS and Practical experience in its use.

**GISC-1491 Special Topics in Cartography**

(4-3-2) Topics address recently identified current events, skills, knowledges, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

**GISC-2264 Practicum – Cartography**

(2-0-14) Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

**GISC-2401 Data Acquisition and Analysis in Geographic Information Systems (GIS)**

(4-3-2) Study of the management of geographic information, system life cycles, and costs and benefits. Includes institutional issues such as data providers, data management, combination of attribute and graphical data, information storage and access, Texas and national standards for spatial data; and applications of GIS for data modeling and analysis.

**GISC-2402 Geographic Information Systems (GIS) Design with Raster Analysis**

(4-3-2) Raster/remote sensing principles, technologies, and applications. Emphasizes processing raster imagery into useful information to be used in a GIS. Includes geo-referencing and image classification. Student final project will be demonstrating raster and remote sensing techniques.

**GISC-2404 Geographic Information Systems (GIS) Design with Vector Analysis**

(4-3-2) Using GIS as a problem-solving tool from the first stages of designing an analysis project, through the data collection and manipulation phase, to the final phase of presenting the project.

**GISC-2411 Geographic Information Systems (GIS) Applications**

(4-2-0) Application of GIS technology to real workplace applications from public and private sectors. Completion of Global Positioning Systems (GPS) fieldwork required for lab exercises.

**GISC-2420 Intermediate Geographic Information Systems (GIS)**

(4-3-2) This course focuses on the study of spatial data structures and the display, manipulation, and analysis of geographic information. Students will study the technical aspects involved in spatial data handling, analysis and modeling. Instruction will include theories and procedures associated with the implementation and management of GIS projects. A variety of GIS software packages will be used in the laboratory.

**GISC-2435 Programming for Geographic Information Systems (GIS)**

(4-3-2) Focuses on the use of programming languages to customize and expand the capability of GIS applications. Instruction will include object-oriented and component programming. Students will also design their own Graphical User Interface (GUI). *Required Prerequisite:* COSC-1436

## **(GOVT) GOVERNMENT**

**GOVT-2305 Federal Government +**

(3-3-0) Origin and development of the U.S. Constitution, structure and powers of the national government including the legislative, executive, and judicial branches, federalism, political participation, the national election process, public policy, civil liberties and civil rights.

*Required Prerequisite:* RDNG-0361 or RDNG-0363 with a grade of C plus achieve 11<sup>th</sup> grade level score on Nelson-Denny, or an approved alternative

*This course may be taken for honors credit. Consult the department for information.*

**GOVT-2306 Texas Government +**

(3-3-0) Origin and development of the Texas Constitution, structure and powers of state and local government, federalism and inter-governmental relations, political participation, the election process, public policy, and the political culture of Texas.

*Required Prerequisite:* RDNG-0361 or RDNG-0363 with a grade of C plus achieve 11<sup>th</sup> grade level score on Nelson-Denny, or an approved alternative

*This course may be taken for honors credit. Consult the department for information.*

## **(HALT) HORTICULTURE AND HORTICULTURAL OPERATIONS, GENERAL**

**HALT-1301 Principles of Horticulture**

(3-3-1) An overview of the horticulture industry, plant science, terminology, classification, propagation, environmental responses, and careers and opportunities in the field of horticulture.

**HALT-1303 Herbaceous Plants**

(3-2-2) A study of herbaceous plant material. Topics include practices and procedures used in the identification, growth, propagation, maintenance, and utilization of herbaceous plants in the horticulture industry. *Recommended Prerequisite:* HALT-1301

#### HALT-1307 Plant Diseases

(3-2-2) An overview of the factors causing plant diseases. Topics include physiological disorders, fungi, bacteria, viruses, mollicutes, nematodes, parasitic plants, non-pathogenic factors, and control methods. *Recommended Prerequisite:* HALT-1301

#### HALT-1309 Interior Plants

(3-2-2) Instruction in the identification and classification of the plants used in home and commercial interior landscapes. Topics include design characteristics for interiorscapes and environmental requirements of the plants. *Recommended Prerequisite:* HALT-1301

#### HALT-1311 Shrubs, Vines, and Groundcovers

(3-2-2) Coverage of the shrubs, vines, and groundcovers used in the horticulture industry. Topics include identification, characteristics, adaptation, cultural requirements, pest and disease problems, and use in the landscape. *Recommended Prerequisite:* HALT-1301

#### HALT-1313 Economic Entomology

(3-2-2) An overview of insects and related organisms with an emphasis on destructive, predaceous, parasitic, and beneficial species. Topics include insect taxonomy, anatomy, morphology, physiology, and the application of Integrated Pest Management (IPM), mechanical, biological, and chemical control measures.

*Recommended Prerequisite:* HALT-1301

#### HALT-1317 Trees

(3-2-2) A study of the trees used in the horticulture industry. Topics include the identification, characteristics, adaptation, cultural requirements, pest and disease problems, and trees in the landscape. *Recommended Prerequisite:* HALT-1301

#### HALT-1333 Landscape Irrigation

(3-2-2) Coverage of irrigation systems including equipment, design, performance, and maintenance. Topics include residential and small business applications, troubleshooting, repair, and technological advances in irrigation systems.

#### HALT-1353 Landscape Computer Design

(3-2-2) A course in computer-aided landscape design. Emphasis on the application of design concepts and techniques using software. *Required Prerequisite:* HALT-1422

#### HALT-1392 Special Topics in Horticultural Science

(3-2-2) Topics address recently identified current events, skills, knowledges, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

#### HALT-1422 Landscape Design

(4-3-3) A study of the principles and elements of landscape design. Topics include client interview, site analysis, plan view, scale, plant selection, basic drawing and drafting skills, and plan preparation. *Recommended Prerequisite:* HALT-1301

### **HALT-2301 Arboriculture**

(3-2-2) Fundamentals of woody plant physiology and growth including techniques and procedures utilized in making sound tree care decisions related to growth pest and disease control. Topics include design principles of planning and maintenance for city streets, parks, and commercial and residential properties.

*Recommended Prerequisite:* HALT-1301

### **HALT-2302 Greenhouse Crop Production**

(3-2-2) Production of crops within the greenhouse environment. Topics include growing techniques, environmental control, crop rotation, scheduling, preparation for sale, and marketing. *Recommended Prerequisite:* HALT-1301

### **HALT-2308 Greenhouse Management**

(3-2-2) Fundamentals of greenhouse construction and operation. Topics include architectural styles, construction materials, environmental systems and controls, growing media, fertilizers, post harvest handling, marketing, and business management. *Recommended Prerequisite:* HALT-1301

### **HALT-2314 Plant Propagation**

(3-2-2) A study of the sexual and asexual propagation of plants used in horticulture. Topics include propagation by seeds, cuttings, grafting, budding, layering, division, separation, and tissue culture; and environmental factors of propagation.

*Recommended Prerequisite:* HALT-1301

### **HALT-2315 Landscape Management**

(3-2-2) A study of the procedures and practices used in the horticulture industry for proper landscape maintenance. Topics include landscape installation, lawn maintenance, shrub and tree care, and management practices. *Recommended Prerequisite:* HALT-1301

### **HALT-2318 Soil Fertility and Fertilizers**

(3-3-0) An in-depth study of the chemistry, soil interaction, plant uptake and utilization of essential plant nutrients. Topics include deficiency and toxicity symptoms, and the selection, application, and characteristics of fertilizer materials.

*Recommended Prerequisite:* HALT-1301

### **HALT-2320 Nursery Production and Management**

(3-2-2) An overview of the procedures for establishing and operating a commercial nursery. Topics include site selection, structures, equipment, stock selection, production practices, harvesting, marketing, and management practices.

*Recommended Prerequisite:* HALT-1301

### **HALT-2323 Horticultural Pest Control**

(3-3-0) Examination of federal, state, and local laws and regulations governing the control of horticultural pests. Topics include procedures; methods; safety requirements; integrated pest management (IPM); and chemical, natural, and biological controls.

*Recommended Prerequisite:* HALT-1301

## **(HAMG) HOSPITALITY ADMINISTRATION AND MANAGEMENT, GENERAL**

### **HAMG-1191 Selected Topics in Hospitality Administration and Management, General**

(1-1-0) 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.

*Prerequisite:* Consent of Department Chairperson

#### HAMG-1213 Front Office Procedures

(2-2-0) Functions of front office operations as they relate to customer service. Includes a study of front office interactions with other departments in the lodging operation.

#### HAMG-1291 Special Topics in Hospitality Administration and Management

(2-2-0) Topics address recently identified current events, skills, knowledge and/or attitudes, and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiples times to improve student proficiency.

*Prerequisite:* Consent of Department Chairperson

#### HAMG-1321 Introduction to the Hospitality Industry

(3-3-0) Introduction to the elements of the hospitality industry.

#### HAMG-1324 Hospitality Human Resources Management

(3-3-0) Principles and procedures of human resource management in the hospitality industry.

#### HAMG-1340 Hospitality Legal Issues

(3-3-0) A course in legal and regulatory requirements that impact the hospitality industry. Topics include Occupational Safety and Health Administration (OSHA), labor regulations, tax laws, tip reporting, franchise regulations, and product liability laws.

#### HAMG-1391 Special Topics in Hospitality Administration and Management

(3-3-0) Topics address recently identified current events, skills, knowledge and/or attitudes, and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

*Prerequisite:* Consent of Department Chairperson

#### HAMG-2167 Practicum – Hospitality Administration and Management, General

(1-0-10) Practical, general workplace training supported by individual learning plan developed by the employer, College, and student.

*Prerequisite:* Consent of Department Chairperson

#### HAMG-2301 Principles of Food and Beverage Operations

(3-3-0) Introduction to food and beverage management in various hospitality environments. Emphasizes cost controls from procurement to marketing and sales. Examines forecasting, menu planning and pricing, logistical support, production, purchasing, and quality assurance.

#### HAMG-2302 Hospitality Security and Loss Prevention

(3-3-0) Overview of the issues surrounding the need for security and loss prevention in the hospitality industry.

#### HAMG-2305 Hospitality Management and Leadership

(3-3-0) Overview of management and leadership in the hospitality industry with an emphasis on management philosophy, policy formulation, communications, motivation, and team building.

**HAMG-2307 Hospitality Marketing and Sales**

(3-3-0) Identification of the core principles of marketing and sales and their impact on the hospitality industry.

**HAMG-2330 Convention and Group Management and Services**

(3-3-0) An application of the essential components of successful convention and meeting planning.

**(HART) HEATING, AIR CONDITIONING AND  
REFRIGERATION TECHNOLOGY/ TECHNICIAN**

**HART-1401 Basic Electricity for Heating, Ventilation and Air Conditioning (HVAC)**

(4-3-2) Principles of electricity as required by HVAC, including proper use of test equipment, electrical circuits, and component theory and operation.

**HART-1403 Air Conditioning Control Principles**

(4-3-2) A basic study of HVAC and refrigeration controls; troubleshooting of control components; emphasis on use of wiring diagrams to analyze high and low voltage circuits; a review of Ohm's law as applied to air conditioning controls and circuits.

*Required Prerequisite:* HART-1401 and HART-2431

**HART-1407 Refrigeration Principles**

(4-2-7) An introduction to the refrigeration cycle, heat transfer theory, temperature/pressure relationship, refrigerant handling, refrigeration components, and safety.

**HART-1411 Solar Fundamentals**

(4-3-3) Study of heat transference, motors, pumps and other mechanical devices; solid state switches; photovoltaic plates and energy conversion; thermal dynamics; and solar energy.

**HART-1445 Gas and Electric Heating**

(4-2-7) Study of the procedures and principles used in servicing heating systems including gas-fired furnaces and electric heating systems.

*Required Prerequisite:* HART-1401 *Required Co-Requisite:* HART-2431

**HART-1491 Special Topics in Heating, Air Conditioning and Refrigeration Technology/ Technician**

(4-3-2) 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-2431 Advanced Electricity for Heating, Ventilation and Air Conditioning (HVAC)**

(4-3-2) Advanced electrical instruction and skill building in installation and servicing of air conditioning and refrigeration equipment including detailed instruction in motors and power distribution, motors, motor controls, and application of solid state devices.

*Required Prerequisite:* HART-1401

**HART-2436 Air Conditioning Troubleshooting**

(4-3-2) 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.

*Required Prerequisites:* HART-1401 HART-1403 HART-1407 HART-1445 HART-2431 HART-2445 and MAIR-1449

#### **HART-2438 Air Conditioning Installation and Startup**

(4-3-2) A study of air conditioning system installation, refrigerant piping, condensate disposal, and air cleaning equipment with emphasis on startup and performance testing.

#### **HART-2442 Commercial Refrigeration**

(4-2-8) Theory and practical application in the maintenance of commercial refrigeration; medium and low temperature applications and ice machines.

*Required Prerequisites:* HART-1401 HART-1407 HART-2431 and MAIR-1449

#### **HART-2445 Residential Air Conditioning Systems Design**

(4-3-2) 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**

(4-3-2) A study of heat pumps, heat pump control circuits, defrost controls, auxiliary heat, air flow, and other topics related to heat pump systems.

*Required Prerequisites:* HART-1401 HART-1403 HART-1407 HART-1445 HART-2431 HART-2445 and MAIR-1449

### **(HECO) HOME ECONOMICS**

#### **HECO-1307 Personal Finance +**

(3-3-0) Guide to personal and family accounts, budgets and budgetary control, bank accounts, charge accounts, borrowing, investing, insurance, standards of living, renting or home ownership, and wills and trust plans.

#### **HECO-1315 Food Preparation and Meal Management +**

(3-2-4) Study of scientific principles involved in the selection and preparation of high quality foods. Management of time, money, and energy resources in the planning, preparation, and service of meals. Includes composition of food, the chemical and biological changes that occur in storage and processing and preparation techniques and selection principles.

#### **HECO-1320 Textiles +**

(3-3-1) Analysis of fibers, yarns, fabrics and finishes as related to end use, performance, and care of textile products.

#### **HECO-1322 Nutrition and Diet Therapy +**

(3-3-0) Study of the chemical, physical and sensory properties of food; nutritional quality; and food use and diet applications. Includes nutrient functions, food sources, digestion, absorption, and metabolism and application to normal and preventive nutrition needs. Nutrient intake analysis, energy expenditure evaluation, and diet planning included.

#### **HECO-2311 Fashion Merchandising +**

(3-3-0) Principles, techniques and practices for successful merchandising of fashion products. Overview of careers in the fashion industry, textiles, design and manufacturing processes, domestic and foreign markets, and retailing. Development of fashion industry vocabulary.

## **(HIST) HISTORY**

### **HIST-1301 United States History I to 1876 +**

(3-3-0) A survey of the social, political, economic, cultural, and intellectual history of the United States from the pre-Columbian era to the Civil War/Reconstruction period. Includes the study of pre-Columbian, colonial, revolutionary, early national, slavery and sectionalism, and the Civil War/Reconstruction eras. Themes that may be addressed include: American settlement and diversity, American culture, religion, civil and human rights, technological change, economic change, immigration and migration, and creation of the federal government.

*Required Prerequisite:* RDNG-0361 or RDNG-0363 with a grade of C plus achieve 11<sup>th</sup> grade level score on Nelson-Denny, or an approved alternative

*This course may be taken for honors credit. Consult the department for information.*

### **HIST-1302 United States History II Since 1876 +**

(3-3-0) A survey of the social, political, economic, cultural, and intellectual history of the United States from the Civil War/Reconstruction era to the present. Examines industrialization, immigration, world wars, the Great Depression, and the Cold War and post-Cold War eras. Themes that may be addressed include: American culture, religion, civil and human rights, technological change, economic change, immigration and migration, urbanization and suburbanization, the expansion of the federal government, and the study of U.S. foreign policy.

*Required Prerequisite:* RDNG-0361 or RDNG-0363 with a grade of C plus achieve 11<sup>th</sup> grade level score on Nelson-Denny, or an approved alternative

*This course may be taken for honors credit. Consult the department for information.*

### **HIST-2301 History of Texas +**

(3-3-0) A survey of the political, social, economic, cultural, and intellectual history of Texas from the pre-Columbian era to the present. Themes that may be addressed include: Spanish colonization and Spanish Texas; Mexican Texas; the Republic of Texas; statehood and secession; oil, industrialization, and urbanization; civil rights; and modern Texas.

### **HIST-2311 Western Civilization I to 1660 +**

(3-3-0) A survey of the social, political, economic, cultural, religious, and intellectual history of Europe and the Mediterranean world from human origins to the 17<sup>th</sup> century. Themes addressed include the cultural legacies of Mesopotamia, Egypt, Greece, Rome, Byzantium, Islamic civilizations, and Europe through the Middle Ages, Renaissance, and Reformation.

*This course may be taken for honors credit. Consult the department for information.*

### **HIST-2312 Western Civilization II Since 1660 +**

(3-3-0) A survey of the social, political, economic, cultural, religious, and intellectual history of Europe and the Mediterranean world from the 17<sup>th</sup> century to the modern era. Themes addressed include absolutism and constitutionalism, growth of nation states, the Enlightenment, revolutions, classical liberalism, industrialization, imperialism, global conflict, the Cold War, and globalism.

**HIST-2321 World Civilizations I +**

(3-3-0) A survey of the social, political, economic, cultural, religious, and intellectual history of the world from the emergence of human cultures through the 15<sup>th</sup> century. Examines major cultural regions of the world in Africa, the Americas, Asia, Europe, and Oceania and their global interactions over time. Themes include the emergence of early societies, the rise of civilizations, the development of political and legal systems, religion and philosophy, economic systems and trans-regional networks of exchange. The course emphasizes the development, interaction and impact of global exchange.

*This course may be taken for honors credit. Consult the department for information.*

**HIST-2322 World Civilizations II +**

(3-3-0) A survey of the social, political, economic, cultural, religious, and intellectual history of the world from the 15<sup>th</sup> century to the present. Examines major cultural regions of the world in Africa, the Americas, Asia, Europe, and Oceania and their global interactions over time. Themes include maritime exploration and transoceanic empires, nation/state formation and industrialization, imperialism, global conflicts and resolutions, and global economic integration. The course emphasizes the development, interaction and impact of global exchange.

*This course may be taken for honors credit. Consult the department for information.*

**HIST-2389 Academic Cooperative: Becoming A Global Citizen +**

(3-3-0) An instructional program designed to integrate on-campus study with practical hands-on experience in history. In conjunction with class seminars, the individual student will set specific goals and objectives in the study of human social behavior and/or social institutions. Emphasizes the integration of historical perspectives into contemporary global issues.

**(HITT) HEALTH INFORMATION AND MEDICAL RECORDS TECHNOLOGY/TECHNICIAN#****HITT-1253 Legal and Ethical Aspects of Health Information**

(2-2-0) Concepts of privacy, security, confidentiality, ethics, health-care legislation, and regulations relating to the maintenance and use of health information.

**HITT-1401 Health Data Content and Structure**

(4-3-3) Introduction to systems and processes for collecting, maintaining, and disseminating primary and secondary health-related information including content of health record, documentation requirements, registries, indices, licensing, regulatory agencies, forms, and screens.

**HITT-1441 Coding and Classification Systems**

(4-3-3) Fundamentals of coding rules, conventions, and guidelines using clinical classification systems.

**HITT-1442 Ambulatory Coding**

(4-3-3) Fundamentals of ambulatory coding rules, conventions and guidelines.

**HITT-1445 Health Care Delivery Systems**

(4-3-3) Examination of delivery systems including organization, financing, accreditation, licensure, and regulatory agencies.

**HITT-2260 Clinical - Health Information and Medical Records Technology/Technician**  
(2-0-12) A health-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.

**HITT-2261 Clinical - Health Information and Medical Records Technology/Technician**  
(2-0-12) A health-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.

**HITT-2335 Coding and Reimbursement Methodologies**

(3-3-0) Advanced coding techniques with emphasis on case studies, health records and federal regulations regarding prospective payment systems and methods of reimbursement.

**HITT-2346 Advanced Medical Coding**

(3-2-2) Advanced concepts of ICD and CPT coding rules, conventions, and guidelines in complex case studies. Investigation of government regulations and changes in health care reporting.

**HITT-2443 Quality Assessment and Performance Improvement**

(4-3-3) Study of quality standards and methodologies in the health information management environment. Topics include licensing, accreditation, compilation and presentation of data in statistical formats, quality management and performance improvement functions, utilization management, risk management, and medical staff data quality issues, and approaches to assessing patient safety issues and implementation of quality management and reporting through electronic systems. Approaches to assessing patient safety issues and implementation of quality management and reporting through electronic systems.

**(HMSY) HOMELAND SECURITY**

**HMSY-1337 Introduction to Homeland Security**

(3-3-0) Overview of homeland security. Evaluation of the progression of homeland security issues throughout Texas and the United States. An examination of the roles undertaken and methods used by governmental agencies and individuals to respond to those issues.

**(HPRS) HEALTH PROFESSIONS AND RELATED SERVICES**

**HPRS-1206 Essentials of Medical Terminology**

(2-2-0) A study of medical terminology, word origin, structure, and application.

**HPRS-1271 Survey of Professions in Health Care**

(2-2-0) A study of the current environment in health care and a survey of various jobs and professions in the health-care industry.

**HPRS-2200 Pharmacology for Health Professions**

(2-2-0) A study of drug classifications, actions, therapeutic uses, adverse effects, routes of administration, and calculation of dosages.

### HPRS-2201 Pathophysiology

(2-2-0) 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.

## **(HRPO) HUMAN RESOURCE MANAGEMENT AND PERSONNEL ADMINISTRATION, GENERAL**

### HRPO-1311 Human Relations

(3-3-0) Practical application of the principles and concepts of the behavioral sciences to interpersonal relationships in the business and industrial environment.

### HRPO-1393 Special Topics in Organizational Behavior Studies

(3-3-0) Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

### HRPO-2301 Human Resources Management

(3-3-0) Behavioral and legal approaches to the management of human resources in organizations.

## **(HUMA) HUMANITIES**

### **HUMA-1301 Introduction to The Humanities +**

(3-3-0) An interdisciplinary, multiperspective assessment of cultural, political, philosophical, and aesthetic factors critical to the formulation of values and the historical development of the individual and of society. Particular emphasis will be placed on the exploration of multicultural perspectives in the local community.

*This course may be taken for honors credit. Consult the department for information.*

### **HUMA-1305 Introduction to Mexican-American Studies +**

(3-3-0) Introduction to the field of Mexican-American/Chicano studies from its inception to the present. Interdisciplinary survey designed to introduce students to the salient cultural, economic, educational, historical, political, and social aspects of the Mexican-American/Chicano experience.

### **HUMA-1315 Fine Arts Appreciation +**

(3-3-0) Understanding purposes and processes in the visual and musical arts including evaluation of selected works. In this course, the student will examine human contributions to the disciplines of music, art, architecture and theatre, developing a critical and analytical understanding of these arts.

*This course may be taken for honors credit. Consult the department for information.*

### **HUMA-2319 American Minority Studies +**

(3-3-0) Historical, economic, social, and cultural development of minority groups. May include African-American, Mexican-American, Asian-American, and Native American issues.

## **(HYDR) HYDRAULICS TECHNOLOGY/TECHNICIAN**

### HYDR-1345 Hydraulics and Pneumatics

(3-2-3) Discussion of the fundamentals of hydraulics and pneumatics, components of each system, and the operations, maintenance, and analysis of each system.

## **(IBUS) INTERNATIONAL BUSINESS/TRADE/COMMERCE**

### **IBUS-1301 Principles of Exports**

(3-3-0) Export management processes and procedures. Includes governmental controls and compliance, licensing of products, documentation, commercial invoices, and traffic procedures. Emphasizes human and public relations, management of personnel, finance, and accounting procedures.

### **IBUS-1302 Principles of Imports**

(3-3-0) Practices and processes of import management operations which may include such factors as government controls and compliance. Emphasizes the preparation and understanding of import documents such as customs invoices, packing lists, and commercial invoices.

## **(IFWA) INSTITUTIONAL FOOD WORKERS**

### **IFWA-1491 Special Topics in Institutional Food Workers**

(4-3-2) 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.

### **IFWA-2446 Quantity Procedures**

(4-2-3) Exploration of the theory and application of quality procedures for the operation of commercial, institutional, and industrial food services. Emphasis on quantity cookery and distribution.

*Required Prerequisite:* Successful completion of MATH-0304 or or approved equivalent

## **(IMED) EDUCATIONAL AND INSTRUCTIONAL MEDIA DESIGN**

### **IMED-1416 Web Design I**

(4-3-3) Instruction in Web page design and related graphic design issues including mark-up languages, websites, and browsers.

### **IMED-2415 Web Design II**

(4-3-3) A study of mark-up language and advanced layout techniques for creating web pages. Emphasis on identifying the target audience and producing websites according to accessibility standards, cultural appearance and legal issues.

*Required Prerequisite:* IMED-1416

*Recommended Prerequisites:* ARTC-1305 ARTC-1453 and ARTC-1402

## **(INCR) INSTRUMENTATION TECHNOLOGY/TECHNICIAN**

### **INCR-1302 Physics of Instrumentation**

(3-2-3) An introduction to simple control loops. Introduction to pressure, temperature, level, and flow transmitters and the various transducers used in the detection of changes in process variables.

## **(INDS) INTERIOR DESIGN**

INDS-1341 Color Theory and Application

(3-3-0) A study of color theory and its application to interior design.

## **(INEW) WEB PAGE AND COMPUTER PROGRAMMER/PROGRAMMING, GENERAL**

INEW-2434 Advanced Web Programming

(4-3-2) Web programming using industry-standard languages and data stores.

## **(INMT) MANUFACTURING TECHNOLOGY/TECHNICIAN**

INMT-1445 Computer Numerical Controls

(4-3-3) Study of numerical controlled machine operations in a CAM/CIM environment.

Emphasis on standard and computer numerical controlled (CNC) procedures for planning, preparing, and operating a computer-assisted machine.

INMT-2345 Industrial Troubleshooting

(3-2-3) An advanced study of the techniques used in troubleshooting various types of industrial equipment to include mechanical, electrical, hydraulic, and pneumatic systems and their control devices. Emphasis will be placed on the use of schematics and diagrams in conjunction with proper troubleshooting procedures.

## **(INRW) INTEGRATED READING AND WRITING**

INRW-0399 Integrated Reading and Writing

(3-3-1) A combined 3-hour lecture/1-hour lab performance based course designed to develop students' critical reading and academic writing skills. If successfully completed, the course fulfills TSI requirements for reading and writing.

*Required Prerequisites:* RDNG-0361 and ENGL-0324 or equivalent scores on an approved placement test in both reading and writing

*This is a developmental course and cannot be used to fulfill degree requirements.*

## **(INTC) INSTRUMENTATION TECHNOLOGY/TECHNICIAN**

INTC-2359 Distributed Control Systems

(3-2-3) Philosophy and application of distributed control systems. Includes hardware, firmware, software, configuration, communications, and networking systems required to implement a distributed control strategy.

## **(ITCC) SYSTEM, NETWORKING, AND LAN OR WAN MANAGEMENT/MANAGER - CISCO**

ITCC-1401 Cisco Exploration 1 - Network Fundamentals

(4-3-2) A course introducing the architecture, structure, functions, components, and models of the Internet. Describes the use of OSI and TCP layered models to examine the nature and roles of protocols and services at the applications, network, data link, and

physical layers. Covers the principles and structure of IP addressing and the fundamentals of Ethernet concepts, media, and operations. Build simple LAN topologies by applying basic principles of cabling; perform basic configurations of network devices, including routers and switches; and implementing IP addressing schemes.

*Recommended Prerequisites:* ITSC-1405 and ITSC-1424, or consent of Department Chair

#### ITCC-1404 Cisco Exploration 2 - Routing Protocols and Concepts

(4-3-2) This course describes the architecture, components, and operation of routers, and explains the principles of routing and routing protocols. Students analyze, configure, verify, and troubleshoot the primary routing protocols RIPv1, RIPv2, EIGRP, and OSPF. Recognize and correct common routing issues and problems. Model and analyze routing processes. *Recommended Prerequisite:* ITCC-1401

#### ITCC-2408 Cisco Exploration 3 - LAN Switching and Wireless

(4-3-2) This course helps students develop an in-depth understanding of how switches operate and are implemented in the LAN environment for small and large networks. Detailed explanations of LAN switch operations, VLAN implementation, Rapid Spanning Tree Protocol (RSTP), VLAN Trunking Protocol (VTP), Inter-VLAN routing, and wireless network operations. Analyze, configure, verify, and troubleshoot VLANs, RSTP, VTP, and wireless networks. Campus network design and Layer 3 switching concepts are introduced. *Recommended Prerequisite:* ITCC-1404

#### ITCC-2410 Cisco Exploration 4 - Accessing the WAN

(4-3-2) This course explains the principles of traffic control and access control lists (ACLs) and provides an overview of the services and protocols at the data link layer for wide-area access. Describes user access technologies and devices and discover how to implement and configure Point-to-Point Protocol (PPP), Point-to-Point Protocol over Ethernet (PPPoE), DSL, and Frame Relay. WAN security concepts, tunneling, and VPN basics are introduced. Discuss the special network services required by converged applications and an introduction to quality of service (QoS).

*Recommended Prerequisite:* ITCC-2408

#### ITCC-2441 CCNA Security

(4-3-2) Overall security processes with particular emphasis on hands-on skills in the following areas: security policy design and management; security technologies, products, and solutions; and secure router design, installation, configuration, and maintenance; AAA and VPN implementation using routers and firewalls. *Required Prerequisite:* ITCC-2410

#### ITCC-2454 CCNP Routing-Implementing IP Routing

(4-3-2) How to implement, monitor, and maintain routing services in an enterprise network. How to plan, configure, and verify the implementation of complete enterprise LAN and WAN routing solutions using a range of routing protocols in IPv4 and IPv6 environments. Configuration of secure routing solutions to support branch offices and mobile workers. *Required Prerequisite:* ITCC-2410

#### ITCC-2455 CCNP Switch-Implementing IP Switching

(4-3-2) How to implement, monitor, and maintain switching in converged enterprise campus networks. How to plan, configure, and verify the implementation of complex enterprise switching solutions. How to secure integration of VLANs, WLANs, voice and video into campus networks. *Required Prerequisite:* ITCC-2410

**ITCC-2456 CCNP TSHOOT - Maint/Impl IP Networks**  
(4-3-2) How to monitor and maintain complex, enterprise and switched IP networks. Skills learned include the planning and execution of regular network maintenance, as well as support and troubleshooting using technology-based processes and best practices based on systematic and industry recognized approaches. *Required Prerequisite:* ITCC-2455

## **(ITNW) COMPUTER SYSTEMS NETWORKING AND TELECOMMUNICATIONS**

**ITNW-1408 Implementing and Supporting Client Operating Systems**  
(4-3-2) The fundamentals of managing and configuring network clients.

*Recommended Prerequisite:* ITSC-1405

**ITNW-1425 Fundamentals of Networking Technologies**

(4-3-2) Instruction in networking technologies and their implementation. Topics include the OSI reference model, network protocols, transmission media, and networking hardware and software. *Recommended Prerequisite:* ITSC-1405

**ITNW-1451 Fundamentals of Wireless LANs**

(4-3-2) Design, plan, implement, operate and troubleshoot Wireless Local Area Networks (WLANs). Includes WLAN design, installation, and configuration; and WLAN security issues and vendor interoperability strategies. *Recommended Prerequisite:* ITNW-1425

**ITNW-1454 Implementing and Supporting Servers**

(4-3-2) Implement, administer, and troubleshoot information systems that incorporate servers in a networked computing environment. *Recommended Prerequisite:* ITNW-1408

**ITNW-1471 Voice-Over-Internet Protocol (VOIP)**

(4-2-3) Basic concepts used in voice-over-protocol (VOIP). The course focus is on the technology that integrates voice and data transmission in network communications.

**ITNW-1491 Special Topics in Information Sciences and Systems**

(4-3-2) Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

**ITNW-1492 Special Topics in Computer Systems Networking and Telecommunications**

(4-3-2) 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.

*Recommended Prerequisite:* Consent of Department Chairperson

**ITNW-2474 Advanced Voice-Over-Internet Protocol (VOIP)**

(4-3-2) Advanced study of VOIP technology, protocols, implementation, and design. This course includes basic telephony fundamentals, packet voice technologies, the Internet Protocol (IP) along with other protocols and standards that define VoIP networks. Case studies will be conducted that provide a practical experience in VoIP networks.

*Recommended Prerequisite:* ITNW-1471

## **(ITSC) COMPUTER AND INFORMATION SCIENCES, GENERAL**

ITSC-1405 Introduction to Personal Computer Operating Systems

(4-3-2) Introduction to personal computer operating systems including installation, configuration, file management, memory and storage management, control of peripheral devices, and use of utilities. *Recommended Prerequisite:* COSC-1401

ITSC-1407 UNIX Operating System I

(4-3-2) Introduction to the UNIX operating system including multi-user concepts, terminal emulation, use of system editor, basic UNIX commands, and writing script files. Includes introductory system management concepts. *Recommended Prerequisite:* ITSC-1405

ITSC-1425 Personal Computer Hardware

(4-3-2) Current personal computer hardware including assembly, upgrading, setup, configuration, and troubleshooting.

ITSC-1491 Special Topics in Computer and Information Sciences, General

(4-3-2) 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.

*Recommended Prerequisite:* Consent of Department Chair

## **(ITSE) COMPUTER PROGRAMMING**

ITSE-1411 Beginning Web Programming

(4-3-2) Skill development in web programming including mark-up and scripting languages. *Recommended Prerequisite:* COSC-1401

ITSE-1430 Introduction to C# Programming

(4-3-2) A study of C# syntax including data types, control structures, functions, syntax, and semantics of the language, classes, class relationships, and exception handling.

*Recommended Prerequisite:* COSC-1436

ITSE-1450 System Analysis and Design

(4-3-2) Introduction to the planning, design, and construction of computer information systems using the systems development life cycle and other appropriate design tools.

*Recommended Prerequisite:* COSC-1436

ITSE-1491 Special Topics in Computer Programming

(4-3-2) 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.

*Required Prerequisite:* Consent of Department Chairperson

ITSE-2402 Intermediate Web Programming

(4-3-3) Techniques for Web development. Includes server-side and client-side scripting.

*Recommended Prerequisite:* Competency in basic Web programming or Departmental Approval

**ITSE-2405 Windows Programming**

(4-3-2) Introduction to computer programming for Windows (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. *Recommended Prerequisite:* COSC-1436

**ITSE-2409 Database Programming**

(4-3-2) Database development using database programming techniques emphasizing database structures, modeling, and database access.

*Recommended Prerequisites:* COSC-1436 and ITSW-1407

**ITSE-2417 Java Programming**

(4-3-2) Introduction to object-oriented Java programming including the fundamental syntax and semantics of Java for applications and Web applets.

*Recommended Prerequisite:* COSC-1436

**(ITSW) DATA PROCESSING TECHNOLOGY/TECHNICIAN****ITSW-1407 Introduction to Database**

(4-3-2) Introduction to database theory and the practical applications of a database.

*Recommended Prerequisite:* BCIS-1405 or COSC-1401

**ITSW-1410 Introduction to Presentation Graphics Software**

(4-3-2) Instruction in the utilization of presentation software to produce multimedia presentations. Graphics, text, sound, animation and/or video may be used in presentation development. *Recommended Prerequisite:* BCIS-1405 or COSC-1401

**ITSW-1491 Special Topics in Data Processing Technology/Technician**

(4-3-2) 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.

**(ITSY) INFORMATION TECHNOLOGY/SECURITY****ITSY-1400 Fundamentals of Information Security**

(4-3-2) An introduction to information security including vocabulary and terminology, ethics, the legal environment, and risk management. Identification of exposures and vulnerabilities and appropriate countermeasures are addressed. The importance of appropriate planning, policies and controls is also discussed.

*Recommended Prerequisite:* COSC-1401

**ITSY-2400 Operating System Security**

(4-3-2) Safeguard computer operating systems by demonstrating server support skills and designing and implementing a security system. Identify security threats and monitor network security implementations. Use best practices to configure operating systems to industry security standards. *Recommended Prerequisite:* ITSY-1400

**ITSY-2401 Firewalls and Network Security**

(4-3-2) Identify elements of firewall design, types of security threats and responses to security attacks. Use Best Practices to design, implement, and monitor a network security

plan. Examine security incident postmortem reporting and ongoing network security activities. *Recommended Prerequisite:* ITSY-1400

#### **ITSY-2417 Wireless Security Development**

(4-3-2) Development of information security policies, standards, and guidelines for an organization. Includes Demilitarized Zone (DMZ), antivirus, Virtual Private Network (VPN), wireless communications, remote access, and other critical administrative and operational security policies. Identification of exposures and vulnerabilities and appropriate countermeasures are addressed. Emphasizes wireless security goals of availability, integrity, accuracy, and confidentiality in the design, planning, implementing, operating, and troubleshooting of wireless LAN along with appropriate planning and administrative controls.

*Recommended Prerequisites:* ITCC-2410 or ITNW-1451 and ITSY-1400

#### **ITSY-2441 Security Management Practices**

(4-3-2) In-depth coverage of security management practices, including asset evaluation and risk management; cyber law and ethics issues; policies and procedures; business recovery and business continuity planning; network security design; and developing and maintaining a security plan. *Recommended Prerequisites:* ITSY-2400 and ITSY-2401

#### **ITSY-2443 Computer System Forensics**

(4-3-2) In-depth study of system forensics including methodologies used for analysis of computer security breaches. Gather and evaluate evidence to perform postmortem analysis of a security breach. *Recommended Prerequisite:* ITSY-2442

#### **ITSY-2459 Security Assessment and Auditing**

(4-3-2) Capstone experience for the security curriculum. Synthesizes technical material covered in prior courses to monitor, audit, analyze, and revise computer and network security systems to ensure appropriate levels of protection are in place to assure regulatory compliance. *Recommended Prerequisites:* ITSY-2400 and ITSY-2401

### **(LBRA) LIBRARY TECHNICIAN**

#### **LBRA-1174 Practicum in Library Technology**

(1-0-7) 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. *Required Co-Requisite:* LBRA-1375

#### **LBRA-1371 Introduction to Library Technology**

(3-3-0) Introduction to evolving roles of library information paraprofessionals, including historical and philosophical foundations of libraries, and overview of the professional setting, including types of libraries, information centers and professional organizations. Focus is on the comprehensive study of advanced communication skills for library assistants including techniques in reading, writing, listening and speaking. Covers types of information organizations and employers, role of the LTA, automation, history of the book, tools, and terminology, basic library philosophy, seeking a job, library vendors, conflict resolution, and dealing with change.

#### **LBRA-1372 Organization of Information**

(3-3-0) Introduction to cataloging systems (Library of Congress and Dewey Decimal), the acquisitions processes, bibliographic search tools, terminology, serials ordering, check-in and claims processes, and the US MARC coding.

#### **LBRA-1373 Public Services**

(3-3-0) Information access skills for print and electronic resources. Use of libraries and their structure, tools, and staff to identify, locate, evaluate and make effective and ethical use of information. Emphasizes critical thinking skills and on clear concise written and spoken communication; techniques for time management, prioritizing reading materials, and comprehending the main ideas and salient details of technical materials, including journals and reports, and other work related materials.

#### **LBRA-1375 Information Sources and Services**

(3-3-0) Covers reference philosophy, mission, major types of libraries, criteria to evaluate an information source, information sources available in all formats, the reference interview, search strategies, Boolean searching, and digital resources. Includes copyright laws and the role of professional associates in supporting library systems.

*Required Co-Requisite:* LBRA-1174

### **(LGLA) LEGAL ASSISTANT/PARALEGAL**

#### **LGLA-1303 Legal Research**

(3-3-0) Presents standard and/or computer-assisted legal research techniques in a law library emphasizing the paralegal's role. *Required Co-Requisite:* LGLA-1307

#### **LGLA-1305 Legal Writing**

(3-3-0) Fundamentals of legal writing techniques including case and fact analysis, citation formats, and legal writing styles emphasizing the paralegal's role in legal writing. *Required Prerequisites or Co-Requisites:* LGLA-1303 and LGLA-1307

#### **LGLA-1307 Introduction to Law and the Legal Professions**

(3-3-0) Overview of the law and the legal professions including legal concepts, systems, and terminology; substantive areas of law and the federal and state judicial systems; ethical obligations and regulations; professional trends and issues with emphasis on the paralegal's role. Prerequisite to other legal assistant courses.

#### **LGLA-1345 Civil Litigation**

(3-3-0) Presents fundamental concepts and procedures of civil litigation including pretrial, trial, and post-trial phases of litigation and emphasizes the paralegal's role in civil litigation. *Required Prerequisites or Co-Requisites:* LGLA-1303 and LGLA-1307

#### **LGLA-1353 Wills, Trusts, and Probate Administration**

(3-3-0) Fundamental concepts of the law of wills, trusts, and probate administration emphasizing the paralegal's role.

*Recommended Prerequisites:* LGLA-1305 and LGLA-1345

#### **LGLA-1355 Family Law**

(3-3-0) Fundamental concepts of family law including formal and informal marriages, divorce, annulment, marital property, and the parent-child relationship with emphasis on the paralegal's role in family law.

*Recommended Prerequisites:* LGLA-1305 and LGLA-1345

**LGLA-1391 Special Topics in Legal Assistant/Paralegal**

(3-3-0) 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.

*Recommended Prerequisites:* LGLA-1305 and LGLA-1345 or consent of Program Coordinator

**LGLA-2281 Cooperative Education - Legal Assistant/Paralegal**

(2-1-10) Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the College, employer, and student. Under the supervision of the College and the employer, the student combines classroom learning with work experience. Includes a lecture component.

**LGLA-2288 Internship - Legal Assistant/Paralegal**

(2-0-10) 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. *Required Prerequisite:* LGLA-2281

**LGLA-2303 Torts and Personal Injury Law**

(3-3-0) Fundamental concepts of tort and personal injury law including intentional torts, negligence, and strict liability are presented with emphasis on the paralegal's role in tort and personal injury law. *Recommended Prerequisites:* LGLA-1305 and LGLA-1345

**LGLA-2311 Business Organizations**

(3-3-0) Basic concepts of business organizations including law of agency, sole proprietorships, partnerships, corporations, and other emerging business entities with emphasis on the paralegal's role.

**LGLA-2380 Cooperative Education - Legal Assistant/Paralegal**

(3-1-20) Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the College, employer, and student. Under the supervision of the College and the employer, the student combines classroom learning with work experience. Includes a lecture component.

**(LMGT) LOGISTICS AND MATERIALS MANAGEMENT****LMGT-1319 Introduction to Business Logistics**

(3-3-0) A systems approach to managing activities associated with traffic, transportation, inventory management and control, warehousing, packaging, order processing, and materials handling.

**LMGT-1323 Domestic & International Transport Mgt**

(3-3-0) An overview of the principles and practices of transportation and its role in the distribution process. Emphasis on the physical transportation systems involved in the United States as well as on global distribution systems. Topics include carrier responsibilities and services, freight classifications, rates, tariffs, and public policy and regulations. Also includes logistical geography and the development of skills to solve logistical transportation problems and issues.

**LMGT-1325 Warehouse & Distribution Center Mgt**

(3-3-0) Emphasis on physical distribution and total supply chain management. Includes warehouse operations management, hardware and software operations, bar codes, organizational effectiveness, just-in-time manufacturing, continuous replenishment and third party.

**LMGT-1345 Economics Transportation & Distribution**

(3-3-0) A study of the basic economic principles and concepts applicable to transportation and distribution.

**LMGT-2334 Principles of Traffic Management**

(3-3-0) 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.

**LMGT-2388 Internship: Logistics & Materials Mgt**

(3-0-9) 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.

**(LTCA) HOSPITAL AND HEALTH CARE FACILITIES  
ADMINISTRATION/MANAGEMENT**

**LTCA-1311 Introduction to Long Term Care Administration**

(3-3-0) An overview of the long term care industry. Includes a survey of the history and philosophy of long term care administration. Provides an introduction to and regulatory standards and statutes.

**LTCA-1312 Resident Care in the Long Term Care Facility**

(3-3-0) A study of the delivery of services to residents of long term care facilities including ethical considerations and quality of life issues.

**LTCA-1313 Organization and Management of Long Term Care Facilities**

(3-3-0) An overview of the functional organizational structures common to long term care facilities. Includes an examination of the role of the administrator in the organization and management of long term care facilities.

**LTCA-2314 Long Term Care Law**

(3-3-0) A study of federal, state, and local statutes and regulations affecting the long term care industry.

**LTCA-2315 Financial Management of Long Term Care Facilities**

(3-3-0) A study of the techniques used in the financial management of the long term care facility including special accounting requirements of Medicare, Medicaid, and other third-party payor sources. Also covers strategies to promote financial sustainability.

**LTCA-2660 Clinical – Hospital and Health Care Facilities Administration/Management**

(6-0-31) A health-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.

LTCA-2661 Clinical – Hospital and Health Care Facilities Administration/Management (6-0-31) A health-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.

## **(MAIR) MAJOR APPLIANCE INSTALLER AND REPAIRER**

MAIR-1449 Refrigerators, Freezers, Window Air Conditioners

(4-3-2) Theory, sequence of operation, components and repair, electrical schematics, and troubleshooting electronic components in air conditioning and refrigeration. Emphasis on safety for the electrical, mechanical, and sealed systems.

*Required Prerequisites:* HART-1401 and HART-1407

## **(MATH) MATHEMATICS**

MATH-0101 Pre-Algebra Part One

(1-1-0) Content includes the evaluation of absolute values, performing operations with integers, identification of commutative, associative or distributive properties as well as solving algebraic equations, and basic geometry concept. *This is a developmental course and cannot be used to fulfill degree requirements.*

MATH-0102 Pre-Algebra Part Two

(1-1-0) Course includes factoring composite numbers to find the greatest and least common factors, performing arithmetic operations with fractions, and solving problems involving fractions. *This is a developmental course and cannot be used to fulfill degree requirements.*

MATH-0103 Pre-Algebra Part Three

(1-1-0) Content includes arithmetic operations and problem-solving using decimals; conversions between fractions, decimals, and percents; statistical analysis of graphs; and computing the mean, median and mode. *This is a developmental course and cannot be used to fulfill degree requirements.*

MATH-0104 Beginning Algebra Part One

(1-1-0) Write, solve and graph linear equations. Graph using points, the slope and y-intercept, x and y-intercepts. Graph parallel and perpendicular lines. Write the equations of lines. *This is a developmental course and cannot be used to fulfill degree requirements.*

MATH-0105 Beginning Algebra Part Two

(1-1-0) Content includes writing and evaluating exponential expressions, using properties of integer exponents, evaluating algebraic polynomials, and performing arithmetic operations on polynomial expressions. Factoring topics include identification of common monomial factors, factoring polynomials, and solving polynomial equations. *This is a developmental course and cannot be used to fulfill degree requirements.*

MATH-0106 Beginning Algebra Part Three

(1-1-0) A study of algebraic rational expressions including determining excluded values, evaluating, simplifying, performing arithmetic operations, and solving rational equations including applied problems. *This is a developmental course and cannot be used to fulfill degree requirements.*

**MATH-0107 Intermediate Algebra Part One**

(1-1-0) Identify functions, write functional notation, identify domain and range, solve and graph equations, inequalities, and systems of equations. *This is a developmental course and cannot be used to fulfill degree requirements.*

**MATH-0108 Intermediate Algebra Part Two**

(1-1-0) Simplify and perform arithmetic operations on radical expressions, convert between radical and exponential form. Solve quadratic equations by a variety of methods. Solve quadratic form equations. Find and use the discriminant. *This is a developmental course and cannot be used to fulfill degree requirements.*

**MATH-0109 Intermediate Algebra Part Three**

(1-1-0) Use transformations to graph functions, graph and write the equations for inverse functions, use the properties of logarithms to simplify and solve exponential and logarithmic equations. Graph and find the equation of a circle. *This is a developmental course and cannot be used to fulfill degree requirements.*

**MATH-0302 Pre-Algebra**

(3-3-0) Basic arithmetic operations (whole numbers, fractions, decimals and signed numbers), percents and proportions, metric system, geometry of measurement, and statistical graphs. Computer software materials fee charged for some sections. *This is a developmental course and cannot be used to fulfill degree requirements.*

**MATH-0304 Beginning Algebra**

(3-3-0) Real number properties, polynomials, exponents, radicals, equations and graphs of lines. Computer software materials fee charged for some sections. *This is a developmental course and cannot be used to fulfill degree requirements.*

*Required Prerequisite:* MATH-0302 or satisfactory score on TCC placement test

**MATH-0350 Intermediate Algebra**

(3-3-0) Relations and functions, graphing, inequalities, factoring, polynomials, rational expressions and quadratics with an introduction to complex numbers, and exponential and logarithmic functions. Computer software materials fee charged for some sections. *This is a developmental course and cannot be used to fulfill degree requirements.*

*Required Prerequisite:* MATH-0304 or satisfactory score on TCC placement test

**MATH-1314 College Algebra +**

(3-3-0) In-depth study and applications of polynomial, rational, radical, exponential and logarithmic functions, and systems of equations using matrices. Additional topics such as sequences, series, probability, and conics may be included. Computer software materials fee charged for some sections.

*Required Prerequisite:* MATH-0350 or satisfactory score on TCC placement test

**MATH-1316 Plane Trigonometry +**

(3-3-0) In-depth study and applications of trigonometry including definitions, identities, inverse functions, solutions of equations, graphing, and solving triangles. Additional topics such as vectors, polar coordinates and parametric equations may be included.

*Required Prerequisite:* MATH-0350 with a grade of B or better or MATH-1314

**MATH-1324 Mathematics for Business and Social Sciences I (Finite Mathematics) +**

(3-3-0) Topics from college algebra (linear equations, quadratic equations, functions and graphs, inequalities), mathematics of finance (simple and compound interest, annuities),

linear programming, matrices, systems of linear equations, applications to management, economics, and business.

*Required Prerequisite:* MATH-0350 or satisfactory score on TCC placement test  
*This course may be taken for honors credit. Consult the department for information.*

**MATH-1325 Mathematics for Business and Social Sciences II (Business Calculus) +**  
(3-3-0) Limits and continuity, derivatives, graphing and optimization, exponential and logarithmic functions, antiderivatives, integration, applications to management, economics, and business.

*Required Prerequisite:* MATH-1324 or MATH -1314

*This course may be taken for honors credit. Consult the department for information.*

**MATH-1332 Contemporary Mathematics +**

(3-3-0) Topics may include introductory treatments of sets, logic, number systems, number theory, relations, functions, probability and statistics. Appropriate applications are included. May not be used as a prerequisite for other TCC mathematics courses.

*Required Prerequisite:* MATH-0350 or satisfactory score on TCC placement test

**MATH-1342 Elementary Statistical Methods +**

(3-3-0) Collection, analysis, presentation and interpretation of data, and probability. Analysis includes descriptive statistics, correlation and regression, confidence intervals and hypothesis testing. Topics may include population sampling; collection, tabulation, and graphing of data; frequency distributions; mean and standard deviation; normal distribution; correlation and regression, and tests for significance.

*Required Prerequisite:* MATH-0350 or satisfactory score on TCC placement test

**MATH-1350 Fundamentals of Mathematics I +**

(3-3-0) Concepts of sets, functions, numeration systems, number theory, and properties of the natural numbers, integers, rational, and real number systems with an emphasis on problem solving and critical thinking. This course is designed specifically for students who seek middle grade (4-8) teacher certification. *Required Prerequisite:* MATH-1314

**MATH-1351 Fundamentals of Mathematics II +**

(3-3-0) 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. This course is designed specifically for students who seek middle grade (4-8) teacher certification. *Required Prerequisite:* MATH-1350

**MATH-2315 Calculus III +**

(3-3-0) Advanced topics in calculus, including vectors and vector-valued functions, partial differentiation, Lagrange multipliers, multiple integrals, and Jacobians; application of the line integral, including Green's Theorem, the Divergence Theorem, and Stokes' Theorem. *Required Prerequisite:* MATH-2414\*

**MATH-2318 Linear Algebra +**

(3-3-0) Introduces and provides models for application of the concepts of vector algebra. Topics include finite dimensional vector spaces and their geometric significance; representing and solving systems of linear equations using multiple methods, including Gaussian elimination and matrix inversion; matrices; determinants; linear transformations; quadratic forms; eigenvalues and eigenvector; and applications in science and engineering. *Required Prerequisite:* MATH-2414\*

**MATH-2320 Differential Equations +**

(3-3-0) Ordinary differential equations, including linear equations, systems of equations, equations with variable coefficients, existence and uniqueness of solutions, series solutions, singular points, transform methods, and boundary value problems; application of differential equations to real-world problems.

*Required Prerequisite:* MATH-2315\*

**MATH-2412 Pre-Calculus Math +**

(4-4-0) In-depth combined study of algebra, trigonometry, and other topics for calculus readiness. Includes the study of elementary functions, both algebraic and trigonometric, their graphs and applications. These functions include polynomial, rational, exponential, logarithmic and trigonometric.

*Required Prerequisite:* MATH-1316 or satisfactory score on TCC placement test\*

**MATH-2414 Calculus II +**

(4-4-0) Differentiation and integration of transcendental functions; parametric equations and polar coordinates; techniques of integration; sequences and series; improper integrals.

*Required Prerequisite:* MATH-2513\*

**MATH-2421 Differential Equations and Linear Algebra +**

(4-4-0) This course emphasizes solution techniques. Ordinary differential equations, vector spaces, linear transformations, matrix/vector algebra, eigenvectors, Laplace Transforms and systems of equations. *Required Prerequisite:* MATH-2414

**MATH-2513 Calculus I +**

(5-5-0) Limits and continuity; the fundamental Theorem of Calculus; definition of the derivative of a function and techniques of differentiation; applications of the derivative to maximizing or minimizing a function; the chain rule, mean value theorem, and rate of change problems; curve sketching; definite and indefinite integration of algebraic, trigonometric, and transcendental functions, with an application to calculation of areas.

*Required Prerequisite:* MATH-2412 or satisfactory score on TCC placement test

**(MCHN) MACHINE TOOL TECHNOLOGY/MACHINIST**

MCHN-2403 Fundamentals of Computer Numerical Controlled (CNC) Machine Controls

(4-3-3) An introduction to G and M codes (RS274-D) necessary to program Computer Numerical Controlled (CNC) machines.

MCHN-2431 Operation of CNC Turning Centers

(4-3-3) A continuation of Fundamentals of CNC Machine Controls with an emphasis on turning centers.

MCHN-2434 Operation of CNC Machining Centers

(4-3-3) A continuation of Fundamentals of CNC Machine Controls with an emphasis on machining centers.

MCHN-2444 Computerized Numerical Control Programming

(4-3-3) Programming and operation of Computer Numerical Controlled (CNC) machine shop equipment.

## **(MRKG) MARKETING AND MARKETING MANAGEMENT, GENERAL**

### **MRKG-1302 Principles of Retailing**

(3-3-0) An introduction to the retailing environment, types of retailers, current trends, the employment of retailing techniques, and factors that influence retailing.

### **MRKG-1311 Principles of Marketing**

(3-3-0) Introduction to the marketing mix functions and process. Includes identification of consumer and organizational needs and explanation of environmental issues.

### **MRKG-2333 Principles of Selling**

(3-3-0) Overview of the selling process. Identification of the elements of the communication process between buyers and sellers. Examination of the legal and ethical issues of organizations which affect salespeople.

### **MRKG-2348 Marketing Research and Strategies**

(3-3-0) Practical experiences in analyzing marketing studies using data-driven decision-making processes. Includes interrelationships among marketing price, place, promotion, and product responsibility.

### **MRKG-2349 Advertising and Sales Promotion**

(3-3-0) Integrated marketing communications. Includes advertising principles and practices. Emphasizes multimedia of persuasive communication including buyer behavior, budgeting, and regulatory constraints.

## **(MUAP) APPLIED MUSIC**

### **MUAP-1190 Private Music Lessons +**

(1-.5-0) Piano, organ, voice, string, woodwind, brass and percussion instruments. Primarily for non-music majors. Students are required to participate in recital activities including attending performances and performing as assigned. Private music lesson fee charged. May be taken four times for credit.

### **MUAP-1191 Private Music Lessons +**

(1-.5-0) Piano and voice at the beginning college level. Primarily for music majors to fulfill secondary instrument requirement. Students are required to participate in recital activities including attending performances and performing as assigned. Private music lesson fee charged. May be taken four times for credit.

### **MUAP-1290 Private Music Lessons +**

(2-1-0) Piano, organ, voice, string, woodwind, brass and percussion instruments. Primarily for non-music majors. Students are required to participate in recital activities including attending performances and performing as assigned. Private music lesson fee charged. May be taken four times for credit.

### **MUAP-1291 Private Music Lessons +**

(2-1-0) Piano, organ, voice, string, woodwind, brass and percussion instruments. For music majors to fulfill principal instrument requirement. Students are required to participate in recital activities including attending performances and performing as assigned. Private music lesson fee charged. May be taken four times for credit.

**MUAP-1292 Private Music Lessons +**

(2-1-0) Continuation of MUAP-1291. For music majors to fulfill principal instrument requirement. Students are required to participate in recital activities including attending performances and performing as assigned. Private music lesson fee charged. May be taken four times for credit. *Recommended Prerequisite:* MUAP 1291

**MUAP-2291 Private Music Lessons +**

(2-1-0) Piano, organ, voice, string, woodwind, brass and percussion instruments at the advanced level. For music majors to fulfill requirements in a principal instrument. Students are required to participate in recital activities including attending performances and performing as assigned. Private music lesson fee charged. May be taken four times for credit. *Recommended Prerequisite:* MUAP-1291

**MUAP-2292 Private Music Lessons +**

2-1-0) Continuation of MUAP 2291. Students are required to participate in recital activities including attending performances and performing as assigned. Private music lesson fee charged. May be taken four times for credit.

*Recommended Prerequisite:* MUAP-2192

**(MUEN) MUSIC ENSEMBLE****MUEN-1121 Jazz Ensemble +**

(1-0-3) Open to students with previous jazz band experience or those with instrumental skills and a desire for learning jazz and improvisation techniques.

**MUEN-1122 Jazz Lab Band +**

(1-0-3) Open to students with previous jazz band experience or those with instrumental skills desiring to perform in a jazz band.

**MUEN-1132 Special Ensembles (Instrumental) +**

(1-0-2) Small instrumental ensembles to meet special needs. Nature of ensemble determined by student interest and instrumentation. May be taken four times for credit.

**MUEN-1133 Special Ensembles (Instrumental) +**

(1-0-3) Small instrumental ensembles to meet special needs. Nature of ensemble determined by student interest and instrumentation.

**MUEN-1141 Choral Ensembles +**

(1-0-3) Performance of serious literature. All voice principals must enroll in one of these ensembles.

- A. Choir. Choral ensemble performing serious literature from all periods in music history. Open to all students without audition.
- B. Madrigal Singers. Select choral ensemble of 12-13 members performing music for madrigal repertory. Audition is by invitation of director.
- C. Chamber Singers. Select choral ensemble performing serious choral literature from all periods of music history. Membership by audition only.
- D. Concert Chorale. Evening chorus for students from community at large. Large-scale choral works from various periods of music history. Membership by audition only.

**MUEN-1142 Choral Ensembles +**

(1-0-3) Performance of music of light nature. Open to all students without audition.

- A. TCC Collegiate Chorale/Choral ensemble for general College students. Light choral music and choral arrangements of traditional and popular songs.
- B. TCC Singers. Choral ensemble performing music of light nature. Emphasis on Broadway show tunes, spirituals, and popular, folk, and patriotic music.

**MUEN-2131 Keyboard Ensemble +**

(1-0-3) Performing ensemble for keyboard majors and minors. Membership by audition. May be taken four times for credit.

**(MUSI) MUSIC****MUSI-1157 Opera Workshop I +**

(1-0-3) Performance of portions of or complete operas and the study of the integration of music, acting and staging of an opera.

**MUSI-1160 Vocal Diction I +**

(1-2-0) Study of phonetic sounds of Italian and English languages enhancing the ability to sing in these languages.

**MUSI-1163 Jazz Improvisation I +**

(1-2-0) Materials and practices for improvisation or extemporaneous performance in the jazz idiom. Covers basic chord and scale relationships. Includes performance as well as classroom theory.

**MUSI-1164 Jazz Improvisation II +**

(1-2-0) A continuation of MUSI-1163. Covers more advanced harmonic structures and scales.

**MUSI-1181 Class Piano I +**

(1-2-1) Class instruction in the fundamentals of keyboard technique for beginning piano students. Introduction to piano playing through use of simple pieces. For students with no knowledge of the keyboard and music reading, and for vocal and instrumental music majors with no piano background.

**MUSI-1182 Class Piano II +**

(1-2-1) Class instruction in the fundamentals of keyboard technique for beginning piano students. Piano music reading development; major, minor and chromatic scales; chords; harmonization; improvisation; and transposition.

*Recommended Prerequisite:* MUSI-1181 or audition

**MUSI-1183 Class Voice +**

(1-2-1) Class instruction in the fundamentals of singing including breathing, tone production, and diction. Designed for students with little or no previous voice training. Primarily for instrumental and keyboard majors to fulfill secondary requirement in voice, and for non-music majors to learn fundamentals of vocal techniques.

**MUSI-1192 Class Guitar I +**

(1-2-1) Class instruction in the fundamental techniques of playing guitar. Includes performance of the classical guitar.

**MUSI-1193 Class Guitar II +**

(1-1-3) Continuation of MUSI 1192. Class instruction in the fundamental techniques of playing guitar. Includes performance of the classical guitar.

**MUSI-1211 Music Theory I +**

(2-3-0) Analysis and writing of tonal melody and diatonic harmony up to and including the chords. Analysis and writing of small compositional forms. Includes chord and melody structure, chord progression and part-writing as seen in music literature of all periods. Review of music fundamentals with emphasis on refinement of musical judgments. Correlated study at the keyboard.

**MUSI-1212 Music Theory II +**

(2-3-0) Continuation of MUSI-1211.

**MUSI-1216 Sight Singing and Ear Training I +**

(2-3-0) Singing tonal music in treble, bass, alto, and tenor clerfs. Aural study, including dictation, of rhythm, melody, and diatonic harmony. Parallel to study in Music Theory I.

**MUSI-1217 Sight Singing and Ear Training II +**

(2-3-0) Continuation of MUSI-1216. Concurrent with MUSI-1212.

*Recommended Prerequisite:* MUSI-1216

**MUSI-1286 Music Composition I +**

(2-2-0) 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. Includes study of techniques to compose short pieces for simple instrumentation.

**MUSI-1287 Music Composition II +**

(2-2-0) Continuation of MUSI-1286. Expansion to larger forms using more complex instrumentation.

**MUSI-1301 Fundamentals of Music +**

(3-3-0) Introduction to the basic elements of music theory for non-music majors: scales, intervals, keys, triads, elementary ear training, keyboard harmony, notation, meter, and rhythm. Does not apply to a music major degree.

**MUSI-1304 Foundations of Music +**

(3-3-0) Study of the fundamentals of music for prospective classroom teachers with an introduction to melodic, rhythmic, and harmonic elements. Emphasis on participation in singing and reading music. Includes experiences in music creativity for the college student majoring in elementary education and the "in-service" classroom teacher who has had little formal training in music.

**MUSI-1306 Music Appreciation +**

(3-3-0) Understanding music through the study of cultural periods, major composers, and musical elements. Illustrated with audio recordings and live performances. Does not apply to a music major degree.

**MUSI-1308 Music Literature I +**

(3-3-0) Survey of the principal musical forms and cultural periods as illustrated in the literature of major composers. Development of music as an art with emphasis on listening.

**MUSI-1390 Electronic Music I +**

(3-3-0) Introduction to the use of synthesizers, computers, sequencing and music printing software, multi-track recorders and other MIDI (Music Instrument Digital Interface devices in the notation, arrangement, composition and performance of music. Topics include the history and evolution of MIDI, the hardware requirements, computer numbering systems, channels and modes, the MIDI language, and typical implementation of MIDI applications in the studio environment using software-based sequencing and music notation programs. *Recommended Prerequisite(s):* Music Fundamentals, Music Theory, Private Piano, or Class Piano course(s)

**MUSI-1391 Electronic Music II +**

(3-3-0) A continuation of MUSI-1390 with emphasis on advanced sequencer operation, digital audio, and SMPTE-based synchronization in the interaction of multiple recording and playback systems.

*Recommended Prerequisite:* MUSI 1390 or consent of Department Chairperson

**MUSI-2192 Class Guitar III +**

(1-1-3) A continuation of MUSI-1193. Advanced performance skills of the classical guitar.

**MUSI-2193 Class Guitar IV +**

(1-1-3) A continuation of MUSI-2192. Advanced performance skills of the classical guitar.

**MUSI-2211 Music Theory III +**

(2-3-0) A continuation of MUSI-1212. Advanced harmony part writing and keyboard analysis and writing of more advanced tonal harmony including chromaticism and extended tertian techniques. Introduction to 20<sup>th</sup> century compositional procedures and survey of the traditional large forms of composition. Correlated study at the keyboard.

*Recommended Prerequisite:* MUSI-1212

**MUSI-2212 Music Theory IV +**

(2-3-0) A continuation of MUSI-2211. *Recommended Prerequisite:* MUSI-2211

**MUSI-2216 Sight Singing and Ear Training III +**

(2-3-0) A continuation of MUSI-1217. Singing more difficult tonal music including modal, ethnic, and 20<sup>th</sup> century materials. Aural study, including dictation of more complex rhythm, melody, chromatic harmony, and extended tertian structures.

*Recommended Co-Requisite:* MUSI-2211

**MUSI-2217 Sight Singing and Ear Training IV +**

(2-3-0) A continuation of MUSI-2216. *Recommended Co-Requisite:* MUSI-2212

**(OSHT) OCCUPATIONAL SAFETY AND HEALTH TECHNOLOGY/TECHNICIAN**

OSHT-1305 OSHA Regulations - Construction Industry

(3-3-0) A study of Occupational Safety and Health Administration (OSHA) regulations pertinent to the construction industry.

OSHT-1313 Accident Prevention, Inspection and Investigation

(3-3-0) Provides a basis for understanding the nature of occupational hazard recognition, accident prevention, loss reduction, inspection techniques, and accident investigation analysis.

**OSHT-1321 Fire Protection Systems**

(3-3-0) Study of fire protection systems and their application with emphasis on the fire prevention codes and standards.

**OSHT-1391 Special Topics in Occupational Safety and Health Technology/Technician**

(3-3-0) Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

**OSHT-2309 Safety Program Management**

(3-3-0) Examine the major safety management issues that effect the workplace including safety awareness, loss control, regulatory issues, and human behavior modification.

**OSHT-2320 Safety Training Presentation Techniques**

(3-3-0) Principles of developing and presenting effective industrial and business training. Emphasis on instructor qualifications and responsibilities, principles of teaching including use of teaching aids and presentation skills.

**OSHT-2388 Internship - Occupational Safety and Health Technology/Technician**

(3-0-9) 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 employer.

**OSHT-2401 OSHA Regulations - General Industry**

(4-4-0) A study of Occupational Safety and Health Administration (OSHA) regulations pertinent to general industry.

**OSHT-2405 Ergonomics and Human Factors in Safety**

(4-4-0) The relationship of human behavior and ergonomics as applied to workplace safety.

**(PBAD) PUBLIC ADMINISTRATION AND SERVICES**

**PBAD-1315 Postal Organization, Development and Management**

(3-3-0) An overview of the history of written communication and merchandise delivery. Topics include current postal organization; postal philosophies, policies, procedures, rules and regulations; and principles of effective supervision.

**PBAD-1345 Postal Customer Services, Processing and Distribution**

(3-3-0) Fundamentals of mail delivery and collection systems within the Postal Service. Topics include postal and non-postal services, retail functions, and customer relations; rapid separation facts; revenue determination procedures; and flow characteristics involved in receipt, processing, and dispatch of all mail.

**PBAD-1370 Mail Processing, Distribution, and Transportation**

(3-3-0) A detailed account of the acceptance, mail processing, and transportation procedures of the U.S. Postal Service. Explains the current management structure as it relates to processing and distribution; describes methods to determine scheduling and staffing requirements; defines classifications of mail and determines rates.

**PBAD-1391 Special Topics in Public Administration and Services**

(3-3-0) 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.

**PBAD-2341 Legal Aspects of Public Management**

(3-3-0) A study of the organizational structure of the judicial systems, conducting legal research, and interpreting legal decisions. Topics include administrative law, contract law, civil procedures, and the regulatory process as it relates to the postal system.

**PBAD-2345 Postal Finance and Labor Relations**

(3-3-0) In-depth coverage of the internal workings of postal finance units and the regulations and procedures involved. Topics include laws and practices related to labor and management in the postal service. Emphasis will be on national and local agreements, bargaining units and associations, grievance procedures, and the National Labor Relations Board.

## **(PHED) PHYSICAL AND HEALTH EDUCATION**

**PHED-1101 Aerobic Dance - Beginning +**

(1-0-3) Improves cardiovascular fitness, muscular endurance, strength, flexibility, and body composition. (Course is coeducational)

**PHED-1102 Aerobic Fitness - Beginning +**

(1-0-3) Improves cardiovascular fitness, muscular endurance/strength, flexibility, and body composition. (Course is coeducational)

**PHED-1103 Basketball - Beginning +**

(1-0-3) Instruction in the game of basketball with emphasis on the development and improvement of basic skills and strategies as well as an understanding of the rules of the game. (Course is coeducational)

**PHED-1104 Bowling - Beginning +**

(1-0-3) Develops the basic skills necessary to enjoy the lifetime sport of bowling. (Course is coeducational)

**PHED-1105 Camping and Backpacking - Beginning +**

(1-0-3) Develops the basic skills necessary to enjoy the lifetime sport of camping and backpacking. (Course is coeducational)

**PHED-1106 Camping and Hiking - Beginning +**

(1-0-3) Develops the basic skills necessary to enjoy the lifetime sport of camping and hiking. (Course is coeducational)

**PHED-1107 Conditioning - Beginning +**

(1-0-3) Improves cardiovascular-respiratory fitness, body composition, flexibility, and muscular endurance, and muscular strength. (Course is coeducational)

**PHED-1109 Conditioning and Weight Control - Beginning +**

(1-0-3) Provides the overweight student insight into the nutritional, psychological and exercise factors that influence the development of obesity.

**PHED-1110 Cycling - Beginning +**

(1-0-3) Stimulates interest and develops skills necessary for participation in bicycling for physical conditioning and recreation. Covers bicycle repairs, endurance and flexibility training. (Course is coeducational)

**PHED-1111 Golf - Beginning +**

(1-0-3) Develops and improves individual skills, and the understanding of the rules of golf. (Course is coeducational)

**PHED-1112 Jogging - Beginning +**

(1-0-3) Improves cardiovascular fitness, body composition and flexibility. (Course is coeducational)

**PHED-1113 Kickboxing - Beginning +**

(1-0-3) Improves cardiovascular fitness, muscular endurance/strength, flexibility and body composition. (Course is coeducational)

**PHED-1115 Racquetball - Beginning +**

(1-0-3) Develops and improves basic skills, strategies and rules for the game of racquetball. (Course is coeducational)

**PHED-1116 Recreational Sports - Beginning +**

(1-0-3) Develops and improves basic skills, strategies and rules of various recreational sports. (Course is coeducational)

**PHED-1117 Sailing - Beginning +**

(1-0-3) Learn to sail safely. Covers sailing tasks associated with points of sailing, nautical terms, boat rescue and/or recovery, and the operation and repair of sailing equipment. (Course is coeducational)

**PHED-1118 Solo Canoeing - Beginning +**

(1-0-3) Provides instruction in the sport of canoeing with progression from flat water to white water. (Course is coeducational)

**PHED-1120 Step Aerobics - Beginning +**

(1-0-3) Improves cardiovascular fitness, muscular endurance/strength, flexibility and body composition, and covers diet/weight management. (Course is coeducational)

**PHED-1121 Swim Conditioning - Beginning +**

(1-0-3) Improves cardiovascular fitness, muscular strength/endurance and body composition. (Course is coeducational)

**PHED-1122 Swimming - Beginning +**

(1-0-3) Develops good swimming technique, improves cardiovascular fitness level, and teaches water safety skills. (Course is coeducational)

**PHED-1123 Swimming - Advanced Beginning +**

(1-0-3) Develops good swimming technique, improves cardiovascular fitness level, and teaches water safety skills. (Course is coeducational)

**PHED-1124 Tandem Canoeing - Beginning +**

(1-0-3) Instruction in the sport of canoeing with progression from flat water to white water. (Course is coeducational)

**PHED-1125 Tennis - Beginning +**

(1-0-3) Develops and improves skills, strategies, and rules for the game of tennis. (Course is coeducational)

**PHED-1126 Tennis - Advanced Beginning +**

(1-0-3) Develops and improves skills, strategies, and rules for the game of tennis. (Course is coeducational)

**PHED-1128 Volleyball - Beginning +**

(1-0-3) Develops and improves basic skills, strategies and rules for the game of volleyball. (Course is coeducational)

**PHED-1129 Walk or Jog - Beginning +**

(1-0-3) Improves cardiovascular fitness, body composition and flexibility. (Course is coeducational)

**PHED-1130 Walk - Beginning +**

(1-0-3) Designed for the student who desires cardiovascular fitness of a low-impact nature through vigorous walking. (Course is coeducational)

**PHED-1131 Water Aerobics - Beginning +**

(1-0-3) Develops cardiovascular endurance, flexibility, and muscular endurance/strength through the resistance medium of water, and covers weight control. (Course is coeducational)

**PHED-1132 Water Exercise - Beginning +**

(1-0-3) Improves cardiovascular fitness, muscular strength/endurance, and flexibility through water exercises, and covers a diet/weight management program. (Course is coeducational)

**PHED-1133 Weight Training - Beginning +**

(1-0-3) Improves muscular endurance and/or muscular strength. (Course is coeducational)

**PHED-1134 Yoga - Beginning +**

(1-0-3) Improves flexibility, muscular endurance/strength and mental well-being. (Course is coeducational)

**PHED-1135 Adaptive Dance - Beginning +**

(1-0-3) Experience a shift in the traditional forms of dance education. Explore dance as a community integration experienced through hands-on experience, lecture and presentation. (Course is coeducational)

**PHED-1136 Ballet - Beginning +**

(1-0-3) Experience classical ballet technique and discover historical connections between ballet and other dance forms. (Course is coeducational)

**PHED-1137 Ballet - Intermediate +**

(1-0-3) Experience classical ballet technique and discover historical connections between ballet and other dance forms. (Course is coeducational)

**PHED-1138 Choreography - Beginning +**

(1-0-3) Experience improvisation as a basic building block in dance making. (Course is coeducational)

**PHED-1139 Country Western Dance - Beginning +**

(1-0-3) Experience various styles of country-dance and swing and improve overall workout level, coordination, and strength/endurance. (Course is coeducational)

**PHED-1140 Jazz - Beginning +**

(1-0-3) Experience various styles of jazz dance, basic jazz terminology, and the historical connections between jazz dance, jazz music, and other dance forms. (Course is coeducational)

**PHED-1141 Jazz - Intermediate +**

(1-0-3) Experience various styles of jazz dance, basic jazz terminology, and the historical connections between jazz dance, jazz music and other dance forms. (Course is coeducational)

**PHED-1142 Modern Dance - Beginning +**

(1-0-3) Experience various aspects of dance through creative movement and develop a basic understanding of anatomy, proper body alignment, and discover historical connections between different styles of dance. (Course is coeducational)

**PHED-1143 Modern Dance - Intermediate +**

(1-0-3) Experience various aspects of dance through creative movement and develop a basic understanding of anatomy, proper body alignment, and discover historical connections between different styles of dance. (Course is coeducational)

**PHED-1144 Performance Dance - Beginning +**

(1-0-3) Enhances knowledge of dance. Perform at least one dance piece, attend specific rehearsals for the piece(s) that will be performed, record experiences in journal form, and participate in a self-evaluation. (Course is coeducational)

**PHED-1145 Performance Dance - Intermediate +**

(1-0-3) Enhances knowledge of dance. Perform at least one dance piece, attend specific rehearsals for the piece(s) that will be performed, record experiences in journal form, and participate in a self-evaluation. (Course is coeducational)

**PHED-1146 Tap - Beginning +**

(1-0-3) Embrace the art of tap dancing and explore “the who, what, when, where and why” of tap. (Course is coeducational)

**PHED-1147 Tap - Intermediate +**

(1-0-3) Embrace the art of tap dancing and explore “the who, what, when, where and why” of tap. (Course is coeducational)

**PHED-1148 Pilates - Beginning +**

(1-0-3) Covers basic concepts and skills in the Pilates method of conditioning, including core strength, muscle tone, coordination and flexibility. Non-impact mat exercises are modified to various fitness levels.

**PHED-1164 Introduction to Physical Fitness and Sport +**

(1-1-2) Orientation to the field of physical fitness and sport. Includes the study and practice of activities and principles that promote physical fitness as they pertain to the individual student. Includes

1. Scientific information concerning values and preventive medical benefits of exercise.
2. Individual (personal) evaluations and experiments to determine present health fitness status.
3. Development of a personal exercise program based on student's needs.

**PHED- 1251 Scuba - Beginning +**

(2-1-2) This course includes instruction regarding skills and safety necessary for scuba and skin diving. In preparation for open water certification, it includes classroom and pool sessions with equipment.

*Required Prerequisite:* The student will demonstrate specific water competencies. The student must continuously swim a distance of 300 yards using any proficient stroke, perform a 10-minute survival swim, and perform an underwater swim of at least 60 feet.

**PHED-1252 Scuba - Intermediate +**

(2-1-2) This course includes advanced classroom and pool skills and instruction, in preparation for advanced open water diver certification.

*Required Prerequisite:* The student must provide proof of an international open water diving certification or have previously completed a beginning scuba course at TCC.

**PHED-1304 Personal and Community Health +**

(3-3-0) Scientific facts, basic principles, and desirable practices in relation to personal and community health. Emphasis on the development of functional attitudes and meaningful concepts for healthful living.

**PHED-1306 First Aid and Safety +**

(3-3-0) Instruction in and practice of first aid techniques. Designed to enable students to recognize and avoid hazards within their environment, to render intelligent assistance in case of accident or illness and to develop skills necessary for the immediate and temporary care of the victim. Successful completion of the course may enable the student to receive a certificate from a nationally recognized agency.

**PHED-1308 Sports Officiating I +**

(3-3-0) Instruction in rules, interpretation, and mechanics of officiating selected sports. Includes the sports of basketball, volleyball, baseball, softball, and football. Other sports may be included as well. (Course is coeducational)

**PHED-1338 Concepts of Physical Fitness +**

(3-3-0) Concepts and use of selected physiological variables of fitness, individual testing and consultation, and the organization of sports and fitness programs. Topics include physical fitness, nutrition, health promotion and disease prevention. This course is designed to present information which will assist the student in making intelligent choices that contribute to a healthy lifestyle.

*This course may not be substituted for PHED-1164 in the TCC Core Curriculum.*

**PHED-2101 Aerobic Dance - Intermediate +**

(1-0-3) Improves cardiovascular fitness, muscular endurance, strength, flexibility and body composition. (Course is coeducational)

**PHED-2102 Aerobic Fitness - Intermediate +**

(1-0-3) Improves cardiovascular fitness, muscular endurance/strength, flexibility and body composition. (Course is coeducational)

**PHED-2103 Basketball - Intermediate +**

(1-0-3) Instruction in the game of basketball with emphasis on the development and improvement of basic skills and strategies as well as an understanding of the rules of the game. (Course is coeducational)

**PHED-2104 Bowling - Intermediate +**

(1-0-3) Develops the basic skills necessary to enjoy the lifetime sport of bowling. (Course is coeducational)

**PHED-2106 Camping and Hiking - Intermediate +**

(1-0-3) Develops the basic skills necessary to enjoy the lifetime sport of camping and hiking. (Course is coeducational)

**PHED-2107 Conditioning - Intermediate +**

(1-0-3) Improves cardiovascular-respiratory fitness, body composition, flexibility and muscular endurance, and muscular strength. (Course is coeducational)

**PHED-2110 Cycling - Intermediate +**

(1-0-3) Stimulates interest and develops skills necessary for participation in bicycling for physical conditioning and recreation. Covers bicycle repairs, endurance and flexibility training. (Course is coeducational)

**PHED-2111 Golf - Intermediate +**

(1-0-3) Develops and improves individual skills, and the understanding of the rules of golf. (Course is coeducational)

**PHED-2112 Jogging - Intermediate +**

(1-0-3) Improves cardiovascular fitness, body composition, and flexibility. (Course is coeducational)

**PHED-2113 Kickboxing - Intermediate +**

(1-0-3) Improves cardiovascular fitness, muscular endurance/strength, flexibility and body composition. (Course is coeducational)

**PHED-2115 Racquetball - Intermediate +**

(1-0-3) Develops and improves basic skills, strategies and rules for the game of racquetball. (Course is coeducational)

**PHED-2116 Recreational Sports - Intermediate +**

(1-0-3) Develops and improves basic skills, strategies and rules of various recreational sports. (Course is coeducational)

**PHED-2117 Sailing - Intermediate +**

(1-0-3) Learn to sail safely. Covers sailing tasks associated with points of sailing, nautical terms, boat rescue and/or recovery, and the operation and repair of sailing equipment. (Course is coeducational)

**PHED-2120 Step Aerobics - Intermediate +**

(1-0-3) Improves cardiovascular fitness, muscular endurance/strength, flexibility and body composition, and covers diet/weight management. (Course is coeducational)

**PHED-2121 Swim Conditioning - Intermediate +**

(1-0-3) Improves cardiovascular fitness, muscular strength/endurance and body composition. (Course is coeducational)

**PHED-2122 Swimming - Intermediate +**

(1-0-3) Develops good swimming technique, improves cardiovascular fitness level and teaches water safety skills. (Course is coeducational)

**PHED-2123 Swimming - Advanced +**

(1-0-3) Develops good swimming technique, improves cardiovascular fitness level, and teaches water safety skills. (Course is coeducational)

**PHED-2125 Tennis - Intermediate +**

(1-0-3) Develops and improves skills, strategies and rules for the game of tennis. (Course is coeducational)

**PHED-2126 Tennis - Advanced +**

(1-0-3) Develops and improves skills, strategies and rules for the game of tennis. (Course is coeducational)

**PHED-2128 Volleyball - Intermediate +**

(1-0-3) Develops and improves basic skills, strategies and rules for the game of volleyball. (Course is coeducational)

**PHED-2129 Walk or Jog - Intermediate +**

(1-0-3) Improves cardiovascular fitness, body composition and flexibility. (Course is coeducational)

**PHED-2130 Walk - Intermediate +**

(1-0-3) Designed for the student who desires cardiovascular fitness of a low-impact nature through vigorous walking. (Course is coeducational)

**PHED-2131 Water Aerobics - Intermediate +**

(1-0-3) Develops cardiovascular endurance, flexibility, and muscular endurance/strength

through the resistance medium of water, and covers weight control.  
(Course is coeducational)

**PHED-2132 Water Exercise - Intermediate +**

(1-0-3) Improves cardiovascular fitness, muscular strength/endurance, flexibility through water exercises, and covers a diet/weight management program. (Course is coeducational)

**PHED-2133 Weight Training - Intermediate +**

(1-0-3) Improves muscular endurance and/or muscular strength. (Course is coeducational)

**PHED-2134 Yoga - Intermediate +**

(1-0-3) Improves flexibility, muscular endurance/strength and mental well-being. (Course is coeducational)

**PHED-2135 Adaptive Dance - Intermediate +**

(1-0-3) Experience a shift in the traditional forms of dance education. Explore dance as a community integration experienced through hands-on experience, lecture and presentation. (Course is coeducational)

**PHED-2136 Ballet - Intermediate or Advanced +**

(1-0-3) Experience classical ballet technique and discover historical connections between ballet and other dance forms. (Course is coeducational)

**PHED-2137 Ballet - Advanced +**

(1-0-3) Experience classical ballet technique and discover historical connections between ballet and other dance forms. (Course is coeducational)

**PHED-2138 Choreography - Intermediate +**

(1-0-3) Experience improvisation as a basic building block in dance making. (Course is coeducational)

**PHED-2139 Country Western Dance - Intermediate +**

(1-0-3) Experience various styles of country-dance and swing and improve overall workout level, coordination, and strength/endurance. (Course is coeducational)

**PHED-2142 Modern Dance - Intermediate or Advanced +**

(1-0-3) Experience various aspects of dance through creative movement and develop a basic understanding of anatomy, proper body alignment, and discover historical connections between different styles of dance. (Course is coeducational)

**PHED-2144 Performance Dance - Intermediate or Advanced +**

(1-0-3) Enhances knowledge of dance. Perform at least one dance piece, attend specific rehearsals for the piece(s) that will be performed, record experiences in journal form, and participate in a self-evaluation. (Course is coeducational)

**PHED-2145 Performance Dance - Advanced +**

(1-0-3) Enhances knowledge of dance. Perform at least one dance piece, attend specific rehearsals for the piece(s) that will be performed, record experiences in journal form, and participate in a self-evaluation. (Course is coeducational)

**PHED-2146 Ballroom Dance I +**

(1-0-3) Instruction and participation in ballroom dance technique.

**PHED-2147 Ballroom Dance II +**

(1-0-3) Instruction and participation in ballroom dance technique.

**PHED-2148 Pilates - Intermediate +**

(1-0-3) Covers basic concepts and skills in the Pilates method of conditioning, including core strength, muscle tone, coordination, and flexibility. Non-impact mat exercises are modified to various fitness levels.

**(PHIL) PHILOSOPHY**

**PHIL-1301 Introduction to Philosophy +**

(3-3-0) Introduction to the study of ideas and their logical structure, including arguments and investigations about abstract and real phenomena. Includes introduction to the history, theories, and methods of reasoning. Consideration of major concepts, questions, and schools of thought about human existence; including topics such as knowledge, truth, self, freewill, divinity, good and evil, beauty, reality, happiness and meaning.

*Required Prerequisite:* RDNG-0361 or RDNG-0363 with a grade of C plus achieve 11<sup>th</sup> grade level score on Nelson-Denny, or an approved alternative

**PHIL-1304 Introduction to World Religions +**

(3-3-0) A comparative study of various world religions. History, beliefs, ethics, and practices of the major religions: Christianity, Judaism, Islam, Hinduism, Buddhism and Confucianism.

**PHIL-1316 History of Religions I +**

(3-3-0) An historical survey of major religions. Focuses on the history of biblical religion from beginnings to the first century of the Common Era, with concentration on Judaism and biblical literature (Bible/Tanak/Old Testament); consideration of relevance to Christianity and Islam, extra-biblical literature, and specialized themes may be included.

**PHIL-1317 History of Religions II +**

(3-3-0) An historical survey of major religions. Focuses on the history of biblical religion from the first to the fourth century of the Common Era, with concentration on Christianity and biblical literature (New Testament); consideration of Greek, Roman, and Jewish religious and cultural ideas; extra-biblical literature and specialized themes may be included.

**PHIL-2303 Introduction to Logic +**

(3-3-0) Nature and methods of clear and critical thinking and methods of reasoning such as deduction, induction, scientific reasoning, and fallacies. Introduces modes of modern logic, especially those appropriate to a computer information age. Definition of concepts. Fundamentals of sentential logic, first order predicate logic, traditional syllogistic logic, and the contrasting procedures of induction, probability and the scientific method.

**PHIL-2306 Introduction to Ethics +**

(3-3-0) Classical and contemporary theories concerning the good life, human conduct in society, and moral and ethical standards. Introduces the basic principles of moral philosophy. Critical examination of the bases for making ethical judgments, and of the principal theories

of good and evil, justice, duty and freedom. Application of ethical norms to moral situations and pressing problems in contemporary society and development of an ideal ethic.  
*This course may be taken for honors credit. Consult the department for information.*

**PHIL-2316 History of Classical and Modern Philosophy +**

(3-3-0) Study of major philosophers and philosophical systems from ancient, through medieval, to modern times with emphasis on the contributions of mathematical and scientific thought to these systems.

*This course may be taken for honors credit. Consult the department for information.*

**(PHTC) COMMERCIAL PHOTOGRAPHY**

**PHTC-1300 Photo Digital Imaging I**

(3-2-4) An introduction to computer and software instruction for electronic imaging. Includes color, gray scale, image conversion, presentation, and ethics.

*Recommended Prerequisite: ARTS-2356*

**PHTC-1343 Expressive Photography**

(3-2-4). A study of formal, professional, and individual uses of photography by applying photographic technology to personalized needs. Emphasis on creative visual thinking, problem solving, and the exploration of personal vision. Portfolio development and presentation is also covered.

*Recommended Prerequisite: ARTS-2356 or consent of instructor*

**PHTC-1353 Portraiture I**

(3-2-4) Skill development in the photographic principles of portrait lighting, posing, and subject rapport. *Recommended Prerequisite: ARTS-2356 or consent of the instructor*

**PHTC-2331 Architectural Photography**

(3-2-4) Study of the equipment, processes, and procedures necessary for the photography of building exteriors and interiors, dusk/night and night architectural landscapes, and construction progress.

*Recommended Prerequisite: ARTS-2356 or consent of the instructor*

**PHTC-2343 Portfolio Development**

(3-2-4) A culmination experience for the evaluation of the student's photographic competencies. Includes association with a professional photographic organization, skills in résumé creation, completion of portfolio, professional self-presentation, comprehensive exam, and seminars in areas of photographic interest.

**PHTC-2349 Photo Digital Imaging II**

(3-2-4) Advanced concepts in the use of the computer and software for photographic manipulation and output.

**(PHYS) PHYSICS**

**PHYS-1401 College Physics I +**

(4-3-3) The first semester of an algebra/trigonometry-level physics sequence, with laboratories, that includes the study of mechanics, heat, and sound.

*Required Prerequisite: MATH-1314\* Required Co-Requisite: Laboratory PHYS-1401L*

**PHYS-1402 College Physics II +**

(4-3-3) The second semester of an algebra/trigonometry-level physics sequence, with laboratories, that includes the study of electricity and magnetism, waves, optics and light, and modern physics.

*Required Prerequisites:* PHYS-1401 and MATH-1314\*

*Required Co-Requisite:* Laboratory PHYS-1402L

**PHYS-1403 Stars and Galaxies +**

(4-3-3) Study of stars, galaxies, and the universe outside our solar system. Laboratory requires night observations. *Required Co-Requisite:* Laboratory PHYS-1403L

**PHYS-1404 Solar System +**

(4-3-3) Study of the sun and its solar system, including its origin. Laboratory requires night observations. *Required Co-Requisite:* Laboratory PHYS-1404L

**PHYS-1405 Elementary Physics I +**

(4-3-3) The first semester of a two-semester conceptual level survey of topics in physics intended for liberal arts, and other non-science majors. Topics include classical mechanics, atomic nature of matter and thermodynamics. The history of scientific developments and their impact on daily life are discussed. *Required Co-Requisite:* Laboratory PHYS-1405L

**PHYS-1407 Elementary Physics II +**

(4-3-3) The second semester of a two-semester conceptual level survey of topics in physics intended for liberal arts and other non-science majors. Topics include mechanical waves and acoustics, electricity and magnetism, light, atom and nuclear physics and relativity.

*Required Prerequisite:* PHYS-1405 *Required Co-Requisite:* Laboratory PHYS-1407L

**PHYS-1415 Physical Science I +**

(4-3-3) Concepts of physical science with emphasis on physics and astronomy. For non-science majors. *Required Co-Requisite:* Laboratory PHYS-1415L

**PHYS-2425 University Physics I +**

(4-3-3) Fundamental principles of physics, using calculus, for science, computer science, and engineering majors; the principles and applications of classical mechanics, including harmonic motion, physical systems and thermodynamics; and emphasis on problem solving. *Required Prerequisite:* MATH-2513 *Required Co-Requisite:* PHYS-2425L

**PHYS-2426 University Physics II +**

(4-3-3) Principles of physics for science, computer science, and engineering majors, using calculus, involving the principles of electricity and magnetism, including circuits, electromagnetism, waves, sound, light, and optics.

*Required Prerequisites:* PHYS-2425 and MATH-2414

*Required Co-Requisite:* PHYS-2426L

**(PLTC) PLASTICS TECHNOLOGY/TECHNICIAN****PLTC-1203 Plastics Composites**

(2-1-2) An introductory course in techniques of combining various types of reinforcing elements with a polymer resin to yield specific characteristics and properties not attainable by either constituent acting alone.

## **(POFI) INFORMATION PROCESSING/DATA ENTRY TECHNICIAN**

### **POFI-1449 Spreadsheets**

(4-3-2) Skill development in concepts, procedures, and application of spreadsheets for business. *Recommended Prerequisite:* POFT-1127 or equivalent

### **POFI-2401 Word Processing**

(4-3-2) Word processing software focusing on business applications.

*Recommended Prerequisite:* POFT-1127 or equivalent

### **POFI-2431 Desktop Publishing**

(4-3-2) In-depth coverage of desktop publishing terminology, text editing, and use of design principles. Emphasis on layout techniques, graphics, multiple page displays, and business applications.

*Recommended Prerequisite:* POFT-1329 or proficiency in word processing software

## **(POFT) ADMINISTRATIVE ASSISTANT/SECRETARIAL SCIENCE, GENERAL**

### **POFT-1127 Introduction to Keyboarding**

(1-0-3) Skill development in keyboarding techniques. Emphasis on the development of acceptable speed and accuracy. *Placement test available.*

### **POFT-1309 Administrative Office Procedures**

(3-3-0) Study of current office procedures, duties, and responsibilities applicable to an office environment.

### **POFT-1319 Records and Information Management**

(3-3-0) Introduction to basic records information management filing systems including manual and electronic filing.

### **POFT-1321 Business Mathematics**

(3-3-0) Fundamentals of business mathematics including analytical and critical thinking skills.

### **POFT-1329 Beginning Keyboarding**

(3-2-2) Skill development keyboarding techniques. Emphasis on development of acceptable speed and accuracy levels and formatting basic documents. *Placement test available.*

### **POFT-1331 Numeric Keypad Applications**

(3-3-0) Skill development in the operation of a numeric keypad.

### **POFT-1392 Special Topics in Administrative Assistant/Secretarial Science, General**

(3-3-0) Topics address recently identified current events, skills, knowledge, and attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course may be repeated two times for credit.

### **POFT-2301 Intermediate Keyboarding**

(3-2-2) A continuation of keyboarding skills emphasizing acceptable speed, and accuracy levels and formatting documents.

POFT-2312 Business Correspondence and Communication

(3-3-0) Development of writing and presentation skills to produce effective business communications.

## **(PSTR) BAKING AND PASTRY ARTS**

PSTR-1401 Fundamentals of Baking

(4-2-4) Fundamentals of baking including dough, quick breads, pies, cakes, cookies, tarts, and doughnuts. Instructions in flours, fillings, and ingredients. Topics include baking terminology, tool and equipment use, formula conversions, functions of ingredients, and the evaluation of baked products.

PSTR-2331 Advanced Pastry Shop

(3-2-3). A study of classical desserts, French and international pastries, hot and cold desserts, ice creams and ices, chocolate work, and decorations. Emphasis on advanced techniques.

## **(PSYC) PSYCHOLOGY**

PSYC-1110 Orientation to College

(1-1-0) Facilitates adjustment to college. Standardized tests and counseling offered to provide personal, vocational, educational development.

### **PSYC-1300 Learning Framework +**

(3-3-0) 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 expected to integrate and apply 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.

### **PSYC-2301 General Psychology +**

(3-3-0) Survey of major topics in psychology. Introduces the study of behavior and the factors that determine and affect behavior. Includes methods and content of the science of psychology.

*Required Prerequisite:* RDNG-0361 or RDNG-0363 with a grade of C plus achieve 11<sup>th</sup> grade level score on Nelson-Denny, or an approved alternative

*This course may be taken for honors credit. Consult the department for information.*

### **PSYC-2302 Applied Psychology +**

(3-3-0) Survey of the applications of psychological knowledge and methods in such fields as business, industry, education, medicine, law enforcement, social work, and government work.

### **PSYC-2306 Human Sexuality +**

(3-3-0) Study of the psychological, sociological, and physiological aspects of human sexuality.

**PSYC-2308 Child Psychology +**

(3-3-0) Study of the relationship of the physical, emotional, social and mental factors of growth and development of children. Normal developmental trends emphasized with attention to retardation and emotional disturbances.

*Recommended Prerequisite:* PSYC-2301

**PSYC-2314 Life Span Growth and Development +**

(3-3-0) Study of the relationship of the physical, emotional, social and mental factors of growth and development from the prenatal beginning to the end of the life span. Course activities will emphasize developmental tasks for each period of the life span. The use of analysis and critical thinking based on an understanding of developmental theories and concept application will be emphasized.

*Recommended Prerequisite:* PSYC-2301

**PSYC-2315 Psychology of Adjustment and Human Relations +**

(3-3-0) Study of the processes involved in adjustment of individuals to their personal and social environments.

**PSYC-2316 Psychology of Personality +**

(3-3-0) Study of various approaches to determinants, development, and assessment of personality. Includes contemporary theories of personality with emphasis on personality dynamics. Individual personality trends stressed with attention to group interaction.

*Recommended Prerequisite:* PSYC-2301

**PSYC-2319 Social Psychology +**

(3-3-0) Study of individual behavior within the social environment. May include topics such as the socio-psychological process, attitude formation and change, interpersonal relations, and group processes. A student may NOT earn credit for both PSYC-2319 and SOCI-2326.

*Recommended Prerequisite:* PSYC-2301 or SOCI-1301

**(PSYT) CLINICAL AND COUNSELING PSYCHOLOGY**

**PSYT-1393 Special Topics in Clinical Psychology**

(3-3-0) 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.

**PSYT-2165 Practicum - Clinical Psychology**

(1-0-10) Practical general workplace training supported by an individualized learning plan developed by the employer, College, and student. The guided external experiences may be for pay or no pay.

*Prerequisite:* Consent of Department Chairperson *Required Co-Requisite:* DAAC-1343

**PSYT-2301 Psychology of Group Dynamics**

(3-3-0) Exploration of group counseling skills, techniques, stages of group development, and confidentiality and ethics.

**PSYT-2321 Crisis Intervention**

(3-3-0) Examination of crisis management and intervention theories in assisting clients in crisis situations. Topics include coping skills to increase potential reinstatement of equilibrium to an individual's lifestyle and suicide prevention.

**PSYT-2339 Counseling Theories**

(3-3-0) An examination of evidenced-based and contemporary counseling theories which may include psychodynamic, cognitive, behavioral and humanistic.

**PSYT-2345 Principles of Behavior Management and Modification**

(3-3-0) An analysis of behavior management and cognitive theories and techniques with emphasis on their applications.

**PSYT-2370 Laws and Standards Affecting Mental Health**

(3-3-0) This course provides the student with a comprehensive understanding of the laws affecting treatment and care of the mentally ill, mentally retarded, and chemically dependent individual.

**(PTHA) PHYSICAL THERAPIST ASSISTANT#**

**PTHA-1201 The Profession of Physical Therapy**

(2-2-0) Introduction to the profession of physical therapy and the role of the physical therapist assistant.

**PTHA-1260 Clinical - Physical Therapist Assistant**

(2-0-8) A health-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 is an introductory level course.

**PTHA-1321 Pathophysiology for the PTA**

(3-3-0) Study of the pathophysiology of diseases and conditions commonly encountered in physical therapy. *Enrollment in this course is restricted to students accepted to the Physical Therapist Assistant program. It does not replace HPRS-2201.*

**PTHA-1325 Communication in Health Care**

(3-3-0) Communication theories and principles for optimal delivery of health care.

**PTHA-1405 Basic Patient Care Skills**

(4-3-4) The application of basic patient handling, functional skills, communication, and selected data collection techniques.

**PTHA-1413 Functional Anatomy**

(4-3-4) The relationship of the musculoskeletal and neuromuscular systems to normal and abnormal movement.

**PTHA-1431 Physical Agents**

(4-3-4) Biophysical principles, physiological effects, efficacy and application of physical agents.

**PTHA-2201 Essentials of Data Collection**

(2-1-4) Data collection techniques used to assist in patient/client management.

**PTHA-2239 Professional Issues**

(2-2-0) A Capstone course which engages the student in the discussion of professional issues and behaviors related to clinical practice; preparation for transition into the workforce.

**PTHA-2260 Clinical - Physical Therapist Assistant**

(2-0-12) A health-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-2261 Clinical - Physical Therapist Assistant**

(2-0-12) A health-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-2363 Clinical - Physical Therapist Assistant**

(3-0-18) A health-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 is the Capstone clinical experience.*

**PTHA-2409 Therapeutic Exercise**

4-3-4) Concepts, principles, and application of techniques related to therapeutic exercise and functional training.

**PTHA-2431 Management of Neurological Disorders**

(4-3-4) An advanced course in comprehensive rehabilitation techniques of selected neurological disorders.

**PTHA-2435 Rehabilitation Techniques**

(4-3-4) Advanced course integrating previously learned and new skills and techniques into the comprehensive rehabilitation of selected diseases and disorder.

**(PTRT) PETROLEUM TECHNOLOGY/TECHNICIAN**

**PTRT-1307 Recovery and Production Methods**

(3-2-3) Petroleum recovery and production methods.

**PTRT-1313 Industrial Safety**

(3-2-3) An overview for petroleum and manufacturing workers of state and federal regulations and guidelines which require industrial safety training. Topics include the 29 C.F.R. 1910, 1926 standards.

**PTRT-1317 Natural Gas Processing I**

(3-2-3) An overview of natural gas processing operations. Topics include fundamentals of gas processing, the scientific principles and how they apply to the process, processing equipment, and procedures.

**PTRT-1324 Petroleum Instrumentation**

(3-2-3) Study of instruments, instrument systems, terminology, process variables, and control loops as used in a petroleum environment.

**PTRT-2323 Natural Gas Production**

(3-2-3) An overview of the aspects of natural gas and oil production including various aspects of hydrocarbon production, processing equipment, and gas compression and transportation systems.

**(RADR) RADIOLOGIC TECHNOLOGY#**

**RADR-1201 Introduction to Radiography**

(2-2-0) An overview of the historical development of radiography, basic radiation protection, an introduction to medical terminology, ethical and legal issues for health-care professionals, and an orientation to the profession and the health-care system.

**RADR-1203 Patient Care**

(2-2-0) An introduction in patient assessment, infection control procedures, emergency and safety procedures, communication and patient interaction skills, and basic pharmacology.

**RADR-1266 Practicum - Radiologic Technology/Science - Radiographer**

(2-0-16) Practical, general workplace training supported by an individualized learning plan developed by the employer, College, and student.

**RADR-1267 Practicum - Radiologic Technology/Science - Radiographer**

(2-0-16) Practical, general workplace training supported by an individualized learning plan developed by the employer, College, and student.

**RADR-1311 Basic Radiographic Procedures**

(3-2-3) An introduction to radiographic positioning terminology, the proper manipulation of equipment, positioning and alignment of the anatomic structure and equipment, and evaluation of images for proper demonstration of basic anatomy.

**RADR-1313 Principles of Radiographic Imaging I**

(3-3-0) Radiographic image quality and the effects of exposure variables.

**RADR-1366 Practicum - Radiologic Technology/Science - Radiographer**

(3-0-24) Practical, general workplace training supported by an individualized learning plan developed by the employer, College, and student.

**RADR-2213 Radiation Biology and Protection**

(2-2-0) Effects of radiation exposure on biological systems. Includes typical medical exposure levels, methods for measuring and monitoring radiation, and methods for protecting personnel and patients from excessive exposure.

**RADR-2217 Radiographic Pathology**

(2-2-0) Disease processes and their appearance on radiographic images.

**RADR-2235 Radiologic Technology Seminar**

(2-2-0) A Capstone course focusing on the synthesis of professional knowledge, skills, and attitudes in preparation for professional employment and lifelong learning.

**RADR-2301 Intermediate Radiographic Procedures**

(3-2-3) A continuation of the study of the proper manipulation of radiographic equipment, positioning and alignment of the anatomical structure and equipment, and evaluation of images for proper demonstration of anatomy.

**RADR-2305 Principles of Radiographic Imaging II**

(3-3-0) Continuation of Radiographic image quality and the effects of exposure variables, and the synthesis of all variables in image production.

**RADR-2309 Radiographic Imaging Equipment**

(3-3-0) Equipment and physics of X-ray production. Includes basic X-ray circuits. Also examines the relationship of conventional and digital equipment components to the imaging process.

**RADR-2331 Advanced Radiographic Procedures**

(3-2-3) Continuation of positioning; alignment of the anatomic structure and equipment, evaluation of images for proper demonstration of anatomy and related pathology.

**RADR-2333 Advanced Medical Imaging**

(3-3-0) Specialized imaging modalities. Includes concepts and theories of equipment operations and their integration for medical diagnosis.

**RADR-2366 Practicum - Radiologic Technology/Science Radiographer**

(3-0-24) Practical, general workplace training supported by an individualized learning plan developed by the employer, College, and student.

**RADR-2367 Practicum - Radiologic Technology/Science Radiographer**

(3-0-24) Practical, general workplace training supported by an individualized learning plan developed by the employer, College, and student.

**(RBTC) ROBOTICS TECHNOLOGY/TECHNICIAN**

**RBTC-1351 Robotic Mechanisms**

(3-2-3) The application of principles and the calculation of practical problems involving four bar linkages, cams, gears, and gear trains. Topics include vector quantities, angular displacement, motion concepts, velocities, and motions.

*Recommended Prerequisite:* MATH-1332

**RBTC-1401 Programmable Logic Controllers**

(4-3-3) A study of programmable controllers (PLC). Topics include processor units, numbering systems, memory organization, relay type devices, timers, counters, data manipulators, and programming.

**RBTC-1447 Electro-Mechanical Devices**

(4-3-3) A study of electro-mechanical devices found in robotic systems. Includes transformers, switches, and solid-state relays. *Recommended Prerequisite:* CETT-1409

**RBTC-2445 Robot Application, Set-Up and Testing**

(4-3-3) A Capstone course that provides the student with laboratory experience in the installation, set-up, and testing of robotic cells. Topics include maintenance.

## **(RDNG) READING**

### **RDNG-0160 College Study Skills**

(1-1-0) Improvement of study systems, time management, effective listening, and note taking. Underlining, outlining texts, learning through media, concentration, retention of information, and taking examinations. Placement is based on scores on ACCUPLACER or another approved test.

*This is a developmental course and cannot be used to fulfill degree requirements.*

### **RDNG-0361 Reading Techniques I**

(3-3-0) Improvement of basic reading skills through individualized development of comprehension, vocabulary, study skills, critical reasoning, and relationships among ideas in written material. Placement based on reading score on ACCUPLACER or another approved test. May be repeated as many times as needed for remediation.

*This is a developmental course and cannot be used to fulfill degree requirements.*

### **RDNG-0363 Reading Techniques II**

(3-3-0) Further development of the reading skills described in Reading Techniques I with individual emphasis given to those areas requiring remediation. Placement based on ACCUPLACER or another approved test. May be taken as many times as needed for remediation. *Recommended Prerequisite:* RDNG-0361

*This is a developmental course and cannot be used to fulfill degree requirements.*

## **(RELE) REAL ESTATE**

### **RELE-1300 Contract Forms and Addenda**

(3-3-0) Promulgated Contract Forms, which shall include but is not limited to unauthorized practice of law, broker-lawyer committee, current promulgated forms, commission rules governing use of forms and case studies involving use of forms.

### **RELE-1303 Real Estate Appraisal**

(3-3-0) The central purposes and functions of an appraisal, social and economic determinants of value, appraisal case studies, cost, market data and income approaches to value estimates, final correlations, and reporting.

### **RELE-1307 Real Estate Investments**

(3-3-0) Characteristics of real estate investments. Includes techniques of investment analysis, time-valued money, discounted and non-discounted investment criteria, leverage, tax shelters, depreciation, and applications to property tax.

### **RELE-1311 Law of Contracts**

(3-3-0) Elements of a contract, offer and acceptance, statute of frauds, specific performance and remedies for breach, unauthorized practice of law, commission rules relating to use of adopted forms, and owner disclosure requirements.

### **RELE-1315 Property Management**

(3-3-0) The role of the property manager, landlord policies, operational guidelines, leases, lease negotiations, tenant relations, maintenance, reports, habitability laws, and the Fair Housing Act.

### **RELE-1319 Real Estate Finance**

(3-3-0) Monetary systems, primary and secondary money markets, sources of mortgage loans, federal government programs, loan applications, processes and procedures, closing costs, alternative financial instruments, equal credit opportunity laws affecting mortgage lending, Community Reinvestment Act, and the state housing agency.

#### RELE 1406 Principles of Real Estate

(4-4-0) A complete overview of licensing as a broker or salesperson. Includes ethics of practice as a license holder, titles to and conveyance of real estate, legal descriptions, deeds, encumbrances and liens, distinctions between personal and real property, appraisal, finance and regulations, closing procedures, and real estate mathematics. Covers at least three hours of classroom instruction on federal, state, and local laws relating to housing discrimination, housing credit discrimination, and community reinvestment. Fulfills the 60-hour requirement for salesperson license.

#### RELE-2301 Law of Agency

(3-3-0) Law of agency including principal-agent and master-servant relationships, the authority of an agent, the termination of an agent's authority, the fiduciary and other duties of an agent, employment law, deceptive trade practices, listing or buying representation procedures, and the disclosure of an agency.

### **(RNSG) NURSING#**

#### RNSG-1105 Nursing Skills I

(1-0-3) Study of the concepts and principles necessary to perform basic nursing skills for the adult patient; and demonstrate competence in the performance of nursing procedures. Topics include knowledge, judgment, skills, and professional values within a legal and ethical framework. Focus is on holistic human needs. Associate degree nurse role assimilation is facilitated through the development of identified learner processes. The TCC nursing practice model is the framework for teaching and learning the roles of the nurse. Credit by examination is available for Fast Track Option.

*Required Prerequisites:* CHEM-1406, BIOL-2401, BIOL-2402, BIOL-2420, and

MATH-0350 or mathematical competency

*Required Co-Requisites:* RNSG-1413 and RNSG-1460

#### RNSG-1193 Special Topics A - Registered Nursing/Registered Nurse

(1-1-0) 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.

*Required Prerequisites:* RNSG-1413, RNSG-1460, and RNSG-1105

#### RNSG-1293 Special Topics B - Registered Nursing/Registered Nurse

(2-2-0) 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. *Required Prerequisites:* RNSG-1413, RNSG-1460 RNSG-1105, RNSG-1441, RNSG-1461, RNSG-1193, RNSG-2213, RNSG-2263, RNSG-2208, RNSG-2260 ,RNSG-2201 and RNSG-2261

*Required Prerequisites/Co-Requisites:* ENGL-1301 PSYC-2301, PHED-1164 ENGL-1302 OR PSYC-2314, SPCH-1311 OR SPCH-1315 OR SPCH-1321, and Humanities or Fine Arts elective

#### RNSG-1413 Foundations for Nursing Practice

(4-4-0) Introduction to the role of the professional nurse as provider of patient-centered care, patient safety advocate, member of health care team, and member of the profession. Content includes fundamental concepts of nursing practice, history of professional nursing, a systematic framework for decision-making and critical thinking. The mechanisms of disease and the needs and problems that can arise are discussed and how the nursing process helps manage the patient through these issues. Emphasis on knowledge, judgment, skills and professional values within a legal/ethical framework. Focus is on holistic human needs. Associate degree nurse role assimilation is facilitated through the development of major concepts. The TCC nursing practice model is the framework for teaching and learning the roles of the nurse. Credit by examination is available for Fast Track Option. *Required Prerequisites:* CHEM-1406, BIOL-2401, BIOL-2402, BIOL-2420, MATH-0350 or mathematical competency, and official acceptance into the Nursing program *Required Co-Requisites:* RNSG-1105 and RNSG-1460

#### RNSG-1441 Common Concepts of Adult Health

(4-4-0) Basic integration of the role of the professional nurse as a provider of patient-centered care, patient safety advocate, member of health care team, and member of the profession. Study of the common concepts of caring for adult patients and families with medical-surgical health care needs related to body systems, emphasizing knowledge, judgment, skills, and professional values within a legal/ethical framework. Focus is on holistic human needs. Associate degree nurse role assimilation is facilitated through the development of major concepts. The TCC nursing practice model is the framework for teaching and learning the roles of the nurse.

*Required Prerequisites:* RNSG-1413, RNSG-1460, and RNSG-1105

*Required Co-Requisite:* RNSG-1461

#### RNSG-1443 Complex Concepts of Adult Health

(4-4-0) Integration of previous knowledge and skills related to common adult health needs into the continued development of the professional nurse as a provider of patient-centered care, patient safety advocate, member of health care team, and member of the profession in the care of adult patients and families with complex medical-surgical health care needs associated with body systems. Emphasis on complex knowledge, judgments, skills, and professional values within a legal/ethical framework. Test fee charged.

*Required Prerequisites:* RNSG-1413, RNSG-1460, RNSG-1105, RNSG-1441, RNSG-1461, RNSG-1193, RNSG-2213, RNSG-2263, RNSG-2208, RNSG-2260, RNSG-2201, and RNSG-2261

*Required Co-Requisites:* ENGL-1301, PSYC-2301, PHED-1164, ENGL-1302 or PSYC-2314, SPCH-1311 or SPCH-1315 or SPCH-1321, and Humanities/Fine Arts elective

*Required Co-Requisite:* RNSG-2461

#### RNSG-1460 Clinical - Foundations for Nursing Practice

(4-0-12) A health-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 (faculty or preceptor), generally in a clinical setting. Practical experience is simultaneously related to theory. Clinical education is an unpaid learning experience. Focus is on holistic human needs. Associate degree nurse role assimilation is facilitated through the development of major concepts. The TCC nursing practice model is the framework for teaching and learning the roles of the nurse. Credit by examination is available for Fast Track Option.

*Required Prerequisites:* CHEM-1406, BIOL-2401, BIOL-2402, BIOL-2420, MATH-0350 or mathematical competency, and official acceptance into the Nursing program

*Required Co-Requisites:* RNSG-1105 and RNSG-1413

**RNSG-1461 Clinical - Common Concepts of Adult Health**

(4-0-12) A health-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 (faculty or preceptor), generally in a clinical setting. Practical experience is simultaneously related to theory. Clinical education is an unpaid learning experience. Focus is on holistic human needs. Associate degree nurse role assimilation is facilitated through the development of major concepts. The TCC nursing practice model is the framework for teaching/learning the roles of the nurse.

*Required Prerequisite:* RNSG-1413 RNSG-1460 and RNSG-1105

*Required Co-Requisite:* RNSG-1441

**RNSG-2201 Care of Children and Families**

(2-2-0) Study of concepts related to the provision of nursing care for children and their families, emphasizing judgment and professional values within a legal and ethical framework. Focus is on holistic human needs. Associate degree nurse role assimilation is facilitated through the development of identified learner processes. The TCC nursing practice model is the framework for teaching and learning the roles of the nurse. Testing fee charged.

*Required Prerequisites:* RNSG-1413, RNSG-1460, RNSG-1105, RNSG-1193, RNSG-1441, RNSG-1461, RNSG-2213, and RNSG-2263

*Required Co-Requisite:* RNSG-2261

**RNSG-2208 Maternal and Newborn Nursing and Women's Health**

(2-2-0) Concepts related to nursing care for childbearing families and women's health issues. Content includes knowledge, judgment, skill, and professional values within a legal/ethical framework 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. Focus is on holistic human needs. Associate degree nurse role assimilation is facilitated through the development of identified learner processes. The TCC nursing practice model is the framework for teaching and learning the roles of the nurse. Testing fee charged.

*Required Prerequisites:* RNSG-1413, RNSG-1460, RNSG-1105, RNSG-1193, RNSG-1441 RNSG-1461, RNSG-2213, and RNSG-2263

*Required Co-Requisite:* RNSG-2260

**RNSG-2213 Mental Health Nursing**

(2-2-0) Principles and concepts of mental health, psychopathology, and treatment modalities related to the nursing care of patients and their families. Focus is on holistic human needs. Associate degree nurse role assimilation is facilitated through the development of major concepts. The TCC nursing practice model is the framework for teaching and learning the roles of the nurse.

*Required Prerequisites:* RNSG-1413, RNSG-1460, and RNSG-1105

*Required Co-Requisite:* RNSG-2263

**RNSG-2260 Clinical - Maternal and Newborn Nursing and Women's Health**

(2-0-6) A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional (faculty or preceptor), generally in a clinical setting. Practical experience is simultaneously related to theory. Clinical education is an unpaid learning

experience. Focus is on holistic human needs. Associate degree nurse role assimilation is facilitated through the development of major concepts. The TCC nursing practice model is the framework for teaching/learning the roles of the nurse.

*Required Prerequisites:* RNSG-1413, RNSG-1460, RNSG-1105, RNSG-1193, RNSG-1441, RNSG-1461, RNSG-2213, RNSG-2263

*Required Co-Requisite:* RNSG-2208

#### RNSG-2261 Clinical - Care of Children and Families Nursing

(2-0-6) A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional (faculty or preceptor), generally in a clinical setting. Practical experience is simultaneously related to theory. Clinical education is an unpaid learning experience. Focus is on holistic human needs. Associate degree nurse role assimilation is facilitated through the development of major concepts. The TCC nursing practice model is the framework for teaching and learning the roles of the nurse.

*Required Prerequisites:* RNSG-1413, RNSG-1460, RNSG-1105, RNSG-1193, RNSG-1441, RNSG-1461, RNSG-2213, and RNSG-2263

*Required Co-Requisite:* RNSG-2201

#### RNSG-2263 Clinical - Mental Health Nursing

(2-0-6) A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional (faculty or preceptor), generally in a clinical setting. Practical experience is simultaneously related to theory. Clinical education is an unpaid learning experience. Focus is on holistic human needs. Associate degree nurse role assimilation is facilitated through the development of major concepts. The TCC nursing practice model is the framework for teaching and learning the roles of the nurse.

*Required Prerequisites:* RNSG-1413, RNSG-1460, and RNSG-1105

*Required Co-Requisite:* RNSG-2213

#### RNSG-2461 Clinical - Complex Concepts of Adult Health

(4-0-12) A health-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 (faculty or preceptor), generally in a clinical setting. Practical experience is simultaneously related to theory. Clinical education is an unpaid learning experience. Focus is on holistic human needs. Associate degree nurse role assimilation is facilitated through the development of major concepts. The TCC nursing practice model is the framework for teaching and learning the roles of the nurse.

*Required Prerequisites:* RNSG-1413, RNSG-1460, RNSG-1105, RNSG-1193, RNSG-1441, RNSG 1461 RNSG 2213 RNSG 2263 RNSG 2208 RNSG 2260 RNSG 2201 and RNSG-2261

*Required Co-Requisite:* RNSG-1443

### **(RSPT) RESPIRATORY CARE#**

#### RSPT-1101 Introduction to Respiratory Care

(1-0-3) 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). *Recommended Co-Requisite:* RSPT-1166

**RSPT-1141 Respiratory Home Care and Rehabilitation**

(1-1-0) A study of respiratory home care and rehabilitation equipment, procedures, and patient education. Emphasizes treatment of patients in home care and alternate settings.

*Recommended Prerequisites:* RSPT-2210 and RSPT-2405

**RSPT-1166 Practicum - Respiratory Care Therapy/Therapist**

(1-0-7) Practical, general workplace training supported by an individualized learning plan developed by the employer, College, and student.

*Recommended Co-Requisite:* RSPT-1101

**RSPT-1207 Cardiopulmonary Anatomy and Physiology**

(2-2-0) Anatomy and physiology of the cardiovascular and pulmonary systems.

*Recommended Prerequisites:* RSPT-1101 and RSPT-1419

**RSPT-1266 Practicum - Respiratory Care Therapy/Therapist**

(2-0-14) Practical, general workplace training supported by an individualized learning plan developed by the employer, College, and student.

*Recommended Prerequisites:* RSPT-1101 and RSPT-1166

**RSPT-1267 Practicum - Respiratory Care Therapy/Therapist**

(2-0-14) Practical, general workplace training supported by an individualized learning plan developed by the employer, College, and student.

*Recommended Prerequisite:* RSPT-1266

**RSPT-1331 Respiratory Care Fundamentals II**

(3-2-3) Continued development of knowledge and skills for respiratory care including lung expansion therapy, bronchial hygiene therapy, artificial airways, manual resuscitation devices, suctioning, pulse oximetry, bedside spirometry, arterial sampling techniques, and blood gas analysis and interpretation. *Recommended Prerequisite:* RSPT-1429

**RSPT-1429 Respiratory Care Fundamentals I**

(4-3-3) Introduction to respiratory care including history, medical terms and symbols, medical/legal, infection control, vital signs, physical assessment, chest x-ray interpretation, medical gas therapy, oxygen analyzers, and humidity/aerosol therapy. *Recommended Co-Requisites:* RSPT-1101 and HPRS-1206

**RSPT-2131 Simulations in Respiratory Care**

(1-1-0) Theory of clinical simulation examinations. Includes construction types, scoring, and mechanics of taking the computerized simulation examination.

*Recommended Prerequisites:* RSPT-2210 and RSPT-2405

**RSPT-2133 Respiratory Care Case Management**

(1-1-0) Investigation, organization, and presentation of case studies.

*Recommended Co-Requisite:* RSPT-2266 or RSPT-2267

**RSPT-2139 Advanced Cardiac Life Support**

(1-1-0) Advanced Cardiac Life Support (ACLS) with an emphasis on airway management. Designed to develop skills for resuscitation of the adult. Includes strategies for managing and stabilizing the cardiopulmonary arrested patient. May include certification.

*Recommended Prerequisites:* RSPT-1207 and RSPT-1323

**RSPT-2147 Specialties in Respiratory Care**  
1-1-0) Emerging and specialty practices in respiratory care.  
*Recommended Prerequisites:* RSPT-2210 and RSPT-2405

**RSPT-2210 Cardiopulmonary Disease**  
(2-2-0) Etiology, pathogenesis, pathology, diagnosis, history, prognosis, manifestations, treatment, and detection of cardiopulmonary diseases.  
*Recommended Prerequisites:* RSPT-2139 and RSPT-2414

**RSPT-2266 Practicum - Respiratory Care Therapy/Therapist**  
(2-0-14) Practical, general workplace training supported by an individualized learning plan developed by the employer, College, and student.  
*Recommended Prerequisite:* RSPT-1267 *Recommended Co-Requisite:* RSPT-2133

**RSPT-2267 Practicum - Respiratory Care Therapy/Therapist**  
(2-0-14) Practical, general workplace training supported by an individualized learning plan developed by the employer, College, and student.  
*Recommended Prerequisite:* RSPT-2266 *Recommended Co-Requisite:* RSPT-2133

**RSPT-2353 Neonatal and Pediatric Cardiopulmonary Care**  
(3-2-3) A study of neonatal and pediatric cardiopulmonary care.  
*Recommended Prerequisites:* RSPT-2210 and RSPT-2405

**RSPT-2405 Pulmonary Diagnostics**  
(4-3-3) Theories and techniques involved in pulmonary function testing, blood gas analysis, quality control, and noninvasive monitors.  
*Recommended Prerequisites:* RSPT-2139 and RSPT-2414

**RSPT-2414 Mechanical Ventilation**  
(4-3-3) The study of mechanical ventilation with emphasis on ventilator classification, methods, principles, and operational characteristics. Includes indications, complications, and physiologic effects and principles of mechanical ventilation. Emphasizes initiation, management, and weaning of ventilatory support.  
*Recommended Prerequisites:* RSPT-1207 and RSPT-1323

## **(RSTO) FOOD AND BEVERAGE/RESTAURANT OPERATIONS MANAGER**

**RSTO-1304 Dining Room Service**  
(3-2-2) Introduces the principles, concepts, and systems of professional table service. Topics include dining room organization, scheduling, and management of food-service personnel.

**RSTO-1306 Facilities Layout and Design**  
(3-2-2) Overview of the planning, development, and feasibility aspects of building or renovating a food service facility. Application of principles of work and flow analysis, spatial relationships, and equipment selection as they relate to the overall layout and design.

**RSTO-1325 Purchasing for Hospitality Operations**

(3-3-0) Study of purchasing and inventory management of foods and other supplies to include development of purchase specifications, determination of order quantities, formal and informal price comparisons, proper receiving procedures, storage management, and issue procedures. Emphasis on product cost analysis, yields, pricing formulas, controls, and record keeping at each stage of the purchasing cycle. (*Licensure/Certification Agency: American Culinary Federation Educational Institute, Council on Hotel, Restaurant, and Institutional Education*)

## **(RTVB) RADIO AND TELEVISION BROADCASTING TECHNOLOGY/TECHNICIAN**

### **RTVB-1150 Radio Experience I**

(1-0-3) Laboratory experience in radio operation and announcing by broadcasting on a radio station.

### **RTVB-1355 Radio and Television Announcing**

(3-3-0) Radio and television announcing skills such as voice quality, articulation, enunciation, and pronunciation. Includes preparation for on air and voiceover positions.

### **RTVB-1402 Computer Applications for Media Production**

(4-3-3) Computer applications for audio, video, graphics, budgets, and scripts in media productions.

### **RTVB-1405 Introduction to Television Technology**

(4-3-2) Identification and operation of current television production equipment. Includes digital and analog signal concepts and use.

### **RTVB-1409 Audio and Radio Production I**

(4-3-3) Concepts and techniques of sound production including basic recording, mixing, and editing techniques.

### **RTVB-1421 TV Field Production**

(4-3-3) Pre-production, production, and post-production process involved in field television production. Topics include field camera setup and operation, field audio, television directing, and in-camera or basic continuity editing with an emphasis on underlying principles of video technology.

### **RTVB-1425 TV Studio Production**

(4-3-3) Basic television production and planning techniques including video, audio, and lighting equipment commonly used in a studio.

### **RTVB-1447 Audio and Radio Production II**

(4-3-3) Audio production theories regarding multitrack recording, studio live production and equipment operation.

### **RTVB-2250 Radio Experience II**

(2-1-2) Advanced laboratory experience in radio operation and announcing by broadcasting on a radio station. *Required Prerequisite:* RTVB-1409

### **RTVB-2265 Practicum - Radio and Television**

(2-0-14) Practical, general workplace training supported by an individualized learning plan developed by the employer, College, and student.

*Required Prerequisite:* RTVB 1405 or Consent of Coordinator

#### **RTVB-2347 Management and Operation of Electronic Media Facilities**

(3-3-0) An analysis of management principles of production companies, broadcast stations, cable companies, and emerging technologies.

#### **RTVB-2430 Film and Video Editing**

(4-3-3) Film and broadcast editing for the preparation and completion of shorts, trailers, documentaries, and features. *Required Prerequisite:* RTVB-1402 or FLMC-1431

#### **RTVB-2487 Internship - Radio and Television**

(4-0-14) 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. *Required Prerequisite:* RTVB 1405 or Consent of Coordinator

### **(SCWK) SOCIAL WORK**

#### **SCWK-2305 Special Problems of Youth**

(3-3-0) Examination of the particular problems of youth and their implications for social service workers delivering services to this population.

### **(SLNG) SIGN LANGUAGE INTERPRETER**

#### **SLNG-1211 Fingerspelling and Numbers**

(2-1-2) Development of expressive and receptive skills in fingerspelling and numbers. Receptive skills focus on whole word phrase recognition and fingerspelling and number comprehension in context. Expressive skills focus on the development of speed, clarity, and fluency.

#### **SLNG-1215 Visual and Gestural Communication**

(2-2-0) Development of skills in nonverbal communications. Emphasizes the use and understanding of facial expression, gestures, pantomime, and body language.

#### **SLNG-1291 Special Topics in Sign Language Interpreter**

(2-2-0) 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.

#### **SLNG-1321 Introduction to the Interpreting Profession**

(3-3-0) An overview of the field of American Sign Language (ASL)/English interpretation. Provides an historical framework for the current principles, ethics, roles, responsibilities, and standard practices of the interpreting profession.

#### **SLNG-1347 Deaf Culture**

(3-3-0) Historical and contemporary perspective of American Deaf culture using a sociocultural model. Includes cultural identity and awareness, values, group norms, communication, language, and significant contributions made by deaf people to the world.

#### **SLNG-1350 Sign-to-Voice**

(3-2-2) Skill development in interpreting and transliterating from American Sign Language and other modes of communication to English and analysis of increasingly complex tasks utilizing simulated interpreting experiences including skills analysis and peer evaluation.

**SLNG-1404 American Sign Language (ASL) I**

(4-3-2) An introduction to the basic skills in production and comprehension of American Sign Language (ASL). Includes the manual alphabet and numbers. Develops conversational ability, culturally appropriate behaviors, and exposes students to ASL grammar.

**SLNG-1405 American Sign Language (ASL) II**

(4-3-2) Develops receptive and expressive ability and allows recognition and demonstration of more sophisticated grammatical features of American Sign Language (ASL). Increases fluency and accuracy in fingerspelling and numbers. Encourages opportunities for interaction with the deaf community.

**SLNG-1444 American Sign Language (ASL) III**

(4-3-2) Integrates and refines expressive and receptive skills in American Sign Language (ASL), including recognition of sociolinguistic variation. A practice oriented approach to language acquisition.

**SLNG-1445 American Sign Language (ASL) IV**

(4-3-2) Integration of expressive and receptive skills in American Sign Language (ASL) with emphasis on grammar, linguistics, literature, and discourse styles at an intermediate level. Provides students with information on linguistic and cultural variations.

**SLNG-2166 Practicum I – Sign Language Interpretation and Translation**

(1-0-7) Practical, general workplace training supported by an individualized learning plan developed by the employer, College, and student.

**SLNG-2167 Practicum II – Sign Language Interpretation and Translation**

(1-0-7) Practical, general workplace training supported by an individualized learning plan developed by the employer, College and student.

**SLNG-2303 Transliterating**

3-3-0) A practice oriented course designed to develop skills necessary for rendering spoken English to a signed English format and signed English to spoken English.

**SLNG-2401 Interpreting I**

(4-3-2) An overview of the interpreting process and models of interpretation. Introduces the skills necessary to achieve dynamic message equivalence in interpreting American Sign Language (ASL) to English and English to ASL.

**SLNG-2402 Interpreting II**

(4-3-2) Continued development of discourse analysis and interpreting skills for increasingly complex tasks. Utilization of consecutive and simultaneous interpreting scenarios including monologues and dialogues. Emphasizes skill development, self-analysis, and peer evaluation.

**SLNG-2431 Interpreting III**

(4-3-2) A practice-oriented course to strengthen skills in the integration and application of interpreting using complex source materials. Continued exposure to simulated interpreting and transliterating experiences.

## **(SLPS) SECURITY AND LOSS PREVENTION SERVICES**

### **SLPS-1371 Introduction to Security Management**

(3-3-0) An exploration of topics, which form the foundation of knowledge necessary in the field of security management. Specific content areas include: the history of private security, loss prevention, prevention programs, risk assessment, vulnerability assessment, and countermeasure selection. Other topics include internal and external relations, and financial management.

### **SLPS-1391 Special Topics in Security and Loss Prevention Services**

(3-3-0) 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.

### **SLPS-2288 Internship - Security and Loss Prevention Services**

(2-0-7) 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.

### **SLPS-2371 Fundamentals of Physical Security**

(3-3-0) Basic concepts of facilities protection and control, to include: facility planning, perimeter boundaries, alarms, barriers, lighting, security surveys, materials control, emergency planning, employee and visitor control, and issues regarding parking, communications, and transportation.

## **(SOCI) SOCIOLOGY**

### **SOCI-1301 Introduction to Sociology +**

(3-3-0) Introduction to the concepts and principles used in the study of group life, social institutions, and social processes. Includes nature of human society, cultural heritage, collective behavior, community and social organization, nature of social change, and methods and processes of social control.

*Required Prerequisite:* RDNG-0361 or RDNG-0363 with a grade of C plus achieve 11<sup>th</sup> grade level score on Nelson-Denny, or an approved alternative

*This course may be taken for honors credit. Consult the department for information.*

### **SOCI-1306 Contemporary Social Problems +**

(3-3-0) Application of sociological principles to the major problems of contemporary society such as inequality, crime and violence, substance abuse, deviance, or family problems.

*This course may be taken for honors credit. Consult the department for information.*

### **SOCI-2301 Marriage and the Family +**

(3-3-0) Sociological examination of marriage and family life based on concepts introduced in SOCI-1301. Includes origin and development of family, problems of courtship and mate selection, the family in transition, organization and disorganization of the family, and marriage adjustment in modern American society.

**SOCI-2319 Minority Studies +**

(3-3-0) Historical, economic, social, and cultural development of minority groups. May include African-American, Mexican American, Asian American, and Native American issues.

**SOCI-2326 Social Psychology +**

(3-3-0) Study of individual behavior within the social environment. May include topics such as the socio-psychological process, attitude formation and change, interpersonal relations, and group processes. Students may NOT earn credit for both SOCI-2326 and PSYC-2319. *Recommended Prerequisite:* SOCI-1301 or PSYC-2301

**SOCI-2336 Introduction to Criminology +**

(3-3-0) Current theories and empirical research pertaining to crime and criminal behavior and its causes, methods of prevention, systems of punishment, and rehabilitation. Includes social dimensions of crime as a form of deviant behavior; nature and extent of crime; past and present theories; the role of the police and the courts; group and community-oriented programs, with evaluation of prevention, control, and treatment programs.

**(SOCW) SOCIAL WORK****SOCW-2361 Introduction to Social Work +**

(3-3-0) Development of the philosophy and practice of social work in the United States, survey of the fields and techniques of social work.

**SOCW-2362 Social Welfare as a Social Institution +**

(3-3-0) Introduction to the study of modern social work, the underlying philosophy and ethics of social work, and the major divisions and types of social work together with their methods and objectives. *Required Prerequisite:* SOCW-2361

**(SPAN) SPANISH****SPAN-1100 Beginning Spanish Conversation I +**

(1-0-2) Basic practice in comprehension and production of the spoken language. Consists of the following options for developing good conversational skills in Spanish. A total of six courses under the numbers SPAN-1100, SPAN-1110, and SPAN-2106 may be taken for elective credit as the topic varies.

- A. Oral Expression. Practice in oral expression, including comprehension, control of structure, vocabulary building, and pronunciation for production of the spoken language. One hour of scheduled classroom lab and one hour of arranged independent study lab per week.
- B. Listening Comprehension. Practice in comprehension of the spoken language for the development of better conversational skills. Independent study lab course with practice developing listening skills from sources such as audio, video, radio, film, and the Internet.
- C. Grammar I. Review of novice-mid grammar for better control in production of the spoken language. Independent study lab course with self-correcting format.
- D. Vocabulary Building I. Reading of novice-mid level Spanish language texts for building vocabulary to be used in the oral expression of ideas in Spanish. Includes oral reading for fluency practice. Independent study lab course.

- E. Culture Topics. Study of Hispanic culture topics through research and discussion for the production of the spoken language in the expression and comparison of ideas.

**SPAN-1110 Beginning Spanish Conversation II +**

(1-0-2) Basic practice in comprehension and production of the spoken language. Consists of the following options for developing good conversational skills in Spanish. A total of six courses under the numbers SPAN-1100, SPAN-1110, and SPAN-2106 may be taken for elective credit as the topic varies.

- A. Oral Expression. Practice in oral expression, including comprehension, control of structure, vocabulary building, and pronunciation for production of the spoken language. One hour of scheduled classroom lab and one hour of arranged independent study lab per week.
- B. Listening Comprehension. Practice in comprehension of the spoken language. Independent study lab course with practice developing listening skills from sources such as audio, video, radio, film, and the Internet.
- C. Grammar II. Review of novice-high grammar for better control in production of the spoken language. Independent study lab course with self-correcting format.
- D. Vocabulary Building II. Reading of novice-high level Spanish language texts for building vocabulary to be used in the oral expression of ideas in Spanish. Includes oral reading for fluency practice. Independent study lab course.
- E. Culture Topics. Study of Hispanic culture topics through research and discussion for the production of the spoken language in the expression and comparison of ideas.

**SPAN-1411 Beginning Spanish I +**

(4-3-2) Fundamental skills in listening comprehension, speaking, reading, and writing. Includes acquisition of language functions, basic vocabulary, grammatical structures, and culture through contextualized presentations, interactive activities, and extensive laboratory practice.

**SPAN-1412 Beginning Spanish II +**

(4-3-2) Continuation of SPAN-1411 with emphasis on conversation.

*Recommended Prerequisite:* SPAN-1411

**SPAN-2106 Intermediate Spanish Conversation +**

(1-0-2). Intermediate practice in comprehension and production of the spoken language. Consists of the following options for developing good conversational skills. A total of six courses under the numbers SPAN-1100, SPAN-1110, and SPAN-2106 may be taken for elective credit as the topic varies.

*Recommended Prerequisite:* SPAN-1412

- A. Oral Expression. Practice in oral expression on a variety of topics of global interest including comprehension, control of structure, vocabulary building, and pronunciation for production of the spoken language. One hour of scheduled classroom lab and one hour of arranged independent study lab per week.
- B. Listening Comprehension. Practice in comprehension of the spoken language. Independent study lab course with practice developing listening skills from sources such as audio, video, radio, film, and the Internet.

- C. Grammar III. Review of intermediate-mid grammar for better control in production of the spoken language. Independent study lab course with self-correcting format.
- D. Grammar IV. Review of intermediate-high grammar for better control in production of the spoken language. Independent study lab course with self-correcting format.
- E. Vocabulary Building III. Reading of intermediate-mid level Spanish language texts for building vocabulary to be used in the development and oral expression of ideas in Spanish. Includes oral reading for fluency practice. Independent study lab course.
- F. Vocabulary Building IV. Reading of intermediate-high level Spanish language texts for building vocabulary to be used in development and oral expression of ideas in Spanish. Includes oral reading for fluency practice. Independent study lab course.
- G. Culture Topics. Study of Hispanic culture topics through research and discussion for the production of the spoken language in the expression and comparison of ideas.

#### **SPAN-2311 Intermediate Spanish I +**

(3-3-0) Review and application of skills in listening comprehension, speaking, reading, and writing. Emphasizes conversation, vocabulary acquisition, reading, composition, and culture. Conversational practice based on selected readings and dialogues. Directed composition. Class conducted largely in Spanish.

*Recommended Prerequisite:* SPAN-1412

#### **SPAN-2312 Intermediate Spanish II +**

(3-3-0) Continuation of SPAN-2311. *Recommended Prerequisite:* SPAN-2311

### **(SPCH) SPEECH**

#### **SPCH-1144 Forensic Activities I +**

(1-0-2) Laboratory experience for students participating in one or more of the following forensic activities: debate or individual events such as persuasion, informational speaking, parliamentary debate, or oral interpretation.

#### **SPCH-1145 Forensic Activities II +**

(1-0-2) Laboratory experience for second semester students participating at an advanced level in one or more of the following forensic activities: debate, individual events, or oral interpretation.

#### **SPCH-1311 Introduction to Speech Communication +**

(3-3-0) Theories and practice of communication in interpersonal, small group, and public speech. Practical communicative experiences ranging from interpersonal communication to preparation and delivery of platform speeches.

*This course may be taken for honors credit. Consult the department for information.*

#### **SPCH-1315 Public Speaking +**

(3-3-0) Research, composition, organization, delivery, and analysis of speeches for various purposes and occasions.

#### **SPCH-1318 Interpersonal Communication +**

(3-3-0) Theories and exercises in verbal and nonverbal communication with focus on development, maintenance, and termination of interpersonal relationships.

**SPCH-1321 Business and Professional Communication +**

(3-3-0) The application of theories and practice of speech communication as applied to business and professional situations.

*This course may be taken for honors credit. Consult the department for information.*

**SPCH-1342 Voice and Diction +**

(3-3-0) Physiology and mechanics of effective voice production with practice in articulation, pronunciation, and enunciation. Includes training in effective use of the voice and body, vocal mechanism, and the phonetic alphabet.

**SPCH-2144 Forensic Activities III +**

(1-0-2) Laboratory experience for third semester students participating at an advanced level in one or more of the following forensic activities: debate, individual events, or oral interpretation.

**SPCH-2145 Forensic Activities IV +**

(1-0-2) Laboratory experience for fourth semester students participating at an advanced level in one or more of the following forensic activities: debate, individual events, or oral interpretation.

**SPCH-2333 Discussion and Small Group Communication +**

(3-3-0) Discussion and small group theories and techniques as they relate to group process and interaction. Includes leadership and effective participation, group behavior, problem solving, and resolution of conflict.

*Recommended Prerequisite:* SPCH-1311 or SPCH-1321

**SPCH-2341 Oral Interpretation +**

(3-3-0) Theories and techniques in analyzing and interpreting literature. Preparation and presentation of various literary forms, analysis of thought, development of imagination, communication of emotional values, and individual projects in interpretative reading.

**(SRGT) SURGICAL TECHNOLOGY#****SRGT-1266 Practicum - Surgical Technology/Technologist**

(2-0-14) Practical, general workplace training supported by an individualized learning plan developed by the employer, College, and student.

**SRGT-1267 Practicum - Surgical Technology/Technologist**

(2-0-16) Practical, general workplace training supported by an individualized learning plan developed by the employer, College, and student.

**SRGT-1405 Introduction to Surgical Technology**

(4-4-0) Orientation to surgical technology theory, surgical pharmacology and anesthesia, technological sciences, and patient-care concepts.

**SRGT-1409 Fundamentals of Perioperative Concepts and Techniques**

(4-4-0) In-depth coverage of perioperative concepts such as aseptic/sterile principles and practices, infectious processes, wound healing, and creation and maintenance of the sterile field.

**SRGT-1441 Surgical Procedures I**

(4-4-0) Introduction to surgical procedures and related pathologies with emphasis on surgical procedures related to general, obstetrics/gynecology, genitourinary, otorhinolaryngology and orthopedic surgical specialties incorporating instruments, equipment, and supplies required for perioperative patient care.

*Required Prerequisites:* SRGT-1405, SRGT-1409, and SRGT-1266

#### **SRGT-1442 Surgical Procedures II**

(4-4-0) Introduction to surgical procedures and related pathologies with emphasis on surgical procedures related to thoracic, peripheral vascular, plastic/reconstructive, ophthalmology, cardiac, and neurological surgical specialties incorporating instruments, equipment, and supplies required for perioperative patient care.

*Required Prerequisites:* SRGT-1405, SRGT-1409, and SRGT-1266

#### **SRGT-2130 Professional Readiness**

(1-1-0) Transition into the professional role of the Surgical Technologist including overview of professional readiness for employment, attaining certification, and maintaining certification status. A capstone experience may be included.

#### **SRGT-2266 Practicum - Surgical Technology/Technologist**

(2-0-16) Practical, general workplace training supported by an individualized learning plan developed by the employer, College, and student.

### **(SRVY) SURVEY TECHNOLOGY/SURVEYING**

#### **SRVY-1301 Introduction to Surveying**

(3-2-2) An overview of the surveying profession. The history of surveying and its impact on the world. Review of the mathematics used in surveying. Introduction to basic surveying equipment with emphasis on measurements. Instruction on surveying procedures and the limitation of errors. Calculation to determine precision and error of closure.

### **(STSC) STUDENT SUCCESS**

#### **STSC-0111 Transition to College Success**

(1-1-0) Psychology of learning and success. Examines factors that underlie learning, success, and personal development in higher education. Topics covered include information processing, memory, strategic learning, self-regulation, goal setting, motivation, education and career planning and learning styles. Techniques of study such as time management, listening and note taking, text marking, library and research skills, preparing for examinations, and utilizing learning resources are covered. Skills will apply to all disciplines. *This is a developmental course and cannot be used to fulfill degree requirements.*

### **(TECA) EARLY CHILDHOOD EDUCATION**

#### **TECA-1303 Family, School and Community +**

(3-2-2) A study of the child, family, community, and schools, including parent education involvement, family and community lifestyles, child abuse, and current family life issues. Course content is aligned with State Board for Educator Certification Pedagogy and Professional Responsibilities Standards. This course requires students to participate in field experiences with children from infancy through age 12 in a variety of settings with

varied and diverse populations. Criminal background check required prior to enrolling. This course includes a 16-hour field laboratory experience.

### **TECA-1311 Educating Young Children +**

(3-2-2) An introduction to the education of the young child, including developmentally appropriate practices and programs, theoretical and historical perspectives, ethical and professional responsibilities, and current issues. Course content is aligned with State Board for Educator Certification Pedagogy and Professional Responsibilities Standards. This course requires students to participate in field experiences with children from infancy through age 12 in a variety of settings and diverse populations. This course includes a 16-hour field laboratory experience. Criminal background check required prior to enrolling.

### **TECA-1318 Wellness of The Young Child +**

(3-2-2) A study of the factors that impact the well-being of the young child including healthy behavior, food, nutrition, fitness, and safety practices. Focus is on local and national standards and legal implications of relevant policies and regulations. Course content is aligned with State Board for Educator Certification Pedagogy and Professional Responsibilities Standards. This course requires students to participate in field experiences with children from infancy through age 12 in a variety of settings with varied and diverse populations. This course requires a 16-hour field laboratory experience. Criminal background check required prior to enrolling.

### **TECA-1354 Child Growth and Development +**

(3-3-0) A study of the physical, emotional, social, and cognitive factors impacting growth and development of children through adolescence.

## **(TRVM) TOURISM AND TRAVEL SERVICES MANAGEMENT**

### **TRVM-1201 Customer Sales and Service**

(2-2-0) Practical information and techniques to create excellent customer sales and service unique to the travel public.

### **TRVM-1327 Special Events Design**

(3-3-0) The development of a special event from the conceptual stage through completion. Emphasis on industry terminology, factors to consider when planning a special event, and contingency plans.

## **(WIND) WIND ENERGY**

### **WIND-2459 Wind Power Delivery System**

(4-3-3) Components, equipment, and infrastructure used in the production and transmission of electricity as related to wind turbine power.

## **(WLDG) WELDER/WELDING TECHNOLOGY**

### **WLDG-1412 Introduction to Flux Cored Arc Welding (FCAW)**

(4-3-3) An overview of terminology, safety procedures, and equipment set-up. Practice in performing T-joints, lap joints, and butt joints using self-shielded and gas-shielded electrodes.

**WLDG-1417 Introduction to Layout and Fabrication**

(4-3-3) A fundamental course in layout and fabrication related to the welding industry. Major emphasis on structural shapes and use in construction.

**WLDG-1428 Introduction to Shielded Metal Arc Welding (SMAW)**

(4-3-3) An introduction to shielded metal arc welding processes. Emphasis placed on power sources, electrode selection, oxy-fuel cutting, and various joint designs. Instruction provided in SMAW fillet welding in various positions.

**WLDG-1430 Introduction to Gas Metal Arc Welding (GMAW)**

(4-3-3) Principles of gas metal arc welding, set-up and use of GMAW equipment, and safe use of tools/equipment. Instruction in various joint designs.

**WLDG-1434 Introduction to Gas Tungsten Arc Welding (GTAW)**

(4-3-3) Principles of gas tungsten arc welding (GTAW), including set-up and use of GTAW equipment. Instruction in various positions and joint designs.

**WLDG-1435 Introduction to Pipe Welding**

(4-3-3) An introduction to welding of pipe using the shielded metal arc welding (SMAW) process, including electrode selection, equipment set-up, and safe shop practices. Emphasis on weld positions 1G and 2G using various electrodes.

*Required Prerequisites:* WLDG-1428 and WLDG-1430 or approval of Program Coordinator

**WLDG-2451 Advanced Gas Tungsten Arc Welding (GTAW)**

(4-3-3) Advanced topics in GTAW welding, including welding in various positions and directions.

**WLDG-2453 Advanced Pipe Welding**

(4-3-3) Advanced topics involving welding of pipe using the shielded metal arc welding (SMAW) process. Topics include electrode selection, equipment set-up, and safe shop practices. Emphasis on weld positions 5G and 6G using various electrodes.