Tarrant County College®
SUCCESS WITHIN REACH.

2021-2022 Catalog

Effective Fall 2021 through Summer 2022

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This catalog includes policies, regulations, procedures, and general program and course content. Tarrant County College reserves the right to make changes at any time to reflect Board policies, administrative guidelines and procedures, and mandated state regulations.

Refer to the Catalog Addenda page to review any modifications made to this catalog.

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Catalog Addenda

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Spring 2022

02/17/2022	Course reactivated PHYS 1407 to follow the Core Curriculum Revision Process
02/16/2022	Course correction to RSPT 1166, RSPT 1266, and RSPT 2266 (Course Title)
02/16/2022	Course correction to RELE 1300 (Course Description)
02/16/2022	Course correction to MUAP 2292 (Course Description)
02/16/2022	Course correction to MUAP 1292 (Course Description)
02/16/2022	Course correction to MDCA 1162 (Course Title)
02/16/2022	Course correction to FDNS 2170 (Course Title)
02/15/2022	Course correction to ITCC 1414 (Course Description)
02/15/2022	Course correction to HPRS 1470 (Course Description)
02/15/2022	Course correction to HPRS 1471 (Course Description)
02/15/2022	Course correction to CHEM 2425 (Course Description)
02/15/2022	Course correction to BIOL 2420 (Course Description)
02/15/2022	Course correction to ANES 1371 (Course Description)
02/08/2022	Correction to Industrial Technician I - add Capstone notation to RBTC 1401
02/07/2022	Correction to Retail Management - add missing course SPCH 1311
02/07/2022	Correction to Manufacturing Technology - add Capstone notation to DFTG 2458 or MCHN 2444
02/07/2022	Correction to CNC Machinist Technology - add Capstone notation to MCHN 2431
02/07/2022	Course correction to CHEF 1310 (Course Description)

Fall 2021

12/17/2021	Course correction to INRW 0114 (Course Description and Prerequisites)
11/02/2021	Update to RSPT 1113 (Lab Hours) per THECB WECM

10/25/2021	Update to TSI Exemption for Private or Out-of-State students (*Effective October 25, 2021*)							
10/20/2021	Course correction to NMTT 2467 (Semester Credit Hours)							
10/18/2021	Course correction to COMM 2366 (Lecture/Lab Hours)							
08/23/2021	Courses deactivated due to low and/or no enrollment:							
	AIRP 2357	BIOL 2289	BMGT 1382	BMGT 1409	BMGT 2382	CHIN 2311	CHIN 2312	COMM 2305
	COMM 2315	DANC 1128	DANC 1305	GEOL 2289	GEOL 2389	GISC 2231	HUMA 1302	HUMA 1311
	HUMA 2319	HUMA 2323	ITSE 2405	KINE 1101	KINE 1106	KINE 1108	KINE 1109	KINE 1110
	KINE 1112	KINE 1114	KINE 1115	KINE 1118	KINE 1120	KINE 1123	KINE 1124	KINE 1126
	KINE 1130	KINE 1135	KINE 1136	KINE 1137	KINE 1138	KINE 1139	KINE 1140	KINE 1141
	KINE 1142	KINE 1143	KINE 1144	KINE 1145	KINE 1146	KINE 1147	KINE 2106	KINE 2108
	KINE 2110	KINE 2112	KINE 2114	KINE 2115	KINE 2116	KINE 2120	KINE 2130	KINE 2135
	KINE 2136	KINE 2137	KINE 2138	KINE 2139	KINE 2142	KINE 2144	KINE 2145	KINE 2146
	KINE 2147	MUEN 1131	MUEN 1136	MUEN 2131	MUEN 2136	MUEN 2152	MUSI 1160	MUSI 1161
	MUSI 2160	MUSI 2161	OSHT 1321	OSHT 2320	OSHT 2405	PHIL 2307	PHYS 1407	PHYS 2289
	PHYS 2389	PYSC 1110	SOCI 2326	SPAN 2315	SPAN 2389	SPCH 1342	SPCH 2289	SPCH 2333
	SPCH 2341	SPCH 2389	ARTS 2366					
07/26/2021	Update to Academic Information-Incomplete Grades procedures							
06/24/2021	Update to Projected Flight Costs for Commercial Pilot, Flight Instructor, and Professional Pilot, AAS							

COLLEGE INFORMATION

About TCC

Accreditation and Affiliations

Tarrant County College (TCC) is accredited by the Southern Association of Colleges and Schools Commission on Colleges to award the associate degree. Contact the Commission on Colleges at 1866 Southern Lane, Decatur, Georgia 30033-4097, telephone 404-679- 4500, or http://www.sacscoc.org, for questions about the accreditation of Tarrant County College.

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, and 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.

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.

3 Goals & 8 Principles

The three goals serve as the *lens* through which the College views its work.

- **One College**–TCC will function as One College to provide a consistent and successful student experience.
- **Student Ready College**–TCC will put students at the core of all programs and services, so that they are welcomed, engaged, and supported inside and outside the classroom.
- **Serve the Community**–TCC will serve the community and be its first choice for partnership.

The eight principles serve as the *focus* for the College's work:

- Campus Character and Quality
- High Schools
- Integrated Instructional/Learning Environments
- Integrated Student Success Model
- Learning Commons
- Scheduling and Facility Utilization
- Student Experience
- Workspace Environments

The College advances its mission by centering its work on the progression of these three goals and eight principles.

Values

The foundation of the College's work is anchored in a commitment to a set of institutional 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;

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.

Official Notices

Tarrant County College (TCC) 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 on 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. FERPA gives parents certain rights with respect to their children's education records. These rights transfer to the student when he or she reaches the age of 18 or attends a school beyond the high school level. 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 also allows the release of "directory information" - defined by each institution but limited to information that might have traditionally been published in a directory of students.

TCC directory information includes:

1. Name
2. Current address
3. Telephone number(s)
4. Program of study (major)
5. Dates of attendance
6. Full-time or part-time enrollment status
7. Degrees and awards received and dates granted
8. Previous educational institution(s) attended
9. Eligibility and participation in officially recognized activities

NOTE: Email addresses are not considered directory information at TCC.

At the time of application to TCC, students are informed of their right to withhold the release of directory information. Such requests are made to any campus Admissions and Registrar Office or the District Admissions and Records Office. Likewise, a student may request that TCC stop withholding release of directory information at any time. NOTE: employers often seek to verify enrollment or credentials earned; a student who opts to have release of directory information withheld may experience a delay in the release of such information, which can impact an offer of employment.

Without consent of the student, FERPA permits the release of student information to the following:

1. To officials at an institution in which the student seeks to enroll;
2. To comply with a court order or subpoena;
3. To other officials at TCC who have legitimate educational interest in specific student information, with only the minimum justified information being provided;
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. 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;
7. In strict compliance with the requirements of FERPA or other applicable law.

Otherwise, non-directory information is never released to any outside party without the student's official authorization. These non-directory items include but are not limited to:

1. Grade point average (GPA)
2. Academic standing
3. Grades or transcripts

TCC allows students to declare that certain individuals be able to act on their behalf in some respects. Students can complete a FERPA waiver by working with any campus Admissions and Registrar Office. These waivers are valid for a period of one year and can be renewed; the waiver can also be cancelled at any time.

Questions concerning FERPA may be directed to the campus Admissions and Registrar Office or the District Admissions and Records Office. For more information, refer to TCC website.

The American Opportunity Credit

Students may be eligible to claim an American Opportunity 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 for the first four years post-secondary 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.

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 an American Opportunity 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.

IRS Form 1098-T

In January of each year, an IRS Form 1098-T is made available to all students with payments made during the previous calendar year that are limited to the amount of tuition and other related educational expenses billed for the

tax year. This form is informational only and should not be considered as tax opinion or advice. As a requirement of the Taxpayer ACT of 1997, it serves to alert students that they may be eligible for federal income tax education credits. Receipt of the Form 1098-T does not indicate eligibility for the tax credit. TCC highly recommends that the student seek assistance from a tax advisor when determining their eligibility for an income tax education credit. Refer to the TCC website for the latest updates concerning the IRS Form 1098-T.

To determine the amount of qualified tuition and fees paid, and the amount of scholarships and grants received, a taxpayer should use their own financial records. Due to IRS regulations, TCC must include a student's Taxpayer Identification Number (TIN) (i.e. social security number) on the Form 1098-T for tax purposes. If the student did not provide this number when their application was submitted, the student may update their TIN by submitting a Record Change Request through their campus Admissions and Registrar Office. The Form 1098-T will be submitted to the IRS for a student even if they have not provided the College with their TIN. For more information concerning the tax identification number, visit the IRS website. Continuing Education tuition is not included on the IRS Form 1098-T.

Students are encouraged to consent to the electronic format to receive immediate access when the Form 1098-T is available to students. TCC will send one mass mailing in January to students who have not selected the electronic format by the deadline. After the mass mailing in January, all students will obtain their Form 1098-T online through the TCC website. For further questions, call the 1098T hotline number at (817) 515-1098. Due to privacy laws, TCC can only release limited information by phone to the student.

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.

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.

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.

Students Subject to Additional Tuition and Fees

At this time, Tarrant County College does not require additional charges for any categories of excess hours. TCC 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 (ESOL) that are taken prior to the students' initial entrance test (i.e., TASP, THEA, TSI Assessment, Compass, MAPS and ASSET). It 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

The Texas Legislature eliminated funding to higher education for courses that are attempted three or more times. An attempted course is defined as any course in which a grade is earned on the transcript, including repeated courses and courses dropped with a grade of "W." Tracking of enrollments is the responsibility of TCC and will begin with enrollments in the Fall 2002 semester. State regulation allows an institution of higher education to charge a higher tuition rate to a student whose hours can no longer be submitted for state funding. Therefore, in order to compensate for this loss of state funding, students attempting a course for the third or more time will be assessed an additional tuition charge of $60 per credit hour for each repeated course. Effective with the Fall 2016 term, students receiving a tuition waiver or exemption will be responsible for paying any additional charges when attempting a course three or more times. The fee is subject to change each year upon action of the Texas Higher Education Coordinating Board.

Effective with the Fall 2013 term, TCC will charge a higher tuition rate for the following repeated courses:

- Same or substantially similar course content
- Attempted more than twice
- Graded and/or courses dropped after census (A, B, C, D, F, I, W, and in some instances, NC or CR)

Courses exempted from state funding limitations include:

- Audit
- Developmental education
- Continuing education
- Repeatable for credit
- Effective for Spring 2018, courses approved through the drop exception process (Drop 6 Rule).
- Required courses for degree during final semester before graduation. *(Students should complete the Third Attempt Rule Exemption Form and submit the form to a campus Admissions and Registrar Office. The exemption applies for only one semester.)*

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 term 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 three 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.

ENROLLMENT & STUDENT SERVICES

Admission to TCC

Students are encouraged to apply for admission using the online application through the TCC website. Applications may also be completed in person at any campus Admissions and Registrar Office.

Admission to Tarrant County College (TCC) does not guarantee acceptance into specific Selective Admission Programs. Students should consult the catalog, website, program brochure, program coordinator, campus Admissions and Registrar Office, or the Advising and Counseling Center for additional information concerning specialized program requirements.

Through its program of courses in developmental English and 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.

Admission Requirements for New Applicants

First-Time-in-College (FTIC) students will be required to submit the admissions application at least 14 calendar days prior to the start of the desired session to be considered for admission for that session.

1. **High School Graduate**. Graduates of accredited high schools who have not attended any regionally accredited college or university after graduation from high school will be admitted upon completion of an Admissions Application. TCC defines an accredited high school as a Texas high school authorized through the Texas Education Agency, the Texas Private School Accreditation Commission, the Southern Association of Colleges and Schools, or if located in a state other than Texas, that state's comparable agencies and/or regional accrediting association.
    - Applicants under the age of 22 must comply with state law concerning meningitis vaccination before registration will be allowed.
    - An official high school transcript or copy of a high school diploma should be submitted at the time of admission or within the first term of enrollment.
2. **Home School Graduate.** Graduates of home school will be admitted upon completion of an Admissions Application. TCC defines a home school as a school where the parent or guardian has been directly involved in the instructional process.

- Applicants under the age of 22 must comply with state law concerning meningitis vaccination before registration will be allowed.
- A transcript of high school work may be submitted at the time of admission or within the first term of enrollment.

3. **High School Equivalency.** An individual who has passed the General Education Development (GED) test, HiSET exam, or TASC test will be admitted upon completion of an Admissions Application.
    - Applicants under the age of 22 must comply with state law concerning meningitis vaccination before registration will be allowed.
4. **College Transfer.** Transfer students who have attended another college or university prior to applying to TCC will be admitted upon completion of an Admissions Application.
    - Applicants under the age of 22 must comply with state law concerning meningitis vaccination before registration will be allowed.
    - These applicants are encouraged to provide official copies of all regionally-accredited transcripts before enrolling. Students who have attended a non-regionally accredited institution are encouraged to talk to an advisor about possible transfer credit.
    - Students receiving any type of financial assistance may be required to submit prior transcripts.
5. **Readmission.** Students who previously enrolled for undergraduate credit at TCC but have been away for 12 or more months do NOT need to reapply for admission - they should use the "Student Reactivation" link in the current student portal.

Special Admissions Processing:

1. **Dual Credit or Early College High School** – High school students who meet academic requirements may enroll in college courses prior to completion of their high school work. These students should start by completing the Admissions Application.
    - Dual Credit: Dual credit programs are college courses offered by TCC, but taught in the high school classroom or on a TCC campus. Credits may satisfy both high school and college requirements. Students interested in taking these courses should seek assistance from their high school counselor.
    - Early College High School: These students are selected by participating school districts, and should follow instructions provided by their school district about admission and registration.

    More information about admission is available on the TCC website and at each campus Admissions and Registrar Office. Need-based scholarships may be available for dual credit students who meet specific criteria. Information about scholarships is available at each campus Student Financial Aid Services Office.

2. **High School Graduation from a Non-Accredited High School** – Graduates from a non-accredited high school (schools not accredited as defined in item 1 or 2 above) may be admitted upon completion of an Admission Application.
3. **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 and an advisor visit may be required. More information is available at each campus Admissions and Registrar Office.
4. **Specialized Admission Programs** – Students seeking admission to any specialized admission program must first be admitted to the College but may be required to submit additional specific documentation prior to consideration for admission by that program.

Determination of Residency

The state of Texas requires each student to be classified as a resident or nonresident at the time of initial enrollment and after any break of enrollment for more than 12 months.

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 review the Residency webpage or contact the campus Admissions and Registrar Office. State requirements for residency may be found at www.collegeforalltexans.com or www.thecb.state.tx.us.

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 Admissions and Registrar Office.

Reclassification of Residency Status

Students who have been classified as Out-of-County should request reclassification by the Admissions and Registrar Office if they establish residence in Tarrant County; proof of residence at 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 Admissions and Registrar Office when their circumstances change in such a way as to meet state requirements. A Residency Questionnaire must be completed and submitted with the necessary documentation.

Bacterial Meningitis

The 82nd Texas Legislature approved Senate Bill 1107, which requires all new to TCC students under the age of 22 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

A Meningitis Vaccination (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, submitted through the current student portal, or submitted to the campus Admissions and Registrar 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 22 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 (valid for two years)
- TCC students incarcerated in a Texas prison

More information is available online at Texas Education Code Sec. 51.9192.

Continuing Students

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

- they have an outstanding debt to TCC; or
- they have been placed on academic suspension/dismissal; or
- they have not yet complied with the state's law regarding 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 via a Reactivation Link in the current student portal prior to registration for classes and should contact the campus Admissions and Registrar Office or District Admissions and Records Office if they have lived outside Texas and/or out of Tarrant County since last enrolled. Students whose residency status has changed are responsible for additional tuition charges.

International Admissions

Non-Citizens with (or Seeking) a Visa

Non-U.S. citizen applicants holding any temporary visa category issued by the United States Citizenship and Immigration Services (USCIS) other than an F1 visa should file a regular application for admission. Some of these students may be eligible to pay in-state tuition per the Texas Higher Educational Coordinating Board.

Students interested in studying at TCC under the F-1 student visa program should complete the following steps:

1. International Student Application.
2. Transcripts: First-time college students must submit proof of completion of a United States (U.S.) high school diploma or equivalent if this was completed outside of the United States. Transfer students must submit official transcripts from any U.S. institution they previously attended or transcript evaluations of non-U.S. coursework. For any type of non-U.S. high school credential or college coursework, TCC accepts evaluations completed by an accepted agency. A list of acceptable evaluation services is available on request from the International Admissions Office. 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). A minimum score of 525 on paper-based, 193 on computer-based, or 71 on Internet-based tests is required. Alternately, if the TOEFL is not available students may take the IELTS (Academic) test. A score of 5.5 is required.
4. The state of Texas requires each student complete Texas Success Initiative (TSI) requirements to ensure 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. Transfer students seeking an F1 visa must be TSI-met in all areas through testing or coursework. The state-approved test is available on each campus through the Testing Center. To be considered for admission to Tarrant County College, prospective students must arrive in the United States at least three weeks before enrollment to arrange for testing.

5. Original financial statement documenting adequate funds to cover expenses plus a bank endorsement of the availability of such funds. Amounts are provided by International Admissions. 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.

NOTE: Students applying for admission from outside the United States may submit items 4, 6, and 7 after acceptance into the College but prior to registration for classes.

An F-1 visa student must maintain full-time status. A student enrolled for 12 or more hours of 16-week courses during the fall or spring term is considered a full-time student.

Non-Citizens without a Visa

Non-U.S. citizens seeking TCC admission who do not hold a valid 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 Admissions and Registrar Office.

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 Admissions and Registrar Office or the District Admissions and Records Office 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 recognize 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 where credit courses were completed. All enrollment regardless of an Academic Fresh Start decision will be used to determine Financial Aid eligibility. Financial Aid cannot ignore any enrollment even if an Academic Fresh Start is granted. For additional information about Academic Fresh Start and financial aid contact the campus Student Financial Aid Services Office.

Selective Admission Programs

Program costs and/or availability of facilities make it necessary for some 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. Criteria for admission to these programs are listed with the respective program curricula.

- Anesthesia Technology, AAS
- Aviation Maintenance Technology: Powerplant, AAS
- Aviation Maintenance Technology-Powerplant
- Aviation Maintenance Technology: Airframe, AAS
- Aviation Maintenance Technology-Airframe
- Basic Firefighter Certification
- Basic Peace Officer Certification
- Central Sterile Processing
- Commercial Pilot
- Computed Tomography Advanced
- Dental Hygiene, AAS
- Diagnostic Medical Sonography, AAS
- Dietetic Technician, AAS
- Dietary Manager
- Emergency Medical Services, AAS
- Emergency Medical Technician
- Health Information Technology, AAS
- Medical Assistant
- Nuclear Medicine Technology, AAS
- Nursing, AAS
- Paramedic Program
- Physical Therapist Assistant, AAS
- Professional Pilot, AAS
- Radiologic Technology, AAS
- Respiratory Care, AAS
- Sign Language Interpreting, AAS
- Surgical Technology, AAS
- Vascular Interventional Radiography
- Vocational Nursing

Transcript Requirements

Each transfer applicant should arrange for an official transcript to be sent to TCC from each accredited institution previously attended for credit coursework. Transcripts should be submitted prior to initial enrollment or as soon as possible during the first TCC term.

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. Elective credit may be awarded if TCC does not have an equivalent course in content or credit hours. The transcripts of degree-seeking TCC students will be automatically evaluated, usually within 2-4 weeks of submission of all transcripts.

Students who have attended an international college or university should see the Evaluation of Foreign Credentials section or contact International Admissions for additional information about transcript 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. Official transcripts may be used to determine an applicant's academic prerequisites, residency status, and TSI status. In addition, all official transcripts must be on file before students may qualify for most financial aid programs, veterans' educational benefits, and other College services such as transcript evaluation and degree planning. Transcripts and other academic credentials provided to TCC will not be returned to the student.

Students who have gained proficiency through completion of coursework at a non-regionally accredited institution or through other educational experiences should review options available through Prior Learning Assessment.

Registration

Access to Online Services

Access to registration and all other online services is secured by each student's user ID and self-assigned Tarrant County College password. Registration and other services are available through the current student portal.

Registration

Current and prospective students who have completed the admissions process and have met all requirements are eligible to register for classes. Registration services are available online and in-person. Registration assistance is provided on each campus through the Admissions and Registrar Office and the Advising and Counseling Centers.

MyTCCTrack is the one-stop-shop online student portal for accessing student services. These online student services include Student Planning, a degree planning and student registration module that allows students to view, plan, and register for classes.

Priority Registration

Priority registration is offered for Fall and Spring terms. Students currently enrolled in the Fall term are eligible for priority in the following Spring term; students currently enrolled in the Spring term are eligible for priority in the following Fall. A date for priority registration is assigned based on the number of TCC hours a student has earned including developmental courses and prior learning assessment credits. No priority registration is offered for the Summer term.

Except for priority registration periods, all eligible students are allowed to register during scheduled registration periods. Registration for all sessions ends one day prior to the start of classes for that session.

Students are encouraged to plan early for registration and make arrangements for payment before registration begins.

First-Time-in-College (FTIC) Students

First-Time-in-College (FTIC) students are students who have never attended a college or university. Students enrolled in a dual-credit program in high school and then graduated are still considered FTIC students when enrolled full-time at TCC. Admission requirements for FTIC students are found on the TCC website.

Dual Enrollment

Dual Credit

The purpose of Dual Credit is to allow eligible high school students to enroll in college courses and high school classes receiving both high school and college credit. Students can experience college-level courses at either the student's high school or Tarrant County College while continuing with their regular schedule. Participation in the dual credit program allows students to gain insight into the college academic experience and possibly shorten the time required to complete an associated or baccalaureate degree. Participation in this program will enable student to gain insight into the college education experience.

Home School

A home school student is a student who is receiving secondary schooling at home.

Dual Credit Tuition

Students participating in a Dual Credit program shall be charged the in-county tuition rate. Eligible courses must be on the Memorandum of Understanding and approved course crosswalk.

Early College High School

Early College High Schools (ECHS) are usually located on or near a college campus and provide high school students who might not otherwise consider attending college the opportunity to graduate with a high school diploma and 60 college credit hours.

ECHS differs from dual credit programs in that its focus begins in 9th or 10th grade, whereas dual credit programs are usually offered beginning in the 11th or 12th grade. For more information about a specific ECHS ISD, visit the ECHS webpage.

ECHS Tuition and Fees

TCC will waive tuition and fees for Students enrolled in the ECHS and operating under a Memorandum of Understanding (MOU) with credit courses based on the ECHS Course Crosswalk (eligible courses must be on the MOU and approved course crosswalk).

Tuition Waivers and Exemptions

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

Students must submit required documentation to the Admissions and Registrar 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, unless otherwise noted. Students should contact the campus Admissions and Registrar Office for additional information. State exemption and waiver program information may be found at College For All Texans.

Tuition Waiver Programs

Waivers allow certain students to pay the in-state (Texas resident) tuition rate even when their classification is nonresident.

Active Military and Dependents and Military Veterans: Non-Texan military personnel and/or their dependents stationed in Texas or living in Texas and military and dependents who move to Texas after discharge or retirement may qualify. For veterans, waiver requires eligibility for federal veteran education benefits.

Certain Non-Citizens: Local waiver authorized by the college. Enrollments under this waiver of nonresident charges are not reported to the state for funding. Proof of residence in the state for the immediate prior 12 months prior to enrollment is required.

Competitive Scholarship Recipients: Available for nonresident or foreign students receiving competitive scholarships of $1,000 or more administered through the Student Financial Aid Services 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.

Owners of Tarrant County Property Residing in Another County: Texas residents, who own Tarrant County property, and their income tax dependents, are eligible to pay the in-county tuition rate upon proving they own and have paid Tarrant County College tax on the property in the most recent tax year. Validation is done using the Tarrant County Appraisal District database, upon request from the student.

Teachers/Professors: Employees of Texas public institutions of higher education and their dependents may qualify for in-state tuition rates prior to reaching 12 months of domicile in the state.

Tuition Exemption Programs

Exemptions cover all tuition and in some cases, fees. The exemption will not cover the cost of digital materials. Students must be eligible for Texas tuition rates. All exemption programs are authorized by the State of Texas, which also dictates their conditions. Most recipients are subject to the college's Satisfactory Academic Progress (SAP) requirement.

Adopted Students: Certain persons adopted after being under conservatorship of the state qualify; a letter of eligibility from the Texas Department of Family Protective Services is required. Not subject to SAP requirement.

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

Children or Spouse of Disabled or Deceased Public Servants: Two different exemptions programs exist depending on the servant's date of injury or death and type of employment. Refer to the College for All Texans website or a campus Admissions and Registrar Office for assistance in determining eligibility. May also cover textbook costs.

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.

Combat Exemption: Dependent children or stepchildren of active duty service members deployed to a combative military operation.

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.

Educational Aides: Students working in certain paraprofessional positions in Texas public primary and secondary schools may apply; refer to a campus Student Financial Aid Services office for details.

Firefighters: Full time paid firefighters, along with certain volunteer firefighters, are exempt from payment of tuition and fees for all classes in certain approved programs of study.

Foster Care: Students who were under the care of the Texas Department of Family Protective Services (and not adopted) from age 14-18 may qualify. Not subject to SAP requirements.

Good Neighbor Scholarship: Students from other Western Hemisphere countries (except Cuba) approved for this award by the Texas Higher Education Coordinating Board qualify. Student should refer to a campus Student Financial Aid Services office for application instructions.

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 with no SAP requirement. 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. This program is overseen at the state level by the Texas Veterans Commission. More information can be found on the TVC website at https://www.tvc.texas.gov/.

Highest Ranking High School Graduate: Exemption for up to two initial semesters of enrollment. Official final transcript with rank from student's public high school is required. Must be used within 2 years of high school graduation.

Nursing Faculty and Nursing Preceptors: Certain nursing faculty and those hospital preceptors participating in nurse training programs may qualify; dollar limits may apply.

Peace Officers: This exemption covers only classes in criminal justice or law enforcement, when taken as part of an approved program. Other classes in the program are not covered. A letter verifying employment as a paid peace officer (as defined at College For All Texans) is required. Must apply for the exemption at least one week before the last date of the regular registration period for that semester.

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

Auditing a Course

Students who have been admitted to the College may audit courses on a space-available basis. Audit registration may be requested only on the first day of any session, by contacting the appropriate campus Admissions and Registrar office. No college credit is awarded for audited courses. The cost for auditing courses is the same as registration for credit. Senior citizens (persons 65 years of age or older) may use the state-authorized tuition waiver to audit up to six credit hours of coursework in a term.

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.

Texas Success Initiative (TSI)

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 mathematics, writing, and reading skills to determine a student's readiness to enroll in entry-level freshman courses. 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 Tarrant County College based on TSI or other college placement scores. Testing must be completed prior to enrolling in classes.

The Testing Centers on each campus administer tests required for the Texas Success Initiative. Testing appointments may be required. A fee may be required. Students should contact the campus Testing Center for additional information.

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

Students must complete a pre-assessment activity (PAA) prior to taking the TSI Assessment Test.

Free TSI Workshops may be offered to review test topics and provide practice for students retaking areas of the TSI Assessment. Students are encouraged to attend a TSI Workshop and to retest.

Testing Requirements for Restricted Courses

All TSI-liable students will be required to submit appropriate test scores before enrolling in college-level Mathematics, English, and/or Reading and Writing restricted courses. Successful completion of prerequisite courses may substitute for placement test scores. Testing requirements for specific courses are outlined in the course descriptions.

TSI Waivers and Exemptions

All students taking college-level courses must satisfy Texas Success Initiative (TSI) Assessment requirements unless they qualify for a TSI waiver or exemption.

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

Students who qualify for a TSI exemption are not required to test for TSI purposes, may not enroll in developmental coursework and/or interventions in the corresponding area of exemption, and do not need to develop and follow an Academic Success Plan. All prerequisites for enrollment in specific courses must be met.

Waivers:

1. Certificate Waiver – Students pursuing a one-year Certificate of Completion of no more than 42 semester hours are exempt from all three parts of TSI testing and may enroll in any course required for that certificate. There may be courses in the certificate program that require placement 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.
4. English Language Learners Waiver – Students who are not native speakers of English may request a waiver from the TSIA in order to develop their academic English skills. Students will take an English Placement test instead to determine correct placement in ESOL courses. Students using this waiver will be required to take the TSIA before they complete the 15th hour of ESOL. All TSI waivers must be renewed each term and all course prerequisites must be met.

5. A student who has successfully completed College Preparatory courses is eligible to receive a waiver for one year from the date of high school graduation. Successful completion of College Prep English/Language Arts allows for a one-year waiver for Reading and Writing. Successful completion of College Prep Math allows for a one-year waiver for Math.

All TSI waivers must be renewed each term and all course prerequisites must be met.

Exemptions:

1. TASP Exempt – Students who attended regionally accredited post-secondary institutions prior to the Fall of 1989.
2. Score Exempt – Students who achieved certain scores on the SAT, ACT, TAAS, TAKS, GED, HiSET, or STAAR EOC test may be fully or partially exempt.
3. Degree Exempt – Students who have earned an associate or higher degree from a regionally accredited post-secondary institution or from a recognized international institution.
4. Veteran Exempt – Students who were honorably discharged, retired, or released from active duty or from Texas National Guard on or after August 1, 1990.
5. Course Exempt – Students who have completed a restricted course from a regionally accredited college or university earning a grade of C or higher are exempt in the curricular area of that course, but must develop and pursue an academic success plan with an advisor in any remaining area(s).
6. Private or Out-of-State Transfer – Students who transfer from a regionally accredited college or university and have earned a grade of C in specific courses are exempt in the related TSI component. An official transcript must be submitted.

To be considered exempt for TSI Math, the student must have completed the equivalent to one of these courses with a grade of C or better:

- MATH 1314 - College Algebra +
- MATH 1316 - Plane Trigonometry +
- MATH 1324 - Mathematics for Business and Social Sciences +
- MATH 1325 - Calculus for Business and Social Sciences +
- MATH 1350 - Mathematics for Teachers I +
- MATH 1351 - Mathematics for Teachers II +
- MATH 2305 - Discrete Mathematics +
- MATH 2318 - Linear Algebra +
- MATH 2320 - Differential Equations +
- MATH 2412 - Pre-Calculus Math +
- MATH 2413 - Calculus I +
- MATH 2414 - Calculus II +
- MATH 2415 - Calculus III +

To be considered exempt on the Non-Algebraic Pathway for TSI Math, the student must have completed the equivalent to one of these courses with a grade of C or better:

- MATH 1332 - Contemporary Mathematics (Quantitative Reasoning) +
- MATH 1342 - Elementary Statistical Methods +

To be considered exempt for TSI English Language Arts and Reading (ELAR; also known as Integrated Reading and Writing), the student must have completed the equivalent to one of these courses with grade of C or better:

- ENGL 1301 - Composition I +
- ENGL 1302 - Composition II +

- ENGL 2322 - British Literature I +
- ENGL 2323 - British Literature II +
- ENGL 2327 - American Literature I +
- ENGL 2328 - American Literature II +
- ENGL 2332 - World Literature I +
- ENGL 2333 - World Literature II +
- GOVT 2305 - Federal Government (Federal Constitution & Topics) +
- GOVT 2306 - Texas Government (Texas Constitution & Topics) +
- HIST 1301 - United States History I +
- HIST 1302 - United States History II +
- PHIL 1301 - Introduction to Philosophy +
- PSYC 2301 - General Psychology +
- SOCI 1301 - Introduction to Sociology +

Exemptions are permanent and do not need to be renewed each semester.

Developmental Studies

Students who score below specified levels of the TSI Assessment 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 additional help 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.

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 mathematics, writing and reading 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.

Students enrolled in developmental courses may choose to register for a co-requisite course. A co-requisite course refers to a developmental course paired with a credit transfer course. The co-requisite model is an instructional strategy whereby a student is enrolled simultaneously in a developmental education course and/or intervention and a gateway course within the same semester. This allows a student sooner entry into their credit course requirements. The developmental component of the co-requisite provides support for successful completion of the college-level credit course.

A non-course based option (NCBO) is an educational intervention that uses learning approaches to prepare the student for college-level work.

The following are non-course based options (NCBO):

- INRW 0111 - Non-course Based Reading/Writing
- INRW 0112 - Non-course Based Reading/Writing
- INRW 0114 Non-course Based Reading/Writing
- MATH 0111 - Non-course Based Mathematics
- MATH 0132 - Coreq Contemporary Math

- MATH 0142 - Coreq Elementary Statistics
- MATH 0214 - Coreq College Algebra
- MATH 0224 - Coreq Math Business/Social Sciences

Placement in developmental courses is based on TSI 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 are developmental:

- ESOL 0301 ESOL Oral Communication 1
- ESOL 0302 ESOL Oral Communication 2
- ESOL 0303 ESOL Oral Communication 3
- ESOL 0304 Grammar for Non-native Speakers 1
- ESOL 0305 Grammar for Non-native Speakers 2
- ESOL 0306 Grammar for Non-native Speakers 3
- ESOL 0307 ESOL Reading and Vocabulary 1
- ESOL 0308 ESOL Reading and Vocabulary 2
- ESOL 0309 ESOL Reading and Vocabulary 3
- ESOL 0310 Writing for Non-native Speakers 1
- ESOL 0311 Writing for Non-native Speakers 2
- ESOL 0312 Writing for Non-native Speakers 3
- INRW 0399 - Integrated Reading and Writing II
- MATH 0361 - Developmental Mathematics I
- MATH 0362 - Developmental Mathematics II (Intermediate Algebra)
- STSC 0111 - Transition to College Success

Adult Education Courses

Adult education courses (MATH 0090 and INRW 0090) are designed for students who are assessed and need additional review or foundational material to increase success in developmental or college-level courses. Courses will follow the attendance policies and curricula is aligned with developmental education courses.

Attendance in Developmental Courses

Students taking developmental Mathematics and/or Integrated Reading and 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 is not successfully performing in the course may be withdrawn at the discretion of the instructor.

English Speakers of Other Languages (ESOL)

ESOL waivers apply to English Language Learners requesting to waive their Texas Success Initiative Assessment (TSIA). Students that apply for this waiver must be in agreement with the following guidelines set by the Texas Higher Education Coordinating Board (THECB).

1. Student is a non-native speaker of English who wishes to remediate before taking the TSIA;
2. Student understands that he/she can take ESOL courses only while remediating; if a student elects to take the TSIA for mathematics and passes, he/she may enroll in math courses for which he/she is eligible;

3. Student understands that he/she must take the TSIA before he/she completes the 15th hour of ESOL developmental education;
4. Student will need to take the placement test in order to register for the correct level of ESOL.

For additional information regarding ESOL refer to the TCC website.

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) for students who are TSI-liable in at least one content area.

Transition to College Success is a non-degree credit, one-hour course. It is intended to be taken during a student's first term in college. TSI-liable students who do not register for STSC 0111 in their first term will have a hold placed on their registration for future terms.

TSI Assessment 2.0 (TSIA2) Completion Requirements

(Effective January 11, 2021)

A status of TSI Compliant or Exempt in Mathematics and Integrated Reading/Writing is required to receive most degrees and some certificates of completion. To achieve this status, a non-exempt student must meet <u>one</u> of the following requirements for each skill area:

Mathematics

- Meet the TSIA2 with a College Readiness Classification (CRC) score of "950-990" **or**
- Meet the TSIA2 with a CRC score of "910-949" and diagnostic level of "6" **or**
- Earn a grade of "C" or higher in MATH 0362 **or**
- Earn a grade of "C" or higher in one of the following courses:
  MATH 1314 MATH 1324 MATH 1332 MATH 1342
- Students with a professionally diagnosed mathematics disability may contact Student Accessibility Resources on campus to discuss alternatives available for completion of the mathematics requirement.

Integrated Reading/Writing

- Meet the TSIA2 with a CRC score of "945-990" and an essay score of "5-8" **or**
- Meet the TSIA2 with a CRC score of "910-944" and diagnostic level of "5-6" and an essay score of "5-8" **or**
- Earn a grade of "C" or higher in one of the following courses:
  ENGL 1301 PSYC 2301 SOCI 1301

English Speakers of Other Languages (ESOL)

- Meet the TSIA2 with a CRC score of "945-990" and an essay score of "5-8" **or**
- Meet the TSIA2 with a CRC score of "910-944" and diagnostic level score of "5-6" and an essay score of "5-8"

In addition, to the requirements above:

1. Students who passed a state-approved TSI test in any skill area and were enrolled in a regionally accredited college or university prior to August 26, 2013, are TSI complete in the corresponding area.

2. 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.
3. Students whose previous Texas public college or university determined that they have met Minimum Passing Standards in Reading, Writing, and/or Math are met in the curricular area(s) indicated but must develop and pursue an Academic Success Plan in any remaining area(s).

TSIA2 Placement Score Charts

(Effective January 11, 2021)

MATH

<table>
<tr><th colspan="4">COURSE PLACEMENT</th></tr>
<tr><th>COLLEGE READINESS CLASSIFICATION (CRC)</th><th>DIAGNOSTIC LEVEL</th><th>ALGEBRAIC</th><th>NON-ALGEBRAIC</th></tr>
<tr><td rowspan="4">910 - 949</td><td>1 - 2</td><td colspan="2">MATH 0090</td></tr>
<tr><td>3</td><td colspan="2">MATH 1332 & MATH 0132**

or

MATH 1342* & MATH 0142**</td></tr>
<tr><td>4 - 5</td><td>MATH 1314 & MATH 0214**

or

MATH 1324 & MATH 0224**</td><td>MATH 1332 & MATH 0111+

or

MATH 1342* & MATH 0111+</td></tr>
<tr><td>6</td><td>COLLEGE READY

MATH 1314 or MATH 1324</td><td>COLLEGE READY

MATH 1332 or MATH 1342*</td></tr>
<tr><td>950 - 990</td><td>N/A</td><td>COLLEGE READY

MATH 1314 or MATH 1324</td><td>COLLEGE READY

MATH 1332 or MATH 1342*</td></tr>
</table>

** TSI met in Reading and Writing is required for enrollment in MATH 1342.*

*** MATH 0132 = 1 hour NCBO for MATH 1332*

*** MATH 0142 = 1 hour NCBO for MATH 1342*

*** MATH 0214 = 2 hour NCBO for MATH 1314*

*** MATH 0224 = 2 hour NCBO for MATH 1324*

+To successfully complete this course, students will be co-enrolled in a supporting non-course based option (NCBO) MATH 0111.

INTEGRATED READING/WRITING (INRW)

COLLEGE READINESS CLASSIFICATION (CRC) 910 - 944 **and**		
DIAGNOSTIC LEVEL	**ESSAY**	**COURSE PLACEMENT**
1 - 3	None	INRW 0090
4	1 - 8 (5+ in this scenario will not give student TSI Met status)	INRW 0090
5 - 6	1 - 4	**Corequisite:** INRW 0399 + approved college-level course**
5 - 6	5 - 8	**COLLEGE READY**

COLLEGE READINESS CLASSIFICATION (CRC) 945 - 990 **and**	
ESSAY	**COURSE PLACEMENT**
1 - 3	**Corequisite:** INRW 0399 + approved college-level course**
4	**Corequisite:** INRW 0114* **or** INRW 0399 + approved college-level course**
5 - 8	**COLLEGE READY**

** INRW 0114 is a non-course based option (NCBO), just-in-time support that prepares the student for college-level work.*

***Approved college-level course includes ENGL 1301, PSYC 2301, or SOCI 1301.*

ENGLISH SPEAKERS OF OTHER LANGUAGES (ESOL)

COLLEGE READINESS CLASSIFICATION (CRC) 910-944 **and**		
DIAGNOSTIC LEVEL	**ESSAY**	**COURSE PLACEMENT**
1 - 3	None	Refer to ESL
4	1 - 8	**ESOL LEVEL 1:** ESOL 0301, ESOL 0304, ESOL 0307, ESOL 0310
5 - 6	1 - 4	**ESOL LEVEL 2:** ESOL 0302, ESOL 0305, ESOL 0308, ESOL 0311
5 - 6	5 - 8	**COLLEGE READY**

COLLEGE READINESS CLASSIFICATION (CRC) 945 - 990 **and**	
ESSAY	**COURSE PLACEMENT**
1 - 2	**ESOL LEVEL 1:** ESOL 0301, ESOL 0304, ESOL 0307, ESOL 0310
3	**ESOL LEVEL 2:** ESOL 0302, ESOL 0305, ESOL 0308, ESOL 0311
4	**ESOL LEVEL 3:** ESOL 0303, ESOL 0306, ESOL 0309, **or** ESOL 0312
5 - 8	**COLLEGE READY**

English Language Learners (ELLs) who need more time to refine their academic English skills may use the district TSI Waiver. This allows students to take up to 14 hours in ESOL before taking the TSI. If students choose this option, they will need to take the Michigan English Placement Test (MEPT) to determine appropriate placement into ESOL courses. ESL placement is also decided using the MEPT. The waiver allows ELLs to take ESOL classes only while postponing their TSI, Student Success course (STSC 0111), and New Student Orientation (NSOR).

ENGLISH LANGUAGE LEARNING PROGRAM (ELLP)

MICHIGAN ENGLISH PLACEMENT TEST CUT-SCORES
ESOL/ESLX PLACEMENT

Non-Credit ESL Course #	**Credit Course #**	**Level**	**Course Name**	**MEPT Scores**
ESLX 0301	ESOL 0301	LEVEL 1	Oral Communication	35 - 41
ESLX 0302	ESOL 0302	LEVEL 2	Oral Communication	42 - 48
ESLX 0303	ESOL 0303	LEVEL 3	Oral Communication	49 - 55
ESLX 0304	ESOL 0304	LEVEL 1	Writing & Grammar	35 - 41
ESLX 0305	ESOL 0305	LEVEL 2	Writing & Grammar	42 - 48
ESLX 0306	ESOL 0306	LEVEL 3	Writing & Grammar	49 -55
ESLX 0307	ESOL 0307	LEVEL 1	Reading & Vocabulary	35 - 41
ESLX 0308	ESOL 0308	LEVEL 2	Reading & Vocabulary	42 - 48
ESLX 0309	ESOL 0309	LEVEL 3	Reading & Vocabulary	49 - 55
ESLX 0310	ESOL 0310	LEVEL 1	Writing	35 - 41
ESLX 0311	ESOL 0311	LEVEL 2	Writing	42 - 48
ESLX 0312	ESOL 0312	LEVEL 3	Writing	49 - 55

MICHIGAN ENGLISH PLACEMENT TEST CUT-SCORES
COMG/ESLX PLACEMENT

Non-Credit ESL Course #	Level	Course Name	MEPT Scores
COMG 1003	BASIC 1 A, B	BASIC Communication Skills in the Workplace	0 - 6
COMG 1000	1 A, B	Communication Improvement	7 - 13
COMG 1001	2 A, B	Communication Improvement	14 - 20
COMG 1004	3 A, B	Communication Improvement	21 - 27
COMG 1005	4 A, B	Communication Improvement	28 - 34
ESLX 1010	1 A, B, C	Low Beginning English Skills	7 - 13

For more information, students should consult the campus Advising and Counseling Center.

Tuition and Fees

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 a change of status. Assistance regarding residency classification is available at each campus Admissions and Registrar office. For additional information on rules and regulations determining residence status go to the Texas Higher Education Coordinating Board website.

Each student is assigned to one of three tuition categories:

- Legal resident of Tarrant 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.
- Legal resident of another Texas County status is assigned to those who qualify for In-State status, but who do not reside in Tarrant County.
- Legal resident of other state/non-resident status is assigned to those who do not qualify for In-State status.

Tuition

All tuition is subject to change without notice. Registration is not complete 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-register or receive official transcripts or diplomas.

Effective with the Spring 2019 term, undergraduate tuition rates at Tarrant County College will be as follows:

Residency Status for Tuition Purposes	Per Semester Hour
Legal resident of Tarrant County for tuition purposes	$64
Legal resident of any other Texas county for tuition purposes	$126

Legal resident of another state for tuition purposes	$305
Non-resident alien for tuition purposes	$305
Additional tuition charges for courses attempted three or more times (Third Attempt Rule effective starting Fall 2013)	$60

Other TCC Charges/Fees*

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

Academics	**Charge**
Course audit	Tuition rate
Other program charges/certifications	As assessed
Special program fees/deposits	As assessed
Special program background checks/drug screenings	As assessed
Special trips (field trips/national or international)	As assessed
TCC Plus (Inclusive Access)/textbook rentals	As assessed
Identification (ID) and Permits	**Fees**
Parking permit	$0
Replacement parking permit	$5
Replacement Student ID (EasyRide pass)	$10
Fines and Fees	**Fees**
Copy Center fee	As assessed
Library fines	As assessed
Online outbound eTranscript request Online outbound Print and Mail Transcript request	$2 $4.50
Overnight outbound transcript request	$25 - $30
Parking fines	As assessed
Payment plan enrollment fee	$25
Replacement diplomas	$30
Returned payments (checks, ACH, debit/credit card transactions)	$25

Short-term loan fee	As assessed
Testing	**Fees**
TSI Assessment test	$29
TSI Assessment retest fee	$10 per section; $29 for all 3 sections
Other testing	As assessed
Prior Learning Assessment (PLA)	$25 per course
***All charges are subject to change at any given time.**	

Continuing Education courses (CE): Refer to the Continuing Education Catalog for specific tuition information. Tuition for CE courses will be based on anticipated costs.

Student Account Center

The Student Account Center is a student financial system designed to help students better manage their student account activity. Some of the features include payments by Automated Clearing House (ACH) or debit/credit card, payment plan enrollments, storing payment methods, or assigning authorized users. Students may access the Student Account Center by logging into their student account through MyTCCTrack and selecting the Student Account Center/Pay Now Helpful link. Please refer to the TCC website for the most updated information.

Payment Methods

For the convenience of the student, several payment methods are available*:

1. In person at a campus Business Services Office:

1. Cash
2. Major credit/debit cards: A photo id card is required for credit/debit card payments processed. Cardholder must be present.
3. Check: A driver's license is required for check payments. TCC will not accept checks as a form of payment for prior term balances or as a method of payment for previously returned items.
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 in accordance with the payment deadline indicated below. By submitting a voucher, the third-party sponsor agrees to pay all tuition. This includes any non-refundable tuition. If a third-party sponsor has not paid the student's tuition, per the voucher, by the end of the next term/quarter, the unpaid tuition will be moved to the student's account. The student will be responsible for the unpaid balance, which may be sent to a third-party collection agency.
5. Texas Higher Education Coordinating Board Prepaid Tuition Programs: Required documentation for these programs should be submitted to the campus Business Services office in accordance with the payment deadline indicated below.

2. Online through the Student Account Center:

1. Major credit/debit cards
2. Automated Clearing House (ACH) or Electronic Check
3. Payment Plan: All payment plan options are in line with the provisions of Section 54.0007 of the Texas Education Code.
    1. Students can view and enroll by logging into MyTCCTrack and selecting Student Account Center.

2. A $25 non-refundable enrollment fee is charged per plan for each term/quarter.
3. A $25 Returned Item fee will be assessed per instance.

** Payment methods may be restricted due to Returned Payments, delinquent payment plans, or outstanding balances.*

Per Texas Education Code 54.007(2)(d): A STUDENT WHO FAILS TO MAKE FULL PAYMENT OF TUITION AND MANDATORY FEES, INCLUDING ANY INCIDENTAL FEES, BY THE DUE DATE, MAY BE PROHIBITED FROM REGISTERING FOR CLASSES UNTIL FULL PAYMENT IS MADE. A STUDENT WHO FAILS TO MAKE FULL PAYMENT PRIOR TO THE END OF THE SEMESTER OR TERM MAY BE DENIED CREDIT FOR THE WORK DONE THAT SEMESTER OR TERM. It is the student's responsibility to be aware of the tuition payment schedule for each term. The following table illustrates the Undergraduate tuition payment schedule by term. Payment schedules are subject to change. For the latest information, please visit the TCC website.

TERM:	REGISTRATION DATE:	PAYMENT DEADLINE:
Fall	On/Before 1st Thursday in August	11:59 p.m. on 1st Thursday in August
Fall	1st Friday in August through last Tuesday before term begins	11:59 p.m. each Wednesday
Fall	On/After Wednesday before term begins through remainder of term	11:59 p.m. on same day as registration
Spring	On/Before 1st Thursday in December	11:59 p.m. on 1st Thursday in December
Spring	1st Friday in December through last Tuesday before term begins	11:59 p.m. each Wednesday
Spring	On/After Wednesday before term begins through remainder of term	11:59 p.m. on same day as registration
Summer	On/Before 1st Thursday in May	11:59 p.m. on 1st Thursday in May
Summer	1st Friday in May through last Tuesday before term begins	11:59 p.m. each Wednesday
Summer	On/After Wednesday before term begins through remainder of term	11:59 p.m. on same day as registration

Courses with an earlier start date than the 16-week Fall/Spring term or the 1st 5-week session of the Summer term may have an earlier payment deadline than listed above. Financial Aid students are responsible for the payment of Maymester and Wintermester tuition. Reimbursement will come at a later date depending on financial aid eligibility.

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.

Returned Payments

A Returned Payment (Chargeback) is the result of a dishonored or disputed check, ACH, or credit/debit card transaction. Returned Payments must be paid within 10 days of the return notification. Students will be notified by

TCC email and/or US mail. If the Returned Payment balance and $25 Returned Payment fee are not paid within 10 days or by the current term census date (whichever comes first), the student **may** be dropped from all current term courses and blocked from future registrations. **Returned Payments may result in restrictions on payments by check, ACH, and credit/debit card, as well as loss of payment plan privileges.**

NOTICE: DELINQUENT INSTALLMENT CONTRACTS, UNPAID RETURNED PAYMENTS, OUTSTANDING MISCELLANEOUS CHARGES, AND FINANCIAL AID ADJUSTMENTS WILL BE SENT TO A THIRD-PARTY AGENCY FOR COLLECTION. THE STUDENT MAY BE RESPONSIBLE FOR ANY COLLECTION AGENCY FEES INCURRED FROM THE ADDITIONAL COLLECTION EFFORTS. A student who fails to make full payment prior to the end of the semester or term/quarter will be prohibited from registering for future classes until full payment is made. Failure to make full payment prior to the end of the term/quarter may result in transcript denial.

Formal Means of Communication

TCC Business Services will send notices to the student's myTCC email as the formal means of communication.

Refund Policy

Students officially dropping and/or withdrawing, or dropped at the discretion of the instructor, during a regular 16-week session are eligible for a refund of tuition according to the following schedule.
***A calendar class day is defined as every calendar day, excluding weekends and holidays.**

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, or dropped at the discretion of the instructor, from a regular five-week summer session are eligible for a refund of tuition and fees according to the following schedule.
***A calendar class day is defined as every calendar day, excluding Fridays, weekends, and holidays.**

Prior to the first calendar class day*	100%
During the first five calendar class days*	70%
During the sixth calendar class day*	25%
After the sixth 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.

- Based upon the Refund Schedule, credit balances are automatically reflected on the student's account upon withdrawal or course cancellation.
- Refunds will be made to the debit/credit card used for payment if the refund is processed within 180 days of the original date of payment.
- Refunds for cash, check, ACH, debit/credit after 180 days of the original payment, will be processed using the student's preferred refund method selected with the contracted third-party refunding company. Please refer to the Refund Selection section below for further information. Students ages 15 years and under, or 55 years or older, will receive a refund by check.
- A refund may take up to six weeks to process.
- 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.
- Refunds are calculated/based on invoiced amounts, not payments made.
- 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.**
- 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 may request a review of their refund eligibility through the end of the next long semester for which the refund is requested, as shown on the chart below. Students who meet the Tuition Refund Request Guidelines may complete and submit the Tuition Refund Request Form found on the TCC website.

Term Requesting:	Submit By:
Fall	End of Next Spring Term
Summer	End of Next Fall Term
Spring	End of Next Fall Term

Refund Selection

Students between the ages of 16-54, who are eligible for financial aid or have registered for classes, will receive a refund selection kit from our contracted third-party refunding company. In addition to the refund selection kit, students will receive an email containing a personal code. Students are provided with instructions on choosing their preferred refund method for future financial aid or course refunds. If a refund selection kit is not received, visit the Refunds webpage for additional information.

Financial Responsibility Agreement

The Financial Responsibility Agreement (FRA) provides relevant information about the College's official financial policies and what is considered the responsibility of the student. Students will be asked to acknowledge the document every 120 days of accessing the online system. Students are encouraged to read the document to stay informed on the College's policies concerning areas such as tuition payment, past due balances, third party collections, refunds, Telephone Consumer Protection Act (TCPA), Family Educational Rights and Privacy Act (FERPA), and dual credit. Students may access the Financial Responsibility Agreement found in MyTCCTrack at any time.

Tuition Agreement

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.

Lost and Found

Lost and Found is located at each campus Business Services office. A District-wide retention schedule is followed for the disposal of unclaimed items.

Notary Services

Business Services offices provide notary services. Notaries will follow Chapter 87 of the Texas Administrative Code.

Student Financial Aid Services

TCC awards more than $99 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 October. 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 https://studentaid.gov.

A priority funding deadline of March 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 eligible credit certificate program (at least three hours of enrollment for most programs).
    - Financial Aid is only available for classes that are required for your eligible active academic program.
    - Note: Summer transient students (university students attending TCC for the summer only) are not eligible for aid at TCC because they are not pursuing a degree or certificate from TCC.
- 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 an 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 high school equivalency.
- 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 2019 IRS Tax Return Transcript (including parents' form if applicable) and an institutional verification form (IVF).

Approximately one to two 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 at Self-Service Financial Aid.

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 myTCC email account. Email should be checked regularly for communications from Student Financial Aid Services.

Campus Student Financial Aid Services may 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 on the TCC website.

Contact Information

More information on financial aid programs at TCC is available online on the TCC website, through email at financial.aid@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 (VA) while enrolled at TCC should complete a VA Certification Request in the current student portal as soon as initial admission requirements are met. Questions regarding eligibility and certification of VA educational benefits should be directed to the Admissions and Registrar Office. The Admissions and Registrar Office can answer questions about these benefits; the District Admissions and Records Office will certify enrollment to the VA, and monitor degree plans and academic progress. Veterans can apply for a determination of eligibility for VA educational programs by accessing the VA website. Veterans/spouses/dependents receiving veterans benefits are responsible for complying with VA regulations.

Certification of VA benefits will be processed when all required documents are provided. Most VA benefits are paid based on enrollment (full-time, three-quarter-time, or at least half-time). The VA and TCC consider 12 hours to be full time during the fall and spring 16-week sessions and four hours to be full time during each summer session. Veterans receiving Post 9/11 GI Bill (Chapter 33) benefits must be enrolled for at least 51 percent 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 housing allowance.

Veterans must complete and submit a request form for VA benefits each term. Students physically unable to complete the form online may contact their Admissions and Registrar Office for assistance. The request serves as the veteran's authorization to submit an enrollment certification to the VA. Each TCC campus has a veterans center where staff can provide guidance on these benefits.

POLICIES & PROCEDURES

Academic Information

Academic Standing

Academic standing is based on a student's Grade Point Average (GPA) and determines the student's eligibility for many benefits including whether the student may continue to be enrolled in the College. It is the student's

responsibility to determine and understand their academic status (good, probation, suspension, or dismissal) by checking their standing on the current student portal. At the end of each semester or term, academic standing is determined based on grades earned for that semester.

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 as long as a 2.0 semester 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 semester, including summer). As an option, the student may request an Academic Recovery Plan that allows the student to re-enroll with limited coursework, frequent sessions with an on-campus counselor, and the development of an action plan. After a student has served the first suspension, the student may continue to re-enroll by maintaining a semester GPA of 2.0 or higher. 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 (the next fall or spring semester, including summer). A student returning from Suspension II must consult with an on-campus counselor to obtain permission for readmission. Conditions of re-admissions may include special requirements or restrictions. After counseling, the student may be readmitted and have records reactivated by the campus Admissions and Registrar Office 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 semester 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. Conditions of readmission may include special requirements and/or restrictions.

A student returning from academic dismissal must a) consult with an on-campus counselor for development of an Academic Recovery Plan, b) schedule an appointment with the campus Vice President for Academic Affairs (VPAA) or VPAA's designee for readmission approval, and c) visit the campus Admissions and Registrar Office 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, Admissions and Registrar Office, or Vice President for 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.

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 College business are entitled to make up coursework missed. In all other cases, the instructor will determine whether the student will be permitted to make up work and will decide on the time and nature of the makeup. The student is 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 makeup of that work.

Students who stop attending class for any reason should officially withdraw from the class through the current student portal. 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.**

Refer to Attendance in Developmental Studies for additional information.

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 Admissions and 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 more than 18 semester hours without the permission of the Vice President for Academic Affairs or VPAA's designee. The College reserves the right to limit the course load of any student.

The recommended student course load limit during each five-week session of the summer term is six semester hours. The maximum load shall not exceed seven semester hours for one five-week session. The maximum credit that a student can earn during the entire summer term shall not exceed 17 semester hours. The Maymester is considered part of the summer term. The Wintermester is considered part of the spring 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.

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.

Drops or Withdrawals

A student may withdraw from a course or from the College until the last day to drop as noted in the Academic Calendar. Courses dropped on/or before the Official Day of Record (census date) 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 of "W" and will appear on the student's transcript. 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.

A student enrolled in special session courses (i.e. eight-week courses, late start courses, mini-terms, summer sessions, etc.) should be advised of the withdrawal deadline by the instructor or contact the campus Admissions and Registrar Office.

A student may withdraw from courses prior to the last day to drop through the current student portal, or by contacting the campus Admissions and Registrar Office in person during business hours. Withdrawing from classes may affect a student's Financial Aid status. A student who withdraws is responsible for verifying the drop processing was completed by viewing the unofficial transcript or student schedule. 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, email, or fax a letter to the campus Admissions and Registrar Office 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. Email requests must come from the student's TCC email account.

Six Drop Limit 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. The official day of record for an undergraduate regular term course is the 12th class day (census date). Check the calendar for all census dates, including other than regular terms.

Drop Exceptions can be approved by the Vice President for Student Development Services if the student documents one of the following:

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 documented 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.

After a student drops a course, they may request a Drop Exception Request in the current student portal. Requests can be submitted no later than 30 days after the end of the term.

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 Assessments

At the end of each term, TCC publishes a special schedule for final assessments. A student who must be absent from a final assessment activity should petition the faculty member to request permission and approval with final review by the Academic Dean to reschedule the assessment. A student absent without permission from a final assessment activity will be graded zero on the assessment.

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

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 Academic Dean in writing of the reason for review of grade.
2. The Academic Dean 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 writing. 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 final decision.

Incomplete Grades

The conditional grade of Incomplete ("I") may be given to a student prior to the end of the term, only with the approval of the Instructor, the Department Chair or Coordinator, the Division Dean, and the Vice President for Academic Affairs.

To be eligible for an Incomplete, a student must be passing the course at the time the Incomplete request is made, have a record of regular attendance, and timely submission of assignments in the course throughout the term.

Requests for Incompletes are only prior to the administering of final assessments for the term and the assignment of the final grade in the course. Emergency circumstances that will be considered for an Incomplete must be unforeseen and unavoidable such as (1) serious illness/injury, (2) a natural disaster, (3) a death in the immediate family, or (4) military deployment. Students must provide documentation of the circumstance with their request.

The instructor will determine the due date for completion of the remaining work. The deadline for completion of work for courses that are scheduled within the fall semester must be no later than the end of the spring semester. For summer and spring semesters, the deadline must be no later than the end of the fall semester.

The student must complete all course requirements prior to the deadline established by the instructor. If a Change of Grade is not submitted by the last day of the next long semester, the "I" will automatically convert to an "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.

Schedule of Classes

The Schedules of Classes for both credit and non-credit are available on the TCC website. The College reserves the right to add, change or cancel any course section as necessary.

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 eight weeks each, a session of 12 weeks, and a Weekend College session of 13 to 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 five weeks each and a variety of other sessions varying from three weeks to 10 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 Admissions and Registrar Office for additional information about particular session offerings.

Transcript of TCC Student Record

The transcript of college work is an official copy of the student's permanent record bearing the College seal and designated signature. A student may request a transcript online through the current student portal (PDF or mailed copies) or they may pick up transcripts in person at the campus Admissions and Registrar Office. Any outstanding debts to the College must be paid to the Business Services Office before the student's record will be released.

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

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 the 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. Most TCC courses transfer to other Texas public institutions of higher education, and Core Curriculum and Field of Study courses are guaranteed to transfer to fulfill the core or field element designated. This assumes the course has at least a C grade outcome, though some institutions will also accept grades of D. A student who feels their TCC course work did not transfer as expected can request that TCC investigate. A request can be made by emailing DT.records@tccd.edu. If TCC cannot identify an appropriate reason for a course not transferring, it will file a dispute notice with the receiving institution and/or the Texas Higher Education Coordinating Board.

Graduation

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

Commencement exercises are normally held at the conclusion of the spring term. The date(s) and times(s) are announced on the College website. A student completing graduation requirements during the summer or fall term may choose to participate in a commencement ceremony conducted at the conclusion of the following spring term.

A completed Commencement Interest Form (submitted in the current student portal) is required of all students participating in the annual commencement ceremony. All graduating students are encouraged to submit the form regardless of intent to participate in the ceremony to ensure the desired name is printed on the diploma and the correct address is on file for mailing the diploma. Students electing to participate in the ceremony should submit the form during the semester they will complete their final degree or certificate requirements

Tarrant County College (TCC) reserves the right to post degrees and/or certificates for current or former students who have met completion requirements but have not formally initiated the graduation process. Degrees and certificates are posted at the end of the term in which they are earned (in August, December and May), even if the final course is in a session ending before the term ends.

Requirements for Graduation

Tarrant County College offers six 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.

General Requirements for an **Associate Degree**:

1. A minimum of 25 percent of the semester credit hours 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 (some AAS degrees do not require TSI-met status in all areas).
6. All financial obligations to the College must be met.
7. Students applying to receive a subsequent two-year degree must complete an additional 15 hours in residence

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

1. A minimum of 25 percent of the semester credit hours 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 as determined by the coursework in the certificate.
5. All financial obligations to the College must be met.

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.

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 completed TCC courses, not including developmental coursework, and includes all coursework during the term of completion. 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.

The GPA computation to determine Graduation with Distinction includes only completed TCC courses, not including developmental coursework, and includes all coursework during the term of completion. Certificate recipients must complete at least 15 semester hours in residence at TCC to qualify for Graduation with Distinction.

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. Institutions may choose to transfer in some courses as elective credit if the TCC course does not exactly match the university course; students should plan TCC enrollments using course crosswalks published by the senior institutions.
2. Core Curriculum courses and the block of core curriculum is guaranteed by the State of Texas to transfer, component for component.
3. 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.
4. Only college-level courses with Lower Division 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 Admissions and Records Office by emailing transcript.eval@tccd.edu the notice of transfer credit denial to initiate the Transfer Dispute Resolution process.

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 skills 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.

General Regulations

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.

Change of Address

Students who change their home address or mailing address are expected to notify the College of this change immediately using the current student portal or by contacting the campus Admissions and Registrar Office. Documentation may be required if the change would lower the tuition rate.

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 their myTCC email account for official communications.

Communications to the entire student body are considered properly delivered when they are sent to the student's myTCC email account, posted on the current student portal and/or TCC website. Each student is responsible for regularly checking their myTCC email and these websites.

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 the time needed for travel for the purpose of the observance of a religious holy day. The law mandates that students be required to complete assignments or exams missed during the absence within a reasonable time.

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 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.

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. Students may record a "preferred 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 tax 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 Admissions and Records Office or the campus Admissions and Registrar Office.

Campus Carry

Effective August 1, 2017, the Campus Carry law (Senate Bill 11) allows those licensed individuals to carry a concealed handgun in buildings on public community college campuses, except in locations the College establishes as prohibited. Prohibited areas include but are not limited to Theater and Performance Halls, Health Services,

Testing Services, Counseling Services, Physical Education, Early College High School Programs, Child Care Facilities, and the TCC Police Department. Under the new law, openly carrying handguns is not allowed on college campuses. For more specific TCC regulations, go to the TCC website. For emergency information, go to the TCC website.

ACADEMICS

Transfer of Credit

Transcript Evaluation

Students working toward a Tarrant County College (TCC) associate degree or certificate of completion will have prior transcripts automatically evaluated once all transcripts are on file. Students who have indicated they are not degree seeking will not have automatic transcript evaluation, but can change their intent by contacting an Admissions and Registrar Office. Students who have completed coursework through a foreign college or university may request an evaluation through the International Admissions Office. Transfer credit of students receiving federal financial aid and/or VA benefits must be evaluated; students cannot receive these types of aid for courses they have previously completed.

Students transferring to TCC can expect that approved academic courses earned at any Texas public institution will be accepted in transfer as long as a passing grade was earned and TCC has an equivalent course. Elective credit may be awarded when TCC does not offer an equivalent course in content or credit hours. Students who dispute a transfer credit evaluation decision made by TCC should contact the District Admissions and Records 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 area colleges and universities. Campus Transfer Centers maintain transfer information provided by area institutions.

Prior Learning Assessment

Prior Learning Assessment (PLA) is a process for assessing learning gained outside a traditional post-secondary academic environment. PLA includes learning acquired through standardized exams, military service and training, work experience, professional certifications and licenses, and non-credit courses. PLA evaluates what a student already knows at the college level derived from these experiences.

A student must meet the following requirements to be eligible for PLA credit:

- Enrolled at least one full semester (fall, spring, summer) at Tarrant County College, and
- Enrolled during the semester credit is awarded; and
- Have successfully completed six hours at Tarrant County College prior to posting PLA credit.

Credit awarded through PLA does not satisfy the residency requirement toward graduation. The successful completion of any PLA will result in a grade of credit (CR) on the student's official record or transcript, which does not affect a student's grade point average.

A PLA fee of $25 per course is assessed to award credit. There is no PLA fee associated with Advanced Placement (AP), International Baccalaureate (IB) Diploma, military related credit, or CE to UG cross-listed courses. Fees are charged in accordance with schedules set by TCC policy and/or commercial testing agencies.

Tarrant County College accepts the following methods for validating prior learning and awarding credit:

1. Standardized Exams
    - Advanced Placement (AP) - Students who took rigorous college-level work while in high school may receive credit if they have successfully completed the AP course exam with a score of "3" or higher.
    - College-Level Examination Program (CLEP) - Students who exhibit mastery of a college subject through a CLEP exam may receive credit.
    - International Baccalaureate Diploma - Students who have received the International Baccalaureate (IB) diploma may be eligible to receive up to 24 hours of transfer credit for courses completed with a minimum grade of four (4).
2. Credit-by-Examination/Experience (CBE)
   Students who believe they already possess the knowledge and/or skills taught in certain courses or programs offered by the College may challenge these through credit-by-examination/experience. A request to challenge a course for credit may be based on achievement in the subject, non-traditional education, appropriate work, and/or other learning experiences. Credit-by-examination/experience is not available for all courses offered by TCC.

3. Professional Certifications and Licenses
   Students who possess a current professional certification or license may request credit for eligible courses associated with the declared or intended program of study.

4. Continuing Education to Undergraduate (CE to UG)
   Students may be eligible to earn academic (UG) credit for non-credit continuing education (CE) cross-listed courses taken at Tarrant County College.

5. Military Service/Training
   Students may receive credit for military service who have a) graduated from a public or private high school accredited by a generally recognized accrediting organization, a Department of Defense high school or earned a High School Equivalency diploma; and b) were honorably discharged after serving at least two years of service in the Armed Forces or were honorably discharged because of a disability.

   Students using Veteran Affairs (VA) benefits must submit a Joint Services Transcript (JST) for evaluation. Students must submit an official ACE Registry or JST summarizing military training to the District Academic Support Services Office for evaluation and determination of applicable credit.

Transfer to a College/University

Students attending Tarrant County College for one or two years then transferring to a senior college or university will have the best experience in 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 selected institution's college catalog and identify the freshman and sophomore courses suggested.
- Understand that there may be limits on the number of TCC credit hours that can transfer to a senior institution.
- See a TCC academic advisor or Transfer Center 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 and a passing grade in each course intended to transfer (some senior institutions require a C grade or better to transfer).

- Apply for admission to the senior college early in the last semester at TCC.
- Request an official transcript be sent to the transfer institution using the current student portal.

AAS to BAAS Pathways

The AAS to BAAS Transfer Collaborative brings together North Texas Community College Consortium colleges along with public and private universities across North Texas. This collaborative has created a common template to display guided pathways from all community college AAS degrees to university BAAS degrees. AAS-BAAS guided pathways are not intended to replace a degree audit but to function as a guided pathway for students, leading to informed decision-making. AAS-BAAS guided pathways can be found at http://www.ntxccc.org/pathways.

Core Curriculum

In order to provide a solid foundation for students' education and to make transfer between colleges and universities as smooth and seamless as possible, each state-supported institution of higher education in Texas has adopted a core curriculum. Through the Texas Core Curriculum, students gain knowledge of human cultures and the physical and natural world, develop principles of personal and social responsibility for living in a diverse world, and advance intellectual and practical skills that are essential for learning.

1. *Critical Thinking Skills* to include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information.
2. *Communication Skills* to include effective development, interpretation and expression of ideas through written, oral, and visual communication.
3. *Empirical and Quantitative Skills* to include the manipulation and analysis of numerical data or observable facts resulting in informed conclusions.
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, knowledge of civic responsibility, 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 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, Associate of Science, and Associate of Science in Engineering degrees include courses drawn from the core curriculum. A student concurrently enrolled at more than one institution of higher education should follow the core curriculum requirements in effect for the institution at which the student is classified as degree-seeking.

Tarrant County College has established the 42-semester-credit hour core curriculum listed below.

Communication (Code 010) - 6 Hours

Composition

One three-credit-hour course

- ENGL 1301 - Composition I +

Speech and Communication Skills

One three-credit-hour course

- SPCH 1311 - Introduction to Speech Communication +
- SPCH 1315 - Public Speaking +
- SPCH 1321 - Business and Professional Communication +

Mathematics (Code 020) - 3 Hours

One three-credit-hour course

- MATH 1314 - College Algebra +
- MATH 1316 - Plane Trigonometry +
- MATH 1324 - Mathematics for Business and Social Sciences +
- MATH 1325 - Calculus for Business and Social Sciences +
- MATH 1332 - Contemporary Mathematics (Quantitative Reasoning) +
- MATH 1342 - Elementary Statistical Methods +
- MATH 2412 - Pre-Calculus Math +
- MATH 2413 - Calculus I +

Life and Physical Sciences (Code 030) - 6 Hours *

Two four-credit-hour laboratory science courses

- BIOL 1406 - Biology for Science Majors I (Lecture + Lab) +
- BIOL 1407 - Biology for Science Majors II (Lecture + Lab) +
- BIOL 1408 - Biology for Non-Science Majors I (Lecture + Lab) +
- BIOL 1409 - Biology for Non-Science Majors II (Lecture + Lab) +
- BIOL 2401 - Anatomy and Physiology I (Lecture + Lab) +
- BIOL 2402 - Anatomy and Physiology II (Lecture + Lab) +
- BIOL 2406 - Environmental Biology (Lecture + Lab) +
- BIOL 2421 - Microbiology for Science Majors (Lecture + Lab) +
- CHEM 1405 - Introductory Chemistry I (Lecture + Lab) +
- CHEM 1407 - Introductory Chemistry II (Lecture + Lab) +
- CHEM 1411 - General Chemistry I (Lecture + Lab) +
- CHEM 1412 - General Chemistry II (Lecture + Lab) +
- CHEM 2423 - Organic Chemistry I (Lecture + Lab) +
- CHEM 2425 - Organic Chemistry II (Lecture + Lab) +
- GEOL 1401 - Earth Science for Non-Science Majors I (Lecture + Lab) +
- GEOL 1402 - Earth Science for Non-Science Majors II (Lecture + Lab) +

- GEOL 1403 - Physical Geology (Lecture + Lab) +
- GEOL 1404 - Historical Geology (Lecture + Lab) +
- GEOL 1405 - Environmental Science (Lecture + Lab) +
- GEOL 1445 - Oceanography (Lecture + Lab) +
- GEOL 1447 - Meteorology (Lecture + Lab) +
- PHYS 1401 - College Physics I (Lecture + Lab) +
- PHYS 1402 - College Physics II (Lecture + Lab) +
- PHYS 1403 - Stars and Galaxies (Lecture + Lab) +
- PHYS 1404 - Solar System (Lecture + Lab) +
- PHYS 1405 - Elementary Physics I (Lecture + Lab) +
- PHYS 1407 - Elementary Physics II (Lecture + Lab) +
- PHYS 1415 - Physical Science I (Lecture + Lab) +
- PHYS 2425 - University Physics I (Lecture + Lab) +
- PHYS 2426 - University Physics II (Lecture + Lab) +

Language, Culture and Philosophy (Code 040) - 3 Hours

One three-credit-hour course

- ENGL 2322 - British Literature I +
- ENGL 2323 - British Literature II +
- ENGL 2327 - American Literature I +
- ENGL 2328 - American Literature II +
- ENGL 2332 - World Literature I +
- ENGL 2333 - World Literature II +
- FREN 2311 - Intermediate French I +
- FREN 2312 - Intermediate French II +
- GERM 2311 - Intermediate German I +
- GERM 2312 - Intermediate German II +
- HIST 2311 - Western Civilization I +
- HIST 2312 - Western Civilization II +
- HIST 2321 - World Civilizations I +
- HIST 2322 - World Civilizations II +
- HUMA 1301 - Introduction to Humanities I +
- PHIL 1301 - Introduction to Philosophy +
- PHIL 1304 - Introduction to World Religions +
- PHIL 2306 - Introduction to Ethics +
- PHIL 2316 - Classical Philosophy +
- SPAN 2311 - Intermediate Spanish I +
- SPAN 2312 - Intermediate Spanish II +

Creative Arts (Code 050) - 3 Hours

One three-credit-hour course

- ARTS 1301 - Art Appreciation +

- ARTS 1303 - Art History I (Prehistoric to the 14th century) +
- COMM 2366 - Film Appreciation +
- DANC 2303 - Dance Appreciation +
- DRAM 1310 - Theater Appreciation +
- DRAM 2366 - Film Appreciation +
- HUMA 1315 - Fine Arts Appreciation +
- MUSI 1306 - Music Appreciation +
- MUSI 1307 - Music Literature +
- MUSI 1310 - American Music +

American History (Code 060) - 6 Hours

Two three-credit-hour courses

Choose one from the following:

- HIST 1301 - United States History I + **or**
- HIST 2327 - Mexican American History I +

Choose one from the following:

- HIST 1302 - United States History II + **or**
- HIST 2328 - Mexican American History II + **or**
- HIST 2301 - Texas History +

Government and Political Science (Code 070) - 6 Hours

Two three-credit-hour courses

- GOVT 2305 - Federal Government (Federal Constitution & Topics) +
- GOVT 2306 - Texas Government (Texas Constitution & Topics) +

Social and Behavioral Science (Code 080) - 3 Hours

One three-credit-hour course

- ANTH 2346 - General Anthropology +
- ECON 2301 - Principles of Macroeconomics +
- ECON 2302 - Principles of Microeconomics +
- GEOG 1301 - Physical Geography +
- GEOG 1302 - Human Geography +
- GEOG 1303 - World Regional Geography +
- PSYC 2301 - General Psychology +
- SOCI 1301 - Introduction to Sociology +

Component Area Option (Code 090) - 6 Hours

Composition

One three-credit-hour course

Choose one from the following:

- ENGL 1302 - Composition II + **or**
- ENGL 2311 - Technical and Business Writing +

Health and Wellness

One one-credit-hour course

- KINE 1164 - Introduction to Physical Fitness and Wellness +

Overflow (Extra) Hours *

Two semester-credit-hours

The two overflow (extra) semester-credit-hours are met by completing the Life and Physical Sciences requirement.

Total Semester Hours: 42

** Taking two four-credit-hour laboratory science courses allows a student to earn eight (8) semester-credit-hours; six of which are counted to meet the Life and Physical Sciences requirement. The other two semester-credit-hours are considered overflow (extra) hours and are used to complement the Component Area Option (Code 090) requirement.*

Program Type Definitions

AA Associate of Arts	A collegiate degree providing liberal arts curricula in university parallel and the pre-professional areas related to the baccalaureate degree. This is not generally 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 Associate of Arts degree requires 60 semester credit hours.
AA Associate of Arts in Music	A collegiate music degree that is consistent with the first two years of most university music degrees. This degree includes studies in piano, music theory, ear training, sight singing and music literature as well as an emphasis on performing solo and ensemble repertoire on a primary instrument or voice. This degree fulfills the transferable Field of Study in Music and not the TCC Core Curriculum. The Associate of Arts in Music degree requires 60 semester credit hours.
AAT Associate of Arts in Teaching	A collegiate degree that will satisfy the lower division requirements for a bachelor's degree leading to initial teacher certification. The Associate of Arts in Teaching degree requires 60 semester credit hours.
AS Associate of Science	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. The Associate of Science degree requires 60 semester credit hours.

AS Associate of Science in Engineering	A collegiate degree aligned with the Tuning Texas Engineering Degree Pathways and leading to a baccalaureate degree in an Accreditation Board for Engineering and Technology (ABET) accredited engineering program. The Associate of Science in Engineering degrees are Civil Engineering, Electric Engineering, Industrial Engineering and Mechanical Engineering. The Associate of Science in Engineering degree requires 60 semester credit hours.
FOS Field 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.
AAS Associate of Applied Science	A degree in a workforce field designed for students who wish to begin a career after completing a program of study. The curricula is 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. Most AAS degrees require 60 semester credit hours (SCH). The following degrees have been approved by the Texas Higher Education Coordinating Board to exceed the 60 SCH limit: Sign Language Interpreting (65 SCH), Dental Hygiene (68 SCH), Diagnostic Medical Sonography (65 SCH), Physical Therapist Assistant (66 SCH), Radiologic Technology (64 SCH), and Respiratory Care (66 SCH).
Certificates	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.
Occupational Skills Award	Requires 9 to 14 semester credit hours
Level 1 Certificate	Requires 15 to 42 semester credit hours, exempt from TSI requirements
Level 2 Certificate	Requires 30 to 51 semester credit hours, subject to TSI requirements
Enhanced Skills Certificate	Requires 6 to 12 semester credit hours, subject to special admission. This certificate is attached to an associate degree that provides the student with skills beyond career entry as identified by business and industry.
Advanced Technical Certificate	Requires 16 to 45 semester credit hours, subject to special admission. The certificate has a specific associate or baccalaureate degree (or, in some circumstances, junior-level standing in a baccalaureate degree program) as a prerequisite for admission, and is focused and clearly related to the prerequisite degree.

2021-2022 TCCD Program Inventory List

AA	Associate of Arts	**ESC**	Enhanced Skills Certificate
AAT	Associate of Arts in Teaching	**OSA**	Occupational Skills Award
AS	Associate of Science	**C1**	Level 1 Certificate
AAS	Associate of Applied Science	**C2**	Level 2 Certificate
FOS	Field of Study	**ATC**	Advanced Technical Certificate

Program Status	Program Code	Program Name	Program Type	Campus						Hours	CIP
Transfer Programs											
	AART.D001.UG	Associate of Arts	AA	SO	NE	NW	SE	TR	CN	60	24.0102
	AART.D005.UG	Associate of Arts in Business	AA	SO	NE	NW	SE	TR		60	24.0102
	AART.D002.UG	Associate of Arts in Kinesiology	AA	SO	NE	NW	SE	TR		60	24.0102
	AART.D003.UG	Associate of Arts in Music	AA	SO	NE	NW	SE	TR		60	50.0901
	AART.D004.UG	Associate of Arts in Visual Arts	AA	SO	NE	NW	SE	TR	CN	60	24.0102
Revised	AATE.D003.UG	Associate of Arts in Teaching: Early Childhood (EC) - 6	AAT	SO	NE					60	13.1210
Revised	AATE.D004.UG	Associate of Arts in Teaching: 4-8 and EC-12 Special Ed	AAT	SO	NE					60	13.1206
Revised	AATE.D005.UG	Associate of Arts in Teaching: 8-12 and EC-12 Other than Sp Ed	AAT	SO	NE					60	13.1205
	ASCI.D001.UG	Associate of Science	AS	SO	NE	NW	SE	TR	CN	60	24.0102
	ASCI.D002.UG	Associate of Science in Chemistry	AS	SO	NE	NW	SE	TR		60	24.0102

Revised	ASCI.D003.UG	Associate of Science in Mathematics	AS	SO	NE	NW	SE	TR		60	24.0102
	ASCE.D006.UG	Associate of Science in Engineering	AS				SE			60	14.0101
Field of Study Programs											
	AFOS.F023.UG	Architecture Field of Study	FOS	SO	NE	NW	SE	TR	CN	36	04.0201
	AFOS.F027.UG	Business Administration and Management Field of Study	FOS	SO	NE	NW	SE	TR	CN	24	52.0101
	AFOS.F017.UG	Civil Engineering Field of Study	FOS	SO	NE	NW	SE	TR	CN	39	14.0101
	AFOS.F024.UG	Criminal Justice Field of Study	FOS	SO	NE	NW	SE	TR	CN	15	43.0104
	AFOS.F019.UG	Mechanical Engineering Field of Study	FOS	SO	NE	NW	SE	TR	CN	36	14.0101
	AFOS.F010.UG	Music Field of Study	FOS	SO	NE	NW	SE	TR	CN	31	50.0901
	AFOS.F015.UG	Nursing Field of Study	FOS	SO	NE	NW	SE	TR	CN	34	51.3801
	AFOS.F029.UG	Psychology Field of Study	FOS	SO	NE	NW	SE	TR	CN	18	42.0101
	AFOS.F016.UG	Social Work Field of Study	FOS	SO	NE	NW	SE	TR	CN	15	51.1502
Technical Programs											
	ACCO.D002.UG	**Accounting Information Management, AAS**	AAS						CN	60	52.0302
	ACCO.T006.UG	Basic Bookkeeper	OSA						CN	9	52.0302
	ACCO.T003.UG	Accounting Clerk I	C1						CN	15	52.0302
	ACCO.T004.UG	Accounting Clerk II	C1						CN	28	52.0302
	ACCO.T005.UG	Accounting Clerk III	C2						CN	43	52.0302

	ANES.D001.UG	**Anesthesia Technology, AAS**	AAS					TR		60	51.0809
	ARCH.D001.UG	**Architectural Technology, AAS**	AAS	SO						60	15.0101
	ARCH.T009.UG	Architectural Technology	OSA	SO						9	15.0101
	ARCH.T001.UG	Architectural CAD Operator	C1	SO						18	15.0101
	ARCH.T005.UG	Architectural Paraprofessional	C1	SO						30	15.0101
	AUTC.D001.UG	**Automotive Collision Repair, AAS**	AAS	SO						60	47.0603
	AUTC.T001.UG	Automotive Metal Repair	C1	SO						21	47.0603
	AUTC.T002.UG	Automotive Refinishing	C1	SO						21	47.0603
	AUTS.D001.UG	**Automotive Service Technology, AAS**	AAS	SO						60	47.0604
	AUTS.T003.UG	General Service Technician	OSA	SO						12	47.0604
	AUTS.T001.UG	Engine Analysis Technician	C1	SO						22	47.0604
	AUTS.T002.UG	Heavy Line Technician	C1	SO						31	47.0604
	AUTS.D002.UG	**Automotive Service Technology: Toyota Technician Education Network, AAS**	AAS	SO						60	47.0604
	AUTS.T004.UG	Toyota General Service Technician	C1	SO						24	47.0604

	AUTS.T005.UG	Toyota Service Technician	C2	SO						48	47.0604
	AVIA.D002.UG	**Aviation Maintenance Technology: Airframe, AAS**	AAS			NW				60	47.0607
Revised	AVIA.T004.UG	Advanced Composite Technology	C1			NW				16	47.0607
	AVIA.T005.UG	Avionics Line Maintenance	C1			NW				30	47.0607
	AVIA.T001.UG	Aviation Maintenance Technology-Airframe	C2			NW				45	47.0607
	AVIA.D003.UG	**Aviation Maintenance Technology: Powerplant, AAS**	AAS			NW				60	47.0608
	AVIA.T002.UG	Aviation Maintenance Technology-Powerplant	C2			NW				45	47.0608
	BUAD.D001.UG	**Business Administration: Accounting Assistant, AAS**	AAS	SO	NE	NW	SE		CN	60	52.0201
	BUAD.TA01.UG	Accounting Assistant I	C1	SO	NE	NW	SE		CN	15	52.0201
	BUAD.TA02.UG	Accounting Assistant II	C1	SO	NE	NW	SE		CN	24	52.0201
	BUAD.TA03.UG	Accounting Assistant III	C2	SO	NE	NW	SE		CN	45	52.0201
	BUAD.D003.UG	**Business Administration: Business, AAS**	AAS	SO	NE	NW	SE	TR	CN	60	52.0201
	BUAD.T011.UG	Business I	C1	SO	NE	NW	SE	TR	CN	24	52.0201

	BUAD.T012.UG	Business II	C2	SO	NE	NW	SE	TR	CN	45	52.0201
	BUAD.D011.UG	**Business Administration: Entrepreneurship & Small Business Management, AAS**	AAS		NE	NW			CN	60	52.0201
	BUAD.T024.UG	Small Business Associate	OSA			NW				12	52.0201
	BUAD.T022.UG	Entrepreneurship and Small Business Management I	C1		NE	NW			CN	21	52.0201
	BUAD.T023.UG	Entrepreneurship and Small Business Management II	C2		NE	NW			CN	45	52.0201
	BUAD.D004.UG	**Business Administration: Fashion Merchandising, AAS**	AAS		NE					60	52.0201
	BUAD.T015.UG	Fashion Sales Associate	OSA		NE					12	52.0201
	BUAD.T013.UG	Fashion Merchandising I	C1		NE					21	52.0201
	BUAD.T014.UG	Fashion Merchandising II	C2		NE					45	52.0201
Revised	BUAD.D005.UG	**Business Administration: Management, AAS**	AAS	SO	NE		SE		CN	60	52.0201
Revised	BUAD.T025.UG	Retail Management	C1		NE		SE		CN	24	52.0201
	BUAD.T016.UG	Management I	C1	SO	NE		SE		CN	24	52.0201
Revised	BUAD.T017.UG	Management II	C2	SO	NE		SE		CN	45	52.0201

	BUAD.D006.UG	**Business Administration: Marketing, AAS**	AAS					TR	CN	60	52.0201
	BUAD.T021.UG	Marketing	OSA					TR	CN	12	52.0201
	BUAD.T018.UG	Marketing I	C1					TR	CN	21	52.0201
	BUAD.T019.UG	Marketing II	C2					TR	CN	45	52.0201
	BUAD.T020.UG	Marketing Enhanced Skills	ESC					TR	CN	12	52.0201
	SRCS.T001.UG	**Central Sterile Processing**	C1					TR		16	51.1012
	CHIL.D001.UG	**Child Development, AAS**	AAS		NE					60	19.0706
	CHIL.T007.UG	After School Provider	C1		NE					26	19.0706
	CHIL.T003.UG	Preschool Child Care Provider	C1		NE					27	19.0709
	CHIL.T002.UG	Child Care Administration	C2		NE					39	19.0708
Revised	CADD.D005.UG	**Computer-Aided Drafting and Design Technology: Building/Civil Technology, AAS**	AAS	SO						60	15.1301
	CADD.T013.UG	Basic CAD Technician	OSA	SO						14	15.1301
	CADD.T008.UG	Building Technology	C1	SO						29	15.1301
Revised	CADD.T009.UG	Civil Technology	C1	SO						30	15.1301
	CADD.D004.UG	**Computer-Aided Drafting and Design Technology:**	AAS	SO						60	15.1301

		Manufacturing Technology, AAS									
	CADD.T012.UG	CNC Machinist Technology	C1	SO						25	15.1301
	CADD.T010.UG	Manufacturing Technology	C1	SO						44	15.1301
	CSSC.T001.UG	**Computer Support Specialist (Customer Service/Call Center/Teleservice Operations)**	C1				SE			18	11.1006
	CONS.D003.UG	**Construction Management Technology, AAS**	AAS	SO						60	15.1001
	CONS.T009.UG	Residential/Commercial Site Layout and Framer Assistant	OSA	SO						10	15.1001
	CONS.T004.UG	Construction Inspection Technician	C1	SO						19	15.1001
	CONS.T008.UG	Construction Management Technology	C1	SO						25	15.1001
	CONS.T011.UG	Construction Business Entrepreneur	C2	SO						43	15.1001
	CONS.T010.UG	Computer-Aided Construction Scheduling	ESC	SO						9	15.1001
Revised	ITCT.D003.UG	**Convergence Technologies: Cloud Technology, AAS**	AAS		NE					60	11.0901
	ITCT.T006.UG	Convergence Technologies	OSA		NE					10	11.0901

Revised	ITCT.T005.UG	Convergence Cloud Technology	C1		NE					32	11.0901
	ITCT.T003.UG	Advanced Convergence Technologies	C1		NE					19	11.0901
	CRIM.D001.UG	**Criminal Justice, AAS**	AAS			NW				60	43.0104
	CRIM.T006.UG	Security Management	OSA			NW				9	43.0109
	CRIM.T005.UG	Crime Analyst	C1			NW				23	43.0402
	CRIM.T003.UG	Basic Peace Officer Certification	C1			NW				18	43.0107
	CULI.D003.UG	**Culinary Arts, AAS**	AAS				SE			60	12.0503
	CULI.T007.UG	Culinary Arts I	C1				SE			18	12.0503
	CULI.T009.UG	Baking and Pastry	C1				SE			29	12.0503
	CULI.T006.UG	Catering/Private Chef	C2				SE			47	12.0503
	DENH.D001.UG	**Dental Hygiene, AAS**	AAS		NE					68	51.0602
Revised	DIET.D002.UG	**Dietetic Technician, AAS**	AAS				SE			60	51.3103
	DIET.T008.UG	Healthy Meal Planning	OSA				SE			9	51.3103
	DIET.T006.UG	Nutrition Specialist I	C1				SE			16	51.3103
Revised	DIET.T009.UG	Dietary Manager	C1				SE			21	51.3103
	DIET.T007.UG	Food and Nutrition Coach	C2				SE			44	51.3103
	DEMR.T001.UG	**Diesel Technician**	C1	SO						30	47.0605

	DMSO.D001.UG	**Diagnostic Medical Sonography, AAS**	AAS					TR		65	51.0910
	DMSO.T001.UG	Diagnostic Medical Sonography	C2					TR		41	51.0910
	LNWK.D001.UG	**Electrical Line Technician, AAS**	AAS	SO						60	46.0303
	LNWK.T001.UG	Ground Technician	C1	SO						25	46.0303
	LNWK.T002.UG	Line Technician	C2	SO						44	46.0303
New	ELPT.T001.UG	**Electrician Helper**	C1	SO						18	46.0301
	ELEC.D009.UG	**Electronics Technology: Advanced Energy Technician, AAS**	AAS	SO						60	15.0303
	ELEC.T009.UG	Fundamentals of Oil and Gas Production	OSA	SO						12	15.0303
	ELEC.T005.UG	Oil and Gas Production Technology	C1	SO						29	15.0303
	ELEC.T006.UG	Renewable Energy Technology	C1	SO						29	15.0303
	ELEC.D004.UG	**Electronics Technology: Electronics & Telecommunication, AAS**	AAS	SO						60	15.0303
	ELEC.T008.UG	Fundamentals of Electronics	OSA	SO						12	15.0303
	ELEC.T001.UG	Electronics Technology	C1	SO						23	15.0303

Revised	ELEC.D005.UG	**Electronics Technology: Engineering Technology, AAS**	AAS	SO						60	15.0303
	ELEC.T002.UG	Electronics Engineering Technology	C1	SO						29	15.0303
	ELEC.D006.UG	**Electronics Technology: Robotics and Automation, AAS**	AAS	SO						60	15.0303
	ELEC.T003.UG	Mechatronics Technician	C1	SO						30	15.0303
	EMER.D002.UG	**Emergency Medical Services, AAS**	AAS		NE					60	51.0904
	EMER.T003.UG	Emergency Medical Technician	C1		NE					18	51.0904
	EMER.T002.UG	Paramedic Program	C1		NE					33	51.0904
	FIRP.D001.UG	**Fire Protection Technology, AAS**	AAS			NW				60	43.0201
	FIRP.T002.UG	Basic Firefighter Certification	C1			NW				18	43.0201
	GINS.D001.UG	**Geographic Information Systems, AAS**	AAS					TR		60	45.0702
	GINS.T004.UG	Basic Geographic Information Systems (GIS) Skills	C1					TR		20	45.0702
	GINS.T003.UG	Geographic Information Systems (GIS) Programmer	C1					TR		39	45.0702

	GINS.T001.UG	Geographic Information Systems	C2					TR		41	45.0702
	GRPH.D001.UG	**Graphic Communication, AAS**	AAS		NE					60	10.0305
	GRPH.T004.UG	Computer Graphics	C1		NE					36	10.0303
	GRPH.T006.UG	Photographic Retouching	C1		NE					15	10.0301
	HEAT.D005.UG	**Heating, Air Conditioning and Refrigeration Technology: Commercial HVAC/R Technician, AAS**	AAS	SO						60	15.0501
	HEAT.T008.UG	HVAC Installer	OSA	SO						11	15.0501
	HEAT.T011.UG	HVAC/R Commercial Technician	C2	SO						51	15.0501
	HEAT.D006.UG	**Heating, Air Conditioning and Refrigeration Technology: Residential HVAC/R Technician, AAS**	AAS	SO						60	15.0501
	HEAT.T009.UG	HVAC Residential Technician I	C1	SO						23	15.0501
	HEAT.T010.UG	HVAC Residential Technician II	C1	SO						20	15.0501
	HITT.D001.UG	**Health Information Technology, AAS**	AAS					TR		60	51.0707
	HORT.D001.UG	**Horticulture, AAS**	AAS			NW				60	01.0601

	HORT.T006.UG	Horticulture Basic Skills	OSA			NW				13	01.0601
	HORT.T005.UG	Plant Health Specialist	C1			NW				19	01.0601
	HORT.T004.UG	Horticulture	C1			NW				31	01.0601
	HORT.T007.UG	Horticulture Business Management	C2			NW				40	01.0601
	HOSP.D006.UG	**Hospitality Management: Food Service Management, AAS**	AAS				SE			60	52.0901
	HOSP.T010.UG	Foodservice Operations	C1				SE			18	52.0901
Revised	HOSP.T007.UG	Beverage Management I	C1				SE			22	52.0901
Revised	HOSP.T008.UG	Beverage Management II	C2				SE			40	52.0901
	HOSP.D007.UG	**Hospitality Management: Hospitality/Travel and Tourism Management, AAS**	AAS				SE			60	52.0901
	HOSP.T005.UG	Hospitality/Hotel Supervision	C1				SE			16	52.0901
	HOSP.T006.UG	Hospitality/Travel & Tourism Supervision	C2				SE			43	52.0901
	HOSP.D008.UG	**Hospitality Management: Meeting and Event Planning/Convention and Group Management, AAS**	AAS				SE			60	52.0901

	HOSP.T009.UG	Meeting & Event Planning/Convention & Group Management	C1				SE			19	52.0901
	HRMG.D001.UG	**Human Resources Management, AAS**	AAS		NE				CN	60	52.1001
	HRMG.T001.UG	Human Resources Specialist I	C1	SO	NE	NW	SE		CN	24	52.1001
	HRMG.T002.UG	Human Resources Specialist II	C2		NE				CN	42	52.1001
	INMT.D002.UG	**Industrial Technician, AAS**	AAS	SO						60	15.0303
New	INMT.T003.UG	Industrial Technician I	C1	SO						25	15.0303
New	INMT.T004.UG	Industrial Technician II	C2	SO						42	15.0303
Revised	ITCS.D007.UG	**Information Technology: Cybersecurity, AAS**	AAS	SO	NE	NW	SE	TR	CN	60	11.1003
Revised	ITCS.T019.UG	Cybersecurity Specialist	C1	SO	NE	NW	SE	TR	CN	27	11.1003
Revised	ITCS.T020.UG	Ethical Hacking	C2	SO	NE	NW	SE	TR	CN	47	11.1003
	ITCS.D006.UG	**Information Technology: Game, Simulation, and Animation Design, AAS**	AAS	SO						60	11.0101
	ITCS.T016.UG	Animation for Game and Simulation	C1	SO						18	11.0101
	ITCS.T007.UG	Game and Simulation Programming I	C1	SO						20	11.0101
	ITCS.T008.UG	Game and Simulation Programming II	C2	SO						42	11.0101

	ITCS.D008.UG	**Information Technology: Mission Critical Operations Data Center, AAS**	AAS	SO						60	11.0901
	ITCS.T021.UG	Data Center Operations	C1	SO						30	11.0901
Revised	ITCS.D002.UG	**Information Technology: Network Support, AAS**	AAS	SO	NE		SE			60	11.0101
Revised	ITCS.T001.UG	Cisco Support	C1	SO	NE		SE			16	11.0101
	ITCS.T004.UG	Information Technology Support	C1	SO	NE	NW	SE	TR		21	11.0101
	ITCS.T009.UG	Network Support	C2	SO	NE		SE			45	11.0101
	ITCS.T018.UG	Advanced Cisco Support	ESC		NE					12	11.0101
	ITCS.D003.UG	**Information Technology: Programming, AAS**	AAS	SO	NE	NW	SE	TR	CN	60	11.0101
	ITCS.T010.UG	Programming I	C1	SO	NE	NW	SE	TR	CN	16	11.0101
	ITCS.T011.UG	Programming II	C2	SO	NE	NW	SE	TR	CN	45	11.0101
	ITCS.D009.UG	**Information Technology: Web Applications Programming, AAS**	AAS	SO	NE		SE	TR		60	11.0101
	ITCS.T022.UG	Web Applications Programming I	C1	SO	NE	NW	SE	TR		22	11.0101
	ITCS.T023.UG	Web Applications Programming II	C2	SO	NE	NW	SE	TR		31	11.0101
	ITCS.T024.UG	Mobile Applications Programming	ESC	SO	NE		SE	TR		11	11.0101

	LIBR.D001.UG	**Library Technician, AAS**	AAS					TR		60	25.0301
	LIBR.T001.UG	Library Technician	C1					TR		19	25.0301
Revised	LOGI.D001.UG	**Logistics and Supply Chain Management, AAS**	AAS			NW				60	52.0209
	LOGI.T001.UG	Transportation Management	C1			NW				15	52.0209
	LOGI.T002.UG	Warehouse Management	C1			NW				15	52.0209
	LONG.T001.UG	**Long Term Care Administration**	C1					TR		27	51.0718
	MDCA.T001.UG	**Medical Assistant**	C1					TR		40	51.0801
	MENT.D004.UG	**Mental Health and Human Services, AAS**	AAS		NE					60	51.1502
	MENT.T004.UG	Social Work	C1		NE					30	51.1502
	MENT.D005.UG	**Mental Health Substance Abuse Counseling, AAS**	AAS		NE					60	51.1501
	MENT.T003.UG	Substance Abuse Counseling	C1		NE					24	51.1501
	NDTE.D001.UG	**Nondestructive Inspection, Testing and Evaluation, AAS**	AAS			NW				60	15.0702

	NMTT.D001.UG	**Nuclear Medicine Technology, AAS**	AAS					TR		60	51.0905
	NURS.D003.UG	**Nursing, AAS**	AAS					TR		60	51.3801
	NURS.T001.UG	Vocational Nursing	C2					TR		45	51.3901
	ENV.D003.UG	**Occupational Safety and Environmental Technology, AAS**	AAS			NW				60	15.0701
	ENVI.T004.UG	Environmental Health and Safety Technician	C1			NW				24	15.0701
	ENVI.T006.UG	Water Resources Technician	C1			NW				20	15.0701
	OFTP.D001.UG	**Office Technology Professional, AAS**	AAS						CN	60	52.0201
	OFTP.T004.UG	Office Assistant	OSA						CN	10	52.0201
	OFTP.T001.UG	Administrative Specialist	C1						CN	27	52.0201
	OFTP.T002.UG	Applications Specialist	C1						CN	22	52.0201
	OFTP.T003.UG	Office Technology Specialist	C2						CN	44	52.0201
New	OPTS.D001.UG	**Ophthalmic Technician, AAS**	AAS					TR		60	51.1803
New	OPTS.T001.UG	Ophthalmic Assistant I	C1					TR		15	51.1803
New	OPTS.T002.UG	Ophthalmic Assistant II	C2					TR		32	51.1803
	LEGA.D002.UG	**Paralegal Studies, AAS**	AAS		NE					60	22.0302
	LEGA.T002.UG	Paralegal Studies	ATC		NE					33	22.0302

	PTHA.D001.UG	**Physical Therapist Assistant, AAS**	AAS					TR		66	51.0806
	PFPB.D001.UG	**Pipe Fitter, AAS**	AAS	SO						60	46.0502
New	PFPB.T001.UG	Pipefitting-Basic	C1	SO						18	46.0502
New	PFPB.T002.UG	Pipefitting-Advanced	C2	SO						20	46.0502
	ATPP.D004.UG	**Professional Pilot, AAS**	AAS			NW				60	49.0102
	ATPP.T005.UG	Commercial Pilot	C1			NW				39	49.0102
	ATPP.T006.UG	Flight Instructor	ESC			NW				6	49.0102
	RTVF.D001.UG	**Radio, Television and Film, AAS**	AAS		NE					60	10.0202
	RTVF.T002.UG	Sound Recording Technology	C1		NE					30	10.0202
	RTVF.T004.UG	Multimedia Production	C2		NE					39	10.0202
	RADT.D001.UG	**Radiologic Technology, AAS**	AAS					TR		64	51.0911
Revised	RADT.T003.UG	Computed Tomography Advanced	ATC					TR		16	51.0911
Revised	RADT.T005.UG	Magnetic Resonance Imaging Technology Advanced	ATC					TR		28	51.0911
	RADT.T007.UG	Vascular Interventional Radiography	ATC					TR		23	51.0911
	REAL.D001.UG	**Real Estate, AAS**	AAS		NE					60	52.1501
	REAL.T001.UG	Real Estate	C1		NE					16	52.1501

New	DNTA.T001.UG	**Registered Dental Assistant**	C1		NE					25	51.0601
	RESP.D001.UG	**Respiratory Care, AAS**	AAS					TR		66	51.0908
	SIGN.D003.UG	**Sign Language Interpreting, AAS**	AAS					TR		65	16.1603
	SIGN.T005.UG	Conversational ASL for Healthcare Workers Certificate	OSA					TR		13	16.1603
	SIGN.T001.UG	Sign Language Communicator	C1					TR		30	16.1603
	SIGN.T002.UG	Basic American Sign Language Acquisition	C1					TR		16	16.1603
	SIGN.T006.UG	Educational Sign Language Interpreting	ESC					TR		6	16.1603
Revised	SURG.D001.UG	**Surgical Technology, AAS**	AAS					TR		60	51.0909
	WELD.D001.UG	**Welding Technology, AAS**	AAS	SO		NW				60	48.0508
	WELD.T002.UG	Welding-Basic	C1	SO		NW				19	48.0508
	WELD.T003.UG	Welding-Advanced	C1	SO		NW				20	48.0508

Programs of Study

Arts and Humanities

Multiple Campuses

Associate of Arts

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 60 semester hours.

AART.D001.UG
Associate of Arts
Arts & Humanities Pathway

Offered at All TCC Campuses

Program Requirements

Composition - 6 Hours

Two three-credit-hour courses

- ENGL 1301 - Composition I +

Choose one from the following:

- ENGL 1302 - Composition II + **or**
- ENGL 2311 - Technical and Business Writing +

Speech and Communication Skills - 3 Hours

One three-credit-hour course

- SPCH 1311 - Introduction to Speech Communication +
- SPCH 1315 - Public Speaking +
- SPCH 1321 - Business and Professional Communication +

Mathematics - 3 Hours

One three-credit-hour course

- MATH 1314 - College Algebra +
- MATH 1316 - Plane Trigonometry +
- MATH 1324 - Mathematics for Business and Social Sciences +
- MATH 1325 - Calculus for Business and Social Sciences +
- MATH 1332 - Contemporary Mathematics (Quantitative Reasoning) +
- MATH 1342 - Elementary Statistical Methods +
- MATH 2412 - Pre-Calculus Math +

- MATH 2413 - Calculus I +

Life and Physical Sciences - 8 Hours

Two four-credit-hour laboratory science courses

- BIOL 1406 - Biology for Science Majors I (Lecture + Lab) +
- BIOL 1407 - Biology for Science Majors II (Lecture + Lab) +
- BIOL 1408 - Biology for Non-Science Majors I (Lecture + Lab) +
- BIOL 1409 - Biology for Non-Science Majors II (Lecture + Lab) +
- BIOL 2401 - Anatomy and Physiology I (Lecture + Lab) +
- BIOL 2402 - Anatomy and Physiology II (Lecture + Lab) +
- BIOL 2406 - Environmental Biology (Lecture + Lab) +
- BIOL 2421 - Microbiology for Science Majors (Lecture + Lab) +
- CHEM 1405 - Introductory Chemistry I (Lecture + Lab) +
- CHEM 1407 - Introductory Chemistry II (Lecture + Lab) +
- CHEM 1411 - General Chemistry I (Lecture + Lab) +
- CHEM 1412 - General Chemistry II (Lecture + Lab) +
- CHEM 2423 - Organic Chemistry I (Lecture + Lab) +
- CHEM 2425 - Organic Chemistry II (Lecture + Lab) +
- GEOL 1401 - Earth Science for Non-Science Majors I (Lecture + Lab) +
- GEOL 1402 - Earth Science for Non-Science Majors II (Lecture + Lab) +
- GEOL 1403 - Physical Geology (Lecture + Lab) +
- GEOL 1404 - Historical Geology (Lecture + Lab) +
- GEOL 1405 - Environmental Science (Lecture + Lab) +
- GEOL 1445 - Oceanography (Lecture + Lab) +
- GEOL 1447 - Meteorology (Lecture + Lab) +
- PHYS 1401 - College Physics I (Lecture + Lab) +
- PHYS 1402 - College Physics II (Lecture + Lab) +
- PHYS 1403 - Stars and Galaxies (Lecture + Lab) +
- PHYS 1404 - Solar System (Lecture + Lab) +
- PHYS 1405 - Elementary Physics I (Lecture + Lab) +
- PHYS 1407 - Elementary Physics II (Lecture + Lab) +
- PHYS 1415 - Physical Science I (Lecture + Lab) +
- PHYS 2425 - University Physics I (Lecture + Lab) +
- PHYS 2426 - University Physics II (Lecture + Lab) +

Creative Arts - 3 Hours

One three-credit-hour course

- ARTS 1301 - Art Appreciation +
- ARTS 1303 - Art History I (Prehistoric to the 14th century) +
- COMM 2366 - Film Appreciation +
- DANC 2303 - Dance Appreciation +
- DRAM 1310 - Theater Appreciation +
- DRAM 2366 - Film Appreciation +

- HUMA 1315 - Fine Arts Appreciation +
- MUSI 1306 - Music Appreciation +
- MUSI 1307 - Music Literature +
- MUSI 1310 - American Music +

Language, Culture and Philosophy - 3 Hours

One three-credit-hour course

- ENGL 2322 - British Literature I +
- ENGL 2323 - British Literature II +
- ENGL 2327 - American Literature I +
- ENGL 2328 - American Literature II +
- ENGL 2332 - World Literature I +
- ENGL 2333 - World Literature II +
- FREN 2311 - Intermediate French I +
- FREN 2312 - Intermediate French II +
- GERM 2311 - Intermediate German I +
- GERM 2312 - Intermediate German II +
- HIST 2311 - Western Civilization I +
- HIST 2312 - Western Civilization II +
- HIST 2321 - World Civilizations I +
- HIST 2322 - World Civilizations II +
- HUMA 1301 - Introduction to Humanities I +
- PHIL 1301 - Introduction to Philosophy +
- PHIL 1304 - Introduction to World Religions +
- PHIL 2306 - Introduction to Ethics +
- PHIL 2316 - Classical Philosophy +
- SPAN 2311 - Intermediate Spanish I +
- SPAN 2312 - Intermediate Spanish II +

American History - 6 Hours

Two three-credit-hour courses

Choose one from the following:

- HIST 1301 - United States History I + **or**
- HIST 2327 - Mexican American History I +

Choose one from the following:

- HIST 1302 - United States History II + **or**
- HIST 2328 - Mexican American History II + **or**
- HIST 2301 - Texas History +

Government and Political Science - 6 Hours

Two three-credit-hour courses

- GOVT 2305 - Federal Government (Federal Constitution & Topics) +
- GOVT 2306 - Texas Government (Texas Constitution & Topics) +

Social or Behavioral Science - 3 Hours

One three-credit-hour course

- ANTH 2346 - General Anthropology +
- ECON 2301 - Principles of Macroeconomics +
- ECON 2302 - Principles of Microeconomics +
- GEOG 1301 - Physical Geography +
- GEOG 1302 - Human Geography +
- GEOG 1303 - World Regional Geography +
- PSYC 2301 - General Psychology +
- SOCI 1301 - Introduction to Sociology +

Health and Wellness - 1 Hour

One one-credit-hour course

- KINE 1164 - Introduction to Physical Fitness and Wellness +

Electives - 18

- Additional courses to complete 60 credit hours

Developmental courses cannot be used to fulfill a degree requirement.

Total Semester Hours: 60

Associate of Arts in Music

AART.D003.UG
Associate of Arts
Offered at Northeast, Northwest, South, Southeast and Trinity River Campus

Arts & Humanities Pathway
Learn more about Music

Program Requirements

First Year

Fall Term

- MUSI 1311 - Music Theory I + **FOS**
- MUSI 1116 - Sight Singing & Ear Training I + **FOS**
- MUAP 1291 - Individual Instruction + (for music major) **FOS**

- MUEN 11xx - Ensemble Course Semester Hour: 1

Choose one from the following:
- MUSI 1181 - Piano Class I + **or**
- MUAP 1191 - Individual Instruction +

- ENGL 1301 - Composition I +
- Mathematics Semester Hours: 3 *****
- HIST 1301 - United States History I +

Spring Term

- MUSI 1312 - Music Theory II + **FOS**
- MUSI 1117 - Sight Singing & Ear Training II + **FOS**
- MUAP 1292 - Individual Instruction + (for music major) **FOS**

Choose one from the following:
- MUSI 1182 - Piano Class II + **or**
- MUAP 1191 - Individual Instruction +

- MUEN 11xx - Ensemble Course Semester Hour: 1
- ENGL 1302 - Composition II +
- HIST 1302 - United States History II +

Second Year

Fall Term

- MUSI 2311 - Music Theory III + **FOS**
- MUSI 2116 - Sight Singing & Ear Training III + **FOS**
- MUAP 2291 - Individual Instruction + (for music major) **FOS**
- MUEN 21xx - Ensemble Course Semester Hour: 1

Choose one from the following:
- MUSI 2181 - Piano Class III + **or**
- MUAP 1191 - Individual Instruction +

- MUSI 1307 - Music Literature + **FOS**
- GOVT 2305 - Federal Government (Federal Constitution & Topics) +

Spring Term

- MUSI 2312 - Music Theory IV + **FOS**
- MUSI 2117 - Sight Singing & Ear Training IV + **FOS**
- MUAP 2292 - Individual Instruction + (for music major) **FOS**

Choose one from the following:

- MUSI 2182 - Piano Class IV + **or**
- MUAP 1191 - Individual Instruction +

- MUEN 21xx - Ensemble Course Semester Hour: 1
- Life and Physical Science Semester Hours: 4 *****
- GOVT 2306 - Texas Government (Texas Constitution & Topics) +

Total Degree Hours: 60

** Mathematics and Life and Physical Science electives must be chosen from the Core Curriculum.*

NOTE: To be core complete, take KINE 1164, one class from the Social and Behavior Science core and a second class from the Life and Physical Science core.

FOS: Music Field of Study

Associate of Arts in Visual Arts

AART.D004.UG
Associate of Arts
Offered at Northeast, Northwest, South, Southeast and Trinity River Campus

Arts & Humanities Pathway
Learn more about Visual Arts

Program Requirements

First Year

Fall Term

- ARTS 1316 - Drawing I +
- ARTS 1311 - Design I (2-Dimensional) +
- Mathematics Semester Hours: 3 *****
- ENGL 1301 - Composition I +

Choose one from the following:
- HIST 1301 - United States History I + **or**
- HIST 2327 - Mexican American History I +

Spring Term

- ARTS 1312 - Design II (3-Dimensional) +
- ARTS 1303 - Art History I (Prehistoric to the 14th century) +
- Social or Behavioral Science Semester Hours: 3 *****

Choose one from the following:

- HIST 1302 - United States History II + **or**
- HIST 2301 - Texas History + **or**
- HIST 2328 - Mexican American History II +

- ENGL 1302 - Composition II +

Second Year

Fall Term

- Studio Art Elective Semester Hours: 3 **
- ARTS 1304 - Art History II (14th century to the present) +
- GOVT 2305 - Federal Government (Federal Constitution & Topics) +
- Life or Physical Science Semester Hours: 4 *

  Choose one from the following:
- SPCH 1315 - Public Speaking + **or**
- SPCH 1311 - Introduction to Speech Communication + **or**
- SPCH 1321 - Business and Professional Communication +

Spring Term

- Studio Art Elective Semester Hours: 3 **
- Language, Culture, and Philosophy Elective Semester Hours: 3 *
- GOVT 2306 - Texas Government (Texas Constitution & Topics) +
- Life or Physical Science Semester Hours: 4 *
- KINE 1164 - Introduction to Physical Fitness and Wellness +

Total Degree Hours: 60

** Mathematics, Life and Physical Sciences, and Social/Behavioral Science electives must be chosen from the corresponding section of the Core Curriculum.*

*** Studio Art Electives may be chosen from ARTS 1317, ARTS 2313, ARTS 2316, ARTS 2317, ARTS 2323, ARTS 2326, ARTS 2333, ARTS 2341, ARTS 2346, ARTS 2347, ARTS 2348, ARTS 2356, ARTS 2357, or ARTS 2389.*

Music Field 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.

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.

AFOS.FO10.UG
Field of Study
Offered at All TCC Campuses

Arts & Humanities Pathway
Learn more about Music

Program Requirements

Ensemble

Four semester credit hours required

- MUEN 11xx - Ensemble
- MUEN 21xx - Ensemble

Applied Music

Eight semester credit hours required

- MUAP 1291 - Individual Instruction +
- MUAP 1292 - Individual Instruction +
- MUAP 2291 - Individual Instruction +
- MUAP 2292 - Individual Instruction +

Theory

Twelve semester credit hours required

- MUSI 1311 - Music Theory I +
- MUSI 1312 - Music Theory II +
- MUSI 2311 - Music Theory III +
- MUSI 2312 - Music Theory IV +

Aural Skills

Four semester credit hours required

- MUSI 1116 - Sight Singing & Ear Training I +
- MUSI 1117 - Sight Singing & Ear Training II +
- MUSI 2116 - Sight Singing & Ear Training III +

- MUSI 2117 - Sight Singing & Ear Training IV +

Music Literature

Three semester credit hours required

- MUSI 1307 - Music Literature + *

Total Semester Credit Hours: 31

** Fulfills a TCC Core Curriculum requirement.*

Psychology Field 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 the 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.

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

AFOS.F029.UG
Field of Study
Offered at All TCC Campuses

Arts & Humanities Pathway
Learn more about Psychology

Program Requirements

- PSYC 2301 - General Psychology +
- PSYC 2314 - Life Span Growth and Development +
- PSYC 2317 - Statistical Methods in Psychology +
- PSYC 2319 - Social Psychology +
- PSYC 2320 - Abnormal Psychology +
- PSYC 2330 - Biological Psychology +

Total Semester Credit Hours: 18

Northeast Campus

Computer Graphics

GRPH.T004.UG
Level 1 Certificate
Offered at Northeast Campus

Arts & Humanities Pathway
Learn more about Graphic Communication

Program Requirements

First Year

Fall Term

- ARTC 1305 - Basic Graphic Design
- ARTC 1313 - Digital Publishing I
- ARTC 1353 - Computer Illustration
- ARTS 1316 - Drawing I +

Spring Term

- ARTC 1302 - Digital Imaging I
- ENGL 1301 - Composition I +
- ARTS 1311 - Design I (2-Dimensional) +
- IMED 1316 - Web Design I

Second Year

Fall Term

- ARTC 2317 - Typographic Design
- ARTC 2305 - Digital Imaging II
- ARTV 1303 - Basic Animation
- ARTC 2335 - Portfolio Development for Graphic Design (Capstone) *****

Total Certificate Hours: 36

** Capstone is taken during the graduating semester.*

Photographic Retouching

GRPH.T006.UG
Level 1 Certificate
Offered at Northeast Campus

Arts & Humanities Pathway
Learn more about Graphic Communication

Program Requirements

Fall Term

- ARTC 1305 - Basic Graphic Design
- ARTC 1302 - Digital Imaging I
- ARTS 2356 - Photography I (Fine Arts Emphasis) +

Spring Term

- ARTC 2305 - Digital Imaging II

Choose one from the following:

- PHTC 1300 - Photo Digital Imaging I **or**
- PHTC 1353 - Portraiture I **or**
- ARTS 2357 - Photography II (Fine Arts Emphasis) +

Total Certificate Hours: 15

Sound Recording Technology

RTVF.T002.UG
Level 1 Certificate
Offered at Northeast Campus

Arts & Humanities Pathway
Learn more about Radio, Television and Film

Program Requirements

First Year

Fall Term

- COMM 2303 - Audio Production +
- RTVB 1302 - Computer Applications Media Production
- COMM 1336 - Video Production I +
- RTVB 2347 - Electronic Media Business Management

Choose one from the following:

- COMM 1307 - Introduction to Mass Communication + **or**
- COMM 1335 - Introduction to Electronic Media +

Spring Term

- RTVB 1347 - Audio/Radio Production II
- RTVB 1355 - Radio and Television Announcing
- RTVB 1321 - TV/Video Field Production
- ENGL 1301 - Composition I +
- RTVB 2343 - Commercial Recording Techniques (Capstone) *

Total Certificate Hours: 30

** A granted petition is required by the Program Coordinator for Capstone courses.*

Multimedia Production

RTVF.T004.UG
Level 2 Certificate
Offered at Northeast Campus

Arts & Humanities Pathway
Learn more about Radio, Television and Film

Program Requirements

First Year

Fall Term

- COMM 2303 - Audio Production +
- COMM 1336 - Video Production I +
- RTVB 2347 - Electronic Media Business Management

Choose one from the following:

- COMM 1307 - Introduction to Mass Communication + **or**
- COMM 1335 - Introduction to Electronic Media +

Spring Term

- RTVB 1347 - Audio/Radio Production II
- RTVB 1355 - Radio and Television Announcing
- RTVB 1321 - TV/Video Field Production
- ENGL 1301 - Composition I +
- RTVB 1302 - Computer Applications Media Production

Second Year

Fall Term

- FLMC 1304 - Lighting for Film or Video

Choose one from the following:

- COMM 2311 - Media Writing + **or**
- COMM 2339 - Writing for Radio, Television and Film +

- FLMC 2333 - Cinematography

- FLMC 2334 - Directing for Film or Video (Capstone) *

Total Certificate Hours: 39

** A granted petition is required by the Program Coordinator for Capstone courses.*

Graphic Communication, AAS

GRPH.D001.UG
Associate of Applied Science
Offered at Northeast Campus

Arts & Humanities Pathway
Learn more about Graphic Communication

Program Requirements

First Year

Fall Term

- ARTC 1305 - Basic Graphic Design
- ARTC 1313 - Digital Publishing I
- ARTS 1311 - Design I (2-Dimensional) +
- ARTS 1316 - Drawing I +

Choose one from the following:
- SPCH 1311 - Introduction to Speech Communication + **or**
- SPCH 1315 - Public Speaking + **or**
- SPCH 1321 - Business and Professional Communication +

Spring Term

- ARTC 1302 - Digital Imaging I
- ARTC 1353 - Computer Illustration
- ARTC 2313 - Digital Publishing II
- ARTS 2356 - Photography I (Fine Arts Emphasis) +

Summer Term

- ENGL 1301 - Composition I +

Choose one from the following:
- PSYC 2315 - Psychology of Adjustment + **or**
- PSYC 2301 - General Psychology +

- Approved Elective Semester Hours: 3 *

Second Year

Fall Term

- ARTC 2317 - Typographic Design
- ARTC 2305 - Digital Imaging II
- ARTC 2340 - Computer Illustration II
- IMED 1316 - Web Design I

Spring Term

- ARTV 1303 - Basic Animation
- IMED 2315 - Web Design II
- ARTC 2335 - Portfolio Development for Graphic Design (Capstone) **

Choose one from the following:

- MATH 1332 - Contemporary Mathematics (Quantitative Reasoning) + **or**
- MATH 1342 - Elementary Statistical Methods + **or**
- MATH 1314 - College Algebra +

Total Degree Hours: 60

** Approved Electives: ARTS, PHTC, MRKG, BMGT, BUSG, BUSI, COSC, or course approved by program coordinator.*

*** Capstone is taken during the graduating semester.*

Radio, Television and Film, AAS

RTVF.D001.UG
Associate of Applied Science
Offered at Northeast Campus

Arts & Humanities Pathway
Learn more about Radio, Television and Film

Program Requirements

First Year

Fall Term

- COMM 2303 - Audio Production +
- RTVB 1302 - Computer Applications Media Production
- COMM 1336 - Video Production I +
- ENGL 1301 - Composition I +

Choose one from the following:

- COMM 1307 - Introduction to Mass Communication + **or**
- COMM 1335 - Introduction to Electronic Media +

Spring Term

- RTVB 1347 - Audio/Radio Production II
- RTVB 1355 - Radio and Television Announcing
- RTVB 1321 - TV/Video Field Production
- RTVB 2330 - Film and Video Editing
- Mathematics Elective Semester Hours: 3 *

Second Year

Fall Term

- FLMC 1304 - Lighting for Film or Video

Choose one from the following:

- COMM 2311 - Media Writing + **or**
- COMM 2339 - Writing for Radio, Television and Film +

- FLMC 2333 - Cinematography
- ENGL 1302 - Composition II +
- RTVB 2343 - Commercial Recording Techniques

Spring Term

- FLMC 2334 - Directing for Film or Video

Choose one from the following:

- GOVT 2305 - Federal Government (Federal Constitution & Topics) + **or**
- GOVT 2306 - Texas Government (Texas Constitution & Topics) +

Choose one from the following:

- SPCH 1311 - Introduction to Speech Communication + **or**
- SPCH 1315 - Public Speaking + **or**
- SPCH 1321 - Business and Professional Communication +

- RTVB 2347 - Electronic Media Business Management
- RTVB 2387 - Internship-Radio and Television (Capstone) **

Total Degree Hours: 60

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

*** Requires approval of program coordinator.*

Business and Industry

Multiple Campuses

Associate of Arts in Business

AART.D005.UG
Associate of Arts
Offered at All TCC Campuses

Business & Industry Pathway
Learn more about Business

Program Requirements

First Year

Fall Term

- ENGL 1301 - Composition I +
- HIST 1301 - United States History I +
- MATH 1324 - Mathematics for Business and Social Sciences + **FOS**
- BCIS 1305 - Business Computer Applications + **FOS**
- ECON 2301 - Principles of Macroeconomics + **FOS**

Spring Term

- ENGL 1302 - Composition II +
- HIST 1302 - United States History II +
- BUSI 1301 - Business Principles + **FOS**
- ECON 2302 - Principles of Microeconomics + **FOS**
- Creative Arts Semester Hours: 3 *

Second Year

Fall Term

- GOVT 2305 - Federal Government (Federal Constitution & Topics) +
- ACCT 2301 - Principles of Financial Accounting + **FOS**
- Life and Physical Science Semester Hours: 4 **
- Language, Culture and Philosophy Semester Hours: 3 *

  Choose one from the following:

- SPCH 1321 - Business and Professional Communication + **or**
- SPCH 1315 - Public Speaking + **or**
- SPCH 1311 - Introduction to Speech Communication +

Spring Term

- GOVT 2306 - Texas Government (Texas Constitution & Topics) +
- ACCT 2302 - Principles of Managerial Accounting + **FOS**
- KINE 1164 - Introduction to Physical Fitness and Wellness +
- BUSI 2305 - Business Statistics + **FOS**
- Life and Physical Science Semester Hours: 4 **

Total Degree Hours: 60

** Creative Arts and Language, Culture and Philosophy, and Life & Physical Science must be chosen from the Core Curriculum.*

FOS: Business Administration and Management Field of Study

Small Business Associate

BUAD.T024.UG
Occupational Skills Award
Offered at Northwest Campus

Business & Industry Pathway
Learn more about Entrepreneurship & Small Business Management

Program Requirements

Fall Term

- BUSG 1315 - Small Business Operations

Choose one from the following:
- BCIS 1305 - Business Computer Applications + **or**
- MRKG 1311 - Principles of Marketing **or**
- MRKG 2333 - Principles of Selling

- BUSG 1341 - Small Business Financing
- BUSG 2309 - Small Business Management and Entrepreneurship

Total Certificate Hours: 12

Business Administration and Management Field 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 the 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 Business Administration and Management Field of Study 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 Administration and Management 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.

AFOS.F027.UG
Field of Study
Offered at All TCC Campuses

Business & Industry Pathway
Learn more about Business

Program Requirements

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 1324 - Mathematics for Business and Social Sciences +

Computer Skills

- BCIS 1305 - Business Computer Applications +

Business

- BUSI 2305 - Business Statistics +
- BUSI 1301 - Business Principles +

Total Semester Credit Hours: 24

** Fulfills a TCC Core Curriculum requirement.*

Welding Technology, AAS

WELD.D001.UG
Associate of Applied Science
Offered at Northwest and South Campus

Business & Industry Pathway
Learn more about Welding Technology

Program Requirements

First Year

Fall Term

- WLDG 1312 - Introduction to Flux Cored Arc Welding (FCAW)
- WLDG 1430 - Introduction to Gas Metal Arc Welding (GMAW)

Choose one from the following:

- MATH 1332 - Contemporary Mathematics (Quantitative Reasoning) + **or**
- MATH 1314 - College Algebra + **or**
- MATH 1324 - Mathematics for Business and Social Sciences +

- WLDG 1434 - Introduction to Gas Tungsten Arc Welding (GTAW)
- WLDG 1417 - Introduction to Layout and Fabrication

Spring Term

- ENGL 1301 - Composition I +

Choose one from the following:

- SPCH 1321 - Business and Professional Communication + **or**
- SPCH 1311 - Introduction to Speech Communication + **or**
- SPCH 1315 - Public Speaking +

- WLDG 1428 - Introduction to Shielded Metal Arc Welding (SMAW)
- Creative Arts/Language, Philosophy and Culture Semester Hours: 3 *

Second Year

Fall Term

- WLDG 1435 - Introduction to Pipe Welding

Choose one from the following:

- BCIS 1305 - Business Computer Applications + **or**
- COSC 1301 - Introduction to Computing +

- WLDG 1453 - Intermediate Layout and Fabrication
- DFTG 1305 - Introduction to Technical Drawing

Spring Term

Choose one from the following:
- GOVT 2306 - Texas Government (Texas Constitution & Topics) + **or**
- GOVT 2305 - Federal Government (Federal Constitution & Topics) +

- WLDG 2413 - Intermediate Welding Using Multiple Processes (Capstone)
- WLDG 2451 - Advanced Gas Tungsten Arc Welding (GTAW)
- WLDG 2453 - Advanced Pipe Welding

Total Degree Hours: 60

** Creative Arts/Language, Philosophy, and Culture must be chosen from the corresponding section of the Core Curriculum.*

Welding-Advanced

WELD.T003.UG
Level 1 Certificate
Offered at Northwest and South Campus

Business & Industry Pathway
Learn more about Welding Technology

Program Requirements

First Year

Fall Term

- WLDG 1435 - Introduction to Pipe Welding
- WLDG 1453 - Intermediate Layout and Fabrication

Spring Term

- WLDG 2453 - Advanced Pipe Welding
- WLDG 2451 - Advanced Gas Tungsten Arc Welding (GTAW)
- WLDG 2413 - Intermediate Welding Using Multiple Processes (Capstone)

Total Certificate Hours: 20

Business Administration: Accounting Assistant, AAS

BUAD.D001.UG
Associate of Applied Science
Offered at Northeast, Northwest, South, Southeast, and TCC Connect Campus

Business & Industry Pathway
Learn more about Accounting Assistant

Program Requirements

First Year

Fall Term

- ACCT 2301 - Principles of Financial Accounting +
- ACNT 1313 - Computerized Accounting Applications
- BCIS 1305 - Business Computer Applications +
- ENGL 1301 - Composition I +
- Approved Elective Semester Hours: 3 ***

Spring Term

- ACCT 2302 - Principles of Managerial Accounting +
- ACNT 1311 - Introduction to Computerized Accounting
- BUSI 1301 - Business Principles +

Choose one from the following:
- ENGL 1302 - Composition II + **or**
- ENGL 2311 - Technical and Business Writing +

- Approved Elective Semester Hours: 3 ***

Second Year

Fall Term

- BMGT 1305 - Communications in Management
- BMGT 1327 - Principles of Management
- BMGT 1341 - Business Ethics

Choose one from the following:
- SPCH 1321 - Business and Professional Communication + **or**
- SPCH 1311 - Introduction to Speech Communication +

- Mathematics or Life and Physical Sciences Semester Hours: 3 *

Spring Term

Choose one from the following:

- GOVT 2305 - Federal Government (Federal Constitution & Topics) + **or**
- GOVT 2306 - Texas Government (Texas Constitution & Topics) +

- BUSG 2300 - Business Leadership Application (Capstone) **
- Creative Arts/Language, Philosophy and Culture Semester Hours: 3 *
- Approved Elective Semester Hours: 6 ***

Total Degree Hours: 60

** Mathematics, Life and Physical Sciences, Creative Arts/Language, Philosophy, and Culture electives must be chosen from the corresponding section of the Core Curriculum.*

*** Capstone is taken at the end of the program.*

**** Approved Electives for all programs must be chosen from subjects ACNT, BMGT, BUSG, BUSI, COSC, ECON, FSHN, GISC, HRPO, IBUS, ITCC, ITNW, ITSE, ITSC, ITSW, LMGT, MRKG or RELE. COSC 1301 may not be used as an elective.*

Welding-Basic

WELD.T002.UG
Level 1 Certificate
Offered at Northwest and South Campus

Business & Industry Pathway
Learn more about Welding Technology

Program Requirements

Fall Term

- WLDG 1428 - Introduction to Shielded Metal Arc Welding (SMAW)
- WLDG 1430 - Introduction to Gas Metal Arc Welding (GMAW)

Spring Term

- WLDG 1312 - Introduction to Flux Cored Arc Welding (FCAW)
- WLDG 1434 - Introduction to Gas Tungsten Arc Welding (GTAW) (Capstone)
- WLDG 1417 - Introduction to Layout and Fabrication

Total Certificate Hours: 19

Accounting Assistant I

BUAD.TA01.UG
Level 1 Certificate
Offered at Northeast, Northwest, South, Southeast, and TCC Connect Campus

Business & Industry Pathway
Learn more about Accounting Assistant

Program Requirements

Fall Term

- ACCT 2301 - Principles of Financial Accounting +
- BCIS 1305 - Business Computer Applications +

Choose one from the following:

- ENGL 1301 - Composition I + **or**
- BMGT 1305 - Communications in Management **or**
- MATH 1332 - Contemporary Mathematics (Quantitative Reasoning) + **or**
- MATH 1314 - College Algebra + **or**
- MATH 1316 - Plane Trigonometry + **or**
- MATH 1324 - Mathematics for Business and Social Sciences + **or**
- MATH 1342 - Elementary Statistical Methods +

- ACNT 1313 - Computerized Accounting Applications (Capstone) *
- Approved Elective Semester Hours: 3 **

Total Certificate Hours: 15

** Capstone is taken at the end of the program.*

*** Approved Electives for all programs must be chosen from subjects ACNT, BMGT, BUSG, BUSI, COSC, ECON, FSHN, GISC, HRPO, IBUS, ITCC, ITNW, ITSE, ITSC, ITSW, LMGT, MRKG or RELE. COSC 1301 may not be used as an elective.*

Accounting Assistant II

BUAD.TA02.UG
Level 1 Certificate
Offered at Northeast, Northwest, South, Southeast, and TCC Connect Campus

Business & Industry Pathway
Learn more about Accounting Assistant

Program Requirements

Fall Term

- ACCT 2301 - Principles of Financial Accounting +
- ACNT 1313 - Computerized Accounting Applications
- BCIS 1305 - Business Computer Applications +

Choose one from the following:

- ENGL 1301 - Composition I + **or**
- BMGT 1305 - Communications in Management **or**
- MATH 1332 - Contemporary Mathematics (Quantitative Reasoning) + **or**
- MATH 1314 - College Algebra + **or**
- MATH 1316 - Plane Trigonometry + **or**
- MATH 1324 - Mathematics for Business and Social Sciences + **or**
- MATH 1342 - Elementary Statistical Methods +

Spring Term

- ACCT 2302 - Principles of Managerial Accounting +
- ACNT 1311 - Introduction to Computerized Accounting (Capstone) *
- Approved Elective Semester Hours: 6 **

Total Certificate Hours: 24

** Capstone is taken at the end of the program.*

*** Approved Electives for all programs must be chosen from subjects ACNT, BMGT, BUSG, BUSI, COSC, ECON, FSHN, GISC, HRPO, IBUS, ITCC, ITNW, ITSE, ITSC, ITSW, LMGT, MRKG or RELE. COSC 1301 may not be used as an elective.*

Accounting Assistant III

BUAD.TA03.UG
Level 2 Certificate
Offered at Northeast, Northwest, South, Southeast, and TCC Connect Campus

Business & Industry Pathway
Learn more about Accounting Assistant

Program Requirements

First Year

Fall Term

- ACCT 2301 - Principles of Financial Accounting +
- ACNT 1313 - Computerized Accounting Applications
- BCIS 1305 - Business Computer Applications +
- ENGL 1301 - Composition I +
- Approved Elective Semester Hours: 3 ***

Spring Term

- ACCT 2302 - Principles of Managerial Accounting +
- ACNT 1311 - Introduction to Computerized Accounting
- BUSI 1301 - Business Principles +

Choose one from the following:

- ENGL 1302 - Composition II + **or**
- ENGL 2311 - Technical and Business Writing +

- Approved Elective Semester Hours: 3 ***

Second Year

Fall Term

- BMGT 1305 - Communications in Management
- BMGT 1327 - Principles of Management

Choose one from the following:

- SPCH 1321 - Business and Professional Communication + **or**
- SPCH 1311 - Introduction to Speech Communication +

- Mathematics or Life and Physical Sciences Semester Hours: 3 *
- BMGT 1341 - Business Ethics (Capstone) **

Total Certificate Hours: 45

** Math and Life and Physical Sciences must be chosen from the corresponding section of the Core Curriculum.*

*** Capstone is taken during the semester of certificate completion.*

**** Approved Electives for all programs must be chosen from subjects ACNT, BMGT, BUSG, BUSI, COSC, ECON, FSHN, GISC, HRPO, IBUS, ITCC, ITNW, ITSE, ITSC, ITSW, LMGT, MRKG or RELE. COSC 1301 may not be used as an elective.*

Students must meet requirements of 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.

Business Administration: Business, AAS

BUAD.D003.UG
Associate of Applied Science
Offered at All Campuses

Business & Industry Pathway
Learn more about Business Administration

Program Requirements

First Year

Fall Term

- BUSI 1301 - Business Principles +
- ACCT 2301 - Principles of Financial Accounting +
- ECON 2301 - Principles of Macroeconomics +
- Approved Elective Semester Hours: 3 ***
- Mathematics or Life and Physical Sciences Semester Hours: 3 *

Spring Term

- ACCT 2302 - Principles of Managerial Accounting +
- ECON 2302 - Principles of Microeconomics +
- BUSI 2301 - Business Law +

Choose one from the following:

- MRKG 1311 - Principles of Marketing **or**
- MRKG 2333 - Principles of Selling

- Approved Elective Semester Hours: 3 ***

Second Year

Fall Term

- BMGT 1305 - Communications in Management
- BMGT 1327 - Principles of Management
- BMGT 1341 - Business Ethics
- BCIS 1305 - Business Computer Applications +
- ENGL 1301 - Composition I +

Spring Term

Choose one from the following:

- ENGL 1302 - Composition II + **or**
- ENGL 2311 - Technical and Business Writing +

Choose one from the following:

- GOVT 2305 - Federal Government (Federal Constitution & Topics) + **or**
- GOVT 2306 - Texas Government (Texas Constitution & Topics) +

Choose one from the following:

- SPCH 1321 - Business and Professional Communication + **or**

- SPCH 1311 - Introduction to Speech Communication +

- Creative Arts/Language, Philosophy and Culture Semester Hours: 3 *
- BUSG 2300 - Business Leadership Application (Capstone) **

Total Degree Hours: 60

** Mathematics, Life and Physical Sciences, Creative Arts/Language, Philosophy, and Culture electives must be chosen from the corresponding section of the Core Curriculum.*

*** Capstone is taken at the end of the program.*

***** Approved Electives for all programs must be chosen from subjects ACNT, BMGT, BUSG, BUSI, COSC, ECON, FSHN, GISC, HRPO, IBUS, ITCC, ITNW, ITSE, ITSC, ITSW, LMGT, MRKG or RELE. COSC 1301 may not be used as an elective.*

Business I

BUAD.T011.UG
Level 1 Certificate
Offered at All TCC Campuses

Business & Industry Pathway
Learn more about Business

Program Requirements

Fall Term

- ACCT 2301 - Principles of Financial Accounting +
- BUSI 1301 - Business Principles +
- ECON 2301 - Principles of Macroeconomics +

Choose one from the following:
- MRKG 1311 - Principles of Marketing **or**
- MRKG 2333 - Principles of Selling

Spring Term

- ACCT 2302 - Principles of Managerial Accounting +
- ECON 2302 - Principles of Microeconomics +
- Approved Elective Semester Hours: 3 **
- BUSI 2301 - Business Law + (Capstone) *

Total Certificate Hours: 24

** Capstone is taken during the semester of certificate completion.*

*** Approved Electives for all programs must be chosen from subjects ACNT, BMGT, BUSG, BUSI, COSC, ECON, FSHN, GISC, HRPO, IBUS, ITCC, ITNW, ITSE, ITSC, ITSW, LMGT, MRKG or RELE. COSC 1301 may not be used as an elective.*

Business II

BUAD.T012.UG
Level 2 Certificate
Offered at All TCC Campuses

Business & Industry Pathway
Learn more about Business

Program Requirements

First Year

Fall Term

- ACCT 2301 - Principles of Financial Accounting +
- BUSI 1301 - Business Principles +
- ECON 2301 - Principles of Macroeconomics +

Choose one from the following:
- MRKG 1311 - Principles of Marketing **or**
- MRKG 2333 - Principles of Selling

- Approved Elective Semester Hours: 3 ***

Spring Term

- ACCT 2302 - Principles of Managerial Accounting +
- BCIS 1305 - Business Computer Applications +
- BMGT 1305 - Communications in Management
- BUSI 2301 - Business Law +
- ECON 2302 - Principles of Microeconomics +

Second Year

Fall Term

- BMGT 1327 - Principles of Management

Choose one from the following:
- SPCH 1321 - Business and Professional Communication + **or**

- SPCH 1311 - Introduction to Speech Communication +

- Mathematics or Life and Physical Sciences Semester Hours: 3 *
- Approved Elective Semester Hours: 3 ***
- BMGT 1341 - Business Ethics (Capstone) **

Total Certificate Hours: 45

Students must meet requirements of 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.

** Mathematics and Life and Physical Sciences electives must be chosen from the corresponding section of the Core Curriculum.*

*** Capstone is taken during the semester of certificate completion.*

**** Approved Electives for all programs must be chosen from subjects ACNT, BMGT, BUSG, BUSI, COSC, ECON, FSHN, GISC, HRPO, IBUS, ITCC, ITNW, ITSE, ITSC, ITSW, LMGT, MRKG or RELE. COSC 1301 may not be used as an elective.*

Business Administration: Management, AAS

BUAD.D005.UG
Associate of Applied Science
Offered at South, Northeast, Southeast and TCC Connect Campus

Business & Industry Pathway
Learn more about Business Administration

Program Requirements

First Year

Fall Term

- BUSI 1301 - Business Principles +
- BMGT 1327 - Principles of Management
- ACCT 2301 - Principles of Financial Accounting +
- ENGL 1301 - Composition I +
- Mathematics or Life and Physical Sciences Semester Hours: 3 *

Spring Term

- ACCT 2302 - Principles of Managerial Accounting +

Choose one from the following:
- HRPO 1311 - Human Relations **or**

- HRPO 2307 - Organizational Behavior

Choose one from the following:
- ENGL 1302 - Composition II + **or**
- ENGL 2311 - Technical and Business Writing +

Choose one from the following:
- GOVT 2305 - Federal Government (Federal Constitution & Topics) + **or**
- GOVT 2306 - Texas Government (Texas Constitution & Topics) +

Choose one from the following:
- SPCH 1321 - Business and Professional Communication + **or**
- SPCH 1311 - Introduction to Speech Communication +

Second Year

Fall Term

- BMGT 1341 - Business Ethics
- BCIS 1305 - Business Computer Applications +
- BMGT 1301 - Supervision
- BMGT 2309 - Leadership
- Creative Arts/Language, Philosophy and Culture Semester Hours: 3 *

Spring Term

- HRPO 2301 - Human Resources Management
- BMGT 1305 - Communications in Management
- Approved Elective Semester Hours: 6 ***
- BUSG 2300 - Business Leadership Application (Capstone) **

Total Degree Hours: 60

** Mathematics, Life and Physical Sciences, Creative Arts/Language, Philosophy, and Culture electives must be chosen from the corresponding section of the Core Curriculum.*

*** Capstone is taken at the end of the program.*

**** Approved Electives for all programs must be chosen from subjects ACNT, BMGT, BUSG, BUSI, COSC, ECON, FSHN, GISC, HRPO, IBUS, ITCC, ITNW, ITSE, ITSC, ITSW, LMGT, MRKG or RELE. COSC 1301 may not be used as an elective.*

Management I

BUAD.T016.UG
Level 1 Certificate
Offered at South, Northeast, Southeast, and TCC Connect Campus

Business & Industry Pathway
Learn more about Management

Program Requirements

Fall Term

- HRPO 1311 - Human Relations
- BUSI 1301 - Business Principles +
- BMGT 1327 - Principles of Management
- BCIS 1305 - Business Computer Applications +

Spring Term

- HRPO 2301 - Human Resources Management
- BMGT 1301 - Supervision
- BMGT 1305 - Communications in Management
- BMGT 2309 - Leadership (Capstone) *

Total Certificate Hours: 24

** Capstone is taken during the semester of certificate completion.*

Management II

BUAD.T017.UG
Level 2 Certificate
Offered at South, Northeast, Southeast, and TCC Connect Campus

Business & Industry Pathway
Learn more about Management

Program Requirements

First Year

Fall Term

Choose one from the following:

- HRPO 1311 - Human Relations **or**
- HRPO 2307 - Organizational Behavior

- BUSI 1301 - Business Principles +
- BMGT 1327 - Principles of Management
- BCIS 1305 - Business Computer Applications +
- ENGL 1301 - Composition I +

Spring Term

- HRPO 2301 - Human Resources Management
- BMGT 2309 - Leadership
- BMGT 1301 - Supervision

Choose one from the following:

- SPCH 1321 - Business and Professional Communication + **or**
- SPCH 1311 - Introduction to Speech Communication +

- ACCT 2301 - Principles of Financial Accounting +

Second Year

Fall Term

- BMGT 1305 - Communications in Management
- MRKG 1311 - Principles of Marketing
- Approved Elective Semester Hours: 3 **
- Creative Arts/Language, Philosophy and Culture Semester Hours: 3 *
- BMGT 1341 - Business Ethics (Capstone) ***

Total Certificate Hours: 45

Students must meet requirements of 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.

** Creative Arts/Language, Philosophy, and Culture must be chosen from the corresponding section in the Core Curriculum.*

*** Approved Electives for all programs must be chosen from subjects ACNT, BMGT, BUSG, BUSI, COSC, ECON, FSHN, GISC, HRPO, IBUS, ITCC, ITNW, ITSE, ITSC, ITSW, LMGT, MRKG or RELE. COSC 1301 may not be used as an elective.*

**** Capstone is taken during the semester of certificate completion.*

Business Administration: Entrepreneurship & Small Business Management, AAS

BUAD.D011.UG
Associate of Applied Science
Offered at Northeast, Northwest, and TCC Connect Campus

Business & Industry Pathway
Learn more about Business Administration

Program Requirements

First Year

Fall Term

- ACNT 1303 - Introduction to Accounting
- ACNT 1313 - Computerized Accounting Applications
- BUSG 1370 - Entrepreneurial Mindset

Choose one from the following:

- MRKG 1311 - Principles of Marketing **or**
- MRKG 2333 - Principles of Selling

Choose one from the following:

- MATH 1332 - Contemporary Mathematics (Quantitative Reasoning) + **or**
- MATH 1342 - Elementary Statistical Methods +

Spring Term

- ACNT 1311 - Introduction to Computerized Accounting
- BUSG 1307 - Entrepreneurship & Economic Development
- BUSG 1315 - Small Business Operations
- ENGL 1301 - Composition I +
- MRKG 2312 - e-Commerce Marketing

Second Year

Fall Term

- BUSG 1341 - Small Business Financing
- BUSG 2305 - Business Law/Contracts
- ENGL 2311 - Technical and Business Writing +

Choose one from the following:

- SPCH 1321 - Business and Professional Communication + **or**
- SPCH 1315 - Public Speaking + **or**
- SPCH 1311 - Introduction to Speech Communication +

- HRPO 2301 - Human Resources Management

Spring Term

- BUSG 2309 - Small Business Management and Entrepreneurship
- BUSG 2300 - Business Leadership Application (Capstone) **

Choose one from the following:

- GOVT 2305 - Federal Government (Federal Constitution & Topics) + **or**
- GOVT 2306 - Texas Government (Texas Constitution & Topics) +

- Creative Arts/Language, Philosophy and Culture Semester Hours: 3 *
- Approved Elective Semester Hours: 3 ***

Total Degree Hours: 60

** Creative Arts/Language, Philosophy and Culture electives must be chosen from the corresponding section of the Core Curriculum.*

*** Capstone is taken when student is within 12 semester credit hours from completion of the program.*

**** Approved Electives for all programs must be chosen from subjects ACNT, BCIS, BMGT, BUSG, BUSI, COSC, ECON, HRPO, IBUS, ITCC, ITNW, ITSE, ITSC, ITSW, LMGT, MRKG or RELE.*

Entrepreneurship and Small Business Management I

BUAD.T022.UG
Level 1 Certificate
Offered at Northeast, Northwest, South, and TCC Connect Campus

Business & Industry Pathway
Learn more about Entrepreneurship & Small Business Management

Program Requirements

Fall Term

- ACNT 1303 - Introduction to Accounting
- ACNT 1313 - Computerized Accounting Applications
- BUSG 1315 - Small Business Operations

Choose one from the following:
- MRKG 1311 - Principles of Marketing **or**
- MRKG 2333 - Principles of Selling

Spring Term

- BUSG 1341 - Small Business Financing
- BUSG 2309 - Small Business Management and Entrepreneurship
- BUSG 2305 - Business Law/Contracts (Capstone) *

Total Certificate Hours: 21

** Capstone is taken when student is within 12 semester credit hours from completion of the program.*

Entrepreneurship and Small Business Management II

BUAD.T023.UG
Level 2 Certificate
Offered at Northeast, Northwest, and TCC Connect Campus

Business & Industry Pathway
Learn more about Entrepreneurship & Small Business Management

Program Requirements

First Year

Fall Term

- BUSG 1370 - Entrepreneurial Mindset
- ACNT 1303 - Introduction to Accounting
- ACNT 1313 - Computerized Accounting Applications

Choose one from the following:

- MATH 1332 - Contemporary Mathematics (Quantitative Reasoning) + **or**
- MATH 1342 - Elementary Statistical Methods +

Choose one from the following:

- MRKG 1311 - Principles of Marketing **or**
- MRKG 2333 - Principles of Selling

Spring Term

- ACNT 1311 - Introduction to Computerized Accounting
- BUSG 1307 - Entrepreneurship & Economic Development
- BUSG 1315 - Small Business Operations
- HRPO 2301 - Human Resources Management
- MRKG 2312 - e-Commerce Marketing

Second Year

Fall Term

Choose one from the following:

- SPCH 1321 - Business and Professional Communication + **or**
- SPCH 1315 - Public Speaking + **or**
- SPCH 1311 - Introduction to Speech Communication +

- BUSG 1341 - Small Business Financing
- BUSG 2305 - Business Law/Contracts
- BUSG 2309 - Small Business Management and Entrepreneurship (Capstone) *
- Approved Elective Semester Hours: 3 **

Total Certificate Hours: 45

Students must meet requirements of 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.

** Capstone is taken when student is within 12 semester credit hours from completion of the program.*

***Approved Elective is from any of the following subjects: ACNT, BCIS, BMGT, BUSG, BUSI, COSC, ECON, HRPO, IBUS, ITCC, ITNW, ITSC, ITSE, LMGT, MRKG, or RELE.*

Retail Management

BUAD.T025.UG
Level 1 Certificate
Offered at Northeast, Southeast, and TCC Connect Campus

Business & Industry Pathway
Learn more about Management

Program Requirements

Fall Term

Choose one from the following:

- HRPO 1311 - Human Relations **or**
- HRPO 2307 - Organizational Behavior

- BCIS 1305 - Business Computer Applications +

Choose one from the following:

- BMGT 1305 - Communications in Management **or**
- SPCH 1321 - Business and Professional Communication + **or**
- SPCH 1311 - Introduction to Speech Communication +

- BMGT 1327 - Principles of Management

Spring Term

- MRKG 1311 - Principles of Marketing
- HRPO 2301 - Human Resources Management
- ACCT 2301 - Principles of Financial Accounting +
- MRKG 1302 - Principles of Retailing (Capstone)

Total Certificate Hours: 24

Architecture Field 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 the 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.

AFOS.F023.UG
Field of Study
Offered at All TCC Campuses

Business & Industry Pathway
Learn more about Architecture Technology

Program Requirements

- ARCH 1311 - Introduction to Architecture +
- ARCH 1301 - Architectural History I +
- ARCH 1302 - Architectural History II +
- ARCH 1303 - Architectural Design I +
- ARCH 1304 - Architectural Design II +
- ARCH 2603 - Architectural Design III +
- ARCH 2604 - Architectural Design IV +
- ARCH 1307 - Architectural Graphics I +
- ARCH 1308 - Architectural Graphics II +
- ARCH 2312 - Architectural Technology +

Total Semester Credit Hours: 36

Northeast Campus

Fashion Merchandising II

BUAD.T014.UG
Level 2 Certificate
Offered at Northeast Campus

Business & Industry Pathway
Learn more about Fashion Merchandising

Program Requirements

First Year

Fall Term

- ACCT 2301 - Principles of Financial Accounting +
- BCIS 1305 - Business Computer Applications +

- BUSI 1301 - Business Principles +
- FSHN 1312 - Apparel and Accessories Marketing Operations
- FSHN 2309 - Fashion Image

Spring Term

- ACCT 2302 - Principles of Managerial Accounting +
- BMGT 1327 - Principles of Management
- FSHN 1301 - Textiles
- FSHN 2301 - Fashion Promotion
- FSHN 2305 - Fashion Retailing

Second Year

Fall Term

- ENGL 1301 - Composition I +
- BMGT 1305 - Communications in Management
- BMGT 1341 - Business Ethics (Capstone) *

Choose one from the following:

- SPCH 1321 - Business and Professional Communication + **or**
- SPCH 1311 - Introduction to Speech Communication +

- Approved Elective Semester Hours: 3 **

Total Certificate Hours: 45

Students must meet requirements of 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.

** Capstone is taken during the semester of certificate completion.*

*** Approved Electives for all programs must be chosen from subjects ACNT, BMGT, BUSG, BUSI, COSC, ECON, FSHN, GISC, HRPO, IBUS, ITCC, ITNW, ITSE, ITSC, ITSW, LMGT, MRKG or RELE. COSC 1301 may not be used as an elective.*

Fashion Sales Associate

BUAD.T015.UG
Occupational Skills Award
Offered at Northeast Campus

Business & Industry Pathway
Learn more about Fashion Merchandising

Program Requirements

Fall Term

- FSHN 1301 - Textiles
- FSHN 1312 - Apparel and Accessories Marketing Operations
- FSHN 2305 - Fashion Retailing
- FSHN 2309 - Fashion Image

Total Certificate Hours: 12

Fashion Merchandising I

BUAD.T013.UG
Level 1 Certificate
Offered at Northeast Campus

Business & Industry Pathway
Learn more about Fashion Merchandising

Program Requirements

Fall Term

- BCIS 1305 - Business Computer Applications +
- FSHN 1312 - Apparel and Accessories Marketing Operations
- FSHN 2309 - Fashion Image

Choose one from the following:

- SPCH 1321 - Business and Professional Communication + **or**
- SPCH 1311 - Introduction to Speech Communication +

Spring Term

- FSHN 1301 - Textiles
- FSHN 2301 - Fashion Promotion (Capstone)
- FSHN 2305 - Fashion Retailing

Total Certificate Hours: 21

Business Administration: Fashion Merchandising, AAS

BUAD.D004.UG
Associate of Applied Science
Offered at Northeast Campus

Business & Industry Pathway
Learn more about Business Administration

Program Requirements

First Year

Fall Term

- BCIS 1305 - Business Computer Applications +
- BUSI 1301 - Business Principles +
- FSHN 1312 - Apparel and Accessories Marketing Operations
- FSHN 2309 - Fashion Image

Choose one from the following:

- SPCH 1321 - Business and Professional Communication + **or**
- SPCH 1311 - Introduction to Speech Communication +

Spring Term

- BMGT 1327 - Principles of Management
- FSHN 1301 - Textiles
- FSHN 2301 - Fashion Promotion
- FSHN 2305 - Fashion Retailing
- Mathematics or Science Elective Semester Hours: 3 *

Second Year

Fall Term

- ACCT 2301 - Principles of Financial Accounting +
- BMGT 1305 - Communications in Management
- BMGT 1341 - Business Ethics
- ENGL 1301 - Composition I +
- Approved Elective Semester Hours: 3 ***

Spring Term

- ACCT 2302 - Principles of Managerial Accounting +

Choose one from the following:

- ENGL 1302 - Composition II + **or**
- ENGL 2311 - Technical and Business Writing +

Choose one from the following:

- GOVT 2305 - Federal Government (Federal Constitution & Topics) + **or**

- GOVT 2306 - Texas Government (Texas Constitution & Topics) +

- Creative Art/Language, Philosophy and Culture Semester Hours: 3 *
- BUSG 2300 - Business Leadership Application (Capstone) **

Total Degree Hours: 60

** Mathematics, Life and Physical Sciences, Creative Arts/Language, Philosophy and Culture electives must be chosen from the corresponding section of the Core Curriculum.*

*** Capstone is taken at the end of the program.*

**** Approved Electives for all programs must be chosen from subjects ACNT, BMGT, BUSG, BUSI, COSC, ECON, FSHN, GISC, HRPO, IBUS, ITCC, ITNW, ITSE, ITSC, ITSW, LMGT, MRKG or RELE. COSC 1301 may not be used as an elective.*

Real Estate, AAS

REAL.D001.UG
Associate of Applied Science
Business & Industry Pathway

Offered at Northeast Campus

Program Requirements

First Year

Fall Term

- RELE 1406 - Principles of Real Estate
- RELE 1319 - Real Estate Finance
- BUSI 1301 - Business Principles +
- ENGL 1301 - Composition I +

Choose one from the following:
- SPCH 1321 - Business and Professional Communication + **or**
- SPCH 1311 - Introduction to Speech Communication + **or**
- SPCH 1315 - Public Speaking + **or**
- SPCH 1318 - Interpersonal Communication +

Spring Term

- RELE 1307 - Real Estate Investments
- RELE 1300 - Contract Forms and Addenda

- GOVT 2306 - Texas Government (Texas Constitution & Topics) +

Choose one from the following:
- BCIS 1305 - Business Computer Applications + **or**
- COSC 1301 - Introduction to Computing +

- Any One-Credit-Hour Physical Education Course Semester Hours: 1

Second Year

Fall Term

- RELE 2301 - Law of Agency

Choose one from the following:
- RELE 1315 - Property Management **or**
- BMGT 1327 - Principles of Management

- ECON 2301 - Principles of Macroeconomics +
- MRKG 1311 - Principles of Marketing
- Science Elective Semester Hours: 4 *
- Creative Arts/Language, Philosophy and Culture Elective Semester Hours: 3 *

Spring Term

- RELE 1303 - Real Estate Appraisal
- RELE 1311 - Law of Contracts
- ACCT 2301 - Principles of Financial Accounting +
- BUSI 2301 - Business Law +

Total Degree Hours: 60

NOTE: Mathematical competency is required for completion by TSI liable students.

** Creative Arts/Language, Philosophy, and Culture and Life and Physical Science electives must be chosen from the corresponding section of the Core Curriculum.*

Real Estate

REAL.T001.UG
Level 1 Certificate
Business & Industry Pathway

Offered at Northeast Campus

Program Requirements

Fall Term

- RELE 1406 - Principles of Real Estate
- RELE 1311 - Law of Contracts
- RELE 1300 - Contract Forms and Addenda
- RELE 2301 - Law of Agency
- RELE 1319 - Real Estate Finance

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.

Northwest Campus

Horticulture

HORT.T004.UG
Level 1 Certificate
Offered at Northwest Campus

Business & Industry Pathway
Learn more about Horticulture

Program Requirements

First Year

Fall Term

- HALT 1301 - Principles of Horticulture
- HALT 1313 - Economic Entomology
- AGCR 2418 - Soil Science
- Horticulture Elective Semester Hours: 3 *

Spring Term

- HALT 2323 - Horticultural Pest Control
- HALT 1303 - Herbaceous Plants
- HALT 2318 - Soil Fertility and Fertilizers
- Horticulture Elective Semester Hours: 3 *

Summer Term

- HALT 1307 - Plant Diseases
- Horticulture Elective Semester Hours: 3 *

Total Certificate Hours: 31

** Horticulture Electives: HALT 1309, HALT 1311, HALT 1317, HALT 1333, HALT 1353, HALT 1422, HALT 2301, HALT 2308, HALT 2314, HALT 2315, or HALT 2320*

Advanced Composite Technology

AVIA.T004.UG
Level 1 Certificate
Offered at Northwest Campus

Business & Industry Pathway
Learn more about Advanced Composite Technology

Program Requirements

Fall Term

- AERM 1315 - Aviation Science
- AERM 1254 - Aircraft Composites
- AERM 1303 - Shop Practices

Spring Term

- PLTC 1303 - Plastics Composites
- PLTC 1271 - Composite Bonding
- AERM 2359 - Advanced Composite Repair (Capstone)

Total Certificate Hours: 16

Avionics Line Maintenance

AVIA.T005.UG
Level 1 Certificate
Offered at Northwest Campus

Business & Industry Pathway
Learn more about Avionics Line Maintenance

Program Requirements

Fall Term

- AERM 1205 - Weight and Balance
- AERM 1208 - Federal Aviation Regulations
- AERM 1314 - Basic Electricity
- AERM 1315 - Aviation Science
- AERM 1243 - Instruments and Navigation/Communication

Spring Term

- AERM 1345 - Airframe Electrical Systems *
- AVNC 1303 - Introduction to Aviation Electronic Systems *
- AVNC 1370 - Aircraft Communication Systems Line Maintenance
- AVNC 1371 - Aircraft Navigation Systems Line Maintenance

Summer Term

- AVNC 1372 - Air Traffic Control Surveillance Systems Line Maintenance
- AVNC 1343 - Aviation Electrical and Electronic Systems Installation (Capstone)

Total Certificate Hours: 30

** AERM 1314 is a prerequisite for enrollment into AVNC 1303 and AERM 1345.*

Plant Health Specialist

HORT.T005.UG
Level 1 Certificate
Offered at Northwest Campus

Business & Industry Pathway
Learn more about Horticulture

Program Requirements

First Year

Fall Term

- HALT 1301 - Principles of Horticulture
- AGCR 2418 - Soil Science
- HALT 2323 - Horticultural Pest Control

Spring Term

- HALT 1307 - Plant Diseases
- HALT 2318 - Soil Fertility and Fertilizers
- Horticulture Elective Semester Hours: 3 *

Total Certificate Hours: 19

** Horticulture Electives: HALT 1313, HALT 1317, HALT 1333, HALT 2301, or HALT 2308*

Aviation Maintenance Technology-Airframe

AVIA.T001.UG
Level 2 Certificate
Offered at Northwest Campus

Business & Industry Pathway
Learn more about Aviation Maintenance Technology

Program Requirements

First Year

Fall Term

- AERM 1101 - Introduction to Aviation
- AERM 1205 - Weight and Balance
- AERM 1208 - Federal Aviation Regulations
- AERM 1303 - Shop Practices
- AERM 1310 - Ground Operations
- AERM 1314 - Basic Electricity
- AERM 1315 - Aviation Science

Spring Term

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

Summer Term

- AERM 1141 - Wood, Fabric, and Finishes
- AERM 1153 - Aircraft Welding
- AERM 1452 - Aircraft Sheet Metal
- AERM 2231 - Airframe Inspection (Capstone)
- AERM 2233 - Assembly and Rigging

Second Year

Fall Term

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

Total Certificate Hours: 45

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

Selective Admission Criteria:

All applicants to the Aviation Maintenance Technology Program are required to attend an information session and the program orientation prior to application deadline and registration. Complete details regarding the Aviation Maintenance Technology program can be found on the TCC website.

Application Criteria:

- *Students must be TSI compliant/Algebraic Pathway*
- *Hold a TCCD Student Colleague Number*

Prior to application students with international college credits must contact International Admissions 817-515-1570.

TCC aviation programs are regulated by the Federal Aviation Administration. Once admitted into the program students must obtain a minimum grade of "C" in all technical courses and meet mandatory attendance requirements.

Students should be aware that employment in aviation related fields may be subject to alcohol and drug screenings as well as criminal background checks.

Aviation Maintenance Technology-Powerplant

AVIA.T002.UG
Level 2 Certificate
Offered at Northwest Campus

Business & Industry Pathway
Learn more about Aviation Maintenance Technology

Program Requirements

First Year

Fall Term

- AERM 1101 - Introduction to Aviation
- AERM 1205 - Weight and Balance
- AERM 1208 - Federal Aviation Regulations
- AERM 1303 - Shop Practices

- AERM 1310 - Ground Operations
- AERM 1314 - Basic Electricity
- AERM 1315 - Aviation Science

Spring Term

- AERM 1340 - Aircraft Propellers
- AERM 1344 - Aircraft Reciprocating Engines
- AERM 1351 - Aircraft Turbine Engine Theory
- AERM 1456 - Aircraft Powerplant Electrical
- AERM 1357 - Fuel Metering and Induction Systems

Summer Term

- AERM 2351 - Aircraft Turbine Engine Overhaul
- AERM 2547 - Aircraft Reciprocating Engine Overhaul
- AERM 2252 - Aircraft Powerplant Inspection (Capstone)

Second Year

Fall Term

- AERM 2171 - Oral and Practical Exams, General *
- AERM 2173 - Oral and Practical Exams, Powerplant *

Total Certificate Hours: 45

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

Selective Admission Criteria:

All applicants to the Aviation Maintenance Technology Program are required to attend an information session and the program orientation prior to application deadline and registration. Complete details regarding the Aviation Maintenance Technology program can be found on the TCC website.

Application Criteria:

- *Students must be TSI compliant/Algebraic Pathway*
- *Hold a TCCD Student Colleague Number*

Prior to application students with international college credits must contact International Admissions 817-515-1570.

TCC aviation programs are regulated by the Federal Aviation Administration. Once admitted into the program students must obtain a minimum grade of "C" in all technical courses and meet mandatory attendance requirements.

Students should be aware that employment in aviation related fields may be subject to alcohol and drug screenings, and criminal background checks.

Horticulture Basic Skills

HORT.T006.UG
Occupational Skills Award
Offered at Northwest Campus

Business & Industry Pathway
Learn more about Horticulture

Program Requirements

First Year

Fall Term

- HALT 1301 - Principles of Horticulture
- AGCR 2418 - Soil Science

Spring Term

- HALT 2323 - Horticultural Pest Control
- Horticulture Elective Semester Hours: 3 *

Total Certificate Hours: 13

** Horticulture Electives: HALT 1307, HALT 1317, HALT 2301, or HALT 2318*

Professional Pilot, AAS

ATPP.D004.UG
Associate of Applied Science
Offered at Northwest Campus

Business & Industry Pathway
Learn more about Professional Pilot

Program Requirements

First Year

Fall Term

- AIRP 1313 - Introduction to Aviation
- AIRP 1451 - Instrument Ground School
- AIRP 1307 - Aviation Meteorology
- AIRP 1341 - Advanced Air Navigation

Choose one from the following:

- AIRP 2250 - Instrument Flight **or**
- AIRP 2270 - Instrument Flight, Helicopter

Spring Term

- AIRP 2337 - Commercial Ground School
- AIRP 1301 - Air Navigation
- AIRP 1343 - Aerodynamics

Choose one from the following:

- AIRP 1255 - Intermediate Flight **or**
- AIRP 1271 - Intermediate Flight, Helicopter

- ENGL 1301 - Composition I +

Summer Term

Choose one from the following:

- AIRP 2239 - Commercial Flight (Capstone) **or**
- AIRP 2271 - Commercial Flight, Helicopter (Capstone)

- Creative Arts/Language, Culture & Philosophy Elective Semester Hours: 3 *

Second Year

Fall Term

- AIRP 1345 - Aviation Safety
- AIRP 2333 - Aircraft Systems
- AVIM 2337 - Aviation Law
- Social/Behavioral Science **or** Government/Political Science Elective Semester Hours: 3 *

Spring Term

Choose one from the following:

- AIRP 2236 - Certified Flight Instructor-Flight **or**
- AIRP 2272 - Certified Flight Instructor–Helicopter

- AIRP 1347 - Human Factors in Aviation
- AIRP 2349 - Instructor Ground School
- Mathematics Elective Semester Hours: 3 *
- Speech & Communication Skills Elective Semester Hours: 3 *

Total Degree Hours: 60

** Must choose the preferred course or a course from the corresponding section of the Core Curriculum: Mathematics (MATH 1314), Social/Behavioral Science (PSYC 2301) or Government/Political Science (GOVT 2305), Speech & Communication (SPCH 1315) and Creative Arts/Language, and Philosophy and Culture.*

Airplane Specialty Track	Helicopter Specialty Track
AIRP 2250 - Instrument Flight	AIRP 2270 - Instrument Flight, Helicopter
AIRP 1255 - Intermediate Flight	AIRP 1271 - Intermediate Flight, Helicopter
AIRP 2239 - Commercial Flight	AIRP 2271 - Commercial Flight, Helicopter
AIRP 2236 - Certified Flight Instructor-Flight	AIRP 2272 - Certified Flight Instructor–Helicopter

Projected Flight Costs

Selective Admission Criteria:

All flight courses are subject to FAA rules and regulations (CFR Title 14). Possession of current FAA medical certificate is required for all flight courses. All AIRP courses must be passed with a grade of "B" or higher.

All applicants to the Professional Pilot Program are required to attend an information session and the program orientation prior to application deadline and registration. Complete details regarding the Professional Pilot program can be found on the TCC website.

Application Criteria:

- *Students must be TSI compliant/Algebraic Pathway*
- *Hold a TCCD Student Colleague Number*
- *Hold an FAA Class 2 Medical Certificate*
- *Have a current driver's license or passport*

Prior to application students with international college credits must contact International Admissions 817-515-1570.

TCC aviation programs are regulated by the Federal Aviation Administration. Once admitted into the program students must obtain a minimum grade of "B" in all technical courses and meet mandatory attendance requirements.

Students should be aware that employment in aviation related fields may be subject to alcohol and drug screenings, and criminal background checks.

In addition the following are program requirements:

- *Student must meet requirements of Texas Success Initiative (TSI) (Compliant) to enroll in program.*
- *Student must attend mandatory scheduled orientation session prior to enrollment.*
- *Students must be released to register by department to enroll in any AIRP course.*
- *Students must maintain minimum balance in student flight account to remain eligible for flight status.*

Commercial Pilot

ATPP.T005.UG
Level 1 Certificate
Offered at Northwest Campus

Business & Industry Pathway
Learn more about Professional Pilot

Program Requirements

First Year

Fall Term

- AIRP 1313 - Introduction to Aviation
- AIRP 1317 - Private Pilot Ground School
- AIRP 1301 - Air Navigation

Choose one from the following:
- AIRP 1215 - Private Flight **or**
- AIRP 1270 - Private Flight, Helicopter

Spring Term

- AIRP 1451 - Instrument Ground School
- AIRP 1307 - Aviation Meteorology
- AIRP 1341 - Advanced Air Navigation

Choose one from the following:
- AIRP 2250 - Instrument Flight **or**
- AIRP 2270 - Instrument Flight, Helicopter

Summer Term

Choose one from the following:
- AIRP 1255 - Intermediate Flight **or**
- AIRP 1271 - Intermediate Flight, Helicopter

- AIRP 1345 - Aviation Safety

Second Year

Fall Term

- AIRP 2337 - Commercial Ground School
- AIRP 2333 - Aircraft Systems

Choose one from the following:

- AIRP 2239 - Commercial Flight (Capstone) **or**
- AIRP 2271 - Commercial Flight, Helicopter (Capstone)

- AIRP 1343 - Aerodynamics

Total Certificate Hours: 39

Projected Flight Costs

Selective Admission Criteria:

All applicants to the Professional Pilot Program are required to attend an information session and the program orientation prior to application deadline and registration. Complete details regarding the Professional Pilot program admissions process may be found on the TCC website.

Application Criteria:

- *Students must be TSI compliant/Algebraic Pathway*
- *Hold a TCCD Student Colleague Number*
- *Hold a FAA Class 2 Medical Certificate*
- *Have a current driver's license or passport*

Prior to application, students with international college credits must contact International Admissions 817-515-1570.

TCC aviation programs are regulated by the Federal Aviation Administration. Once admitted into the program students must obtain a minimum grade of "B" in all technical courses and meet mandatory attendance requirements.

Students should be aware that employment in aviation related fields may be subject to alcohol and drug screenings, and criminal background checks.

Airplane Specialty Track

- AIRP 1215 - Private Flight
- AIRP 2250 - Instrument Flight
- AIRP 1255 - Intermediate Flight
- AIRP 2239 - Commercial Flight

Helicopter Specialty Track

- AIRP 1270 - Private Flight, Helicopter
- AIRP 2270 - Instrument Flight, Helicopter
- AIRP 1271 - Intermediate Flight, Helicopter
- AIRP 2271 - Commercial Flight, Helicopter

Flight Instructor

ATPP.T006.UG
Enhanced Skills Certificate
Offered at Northwest Campus

Business & Industry Pathway
Learn more about Professional Pilot

Program Requirements

First Year

Fall Term

- AIRP 2242 - Flight Instructor–Instrument Flight
- AIRP 2143 - Instructor-Multiengine Airplane
- AIRP 2380 - Cooperative Education- Commercial Pilot

Total Certificate Hours: 6

Projected Flight Costs

2021-2022 Projected Airplane Flight Costs

Professional Pilot, AAS

Private Flight (AIRP 1215)	*Minimum to be deposited to flight account:*	*$3,000.00*
FAA Minimum (30 Dual, 5 Solo)		
35 hours in Cessna 172		$6,675.00
Average Additional Hours		
25 hours in Cessna 172		$5,000.00
50 hours Pre- & Post-Flight Briefings		$3,250.00
Private Pilot Knowledge Written (Pay to Tarrant County College day of test)		$173.00
End of Course/Practical Test 1.5 Hours C-172		$300.00
	Estimated Course Total:	**$15,398.00**
Instrument Flight (AIRP 2250)	**Minimum to be deposited to flight account:**	*$1,000.00*
FAA Minimum (35 Dual)		
35 Hours in Cessna 172		$7,000.00

Average Additional Hours		
15 hours in Cessna 172		$3,000.00
10 hours Simulator		$650.00
35 hours Pre- & Post-Flight Briefings		$2,275.00
Instrument Rating Knowledge Written Test (Pay to Tarrant County College day of test)		$173.00
End of Course/Practical Test 1.5 Hours C-172		$300.00
	Estimated Course Total:	**$13,398.00**
Intermediate Flight (AIRP 1255)	**Minimum to be deposited to flight account:**	*$1,000.00*
FAA Minimum (10 Dual, 55 Solo)		
65 hours in C-152		$6,825.00
8 hours Pre- & Post-Flight Briefings		$520.00
	Estimated Course Total:	**$7,345.00**
Commercial Flight (AIRP 2239)	**Minimum to be deposited to flight account:**	*$1,000.00*
FAA Minimum (55 Dual)		
30 hours in Cessna 172		$6,000.00
20 hours in Piper Seminole (all dual)		$8,700.00
5 hours in Simulator		$325.00
Additional Hours		
40 hours Pre- & Post-Flight Briefings		$2,600.00
Commercial Pilot Knowledge Written Test (Pay to Tarrant County College day of test)		$173.00
End of Course/Practical Test 2.0 Hours PA-44		$652.50
	Estimated Course Total:	**$18,450.50**
Certified Flight Instructor-Flight (AIRP 2236)	**Minimum to be deposited to flight account:**	*$1,000.00*
FAA Minimum (25 Dual)		
23.5 hours C-172, Dual, 1.5 Hours C-152, Dual		$4,940.00
Average Additional Hours		
5 hours dual C-172		$1,000.00

47 hours Pre- & Post-Flight Briefings		$3,055.00
Fundamentals of Instruction Written Test (Pay to Tarrant County College day of test)		$173.00
Flight Instructor Knowledge Written Test (Pay to Tarrant County College day of test)		$173.00
End of Course/Practical Test 2.0 C-172		$400.00
	Estimated Course Total:	**$9,741.00**

Prior to registration for the above courses, a deposit must be made into your flight account for the amount shown above.

NOTE: For students using VA benefits, the VA will only pay for the minimum requirements as outlined by the FAA in the Training Course Outline. The amounts of pre and post-flight briefing time requirements vary per student and are determined by our flight instructors. The VA requires students receiving benefits to use the least expensive equipment available.

1. Flight Instructor - $65.00 per hour
2. Cost per hour of each aircraft (aircraft + insurance + average fuel cost x consumption per hour)
    1. Cessna 152 - $95.00
    2. Cessna 172 - $135.00
    3. Cessna 172 TAA - $162.50
    4. Piper PA44 - $370.00

2021-2022 Projected Helicopter Flight Costs

Professional Pilot, AAS

Private Flight, Helicopter (AIRP 1270)	**Minimum to be deposited to flight account:**	*$3,000.00*
FAA Minimum (30 Dual, 5 Solo)		
35 hours in Robinson 22		$11,125.00
35 hours Pre- & Post-Flight Briefings		$1,750.00
Average Additional Hours		
20 hours in Robinson 22		$6,500.00
Private Pilot Knowledge Written (Pay to Tarrant County College day of test)		$173.00
FAA Private Pilot Helicopter (Pay examiner)		
	Estimated Course Total:	**$19,548.00**

Instrument Flight, Helicopter (AIRP 2270)	**Minimum to be deposited to flight account:**	*$1,000.00*
FAA Minimum (35 Dual)		
35 hours in Robinson 22		$11,375.00
35 hours Pre- & Post-Flight Briefings		$1,750.00
Average Additional Hours		
10 hours in Robinson 22		$3,250.00
Instrument Rating Knowledge Written Test (Pay to Tarrant County College day of test)		$173.00
FAA Instrument Rating Helicopter Test (Pay examiner)		
	Estimated Course Total:	**$16,548.00**
Intermediate Flight, Helicopter (AIRP 1271)	**Minimum to be deposited to flight account:**	*$1,000.00*
FAA Minimum (13 Dual, 27 Solo)		
13 hours Dual in Robinson 22		$4,225.00
27 hours Solo in Robinson 22		$7,425.00
15 hours Pre- & Post-Flight Briefings		$750.00
	Estimated Course Total:	**$12,400.00**
Commercial Flight, Helicopter (AIRP 2271)	**Minimum to be deposited to flight account:**	*$1,000.00*
FAA Minimum (17 Dual, 58 Solo)		
17 hours Dual in Robinson 22		$5,525.00
58 hours Solo in Robinson 22		$15,950.00
20 hours Pre- & Post-Flight Briefings		$1,000.00
Commercial Pilot Knowledge Written Test (Pay to Tarrant County College day of test)		$173.00
FAA Commercial Pilot Helicopter Test (Pay examiner)		
	Estimated Course Total:	**$22,648.00**
Certified Flight Instructor-Helicopter (AIRP 2272)	**Minimum to be deposited to flight account:**	*$1,000.00*
FAA Minimum (25 Dual)		

25 Hours in Robinson 22		$8,125.00
Average Additional Hours		
5 Hours Robinson 22		$1,625.00
40 hours Pre- & Post-Flight Briefings		$2,000.00
2 hours Robinson 22 for FAA CFI Practical Test		$550.00
Fundamentals of Instruction Written Test (Pay to Tarrant County College day of test)		$173.00
Flight Instructor Knowledge Written Test (Pay to Tarrant County College day of test)		$173.00
Flight Instructor Airplane FIA Practical Test (Pay examiner)		
	Estimated Course Total:	**$12,646.00**

Upon registration for the above courses, a deposit must be made into your flight account for the amount shown above.

NOTE: For students using VA benefits, the VA will only pay for the minimum requirements as outlined by the FAA in the Training Course outline. The VA requires students receiving benefits, to use the least expensive equipment available.

1. Flight Instructor - $50.00 per hour
2. Cost per hour of other aircraft that may be used (aircraft + insurance + average fuel cost x consumption per hour)
    1. Robinson R22 - $275.00
    2. Robinson 44 - $550.00

The Robinson 22 is weight restricted. If you are unable to use the R-22 due to weight restrictions, the R-44 pricing is above.

Transportation Management

LOGI.T001.UG
Level 1 Certificate
Offered at Northwest Campus

Business & Industry *Pathway*
Learn more about Logistics & Supply Chain Management

Program Requirements

Fall Term

- BCIS 1305 - Business Computer Applications +
- LMGT 1319 - Introduction to Business Logistics

Choose one from the following:

- ECON 2302 - Principles of Microeconomics + **or**
- ECON 2301 - Principles of Macroeconomics +

- LMGT 1323 - Domestic and International Transportation Management
- LMGT 2334 - Principles of Traffic Management (Capstone)

Total Certificate Hours: 15

Warehouse Management

LOGI.T002.UG
Level 1 Certificate
Offered at Northwest Campus

Business & Industry *Pathway*
Learn more about Logistics & Supply Chain Management

Program Requirements

Fall Term

- BCIS 1305 - Business Computer Applications +
- LMGT 1319 - Introduction to Business Logistics
- LMGT 1325 - Warehouse and Distribution Center Management (Capstone)
- IBUS 1301 - Principles of Exports
- IBUS 1302 - Principles of Imports

Total Certificate Hours: 15

Horticulture Business Management

HORT.T007.UG
Level 2 Certificate
Offered at Northwest Campus

Business & Industry Pathway
Learn more about Horticulture

Program Requirements

First Year

Fall Term

- HALT 1301 - Principles of Horticulture

- AGCR 2418 - Soil Science
- BUSG 1315 - Small Business Operations

Choose one from the following:
- MRKG 1311 - Principles of Marketing **or**
- MRKG 2333 - Principles of Selling

Spring Term

- HALT 2323 - Horticultural Pest Control
- HALT 1303 - Herbaceous Plants
- HALT 2318 - Soil Fertility and Fertilizers

Choose one from the following:
- ACNT 1311 - Introduction to Computerized Accounting **or**
- BUSG 2309 - Small Business Management and Entrepreneurship **or**
- HRPO 2301 - Human Resources Management

Summer Term

- HALT 1307 - Plant Diseases
- HALT 1313 - Economic Entomology
- BUSG 1341 - Small Business Financing
- Horticulture Elective Semester Hours: 6 *****

Total Certificate Hours: 40

Horticulture Electives: HALT 1309, HALT 1311, HALT 1317, HALT 1333, HALT 1353, HALT 1422, HALT 2301, HALT 2308, HALT 2314, HALT 2315 or HALT 2320

Logistics and Supply Chain Management, AAS

LOGI.D001.UG
Associate of Applied Science
Offered at Northwest Campus

Business & Industry *Pathway*
Learn more about Logistics & Supply Chain Management

Program Requirements

First Year

Fall Term

- BCIS 1305 - Business Computer Applications +
- ENGL 1301 - Composition I +
- LMGT 1319 - Introduction to Business Logistics
- LMGT 1323 - Domestic and International Transportation Management
- LMGT 2334 - Principles of Traffic Management

Spring Term

Choose one from the following:

- ECON 2301 - Principles of Macroeconomics + **or**
- ECON 2302 - Principles of Microeconomics +

- LMGT 1325 - Warehouse and Distribution Center Management
- IBUS 1301 - Principles of Exports
- IBUS 1302 - Principles of Imports

Choose one from the following:

- MATH 1314 - College Algebra + **or**
- MATH 1324 - Mathematics for Business and Social Sciences + **or**
- MATH 1342 - Elementary Statistical Methods +

Summer Term

- BUSI 2301 - Business Law +
- ACCT 2301 - Principles of Financial Accounting +
- MRKG 1311 - Principles of Marketing

Choose one from the following:

- SPCH 1321 - Business and Professional Communication + **or**
- SPCH 1311 - Introduction to Speech Communication +

Second Year

Fall Term

- BMGT 1313 - Principles of Purchasing
- BMGT 1331 - Production and Operations Management
- BMGT 2331 - Principles of Quality Management
- LMGT 2371 - Leadership in Logistics and Supply Chain Management
- Creative Arts/Language, Philosophy, and Culture Semester Hours: 3 *

Spring Term

- LMGT 2388 - Internship: Logistics and Materials Management (Capstone)

Total Degree Hours: 60

** Creative Arts/Language, Philosophy, and Culture must be chosen from the corresponding section of the Core Curriculum.*

Water Resources Technician

ENVI.T006.UG
Level 1 Certificate
Offered at Northwest Campus.

Business & Industry Pathway
Learn more about Occupational Safety & Environmental Technology

Program Requirements

First Year

Fall Term

- EPCT 1341 - Principles of Industrial Hygiene
- EPCT 1407 - Introduction to Environmental Safety and Health
- EPCT 1313 - Contingency Planning

Spring Term

- EPCT 1344 - Environmental Sampling and Analysis
- EPCT 1401 - Hazardous Waste Operations and Emergency Response (HAZWOPER) Training and Related Topics

Choose one from the following:

- EPCT 1327 - Basic Water Works Operation **or**
- EPCT 1328 - Basic Wastewater Operations

Total Certificate Hours: 20

Nondestructive Inspection, Testing and Evaluation, AAS

NDTE.D001.UG
Associate of Applied Science
Offered at Northwest Campus

Business & Industry Pathway
Learn more about Nondestructive Inspection, Testing and Evaluation

Program Requirements

First Year

Fall Term

- METL 1301 - Introduction to Metalurgy
- AERO 1291 - Aerospace Engineering Technology: Airframe and Component Structural Design
- NDTE 1372 - Introduction to NDT/NAS Codes and Standards
- NDTE 1410 - Liquid Penetrant/Magnetic Particle Testing
- ENGL 1301 - Composition I +

Spring Term

- NDTE 1405 - Introduction to Ultrasonics
- MATH 1314 - College Algebra +
- NDTE 1340 - Eddy Current Testing
- INMT 1370 - Composite Fundamentals

Summer Term

- NDTE 2401 - Advanced Ultrasonics
- MATH 1316 - Plane Trigonometry +

Second Year

Fall Term

- NDTE 1371 - Introduction to Radiation Safety
- NDTE 2572 - Advanced Eddy Current
- GOVT 2305 - Federal Government (Federal Constitution & Topics) +
- METL 2371 - Materials and Failure Analysis

Spring Term

- NDTE 2473 - Industrial Radiography
- NDTE 2474 - Emerging Technologies in Nondestructive Techniques
- PSYC 2301 - General Psychology +

Total Degree Hours: 60

Aviation Maintenance Technology: Airframe, AAS

AVIA.D002.UG
Associate of Applied Science
Offered at Northwest Campus

Business & Industry Pathway
Learn more about Aviation Maintenance Technology

Program Requirements

First Year

Fall Term

- AERM 1101 - Introduction to Aviation
- AERM 1205 - Weight and Balance
- AERM 1208 - Federal Aviation Regulations
- AERM 1303 - Shop Practices
- AERM 1310 - Ground Operations
- AERM 1314 - Basic Electricity
- AERM 1315 - Aviation Science

Spring Term

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

Summer Term

- AERM 1141 - Wood, Fabric, and Finishes
- AERM 1153 - Aircraft Welding
- AERM 1452 - Aircraft Sheet Metal
- AERM 2231 - Airframe Inspection (Capstone)
- AERM 2233 - Assembly and Rigging

Second Year

Fall Term

- AERM 2171 - Oral and Practical Exams, General
- AERM 2172 - Oral and Practical Exams, Airframe

Spring Term

- ENGL 1301 - Composition I +
- College Level Mathematics Elective Semester Hours: 3 *
- Social/Behavioral Science **or** Government/Political Science Elective Semester Hours: 3 *
- Creative Arts/Language, Culture & Philosophy Elective Semester Hours: 3 *
- Speech & Communication Skills Elective Semester Hours: 3 *

Total Degree Hours: 60

** Must choose the preferred course or a course from the corresponding section of the Core Curriculum: Mathematics (MATH 1314), Social/Behavioral Science (PSYC 2301) or Government/Political Science (GOVT 2305), Speech & Communication (SPCH 1315) and Creative Arts/Language, and Philosophy and Culture.*

Selective Admission Criteria:

All applicants to the Aviation Maintenance Technology Program are required to attend an information session as well as the program orientation prior to application deadline and registration. Complete details regarding the Aviation Maintenance Technology program can be found on the TCC website.

Application Criteria:

- *Students must be TSI compliant/Algebraic Pathway*
- *Hold a TCCD Student Colleague Number*

Prior to application students with international college credits must contact International Admissions 817-515-1570.

TCC aviation programs are regulated by the Federal Aviation Administration. Once admitted into the program students must obtain a minimum grade of "C" in all technical courses and meet mandatory attendance requirements.

Students should be aware that employment in aviation related fields may be subject to alcohol and drug screenings, and criminal background checks.

Aviation Maintenance Technology: Powerplant, AAS

AVIA.D003.UG
Associate of Applied Science
Offered at Northwest Campus

Business & Industry Pathway
Learn more about Aviation Maintenance Technology

Program Requirements

First Year

Fall Term

- AERM 1101 - Introduction to Aviation
- AERM 1205 - Weight and Balance
- AERM 1208 - Federal Aviation Regulations
- AERM 1303 - Shop Practices
- AERM 1310 - Ground Operations
- AERM 1314 - Basic Electricity
- AERM 1315 - Aviation Science

Spring Term

- AERM 1340 - Aircraft Propellers
- AERM 1344 - Aircraft Reciprocating Engines
- AERM 1351 - Aircraft Turbine Engine Theory
- AERM 1456 - Aircraft Powerplant Electrical
- Speech & Communication Skills Elective Semester Hours: 3 *

Summer Term

- ENGL 1301 - Composition I +
- College Level Mathematics Elective Semester Hours: 3 *
- Social/Behavioral Science **or** Government/Political Science Elective Semester Hours: 3 *
- Creative Arts/Language, Culture & Philosophy Elective Semester Hours: 3 *

Second Year

Fall Term

- AERM 1357 - Fuel Metering and Induction Systems
- AERM 2351 - Aircraft Turbine Engine Overhaul
- AERM 2547 - Aircraft Reciprocating Engine Overhaul
- AERM 2252 - Aircraft Powerplant Inspection (Capstone)

Spring Term

- AERM 2171 - Oral and Practical Exams, General
- AERM 2173 - Oral and Practical Exams, Powerplant

Total Degree Hours: 60

** Must choose the preferred course or a course from the corresponding section of the Core Curriculum: Mathematics (MATH 1314), Social/Behavioral Science (PSYC 2301) or Government/Political Science (GOVT 2305), Speech & Communication (SPCH 1315) and Creative Arts/Language, and Philosophy and Culture.*

Selective Admission Criteria:

All applicants to the Aviation Maintenance Technology Program are required to attend an information session and the program orientation prior to application deadline and registration. Complete details regarding the Aviation Maintenance Technology program can be found on the TCC website.

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- *Hold a TCCD Student Colleague Number*

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TCC aviation programs are regulated by the Federal Aviation Administration. Once admitted into the program students must obtain a minimum grade of "C" in all technical courses and meet mandatory attendance requirements.

Students should be aware that employment in aviation related fields may be subject to alcohol and drug screenings, and criminal background checks.

Horticulture, AAS

HORT.D001.UG
Associate of Applied Science
Offered at Northwest Campus

Business & Industry Pathway
Learn more about Horticulture

Program Requirements

First Year

Fall Term

- HALT 1301 - Principles of Horticulture
- HALT 1313 - Economic Entomology

Choose one from the following:

- CHEM 1405 - Introductory Chemistry I (Lecture + Lab) + **or**
- CHEM 1411 - General Chemistry I (Lecture + Lab) +

- Horticulture Electives Semester Hours: 6 *****
- HALT 2314 - Plant Propagation

Spring Term

- AGCR 2418 - Soil Science
- ENGL 1301 - Composition I +
- HALT 2318 - Soil Fertility and Fertilizers
- Horticulture Elective Semester Hours: 3 *****

Second Year

Fall Term

- HALT 1307 - Plant Diseases

Choose one from the following:

- GOVT 2305 - Federal Government (Federal Constitution & Topics) + **or**
- GOVT 2306 - Texas Government (Texas Constitution & Topics) + **or**

- HIST 1301 - United States History I + **or**
- HIST 1302 - United States History II +

- Creative Arts/Language, Philosophy and Culture Elective Semester Hours: 3 **
- Horticulture Electives Semester Hours: 6 *

Spring Term

- HALT 2323 - Horticultural Pest Control
- HALT 1303 - Herbaceous Plants (Capstone)
- BCIS 1305 - Business Computer Applications +
- Any 1 hour Physical Health KINE Course
- Horticulture Elective Semester Hours: 3 *

Total Degree Hours: 60

** Suggested Horticulture Electives include: FDST 1323, HALT 1309, HALT 1311, HALT 1317, HALT 1333, HALT 1353, HALT 1422, HALT 2301, HALT 2307, HALT 2308, HALT 2315, or HALT 2320*

*** Creative Arts/Language, Philosophy and Culture must be chosen from the corresponding section of the Core Curriculum.*

Capstone should be taken the graduating semester.

Environmental Health and Safety Technician

ENVI.T004.UG
Level 1 Certificate
Offered at Northwest Campus

Business & Industry Pathway
Learn more about Occupational Safety & Environmental Technology

Program Requirements

Fall Term

- EPCT 1407 - Introduction to Environmental Safety and Health
- EPCT 1341 - Principles of Industrial Hygiene
- OSHT 1305 - OSHA Regulations -Construction Industry

Spring Term

- EPCT 1401 - Hazardous Waste Operations and Emergency Response (HAZWOPER) Training and Related Topics
- EPCT 1344 - Environmental Sampling and Analysis
- OSHT 2401 - OSHA Regulations -General Industry

Choose one from the following:

- OSHT 2388 - Internship -Occupational Safety and Health Technology/Technician **or**
- OSHT 2309 - Safety Program Management

Total Certificate Hours: 24

Occupational Safety and Environmental Technology, AAS

ENVI.D003.UG
Associate of Applied Science
Offered at Northwest Campus

Business & Industry Pathway
Learn more about Occupational Safety & Environmental Technology

Program Requirements

First Year

Fall Term

- ENGL 1301 - Composition I +

Choose one from the following:

- GOVT 2305 - Federal Government (Federal Constitution & Topics) + **or**
- GOVT 2306 - Texas Government (Texas Constitution & Topics) +

Choose one from the following:

- MATH 1314 - College Algebra + **or**
- MATH 1332 - Contemporary Mathematics (Quantitative Reasoning) + **or**
- MATH 1342 - Elementary Statistical Methods +

- EPCT 1407 - Introduction to Environmental Safety and Health
- EPCT 1341 - Principles of Industrial Hygiene

Spring Term

Choose one from the following:

- CHEM 1405 - Introductory Chemistry I (Lecture + Lab) + **or**
- CHEM 1406 - Introductory Chemistry I (Lecture + Lab, Allied Health Emphasis) +

- ENGL 2311 - Technical and Business Writing +
- KINE 1164 - Introduction to Physical Fitness and Wellness +
- EPCT 1401 - Hazardous Waste Operations and Emergency Response (HAZWOPER) Training and Related Topics

Summer Term

Choose one from the following:

- SPCH 1311 - Introduction to Speech Communication + **or**
- SPCH 1315 - Public Speaking + **or**
- SPCH 1321 - Business and Professional Communication +

- Creative Arts/Language, Philosophy and Culture Elective Semester Hours: 3 *

Second Year

Fall Term

- EPCT 1311 - Introduction to Environmental Science
- EPCT 1440 - Industrial Chemical Processes
- OSHT 1313 - Accident Prevention, Inspection and Investigation
- EPCT 1313 - Contingency Planning

Spring Term

- EPCT 1344 - Environmental Sampling and Analysis
- OSHT 2401 - OSHA Regulations -General Industry

Choose one from the following:

- OSHT 2388 - Internship -Occupational Safety and Health Technology/Technician ** **or**
- OSHT 2309 - Safety Program Management

- Approved Elective Semester Hours: 3 ***

Total Degree Hours: 60

** Creative Arts/Language, Philosophy, and Culture electives must be chosen from the Core Curriculum to fulfill requirement.*

*** Internship must be taken in a graduating semester.*

**** Approved electives include BIOL 2406, EPCT 1327, EPCT 1328, FIRT 1307, FIRT 1315, FIRT 1329, FIRT 1338, GEOL 1405, OSHT 1305 or OSHT 2309*

Southeast Campus

Culinary Arts, AAS

CULI.D003.UG
Associate of Applied Science
Business & Industry Pathway

Offered at Southeast Campus

Program Requirements

First Year

Fall Term

- CHEF 1301 - Basic Food Preparation
- CHEF 1305 - Sanitation and Safety
- PSTR 1301 - Fundamentals of Baking
- RSTO 1304 - Dining Room Service
- RSTO 1325 - Purchasing for Hospitality Operations

Spring Term

- HAMG 2301 - Principles of Food and Beverage Operations
- CHEF 2301 - Intermediate Food Preparation

Choose one from the following:
- HAMG 1324 - Hospitality Human Resources Management **or**
- HAMG 1340 - Hospitality Legal Issues

- ENGL 1301 - Composition I +
- Approved Technical Elective Semester Hours: 3 *

Summer Term

- HECO 1322 - Nutrition and Diet Therapy +

Choose one from the following:
- SPCH 1311 - Introduction to Speech Communication + **or**
- SPCH 1315 - Public Speaking + **or**
- SPCH 1321 - Business and Professional Communication +

Second Year

Fall Term

- CHEF 1310 - Garde Manger

Choose one from the following:
- CHEF 1341 - American Regional Cuisine **or**

- CHEF 1345 - International Cuisine

- CHEF 1302 - Principles of Healthy Cuisine

Spring Term

- IFWA 2446 - Quantity Procedures
- CHEF 1264 - Practicum in Culinary Arts and Chef Training
- Creative Art/Language, Philosophy and Culture Elective Semester Hours: 3 **
- Behavioral or Social Science Elective Semester Hours: 3 **
- Life and Physical Sciences Elective Semester Hours: 3 **

Total Degree Hours: 60

** Approved Technical Elective must be chosen from HAMG 1321, HAMG 2305, HAMG 2307, PSTR 2331, PSTR 1305, PSTR 1310, PSTR 1206, PSTR 2207, PSTR 1442, or TRVM 1201.*

*** Creative Arts/Language, Philosophy and Culture, Behavioral or Social Sciences and Life and Physical Sciences electives must be chosen from the Core Curriculum.*

NOTE: Mathematical competency is required for completion by TSI-liable students. Practicum should be taken during graduating semester and requires approval by program coordinator.

The program is accredited by the American Culinary Federation Education Foundation, 180 Center Place Way, St. Augustine, Florida 32095.

Culinary Arts I

CULI.T007.UG
Level 1 Certificate
Business & Industry Pathway

Offered at Southeast Campus

Program Requirements

Fall Term

- CHEF 1305 - Sanitation and Safety
- PSTR 1301 - Fundamentals of Baking
- RSTO 1304 - Dining Room Service
- RSTO 1325 - Purchasing for Hospitality Operations
- CHEF 1301 - Basic Food Preparation (Capstone)

Choose one from the following:
- HECO 1322 - Nutrition and Diet Therapy + **or**
- HAMG 2301 - Principles of Food and Beverage Operations

Total Certificate Hours: 18

Baking and Pastry

CULI.T009.UG
Level 1 Certificate
Offered at Southeast Campus

Business & Industry Pathway
Learn more about Culinary Arts

Program Requirements

Fall Term

- CHEF 1305 - Sanitation and Safety
- PSTR 1301 - Fundamentals of Baking
- PSTR 1206 - Cake Decorating I
- PSTR 2207 - Cake Decorating II
- HAMG 2301 - Principles of Food and Beverage Operations
- CHEF 1301 - Basic Food Preparation

Spring Term

- PSTR 2331 - Advanced Pastry Shop
- PSTR 1305 - Breads and Rolls
- PSTR 1310 - Pies, Tarts, Teacakes and Cookies
- PSTR 1442 - Quantity Bakeshop Production (Capstone)

Total Certificate Hours: 29

Catering/Private Chef

CULI.T006.UG
Level 2 Certificate
Offered at Southeast Campus

Business & Industry Pathway
Learn more about Culinary Arts

Program Requirements

First Year

Fall Term

- CHEF 1305 - Sanitation and Safety
- CHEF 1301 - Basic Food Preparation
- PSTR 1301 - Fundamentals of Baking
- RSTO 1325 - Purchasing for Hospitality Operations
- RSTO 1304 - Dining Room Service

Spring Term

- BUSG 2309 - Small Business Management and Entrepreneurship
- CHEF 2301 - Intermediate Food Preparation
- POFT 1321 - Business Mathematics
- BUSG 1315 - Small Business Operations
- CHEF 1302 - Principles of Healthy Cuisine

Summer Term

- HECO 1322 - Nutrition and Diet Therapy +
- ENGL 1301 - Composition I +

Second Year

Fall Term

Choose one from the following:

- CHEF 1341 - American Regional Cuisine **or**
- CHEF 1345 - International Cuisine

- IFWA 2446 - Quantity Procedures
- CHEF 1264 - Practicum in Culinary Arts and Chef Training (Capstone)
- TRVM 1201 - Customer Sales and Service

Total Certificate Hours: 47

Students must meet requirements of the Texas Success Initiative (TSI) for graduation.

Hospitality Management: Hospitality/Travel and Tourism Management, AAS

HOSP.D007.UG
Associate of Applied Science
Offered at Southeast Campus

Business & Industry Pathway
Learn more about Hospitality Management

Program Requirements

First Year

Fall Term

- HAMG 1213 - Front Office Management
- HAMG 1321 - Introduction to the Hospitality Industry
- HAMG 2301 - Principles of Food and Beverage Operations
- RSTO 1313 - Hospitality Supervision
- TRVM 1201 - Customer Sales and Service

Spring Term

- CHEF 1301 - Basic Food Preparation
- CHEF 1305 - Sanitation and Safety

Choose one from the following:

- HAMG 1324 - Hospitality Human Resources Management **or**
- HAMG 1340 - Hospitality Legal Issues

- RSTO 1304 - Dining Room Service
- RSTO 1325 - Purchasing for Hospitality Operations
- TRVM 1300 - Introduction to Travel & Tourism

Second Year

Fall Term

- HAMG 2307 - Hospitality Marketing and Sales
- HAMG 1317 - Recreational Services
- HAMG 2305 - Hospitality Management and Leadership
- TRVM 2345 - Advanced Topics in Tourism
- Speech Elective Semester Hours: 3

Spring Term

- ENGL 1301 - Composition I +
- HAMG 2267 - Practicum-Hospitality Administration and Management (Capstone)
- Creative Arts/Language, Philosophy and Culture Semester Hours: 3 *
- Mathematics or Life and Physical Sciences Semester Hours: 3 *
- Behavioral or Social Science Semester Hours: 3 *

Total Degree Hours: 60

** Creative Arts/Language, Philosophy and Culture, Mathematics or Life and Physical Sciences, and Behavioral or Social Sciences electives must be chosen from the Core Curriculum.*

Hospitality/Hotel Supervision

HOSP.T005.UG
Level 1 Certificate
Offered at Southeast Campus

Business & Industry Pathway
Learn more about Hospitality Management

Program Requirements

First Year

Fall Term

- HAMG 1321 - Introduction to the Hospitality Industry
- TRVM 1201 - Customer Sales and Service
- RSTO 1313 - Hospitality Supervision
- HAMG 2301 - Principles of Food and Beverage Operations

Choose one from the following:
- HAMG 1324 - Hospitality Human Resources Management **or**
- HAMG 1340 - Hospitality Legal Issues

- HAMG 1213 - Front Office Management (Capstone)

Total Certificate Hours: 16

Hospitality/Travel & Tourism Supervision

HOSP.T006.UG
Level 2 Certificate
Offered at Southeast Campus

Business & Industry Pathway
Learn more about Hospitality Management

Program Requirements

First Year

Fall Term

- HAMG 1321 - Introduction to the Hospitality Industry
- HAMG 1213 - Front Office Management
- HAMG 1317 - Recreational Services

- HAMG 2301 - Principles of Food and Beverage Operations
- TRVM 1201 - Customer Sales and Service

Spring Term

Choose one of the following:

- HAMG 1324 - Hospitality Human Resources Management **or**
- HAMG 1340 - Hospitality Legal Issues

- CHEF 1305 - Sanitation and Safety
- CHEF 1301 - Basic Food Preparation
- RSTO 1325 - Purchasing for Hospitality Operations
- TRVM 1300 - Introduction to Travel & Tourism

Second Year

Fall Term

- RSTO 1304 - Dining Room Service
- HAMG 2307 - Hospitality Marketing and Sales
- TRVM 2345 - Advanced Topics in Tourism
- RSTO 1313 - Hospitality Supervision
- HAMG 2305 - Hospitality Management and Leadership (Capstone)

Total Certificate Hours: 43

Students must meet requirements of 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.

Hospitality Management: Meeting and Event Planning/Convention and Group Management, AAS

HOSP.D008.UG
Associate of Applied Science
Offered at Southeast Campus

Business & Industry Pathway
Learn more about Hospitality Management

Program Requirements

First Year

Fall Term

- HAMG 2301 - Principles of Food and Beverage Operations
- HAMG 1321 - Introduction to the Hospitality Industry
- RSTO 1325 - Purchasing for Hospitality Operations
- TRVM 1201 - Customer Sales and Service
- TRVM 2301 - Introduction to Convention/Meeting Management

Spring Term

- CHEF 1301 - Basic Food Preparation
- CHEF 1305 - Sanitation and Safety
- ENGL 1301 - Composition I +

  Choose one from the following:
- HAMG 1324 - Hospitality Human Resources Management **or**
- HAMG 1340 - Hospitality Legal Issues

- RSTO 1304 - Dining Room Service

Second Year

Fall Term

- HAMG 2307 - Hospitality Marketing and Sales
- RSTO 1313 - Hospitality Supervision
- Speech Elective Semester Hours: 3
- Behavioral or Social Science Elective Semester Hours: 3 *
- Creative Arts/Language, Philosophy and Culture Semester Hours: 3 *

Spring Term

- HAMG 2267 - Practicum-Hospitality Administration and Management (Capstone)
- HAMG 2330 - Convention and Group Management and Services
- IFWA 2446 - Quantity Procedures
- TRVM 1327 - Special Events Design
- Mathematics or Life and Physical Sciences Semester Hours: 3 *
- Elective Semester Hour: 1

Total Degree Hours: 60

** Creative Arts/Language, Philosophy and Culture, Mathematics or Life and Physical Sciences, and Behavioral or Social Sciences electives must be chosen from the Core Curriculum.*

Meeting & Event Planning/Convention & Group Management

HOSP.T009.UG
Level 1 Certificate
Offered at Southeast Campus

Business & Industry Pathway
Learn more about Hospitality Management

Program Requirements

First Year

Fall Term

- TRVM 2301 - Introduction to Convention/Meeting Management
- HAMG 1213 - Front Office Management
- RSTO 1313 - Hospitality Supervision
- TRVM 1201 - Customer Sales and Service

Spring Term

- HAMG 1324 - Hospitality Human Resources Management
- TRVM 1327 - Special Events Design (Capstone)
- HAMG 1321 - Introduction to the Hospitality Industry

Total Certificate Hours: 19

Beverage Management I

HOSP.T007.UG
Level 1 Certificate
Offered at Southeast Campus

Business & Industry Pathway
Learn more about Hospitality Management

Program Requirements

First Year

Fall Term

- HAMG 1321 - Introduction to the Hospitality Industry
- HAMG 2301 - Principles of Food and Beverage Operations
- HAMG 2307 - Hospitality Marketing and Sales
- BTND 1371 - Introduction to Bartending/Mixologist

Spring Term

- FDST 2335 - Wine Growing Regions of the World
- TRVM 1201 - Customer Sales and Service
- HAMG 1213 - Front Office Management
- HAMG 2330 - Convention and Group Management and Services

Total Certificate Hours: 22

Beverage Management II

HOSP.T008.UG
Level 2 Certificate
Offered at Southeast Campus

Business & Industry Pathway
Learn more about Hospitality Management

Program Requirements

First Year

Fall Term

- HAMG 1321 - Introduction to the Hospitality Industry
- HAMG 2301 - Principles of Food and Beverage Operations
- BTND 1371 - Introduction to Bartending/Mixologist

Choose one of the following:
- SPCH 1311 - Introduction to Speech Communication + **or**
- SPCH 1315 - Public Speaking + **or**
- SPCH 1321 - Business and Professional Communication +

Spring Term

- TRVM 1201 - Customer Sales and Service
- HAMG 1213 - Front Office Management
- RSTO 1319 - Viticulture and Enology
- FDST 2335 - Wine Growing Regions of the World
- HAMG 2330 - Convention and Group Management and Services

Second Year

Fall Term

- FDST 2333 - Wine Types and Sensory Evaluation
- RSTO 1304 - Dining Room Service
- CHEF 1305 - Sanitation and Safety

- Mathematics or Life and Physical Science Elective Semester Hours: 3 *
- HAMG 2307 - Hospitality Marketing and Sales

Total Certificate Hours: 40

** Mathematics or Life and Physical Science Elective must be chosen from the Core Curriculum.*

Students must meet requirements of 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.

Hospitality Management: Food Service Management, AAS

HOSP.D006.UG
Associate of Applied Science
Offered at Southeast Campus

Business & Industry Pathway
Learn more about Hospitality Management

Program Requirements

First Year

Fall Term

- CHEF 1301 - Basic Food Preparation
- CHEF 1305 - Sanitation and Safety
- HAMG 1321 - Introduction to the Hospitality Industry
- HAMG 2301 - Principles of Food and Beverage Operations
- TRVM 1201 - Customer Sales and Service

Spring Term

- CHEF 2301 - Intermediate Food Preparation

Choose one from the following:

- HAMG 1324 - Hospitality Human Resources Management **or**
- HAMG 1340 - Hospitality Legal Issues

- HECO 1322 - Nutrition and Diet Therapy +
- RSTO 1304 - Dining Room Service
- RSTO 1325 - Purchasing for Hospitality Operations

Second Year

Fall Term

- HAMG 2305 - Hospitality Management and Leadership
- HAMG 2307 - Hospitality Marketing and Sales
- RSTO 1313 - Hospitality Supervision
- Behavioral or Social Science Elective Semester Hours: 3 *
- Creative Arts/Language, Philosophy and Culture Semester Hours: 3 *
- Speech Elective Semester Hours: 3 *

Spring Term

- HAMG 2267 - Practicum-Hospitality Administration and Management (Capstone)
- IFWA 2446 - Quantity Procedures
- ENGL 1301 - Composition I +
- Mathematics or Life and Physical Sciences Semester Hours: 3 *
- Elective Semester Hour: 1

Total Degree Hours: 60

** Creative Arts/Language, Philosophy and Culture, Mathematics or Life and Physical Sciences, Behavioral or Social Sciences, and Speech electives must be chosen from the Core Curriculum.*

Foodservice Operations

HOSP.T010.UG
Level 1 Certificate
Business & Industry Pathway

Offered at Southeast Campus

Program Requirements

First Year

Fall Term

- HAMG 1321 - Introduction to the Hospitality Industry
- CHEF 1305 - Sanitation and Safety
- RSTO 1304 - Dining Room Service
- RSTO 1325 - Purchasing for Hospitality Operations
- CHEF 1301 - Basic Food Preparation
- HAMG 2301 - Principles of Food and Beverage Operations (Capstone)

Total Certificate Hours: 18

South Campus

Architectural Technology

ARCH.T009.UG
Occupational Skills Award
Offered at South Campus

Business & Industry Pathway
Learn more about Architectural Technology

Program Requirements

Summer Term

- ARCH 1315 - Architectural Computer Graphics +

Fall Term

- ARCH 2312 - Architectural Technology +
- ARCH 1311 - Introduction to Architecture +

Total Certificate Hours: 9

Architectural Paraprofessional

ARCH.T005.UG
Level 1 Certificate
Offered at South Campus

Business & Industry Pathway
Learn more about Architectural Technology

Summer Term

- ARCH 1315 - Architectural Computer Graphics +

Fall Term

- ARCH 1301 - Architectural History I +

Choose one from the following:
- ARCH 1303 - Architectural Design I + **or**
- ARCH 1304 - Architectural Design II +

- ARCH 1311 - Introduction to Architecture +
- ARCH 2301 - Architectural Freehand Drawing I +
- ARCH 2312 - Architectural Technology +

Spring Term

- ARCE 2352 - Mechanical, Electrical and Plumbing (MEP) Systems
- ARCH 2302 - Architectural Freehand Drawing II +
- ARCH 1302 - Architectural History II +

Choose one from the following:

- ARCH 1307 - Architectural Graphics I + (Capstone) *** or**
- ARCH 1308 - Architectural Graphics II + (Capstone) *****

Total Certificate Hours: 30

** Capstone should be taken during graduating semester. Approval of the program coordinator is required prior to enrollment.*

General Service Technician

AUTS.T003.UG
Occupational Skills Award
Offered at South Campus

Business & Industry Pathway
Learn more about Automotive Service Technology

Program Requirements

First Year

Fall Term

- AUMT 1405 - Introduction to Automotive Technology
- AUMT 1407 - Automotive Electrical Systems
- AUMT 1410 - Automotive Brake Systems

Total Certificate Hours: 12

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

Architectural CAD Operator

ARCH.T001.UG
Level 1 Certificate
Offered at South Campus

Business & Industry Pathway
Learn more about Architectural Technology

Program Requirements

Summer Term

- ARCH 1315 - Architectural Computer Graphics +

Fall Term

- ARCH 1303 - Architectural Design I +
- ARCH 2312 - Architectural Technology +

Spring Term

- ARCH 1304 - Architectural Design II +
- ARCE 2352 - Mechanical, Electrical and Plumbing (MEP) Systems

Choose one from the following:

- ARCH 1307 - Architectural Graphics I +
- ARCH 1308 - Architectural Graphics II + (Capstone)*****

Total Certificate Hours: 18

** Capstone should be taken during the graduating semester.*

HVAC Installer

HEAT.T008.UG
Occupational Skills Award
Offered at South Campus

Business & Industry Pathway
Learn more about HVAC/R

Program Requirements

Fall Term

- TECM 1303 - Technical Calculations
- HART 1407 - Refrigeration Principles
- HART 2438 - Air Conditioning Installation and Startup

Total Certificate Hours: 11

Residential/Commercial Site Layout and Framer Assistant

CONS.T009.UG
Occupational Skills Award
Offered at South Campus

Business & Industry Pathway
Learn more about Construction Management Technology

Program Requirements

Fall Term

- CNBT 1110 - Basic Construction Safety
- CNBT 1300 - Residential and Light Commercial Construction Drawings
- CNBT 1316 - Construction Technology I
- CNBT 1350 - Construction Technology II

Total Certificate Hours: 10

Industrial Technician, AAS

INMT.D002.UG
Associate of Applied Science
Offered at South Campus

Business & Industry Pathway
Learn more about Industrial Technician

Program Requirements

First Year

Fall Term

- CETT 1409 - DC-AC Circuits
- HART 1407 - Refrigeration Principles
- INMT 1305 - Introduction to Industrial Maintenance
- ENGL 1301 - Composition I +

Spring Term

- HART 2431 - Advanced Electricity for Heating, Ventilation and Air Conditioning (HVAC)
- HYDR 1345 - Hydraulics and Pneumatics
- WLDG 1312 - Introduction to Flux Cored Arc Welding (FCAW)
- RBTC 1401 - Programmable Logic Controllers
- SPCH 1321 - Business and Professional Communication +

Second Year

Fall Term

- HART 1403 - Air Conditioning Control Principles
- RBTC 1351 - Robotic Mechanisms
- ELMT 2337 - Electronic Troubleshooting, Service and Repair
- WLDG 1417 - Introduction to Layout and Fabrication

Spring Term

- INMT 2345 - Industrial Troubleshooting
- GOVT 2305 - Federal Government (Federal Constitution & Topics) +
- Mathematics Elective Semester Hours: 3 *
- Creative Arts/Language, Philosophy and Culture Semester Hours: 3 *
- INMT 2380 - Cooperative Education - Manufacturing Technology/Technician (Capstone)

Total Degree Hours: 60

** Mathematics and Creative Arts/Language, Philosophy and Culture electives must be chosen from the corresponding section in the Core Curriculum.*

Construction Inspection Technician

CONS.T004.UG
Level 1 Certificate
Offered at South Campus

Business & Industry Pathway
Learn more about Construction Management Technology

Program Requirements

Fall Term

- CNBT 1110 - Basic Construction Safety
- CNBT 1300 - Residential and Light Commercial Construction Drawings
- CNBT 1346 - Construction Estimating I
- CNBT 1344 - Construction Materials Testing

Spring Term

- CNBT 1342 - Building Codes and Inspections
- SRVY 1301 - Introduction to Surveying

Total Certificate Hours: 19

Construction Management Technology

CONS.T008.UG
Level 1 Certificate
Offered at South Campus

Business & Industry Pathway
Learn more about Construction Management Technology

Program Requirements

Fall Term

- CNBT 1110 - Basic Construction Safety
- CNBT 1300 - Residential and Light Commercial Construction Drawings
- CNBT 1311 - Construction Methods and Material I
- CNBT 1346 - Construction Estimating I
- CNBT 2342 - Construction Management I

Spring Term

- CNBT 1342 - Building Codes and Inspections
- SRVY 1301 - Introduction to Surveying
- CNBT 2335 - Computer-Aided Construction Scheduling (Capstone)
- CNBT 2337 - Construction Estimating II

Total Certificate Hours: 25

Construction Business Entrepreneur

CONS.T011.UG
Level 2 Certificate
Offered at South Campus

Business & Industry Pathway
Learn more about Construction Management Technology

Program Requirements

First Year

Fall Term

- BUSI 1301 - Business Principles +
- MRKG 1311 - Principles of Marketing
- CNBT 1110 - Basic Construction Safety

- CNBT 1300 - Residential and Light Commercial Construction Drawings
- CNBT 1342 - Building Codes and Inspections
- CNBT 1311 - Construction Methods and Material I

Spring Term

- ECON 2301 - Principles of Macroeconomics +
- BMGT 1327 - Principles of Management
- ACCT 2301 - Principles of Financial Accounting +
- CNBT 1346 - Construction Estimating I
- CNBT 2342 - Construction Management I

Second Year

Fall Term

- BUSI 2301 - Business Law +
- ACCT 2302 - Principles of Managerial Accounting +
- CNBT 2335 - Computer-Aided Construction Scheduling (Capstone)
- CNBT 2337 - Construction Estimating II (Capstone)

Total Certificate Hours: 43

** Students must meet requirements of 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. Practicum should be taken during graduating semester.

Computer-Aided Construction Scheduling

CONS.T010.UG
Enhanced Skills Certificate
Offered at South Campus

Business & Industry Pathway
Learn more about Construction Management Technology

Program Requirements

Fall Term

- ARCH 1308 - Architectural Graphics II +
- CNBT 2335 - Computer-Aided Construction Scheduling
- CNBT 2337 - Construction Estimating II

Total Certificate Hours: 9

Pipe Fitter, AAS

PFPB.D001.UG
Associate of Applied Science
Offered at South Campus

Business & Industry Pathway
Learn more about Pipefitting

Program Requirements

First Year

Fall Term

- PFPB 1450 - Plumbing and Pipefitting Equipment and Safety
- TECM 1301 - Industrial Mathematics
- WLDG 1421 - Welding Fundamentals

Choose one from the following:
- SPCH 1321 - Business and Professional Communication + **or**
- SPCH 1311 - Introduction to Speech Communication + **or**
- SPCH 1315 - Public Speaking +

Spring Term

- PFPB 1305 - Basic Blueprint Reading for Pipefitters
- PFPB 1408 - Basic Pipefitting Skills

Choose one from the following:
- MATH 1314 - College Algebra + **or**
- MATH 1324 - Mathematics for Business and Social Sciences + **or**
- MATH 1332 - Contemporary Mathematics (Quantitative Reasoning) +

Choose one from the following:
- PHIL 1301 - Introduction to Philosophy + **or**
- Creative Arts/Language, Philosophy and Culture Semester Hours: 3 *

- ENGL 1301 - Composition I +

Second Year

Fall Term

- PFPB 2408 - Piping Standards and Materials

- DFTG 1305 - Introduction to Technical Drawing
- KINE 1164 - Introduction to Physical Fitness and Wellness +

Choose one from the following:
- COSC 1301 - Introduction to Computing + **or**
- BCIS 1305 - Business Computer Applications +

- PFPB 2407 - Pipe Fabrication and Installation I

Spring Term

Choose one from the following:
- GOVT 2305 - Federal Government (Federal Constitution & Topics) + **or**
- GOVT 2306 - Texas Government (Texas Constitution & Topics) +

- PFPB 2441 - Pipe Fabrication and Installation II
- PFPB 2432 - Advanced Pipefitting Standards, Specifications, and Installation
- PFPB 2433 - Pipefitting: Advanced Fabrication and Installation (Capstone)

Total Degree Hours: 60

** Creative Arts/Language, Philosophy, and Culture must be chosen from the corresponding section of the Core Curriculum.*

HVAC/R Commercial Technician

HEAT.T011.UG
Level 2 Certificate
Offered at South Campus

Business & Industry Pathway
Learn more about HVAC/R

Program Requirements

First Year

Fall Term

Choose one from the following:
- TECM 1303 - Technical Calculations **or**
- MATH 1314 - College Algebra + **or**
- MATH 1324 - Mathematics for Business and Social Sciences + **or**
- MATH 1332 - Contemporary Mathematics (Quantitative Reasoning) +

- HART 1401 - Basic Electricity for Heating, Ventilation and Air Conditioning (HVAC)
- HART 1407 - Refrigeration Principles

- HART 2438 - Air Conditioning Installation and Startup

Spring Term

- HART 2431 - Advanced Electricity for Heating, Ventilation and Air Conditioning (HVAC)
- HART 1441 - Residential Air Conditioning
- HART 2445 - Residential Air Conditioning Systems Design

Second Year

Fall Term

- HART 1403 - Air Conditioning Control Principles
- HART 1445 - Gas and Electric Heating
- HART 2402 - Commercial Air-Conditioning System Design

Spring Term

- HART 2434 - Advanced Air Conditioning Controls

Choose one from the following:

- HART 2441 - Commercial Air Conditioning **or**
- HART 2436 - Air Conditioning Troubleshooting

Choose one from the following:

- HART 2442 - Commercial Refrigeration (Capstone) * **or**
- HART 2443 - Industrial Air Conditioning (Capstone) * **or**
- HART 2449 - Heat Pumps (Capstone) *

Total Certificate Hours: 51

** Capstone should be taken in graduating semester.*

Students must furnish own hand tools.

Students must meet requirements of 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.

Automotive Metal Repair

AUTC.T001.UG
Level 1 Certificate
Offered at South Campus

Business & Industry Pathway
Learn more about Automotive Collision Repair

Program Requirements

Fall Term

- ABDR 1519 - Basic Metal Repair
- ABDR 1555 - Non-Structural Metal Repair

Spring Term

- ABDR 2437 - Structural Analysis and Damage Repair V
- ABDR 2402 - Auto Body Mechanical and Electrical Service
- ABDR 1307 - Collision Repair Welding (Capstone) *

Total Certificate Hours: 21

** Capstone course should be taken at the end of the program. Approval of the program coordinator is required prior to enrollment.*

Automotive Refinishing

AUTC.T002.UG
Level 1 Certificate
Offered at South Campus

Business & Industry Pathway
Learn more about Automotive Collision Repair

Program Requirements

Fall Term

- ABDR 1431 - Basic Refinishing
- ABDR 1558 - Intermediate Refinishing
- ABDR 1271 - Current Trends in Automotive Collision

Spring Term

- ABDR 2549 - Advanced Refinishing (Capstone) *
- ABDR 2551 - Specialized Refinishing Techniques

Total Certificate Hours: 21

** Capstone course should be taken at the end of the program. Approval of the program coordinator is required prior to enrollment.*

HVAC Residential Technician I

HEAT.T009.UG
Level 1 Certificate
Offered at South Campus

Business & Industry Pathway
Learn more about HVAC/R

Program Requirements

Fall Term

Choose one from the following:

- TECM 1303 - Technical Calculations **or**
- MATH 1314 - College Algebra + **or**
- MATH 1324 - Mathematics for Business and Social Sciences + **or**
- MATH 1332 - Contemporary Mathematics (Quantitative Reasoning) +

- HART 1401 - Basic Electricity for Heating, Ventilation and Air Conditioning (HVAC)
- HART 1407 - Refrigeration Principles

Spring Term

- HART 2431 - Advanced Electricity for Heating, Ventilation and Air Conditioning (HVAC)
- HART 1441 - Residential Air Conditioning (Capstone) *
- HART 2438 - Air Conditioning Installation and Startup

Total Certificate Hours: 23

** Capstone should be taken in graduating semester.*

Students must furnish own hand tools.

HVAC Residential Technician II

HEAT.T010.UG
Level 1 Certificate
Offered at South Campus

Business & Industry Pathway
Learn more about HVAC/R

Program Requirements

First Year

Fall Term

- HART 1403 - Air Conditioning Control Principles
- HART 1445 - Gas and Electric Heating
- HART 2445 - Residential Air Conditioning Systems Design

Spring Term

- HART 2436 - Air Conditioning Troubleshooting (Capstone)*
- HART 2449 - Heat Pumps

Total Certificate Hours: 20

** Capstone should be taken in graduating semester.*

Students must furnish own hand tools.

Engine Analysis Technician

AUTS.T001.UG
Level 1 Certificate
Offered at South Campus

Business & Industry Pathway
Learn more about Automotive Service Technology

Program Requirements

Fall Term

- AUMT 1405 - Introduction to Automotive Technology
- AUMT 1407 - Automotive Electrical Systems

Spring Term

- AUMT 2417 - Automotive Engine Performance Analysis I
- AUMT 2434 - Auto Engine Performance Analysis II

Summer Term

Choose one from the following:

- AUMT 2307 - Hybrid Systems Diagnostics **or**
- AUMT 2388 - Internship - Automobile/Automotive Mechanics Technology/Technician

- AUMT 2321 - Automotive Electrical Diagnosis and Repair (Capstone)

Total Certificate Hours: 22

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

Heavy Line Technician

AUTS.T002.UG
Level 1 Certificate
Offered at South Campus

Business & Industry Pathway
Learn more about Automotive Service Technology

Program Requirements

Fall Term

- AUMT 1405 - Introduction to Automotive Technology
- AUMT 1407 - Automotive Electrical Systems
- AUMT 2413 - Automotive Drive Train and Axles
- AUMT 2425 - Auto Automatic Transmission/Transaxle

Spring Term

- AUMT 1416 - Automotive Suspension and Steering Systems
- AUMT 1419 - Automotive Engine Repair

Summer Term

- AUMT 1410 - Automotive Brake Systems
- AUMT 1345 - Automotive Climate Control Systems (Capstone)

Total Certificate Hours: 31

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

Architectural Technology, AAS

ARCH.D001.UG
Associate of Applied Science
Offered at South Campus

Business & Industry Pathway
Learn more about Architectural Technology

Program Requirements

First Year

Summer Term

- ARCH 1315 - Architectural Computer Graphics +

Fall Term

- ARCH 1311 - Introduction to Architecture +
- ARCH 2312 - Architectural Technology +
- ARCH 1303 - Architectural Design I +
- MATH 1314 - College Algebra +

Spring Term

- ARCE 2352 - Mechanical, Electrical and Plumbing (MEP) Systems
- ARCH 1304 - Architectural Design II +

Choose one from the following:

- ARCE 1342 - Codes, Specifications, and Contract Documents **or**
- CNBT 1342 - Building Codes and Inspections

- ENGL 1301 - Composition I +

Second Year

Summer Term

- ARCH 1307 - Architectural Graphics I +
- ARCH 1308 - Architectural Graphics II +

Fall Term

- ARCH 1301 - Architectural History I +
- ARCH 2301 - Architectural Freehand Drawing I +

Choose one from the following:

- SPCH 1321 - Business and Professional Communication + **or**
- SPCH 1311 - Introduction to Speech Communication + **or**
- SPCH 1315 - Public Speaking +

Choose one from the following:

- GOVT 2305 - Federal Government (Federal Constitution & Topics) + **or**
- GOVT 2306 - Texas Government (Texas Constitution & Topics) +

Spring Term

- SRVY 1301 - Introduction to Surveying
- ARCH 1302 - Architectural History II +
- ARCH 2302 - Architectural Freehand Drawing II +
- Creative Art/Language, Philosophy and Culture Semester Hours: 3 *
- ARCT 2367 - Practicum in Architectural Engineering Technology/Technician (Capstone) **

Total Degree Hours: 60

** Creative Arts/Language, Philosophy and Culture electives must be chosen from the corresponding section of the Core Curriculum.*

*** Practicum should be taken during graduating semester. Approval of the program coordinator is required prior to enrollment.*

Automotive Collision Repair, AAS

AUTC.D001.UG
Associate of Applied Science
Offered at South Campus

Business & Industry Pathway
Learn more about Automotive Collision Repair

Program Requirements

First Year

Fall Term

- ABDR 1519 - Basic Metal Repair
- ABDR 1555 - Non-Structural Metal Repair
- ENGL 1301 - Composition I +

Spring Term

- ABDR 2402 - Auto Body Mechanical and Electrical Service
- ABDR 2437 - Structural Analysis and Damage Repair V
- ABDR 1307 - Collision Repair Welding

Choose one from the following:
- GOVT 2305 - Federal Government (Federal Constitution & Topics) + **or**
- GOVT 2306 - Texas Government (Texas Constitution & Topics) +

- Creative Arts/Language, Philosophy and Culture Semester Hours: 3 *

Summer Term

- COSC 1301 - Introduction to Computing +

Second Year

Fall Term

- ABDR 1271 - Current Trends in Automotive Collision
- ABDR 1431 - Basic Refinishing
- ABDR 1558 - Intermediate Refinishing

Choose one from the following:

- MATH 1332 - Contemporary Mathematics (Quantitative Reasoning) + **or**
- MATH 1314 - College Algebra + **or**
- MATH 1324 - Mathematics for Business and Social Sciences +

Spring Term

- ABDR 2549 - Advanced Refinishing

Choose one from the following:

- SPCH 1321 - Business and Professional Communication + **or**
- SPCH 1311 - Introduction to Speech Communication + **or**
- SPCH 1315 - Public Speaking +

- ABDR 2551 - Specialized Refinishing Techniques (Capstone)

Total Degree Hours: 60

** Creative Arts/Language, Philosophy and Culture course must be chosen from the corresponding section of the Core Curriculum.*

Automotive Service Technology, AAS

AUTS.D001.UG
Associate of Applied Science
Offered at South Campus

Business & Industry Pathway
Learn more about Automotive Service Technology

Program Requirements

First Year

Fall Term

- AUMT 1405 - Introduction to Automotive Technology

- AUMT 1407 - Automotive Electrical Systems
- Creative Arts/Language, Philosophy and Culture Semester Hours: 3 *

Spring Term

- AUMT 2417 - Automotive Engine Performance Analysis I
- AUMT 2434 - Auto Engine Performance Analysis II

Choose one from the following:

- MATH 1332 - Contemporary Mathematics (Quantitative Reasoning) + **or**
- MATH 1314 - College Algebra + **or**
- MATH 1324 - Mathematics for Business and Social Sciences +

Summer Term

- AUMT 2321 - Automotive Electrical Diagnosis and Repair
- AUMT 1410 - Automotive Brake Systems

Second Year

Fall Term

- AUMT 2413 - Automotive Drive Train and Axles
- AUMT 2425 - Auto Automatic Transmission/Transaxle

Choose one from the following:

- GOVT 2305 - Federal Government (Federal Constitution & Topics) + **or**
- GOVT 2306 - Texas Government (Texas Constitution & Topics) +

- ENGL 1301 - Composition I +

Spring Term

- AUMT 1419 - Automotive Engine Repair

Choose one from the following:

- SPCH 1321 - Business and Professional Communication + **or**
- SPCH 1311 - Introduction to Speech Communication + **or**
- SPCH 1315 - Public Speaking +

- AUMT 1416 - Automotive Suspension and Steering Systems

Summer Term

- AUMT 1345 - Automotive Climate Control Systems

Choose one from the following:

- AUMT 2307 - Hybrid Systems Diagnostics **or** (Capstone)
- AUMT 2388 - Internship - Automobile/Automotive Mechanics Technology/Technician (Capstone)

Total Degree Hours: 60

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

** Creative Arts/Language, Philosophy and Culture must be chosen from the corresponding of the Core Curriculum.*

Automotive Service Technology: Toyota Technician Education Network, AAS

AUTS.D002.UG
Associate of Applied Science
Offered at South Campus

Business & Industry Pathway
Learn more about Automotive Service Technology T-TEN

Program Requirements

First Year

Fall Term

- AUMT 1371 - Manufacturer's Maintenance and Pre-delivery
- AUMT 1307 - Automotive Electrical Systems
- AUMT 2321 - Automotive Electrical Diagnosis and Repair
- ENGL 1301 - Composition I +

Spring Term

- AUMT 1316 - Automotive Suspension and Steering Systems
- AUMT 1410 - Automotive Brake Systems
- AUMT 1345 - Automotive Climate Control Systems

Choose one from the following:

- SPCH 1321 - Business and Professional Communication + **or**
- SPCH 1311 - Introduction to Speech Communication + **or**
- SPCH 1315 - Public Speaking +

Summer Term

- AUMT 2188 - Internship-Automobile/Automotive Mechanics Technology/Technician
- AUMT 1319 - Automotive Engine Repair
- AUMT 1306 - Automotive Engine Removal and Installation

Second Year

Fall Term

- AUMT 2311 - Automotive Electronic Controls
- AUMT 2417 - Automotive Engine Performance Analysis I
- AUMT 2434 - Auto Engine Performance Analysis II
- Creative Arts/Language, Philosophy and Culture Semester Hours: 3 *

Spring Term

- AUMT 2413 - Automotive Drive Train and Axles
- AUMT 2425 - Auto Automatic Transmission/Transaxle

Choose one from the following:

- MATH 1332 - Contemporary Mathematics (Quantitative Reasoning) + **or**
- MATH 1314 - College Algebra + **or**
- MATH 1324 - Mathematics for Business and Social Sciences +

- Choose one from the following:
- GOVT 2305 - Federal Government (Federal Constitution & Topics) + **or**
- GOVT 2306 - Texas Government (Texas Constitution & Topics) +

Total Degree Hours: 60

** Creative Arts/Language, Philosophy and Culture electives must be chosen from the corresponding section of the Core Curriculum.*

Construction Management Technology, AAS

CONS.D003.UG
Associate of Applied Science
Offered at South Campus

Business & Industry Pathway
Learn more about Construction Management Technology

Program Requirements

First Year

Fall Term

- CNBT 1110 - Basic Construction Safety
- CNBT 1300 - Residential and Light Commercial Construction Drawings
- CNBT 1302 - Mechanical, Electrical & Plumbing Systems in Construction I

- CNBT 1311 - Construction Methods and Material I
- MATH 1314 - College Algebra +

Spring Term

- ARCH 1315 - Architectural Computer Graphics +
- CNBT 1342 - Building Codes and Inspections
- CNBT 1344 - Construction Materials Testing
- ENGL 1301 - Composition I +
- SRVY 1301 - Introduction to Surveying

Summer Term

- GEOL 1305 - Environmental Science (Lecture) +

Choose one of the following:

- SPCH 1311 - Introduction to Speech Communication + **or**
- SPCH 1315 - Public Speaking + **or**
- SPCH 1321 - Business and Professional Communication +

Second Year

Fall Term

- CNBT 1346 - Construction Estimating I
- CNBT 2342 - Construction Management I
- BMGT 1327 - Principles of Management
- COSC 1301 - Introduction to Computing +

Spring Term

- CNBT 2266 - Practicum in Construction Engineering Technology/Technician (Capstone)
- CNBT 2335 - Computer-Aided Construction Scheduling
- CNBT 2337 - Construction Estimating II

Choose one of the following:

- ECON 2301 - Principles of Macroeconomics + **or**
- ECON 2302 - Principles of Microeconomics +

- Creative Art/Language, Philosophy and Culture Semester Hours: 3 *

Total Degree Hours: 60

** Creative Arts/Language, Philosophy and Culture must be chosen from the corresponding section of the Core Curriculum.*

Note: Practicum should be taken during graduating semester.

Industrial Technician I

INMT.T003.UG
Level 1 Certificate
Offered at South Campus

Business & Industry Pathway
Learn more about Industrial Technician

Program Requirements

First Year

Fall Term

- CETT 1409 - DC-AC Circuits
- HART 1407 - Refrigeration Principles
- INMT 1305 - Introduction to Industrial Maintenance

Spring Term

- HART 2431 - Advanced Electricity for Heating, Ventilation and Air Conditioning (HVAC)
- HYDR 1345 - Hydraulics and Pneumatics
- WLDG 1312 - Introduction to Flux Cored Arc Welding (FCAW)
- RBTC 1401 - Programmable Logic Controllers (Capstone)

Total Certificate Hours: 25

Industrial Technician II

INMT.T004.UG
Level 2 Certificate
Offered at South Campus

Business & Industry Pathway
Learn more about Industrial Technician

Program Requirements

First Year

Fall Term

- CETT 1409 - DC-AC Circuits
- HART 1407 - Refrigeration Principles
- INMT 1305 - Introduction to Industrial Maintenance

Spring Term

- HART 2431 - Advanced Electricity for Heating, Ventilation and Air Conditioning (HVAC)
- HYDR 1345 - Hydraulics and Pneumatics
- WLDG 1312 - Introduction to Flux Cored Arc Welding (FCAW)
- RBTC 1401 - Programmable Logic Controllers

Second Year

Fall Term

- HART 1403 - Air Conditioning Control Principles
- RBTC 1351 - Robotic Mechanisms
- ELMT 2337 - Electronic Troubleshooting, Service and Repair
- WLDG 1417 - Introduction to Layout and Fabrication
- INMT 2345 - Industrial Troubleshooting

Total Certificate Hours: 42

Heating, Air Conditioning and Refrigeration Technology: Commercial HVAC/R Technician, AAS

HEAT.D005.UG
Associate of Applied Science
Offered at South Campus

Business & Industry Pathway
Learn more about HVAC/R

Program Requirements

First Year

Fall Term

- HART 1401 - Basic Electricity for Heating, Ventilation and Air Conditioning (HVAC)
- HART 1407 - Refrigeration Principles
- HART 2445 - Residential Air Conditioning Systems Design

Choose one from the following:

- MATH 1332 - Contemporary Mathematics (Quantitative Reasoning) + **or**
- MATH 1314 - College Algebra + **or**
- MATH 1324 - Mathematics for Business and Social Sciences +

Spring Term

- HART 1441 - Residential Air Conditioning
- HART 2431 - Advanced Electricity for Heating, Ventilation and Air Conditioning (HVAC)
- ENGL 1301 - Composition I +
- KINE 1164 - Introduction to Physical Fitness and Wellness +

Summer Term

Choose one from the following:

- SPCH 1321 - Business and Professional Communication + **or**
- SPCH 1311 - Introduction to Speech Communication + **or**
- SPCH 1315 - Public Speaking +

- Creative Arts/Language, Philosophy and Culture Semester Hours: 3 *

Second Year

Fall Term

- HART 1403 - Air Conditioning Control Principles
- HART 2441 - Commercial Air Conditioning
- HART 2402 - Commercial Air-Conditioning System Design

Choose one from the following:

- GOVT 2305 - Federal Government (Federal Constitution & Topics) + **or**
- GOVT 2306 - Texas Government (Texas Constitution & Topics) +

Spring Term

- HART 2443 - Industrial Air Conditioning (Capstone) **
- HART 2438 - Air Conditioning Installation and Startup

Choose one from the following:

- HART 2434 - Advanced Air Conditioning Controls **or**
- HART 2442 - Commercial Refrigeration

Total Degree Hours: 60

** Creative Arts/Language, Philosophy, and Culture must be chosen from the corresponding section of the Core Curriculum.*

*** All other courses must be successfully completed before enrolling in this course.*

Electrician Helper

ELPT.T001.UG
Level 1 Certificate
Offered at South Campus

Business & Industry Pathway
Learn more about Electrician Helper

Program Requirements

First Year

Fall Term

- ELPT 1321 - Introduction to Electrical Safety and Tools
- ELPT 1311 - Basic Electrical Theory
- ELPT 1315 - Electrical Calculations I

Spring Term

- ELPT 1371 - Introduction to Electrical Controls
- ELPT 1345 - Commercial Wiring (Capstone)
- ELPT 2380 - Cooperative Education-Electrical and Power Transmission Installation/Installer, General

Total Certificate Hours: 18

Heating, Air Conditioning and Refrigeration Technology: Residential HVAC/R Technician, AAS

HEAT.D006.UG
Associate of Applied Science
Offered at South Campus

Business & Industry Pathway
Learn more about HVAC/R

Program Requirements

First Year

Fall Term

- HART 1401 - Basic Electricity for Heating, Ventilation and Air Conditioning (HVAC)
- HART 1407 - Refrigeration Principles
- HART 2445 - Residential Air Conditioning Systems Design

Choose one from the following:

- MATH 1332 - Contemporary Mathematics (Quantitative Reasoning) + **or**
- MATH 1314 - College Algebra + **or**
- MATH 1324 - Mathematics for Business and Social Sciences +

Spring Term

- HART 1441 - Residential Air Conditioning
- HART 2431 - Advanced Electricity for Heating, Ventilation and Air Conditioning (HVAC)
- ENGL 1301 - Composition I +
- KINE 1164 - Introduction to Physical Fitness and Wellness +

Summer Term

Choose one from the following:

- SPCH 1321 - Business and Professional Communication + **or**
- SPCH 1311 - Introduction to Speech Communication + **or**
- SPCH 1315 - Public Speaking +

Choose one from the following:

- GOVT 2305 - Federal Government (Federal Constitution & Topics) + **or**
- GOVT 2306 - Texas Government (Texas Constitution & Topics) +

- Creative Arts/Language, Philosophy and Culture Semester Hours: 3 *

Second Year

Fall Term

- HART 1403 - Air Conditioning Control Principles
- HART 1445 - Gas and Electric Heating
- HART 2438 - Air Conditioning Installation and Startup

Spring Term

- HART 2449 - Heat Pumps **

Choose one from the following:

- HART 2402 - Commercial Air-Conditioning System Design **or**
- HART 2442 - Commercial Refrigeration

- HART 2436 - Air Conditioning Troubleshooting (Capstone) **

Total Degree Hours: 60

** Creative Arts/Language, Philosophy and Culture must be chosen from the corresponding section of the Core Curriculum.*

*** All other courses must be successfully completed before enrolling in these courses.*

Toyota General Service Technician

AUTS.T004.UG
Level 1 Certificate
Offered at South Campus

Business & Industry Pathway
Learn more about Automotive Service Technology T-TEN

Program Requirements

First Year

Fall Term

- AUMT 1371 - Manufacturer's Maintenance and Pre-delivery
- AUMT 1307 - Automotive Electrical Systems
- AUMT 2321 - Automotive Electrical Diagnosis and Repair

Spring Term

- AUMT 1316 - Automotive Suspension and Steering Systems
- AUMT 1410 - Automotive Brake Systems
- AUMT 1345 - Automotive Climate Control Systems
- AUMT 2417 - Automotive Engine Performance Analysis I (Capstone)

Summer Term

- AUMT 2188 - Internship-Automobile/Automotive Mechanics Technology/Technician

Total Certificate Hours: 24

Students must meet requirements of 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.

Toyota Service Technician

AUTS.T005.UG
Level 2 Certificate
Offered at South Campus

Business & Industry Pathway
Learn more about Automotive Service Technology T-TEN

Program Requirements

First Year

Fall Term

- AUMT 1371 - Manufacturer's Maintenance and Pre-delivery
- AUMT 1307 - Automotive Electrical Systems
- AUMT 2321 - Automotive Electrical Diagnosis and Repair
- AUMT 1316 - Automotive Suspension and Steering Systems

Spring Term

- AUMT 1410 - Automotive Brake Systems
- AUMT 1345 - Automotive Climate Control Systems
- AUMT 2417 - Automotive Engine Performance Analysis I

Choose one from the following:

- SPCH 1321 - Business and Professional Communication + **or**
- SPCH 1311 - Introduction to Speech Communication + **or**
- SPCH 1315 - Public Speaking +

Summer Term

- AUMT 2188 - Internship-Automobile/Automotive Mechanics Technology/Technician

Second Year

Fall Term

- AUMT 2434 - Auto Engine Performance Analysis II
- AUMT 1306 - Automotive Engine Removal and Installation
- AUMT 2311 - Automotive Electronic Controls
- AUMT 1319 - Automotive Engine Repair
- AUMT 2413 - Automotive Drive Train and Axles
- AUMT 2425 - Auto Automatic Transmission/Transaxle (Capstone)

Total Certificate Hours: 48

Diesel Technician

DEMR.T001.UG
Level 1 Certificate
Offered at South Campus

Business & Industry Pathway
Learn more about Diesel Technician

Program Requirements

First Year

Fall Term

- DEMR 1301 - Shop Safety and Procedures
- DEMR 1305 - Basic Electrical Systems
- DEMR 1317 - Basic Brake Systems
- DEMR 1306 - Diesel Engine I

Spring Term

- DEMR 1230 - Steering and Suspension I
- DEMR 1316 - Basic Hydraulics
- DEMR 1321 - Power Train I
- DEMR 1323 - Heating, Ventilation, and Air Conditioning (HVAC) Troubleshooting and Repair

Summer Term

- DEMR 1229 - Preventative Maintenance
- DEMR 1327 - Tractor Trailer Service and Repair
- DEMR 1280 - Cooperative Education - Diesel Mechanics Technology/Technician (Capstone)

Total Certificate Hours: 30

Pipefitting-Basic

PFPB.T001.UG
Level 1 Certificate
Offered at South Campus

Business & Industry Pathway
Learn more about Pipefitting

Program Requirements

First Year

Fall Term

- PFPB 1450 - Plumbing and Pipefitting Equipment and Safety
- TECM 1301 - Industrial Mathematics
- WLDG 1421 - Welding Fundamentals

Spring Term

- PFPB 1305 - Basic Blueprint Reading for Pipefitters

- PFPB 1408 - Basic Pipefitting Skills (Capstone)

Total Certificate Hours: 18

Pipefitting-Advanced

PFPB.T002.UG
Level 1 Certificate
Offered at South Campus

Business & Industry Pathway
Learn more about Pipefitting

Program Requirements

First Year

Fall Term

- PFPB 2408 - Piping Standards and Materials
- PFPB 2407 - Pipe Fabrication and Installation I
- PFPB 2441 - Pipe Fabrication and Installation II

Spring Term

- PFPB 2432 - Advanced Pipefitting Standards, Specifications, and Installation (Capstone)
- PFPB 2433 - Pipefitting: Advanced Fabrication and Installation

Total Certificate Hours: 20

Trinity River Campus

Marketing I

BUAD.T018.UG
Level 1 Certificate
Offered at TCC Connect and Trinity River Campus

Business & Industry Pathway
Learn more about Marketing

Program Requirements

Fall Term

- MRKG 2333 - Principles of Selling

- MRKG 1301 - Customer Relationship Management
- MRKG 1302 - Principles of Retailing
- MRKG 2349 - Advertising and Sales Promotion

Spring Term

- MRKG 2348 - Marketing Research and Strategies (Capstone)
- MRKG 1311 - Principles of Marketing
- BCIS 1305 - Business Computer Applications +

Total Certificate Hours: 21

Marketing II

BUAD.T019.UG
Level 2 Certificate
TCC Connect and Trinity River Campus

Business & Industry Pathway
Learn more about Marketing

Program Requirements

First Year

Fall Term

- MRKG 2333 - Principles of Selling
- MRKG 1301 - Customer Relationship Management
- MRKG 1302 - Principles of Retailing
- MRKG 2349 - Advertising and Sales Promotion
- MRKG 1311 - Principles of Marketing

Spring Term

- MRKG 2348 - Marketing Research and Strategies
- BCIS 1305 - Business Computer Applications +
- BUSI 1301 - Business Principles +
- ACCT 2301 - Principles of Financial Accounting +
- BMGT 1327 - Principles of Management

Second Year

Fall Term

- ENGL 1301 - Composition I +

- BMGT 1305 - Communications in Management
- ACCT 2302 - Principles of Managerial Accounting +
- BMGT 1341 - Business Ethics (Capstone) *
- Approved Elective Semester Hours: 3 **

Total Certificate Hours: 45

Students must meet requirements of 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.

** Capstone is taken during the semester of certificate completion.*

*** Approved Electives for all programs must be chosen from subjects ACNT, BMGT, BUSG, BUSI, COSC, ECON, FSHN, GISC, HRPO, IBUS, ITCC, ITNW, ITSE, ITSC, ITSW, LMGT, MRKG or RELE. COSC 1301 may not be used as an elective.*

Marketing Enhanced Skills

BUAD.T020.UG
Enhanced Skills Certificate
Offered at TCC Connect and Trinity River Campus

Business & Industry Pathway
Learn more about Marketing

Program Requirements

Fall Term

- IBUS 1305 - Introduction to International Business and Trade
- IBUS 1301 - Principles of Exports
- IBUS 1302 - Principles of Imports
- Approved Elective Semester Hours: 3 *

Total Certificate Hours: 12

** Approved Elective must include HIST 2389 or a language course, such as FREN, GERM or SPAN.*

Marketing

BUAD.T021.UG
Occupational Skills Award
Offered at TCC Connect and Trinity River Campus

Business & Industry Pathway
Learn more about Marketing

Program Requirements

Fall Term

- MRKG 1301 - Customer Relationship Management
- MRKG 1302 - Principles of Retailing
- MRKG 2333 - Principles of Selling
- MRKG 2349 - Advertising and Sales Promotion

Total Certificate Hours: 12

Business Administration: Marketing, AAS

BUAD.D006.UG
Associate of Applied Science
Offered at TCC Connect and Trinity River Campus

Business & Industry Pathway
Learn more about Business Administration

Program Requirements

First Year

Fall Term

- MRKG 1301 - Customer Relationship Management
- MRKG 1302 - Principles of Retailing
- MRKG 2333 - Principles of Selling
- MRKG 2349 - Advertising and Sales Promotion
- MRKG 1311 - Principles of Marketing

Spring Term

- ACCT 2301 - Principles of Financial Accounting +
- MRKG 2348 - Marketing Research and Strategies
- BUSI 1301 - Business Principles +
- BCIS 1305 - Business Computer Applications +
- BMGT 1327 - Principles of Management

Second Year

Fall Term

- BMGT 1341 - Business Ethics
- ENGL 1301 - Composition I +

- BMGT 1305 - Communications in Management
- ACCT 2302 - Principles of Managerial Accounting +
- Mathematics or Life and Physical Sciences Semester Hours: 3 *

Spring Term

Choose one of the following:

- ENGL 1302 - Composition II + **or**
- ENGL 2311 - Technical and Business Writing +

Choose one of the following:

- GOVT 2305 - Federal Government (Federal Constitution & Topics) + **or**
- GOVT 2306 - Texas Government (Texas Constitution & Topics) +

Choose one of the following:

- SPCH 1321 - Business and Professional Communication + **or**
- SPCH 1311 - Introduction to Speech Communication +

- Creative Arts/Language, Philosophy and Culture Semester Hours: 3 **
- BUSG 2300 - Business Leadership Application (Capstone) ***

Total Degree Hours: 60

** Math and Life and Physical Sciences must be chosen from the corresponding section of the Core Curriculum.*

*** Creative Arts/Language, Philosophy and Culture must be chosen from the corresponding section in the Core Curriculum.*

**** Capstone is taken at the end of the program.*

TCC Connect Campus

Accounting Information Management, AAS

ACCO.D002.UG
Associate of Applied Science
Offered at TCC Connect Campus

Business & Industry Pathway
Learn more about Accounting Information Management

Program Requirements

First Year

Fall Term

- ACCT 2301 - Principles of Financial Accounting +
- ACNT 1311 - Introduction to Computerized Accounting
- ENGL 1301 - Composition I +
- ACNT 1313 - Computerized Accounting Applications

Choose one from the following:

- GOVT 2305 - Federal Government (Federal Constitution & Topics) + **or**
- GOVT 2306 - Texas Government (Texas Constitution & Topics) +

Spring Term

- ACCT 2302 - Principles of Managerial Accounting +
- ITSW 1407 - Introduction to Database

Choose one from the following:

- POFT 2312 - Business Correspondence and Communication **or**
- ENGL 1302 - Composition II +

- ACNT 1329 - Payroll and Business Tax Accounting
- Mathematics or Life and Physical Sciences Semester Hours: 3 *

Second Year

Fall Term

Choose one from the following:

- BUSI 2301 - Business Law + **or**
- BMGT 1341 - Business Ethics

- ACNT 2303 - Intermediate Accounting I
- Approved Business Electives Semester Hours: 8 **

Spring Term

Choose one from the following:

- SPCH 1321 - Business and Professional Communication + **or**
- SPCH 1311 - Introduction to Speech Communication + **or**
- SPCH 1315 - Public Speaking +

- ACNT 2336 - Financial Statement Analysis (Capstone)
- Accounting Elective Semester Hours: 3 ***
- Creative Arts/Language, Philosophy and Culture Semester Hours: 3 *
- Elective Semester Hours: 3

Total Degree Hours: 60

** Creative Arts/Language, Philosophy and Culture, Mathematics or Life and Physical Sciences elective must be chosen from the corresponding section of the Core Curriculum.*

*** Approved Business Electives include courses offered in ACNT, BCIS, BMGT, BUSG, BUSI, COSC, ECON, IBUS, ITCC, ITNW, ITSC, ITSE, ITSW, ITSY, MRKG, POFI, or POFT.*

**** Accounting Electives include ACNT 1331 or ACNT 2309.*

Developmental coursework cannot be used to fulfill any requirement.

Capstone must be taken during the graduating semester.

NOTE: Mathematical competency is required for completion by TSI liable students.

Basic Bookkeeper

ACCO.T006.UG
Occupational Skills Award
Offered at TCC Connect Campus

Business & Industry Pathway
Learn more about Accounting

Program Requirements

First Year

Fall Term

Choose one from the following:

- ACNT 1303 - Introduction to Accounting **or**
- ACCT 2301 - Principles of Financial Accounting +

- ACNT 1311 - Introduction to Computerized Accounting

Choose one from the following:

- ACNT 1313 - Computerized Accounting Applications **or**
- POFI 1449 - Spreadsheets

Total Certificate Hours: 9

Accounting Clerk I

ACCO.T003.UG
Level 1 Certificate
Offered at TCC Connect Campus

Business & Industry Pathway
Learn more about Accounting Clerk

Program Requirements

Fall Term

- ACCT 2301 - Principles of Financial Accounting +
- ACNT 1313 - Computerized Accounting Applications

Choose one from the following:
- POFT 2312 - Business Correspondence and Communication **or**
- ENGL 1301 - Composition I + **or**
- Speech Elective Semester Hours: 3 *

Choose one from the following:
- POFT 1329 - Beginning Keyboarding **or**
- POFI 2401 - Word Processing

- ACNT 1311 - Introduction to Computerized Accounting (Capstone)

Total Certificate Hours: 15

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

Accounting Clerk II

ACCO.T004.UG
Level 1 Certificate
Offered at TCC Connect Campus

Business & Industry Pathway
Learn more about Accounting Clerk

Program Requirements

Fall Term

- ACCT 2301 - Principles of Financial Accounting +
- ACNT 1311 - Introduction to Computerized Accounting
- ACNT 1313 - Computerized Accounting Applications

Choose one from the following:
- POFT 2312 - Business Correspondence and Communication **or**
- ENGL 1301 - Composition I + **or**
- Speech Elective Semester Hours: 3 *

Choose one from the following:

- POFT 1329 - Beginning Keyboarding **or**
- POFI 2401 - Word Processing

Spring Term

- ITSW 1407 - Introduction to Database
- ACCT 2302 - Principles of Managerial Accounting +
- ACNT 1329 - Payroll and Business Tax Accounting (Capstone)
- Mathematics or Life and Physical Sciences Semester Hours: 3 *

Total Certificate Hours: 28

** Mathematics, Life and Physical Sciences and Speech electives must be chosen from the corresponding section of the Core Curriculum.*

Note: Capstone must be taken in the graduating semester.

Accounting Clerk III

ACCO.T005.UG
Level 2 Certificate
Offered at TCC Connect Campus

Business & Industry Pathway
Learn more about Accounting Clerk

Program Requirements

First Year

Fall Term

- ENGL 1301 - Composition I +
- ACCT 2301 - Principles of Financial Accounting +
- ACNT 1311 - Introduction to Computerized Accounting
- ACNT 1313 - Computerized Accounting Applications
- Approved Business Elective Semester Hours: 3 **

Spring Term

- ITSW 1407 - Introduction to Database
- ACCT 2302 - Principles of Managerial Accounting +
- ACNT 1329 - Payroll and Business Tax Accounting
- Government or Creative Arts/Language, Philosophy and Culture Semester Hours: 3 *

Second Year

Fall Term

Choose one from the following:

- POFT 2312 - Business Correspondence and Communication **or**
- ENGL 1302 - Composition II +

Choose one from the following:

- BUSI 2301 - Business Law + **or**
- BMGT 1341 - Business Ethics

- ACNT 2303 - Intermediate Accounting I (Capstone)
- Mathematics or Life and Physical Sciences Semester Hours: 3 *
- Approved Business Elective Semester Hours: 3 **

Total Certificate Hours: 43

** Government or Creative Arts/Language, Philosophy and Culture, and Mathematics or Life and Physical Sciences must be chosen from the corresponding section of the Core Curriculum.*

*** Approved Business Electives include courses offered in ACNT, BCIS, BMGT, BUSG, BUSI, COSC, ECON, IBUS, ITCC, ITSC, ITNW, ITSE, ITSW, ITSY, MRKG, POFI, or POFT.*

Students must meet requirements of 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.

Capstone must be taken in graduating semester.

Human Resources Management, AAS

HRMG.D001.UG
Associate of Applied Science
Offered at TCC Connect and Northeast Campus

Business & Industry Pathway
Learn more about Human Resources

Program Requirements

First Year

Fall Term

- HRPO 1306 - Basic Mediator Training
- HRPO 2305 - Human Resources Information Systems
- ENGL 1301 - Composition I +

- BUSI 1301 - Business Principles +
- Technical Elective Semester Hours: 3 *

Spring Term

- BMGT 1341 - Business Ethics
- HRPO 2307 - Organizational Behavior
- HRPO 1302 - Human Resources Training and Development
- HRPO 2301 - Human Resources Management
- HRPO 2306 - Benefits and Compensation

Second Year

Fall Term

Choose one from the following:

- SPCH 1311 - Introduction to Speech Communication + **or**
- SPCH 1315 - Public Speaking + **or**
- SPCH 1321 - Business and Professional Communication +

- HRPO 2304 - Employee Relations
- MATH 1324 - Mathematics for Business and Social Sciences +
- ACCT 2301 - Principles of Financial Accounting +

Choose one from the following:

- GOVT 2305 - Federal Government (Federal Constitution & Topics) + **or**
- GOVT 2306 - Texas Government (Texas Constitution & Topics) +

Spring Term

- BMGT 2341 - Strategic Management
- ACCT 2302 - Principles of Managerial Accounting +

Choose one from the following:

- ENGL 1302 - Composition II + **or**
- ENGL 2311 - Technical and Business Writing +

- HRPO 2303 - Employment Practices Capstone ***
- Creative Arts/Language, Philosophy and Culture Semester Hours: 3 **

Total Degree Hours: 60

** Technical electives must be taken from the following rubric, with the one choice from the ACNT rubric: BCIS, BMGT, BUSG, BUSI, MRKG, or ACNT 1329*

*** Creative Arts/Language, Philosophy, and Culture electives must be chosen from the corresponding section of the Core Curriculum.*

*** Capstone is taken at the end of the program.*

Human Resources Specialist I

HRMG.T001.UG
Level 1 Certificate
Offered at TCC Connect, Northeast, Northwest, Southeast, and South Campus

Business & Industry Pathway
Learn more about Human Resources

Program Requirements

First Year

Fall Term

- BUSI 1301 - Business Principles +
- BMGT 1341 - Business Ethics
- HRPO 2307 - Organizational Behavior
- Technical Elective Semester Hours: 3 *

Spring Term

- HRPO 2301 - Human Resources Management
- HRPO 1306 - Basic Mediator Training
- HRPO 2306 - Benefits and Compensation
- HRPO 1302 - Human Resources Training and Development (Capstone)

Total Certificate Hours: 24

** Technical Elective: BCIS, BMGT, BUSG, BUSI, MRKG, or ACNT 1329*

Human Resources Specialist II

HRMG.T002.UG
Level 2 Certificate
Offered at TCC Connect and Northeast Campus

Business & Industry Pathway
Learn more about Human Resources

Program Requirements

First Year

Fall Term

- BUSI 1301 - Business Principles +
- BMGT 1341 - Business Ethics
- HRPO 2307 - Organizational Behavior
- HRPO 1306 - Basic Mediator Training
- ENGL 1301 - Composition I +

Spring Term

- HRPO 2301 - Human Resources Management
- HRPO 2306 - Benefits and Compensation
- HRPO 1302 - Human Resources Training and Development
- Technical Elective Semester Hours: 3 *****

  Choose one from the following:
- SPCH 1311 - Introduction to Speech Communication + **or**
- SPCH 1315 - Public Speaking + **or**
- SPCH 1321 - Business and Professional Communication +

Second Year

Fall Term

- BMGT 2341 - Strategic Management
- HRPO 2305 - Human Resources Information Systems
- HRPO 2304 - Employee Relations (Capstone)
- Creative Art/Language, Philosophy and Culture Semester Hours: 3 ******

Total Certificate Hours: 42

** Technical Elective: BCIS, BMGT, BUSG, BUSI, MRKG, or ACNT 1329*

*** Creative Arts/Language, Philosophy and Culture elective must be chosen from the corresponding section of the Core Curriculum.*

Office Technology Professional, AAS

OFTP.D001.UG
Associate of Applied Science
Offered at TCC Connect Campus

Business & Industry Pathway
Learn more about Office Technology Professional

Program Requirements

First Year

Fall Term

- POFT 1329 - Beginning Keyboarding *
- ACNT 1303 - Introduction to Accounting
- POFT 1301 - Business English
- Creative Arts/Language, Philosophy, and Culture Semester Hours: 3 **

Spring Term

- POFI 2401 - Word Processing
- POFT 1409 - Administrative Office Procedures
- ACNT 1311 - Introduction to Computerized Accounting

Choose one from the following:

- SPCH 1321 - Business and Professional Communication + **or**
- SPCH 1311 - Introduction to Speech Communication + **or**
- SPCH 1315 - Public Speaking +

Summer I Term

Choose one from the following:

- GOVT 2305 - Federal Government (Federal Constitution & Topics) + **or**
- GOVT 2306 - Texas Government (Texas Constitution & Topics) +

- POFI 1449 - Spreadsheets

Second Year

Fall Term

- ITSW 1407 - Introduction to Database
- ENGL 1301 - Composition I +
- POFT 1319 - Records and Information Management
- Approved Business Elective Semester Hours: 4 ***

Spring Term

- Approved Business Electives Semester Hours: 4 ***

Choose one from the following:

- BUSI 2301 - Business Law + **or**
- BMGT 1341 - Business Ethics

- POFT 2312 - Business Correspondence and Communication (Capstone)
- Mathematics or Life and Physical Sciences Semester Hours: 3 **

Total Degree Hours: 60

** Credit by Examination Placement Test is available for POFT 1329.*

*** Creative Arts/Language, Philosophy, and Culture, and Mathematics or Life and Physical Sciences must come from the corresponding section of the Core Curriculum.*

**** Approved Business Elective includes courses offered in ACCT, ACNT, BCIS, BMGT, BUSG, BUSI, COSC, ECON, IBUS, ITCC, ITSE, ITSW, ITSY, MRKG, POFI, POFT, and RELE.*

NOTE: Capstone is taken in the last 12 hours of program.

Administrative Specialist

OFTP.T001.UG
Level 1 Certificate
Offered at TCC Connect Campus

Business & Industry Pathway
Learn more about Office Technology Professional

Program Requirements

Fall Term

- POFT 1329 - Beginning Keyboarding *
- ACNT 1303 - Introduction to Accounting
- POFT 1301 - Business English

Summer One

- POFI 2401 - Word Processing
- POFT 1319 - Records and Information Management

Spring Term

- ACNT 1311 - Introduction to Computerized Accounting
- POFI 1449 - Spreadsheets
- POFT 1409 - Administrative Office Procedures (Capstone)**

Total Certificate Hours: 27

** Credit-by-Examination Placement Test is available for POFT 1329*

*** Capstone must be taken in graduating semester*

Applications Specialist

OFTP.T002.UG
Level 1 Certificate
Offered at TCC Connect Campus

Business & Industry Pathway
Learn more about Office Technology Professional

Program Requirements

Fall Term

Choose one from the following:

- POFT 1329 - Beginning Keyboarding * **or**
- POFT 2301 - Intermediate Keyboarding

- POFT 1301 - Business English

Choose one from the following:

- ITSW 1410 - Introduction to Presentation Graphics Software **or**
- POFI 2431 - Desktop Publishing

Summer Term

- POFI 2401 - Word Processing

Spring Term

- POFI 1449 - Spreadsheets
- ITSW 1407 - Introduction to Database (Capstone)

Total Certificate Hours: 22

** Credit by Examination Placement Test is available for POFT 1329.*

NOTE: Capstone must be taken in graduating semester.

Office Technology Specialist

OFTP.T003.UG
Level 2 Certificate
Offered at TCC Connect Campus

Business & Industry Pathway
Learn more about Office Technology Professional

Program Requirements

First Year

Fall Term

- POFT 1329 - Beginning Keyboarding *
- POFT 1301 - Business English
- ACNT 1303 - Introduction to Accounting

Choose one from the following:

- SPCH 1321 - Business and Professional Communication + **or**
- SPCH 1311 - Introduction to Speech Communication + **or**
- SPCH 1315 - Public Speaking +

Summer One

- POFI 2401 - Word Processing
- Creative Arts/Language Semester Hours: 3 **

Spring Term

- POFI 1449 - Spreadsheets
- ACNT 1311 - Introduction to Computerized Accounting
- ENGL 1301 - Composition I +
- POFT 1409 - Administrative Office Procedures

Second Year

Fall Term

- ITSW 1407 - Introduction to Database
- POFT 1319 - Records and Information Management (Capstone)
- Approved Business Electives Semester Hours: 4 ***

Total Certificate Hours: 44

** Credit-by-Examination Placement Test is available for POFT 1329*

*** Creative Arts/Language, Philosophy, and Culture must be chosen from the corresponding section of the Core Curriculum*

**** Approved Business Electives include courses offered in ACCT, ACNT, BCIS, BMGT, BUSG, BUSI, COSC, ECON, FSHN, GISC, HECO, HRPO, IBUS, ITCC, ITNW, ITSC, ITSE, ITSW, ITSY, LMGT, MRKG, POFI, POFT, and RELE*

Students must meet requirements of 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.

Office Assistant

OFTP.T004.UG
Occupational Skills Award
Offered at TCC Connect Campus

Business & Industry Pathway
Learn more about Office Technology Professional

Program Requirements

First Year

Fall Term

- ACNT 1303 - Introduction to Accounting

Choose one from the following:
- POFI 2401 - Word Processing **or**
- POFI 1449 - Spreadsheets

- POFT 1329 - Beginning Keyboarding

Total Certificate Hours: 10

** Credit-by-Examination Placement Test is available for POFT 1329*

Health Science

Northeast Campus

Emergency Medical Technician

EMER.T003.UG
Level 1 Certificate
Offered at Northeast Campus

Health Science Pathway
Learn more about Emergency Medical Technician

Program Requirements

First Year

Fall Term

- ENGL 1301 - Composition I +

Choose one from the following:
- GOVT 2306 - Texas Government (Texas Constitution & Topics) + **or**
- GOVT 2305 - Federal Government (Federal Constitution & Topics) +

- COSC 1301 - Introduction to Computing +
- Creative Arts/Language, Philosophy and Culture Semester Hours: 3 *

Spring Term

- EMSP 1501 - Emergency Medical Technician
- EMSP 1160 - Clinical-Emergency Medical Technology

Total Certificate Hours: 18

** Creative Arts/Language, Philosophy, and Culture must be chosen from the corresponding section of the Core Curriculum.*

The completion of EMSP 1501 and EMSP 1160 does not assure admission into the Emergency Medical Services AAS or Paramedic Program.

Selective Admission Criteria:

Students must be TSI compliant to register for core curriculum classes and EMSP classes.

Students must undergo screening for substance 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. Failure to attend published orientation meetings for EMSP 1501 and EMSP 1160 negate eligibility for the Emergency Medical Technician program.

Students must earn a grade of "C" or higher in both courses to receive an EMT certificate in this program. Satisfactory completion of EMSP 1501 and EMSP 1160 qualifies the student to take the examination for certification as an Emergency Medical Technician by the National Registry of EMTs and apply for certification by the Texas Department of State Health Services.

Paramedic Program

EMER.T002.UG
Level 1 Certificate
Offered at Northeast Campus

Health Science Pathway
Learn more about Paramedic Program

Prerequisite

- Current Texas Department of State Health Services Emergency Medical Technician Certification *(May be earned by taking EMSP 1160 and EMSP 1501) **

Program Requirements

First Year

Fall Term

- EMSP 1356 - Patient Assessment and Airway Management
- EMSP 1438 - Introduction to Advanced Practice
- EMSP 2160 - Clinical -EMT Paramedic

Spring Term

- EMSP 1355 - Trauma Management
- EMSP 2161 - Clinical -EMT Paramedic
- EMSP 2444 - Cardiology

Summer Term

- EMSP 2534 - Medical Emergencies

Second Year

Fall Term

- EMSP 2162 - Clinical -EMT Paramedic
- EMSP 2305 - EMS Operations
- EMSP 2430 - Special Populations

Spring Term

- 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 Emergency Medical Services or Paramedic Program.*

*** Students must be TSI compliant to register for EMSP classes.*

Selective Admission Criteria:

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

- *Grade point average (GPA) taken from high school or college transcripts as applicable.*
- *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.*

Applicants must hold a current Texas EMT certificate.

Only the criteria listed are evaluated and considered for the purpose of selection and admission to the Paramedic Program. No specific minimum grade point average or 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 must undergo screening for substance abuse and a criminal background check in order to remain enrolled in the program. Details are provided at an orientation meeting prior to the beginning of classes.

Students 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 (www.caahep.org) upon the recommendation of the Committee on Accreditation of Educational Programs for the Emergency Medical Services Professions (CoAEMSP).

Commission on Accreditation of Allied Health Education Programs 1361 Park Street, Clearwater, FL 33756 Phone 727-210-2350 www.caahep.org

To contact CoAEMSP: 8301 Lakeview Parkway Suite 111-312, Rowlett, TX 75088. Phone 214-703-8445 FAX 214-703-8992 www.coaemsp.org

After successful completion of this program, the student will be eligible to take the examination for certification as a Paramedic by the National Registry of EMT's, and apply for certification by the Texas Department of State Health Services.

Substance Abuse Counseling

MENT.T003.UG
Level 1 Certificate
Offered at Northeast Campus

Health Science Pathway
Learn more about Substance Abuse Counseling

Program Requirements

First Year

Fall Term

- DAAC 1304 - Pharmacology of Addiction
- DAAC 2341 - Counseling Alcohol and Other Drug Addictions

- PSYT 2339 - Counseling Theories
- SCWK 1303 - Ethics for Social Services Professionals

Spring Term

- PSYT 2345 - Principles of Behavior Management and Modification
- DAAC 2307 - Addicted Family Intervention
- DAAC 2343 - Current Issues **
- DAAC 2366 - Practicum: Substance Abuse/Addiction Counseling (Capstone) *

Total Certificate Hours: 24

** This course provides the 300-hour practicum required to apply for Registered Counselor Intern seeking LCDC status through the Texas Department of State Health Services.*

*** Must be taken concurrent with the Practicum*

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.

Social Work

MENT.T004.UG
Level 1 Certificate
Offered at Northeast Campus

Health Science Pathway
Learn more about Social Work

Program Requirements

First Year

Fall Term

- SOCW 2361 - Introduction to Social Work +
- SCWK 2305 - Special Problems of Youth
- PSYT 2345 - Principles of Behavior Management and Modification
- SCWK 1303 - Ethics for Social Services Professionals

Spring Term

- SOCW 2362 - Social Welfare as a Social Institution +
- DAAC 2330 - Multicultural Counseling
- SOCI 1306 - Social Problems +

- GERS 1301 - Introduction to Gerontology

Choose one from the following:
- GERS 1342 - Aging and Mental Health **or**
- GERS 1304 - Activity Directing I

- SOCW 2389 - Academic Cooperative +

Total Certificate Hours: 30

Social Work Field 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 the 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.

AFOS.F016.UG
Field of Study
Offered at All TCC Campuses

Health Science Pathway
Learn more about Social Work

Program Requirements

- SOCW 2361 - Introduction to Social Work +
- SOCW 2362 - Social Welfare as a Social Institution +
- SOCI 1306 - Social Problems +
- SOCW 2389 - Academic Cooperative +

Choose one from the following:
- MATH 1342 - Elementary Statistical Methods + **or**
- PSYC 2317 - Statistical Methods in Psychology +

Total Semester Credit Hours: 15

Dental Hygiene, AAS

DENH.D001.UG
Associate of Applied Science
Offered at Northeast Campus

Health Science Pathway
Learn more about Dental Hygiene

Program Requirements

Summer

First Summer Term

- BIOL 2401 - Anatomy and Physiology I (Lecture + Lab) +

Second Summer Term

- BIOL 2402 - Anatomy and Physiology II (Lecture + Lab) +

First Year

Fall Term

- CHEM 1406 - Introductory Chemistry I (Lecture + Lab, Allied Health Emphasis) +
- DHYG 1207 - General and Dental Nutrition
- DHYG 1227 - Preventive Dental Hygiene Care
- DHYG 1431 - Preclinical Dental Hygiene
- DHYG 1301 - Orofacial Anatomy, Histology, Embryology

Spring Term

- DHYG 1260 - Clinical-Dental Hygiene/Hygienist
- DHYG 1304 - Dental Radiology
- DHYG 1219 - Dental Materials
- DHYG 2201 - Dental Hygiene Care I
- BIOL 2420 - Microbiology for Non-Science Majors (Lecture + Lab) +

Summer

First Summer Term

- ENGL 1301 - Composition I +

Second Summer Term

- DHYG 2331 - Dental Hygiene Care II
- DHYG 1311 - Periodontology

Second Year

Fall Term

- DHYG 1235 - Pharmacology for the Dental Hygienist

- DHYG 1239 - General and Oral Pathology
- DHYG 1215 - Community Dentistry
- DHYG 2360 - Clinical-Dental Hygiene/Hygienist

Spring Term

- DHYG 1191 - Special Topics in Dental Hygienist
- DHYG 2153 - Dental Hygiene Practice
- DHYG 2361 - Clinical-Dental Hygiene/Hygienist

Choose one from the following:

- PSYC 2315 - Psychology of Adjustment + **or**
- PSYC 2301 - General Psychology +

- Sociology Elective Semester Hours: 3
- Creative Arts/Language, Philosophy, and Culture Semester Hours: 3 *

Total Degree Hours: 68

** Creative Arts/Language, Philosophy, and Culture must be chosen from the corresponding section of the Core Curriculum.*

Selective Admission Criteria:

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

The applicant must:

1. *Complete the application to the College (TCC) and meet the admission requirements for the institution.*
2. *Submit to the secretary of the selection committee for Health Sciences:*
    - *Completed application for admission to the Dental Hygiene Program;*
    - *Meet the TSI requirements for credit course enrollment;*
    - *Provide official high school or college transcripts (High school, if completed fewer than 12 semester hours of college, or College, if completed, or will complete by the deadline date, 12 or more semester hours of college. Official transcripts are required from each college you have attended including TCC);*
3. *Schedule a time to take the Health Education System, Inc. (HESI) Admissions Exam; and*
4. *Complete the TOEFL iBT® test if English is not your first language.*

Additional Application Information:

- *Applicants will only be able to apply three times to the dental hygiene program.*
- *Grade point average (GPA) of all high school or undergraduate college classes or GED scores if high school/college are not applicable.*
- *Bonus points are awarded 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. Only the highest grade from the first two (2) attempts on any science course will be considered for admission. The exception to this rule will be a science course that is required to be taken*

more than twice because it is older than five (5) years. Any course withdrawals will be considered one of the two attempts.

- *All prerequisite science courses must be completed within five (5) years of the submission of the application to the Dental Hygiene Program. Any sciences older than five (5) years will need to be re-taken.*
- *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 a dental care setting or for employment experience as a 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 International Admissions at 817-515-1570 and also the EMS & Dental Hygiene Office at 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, Central Regional Dental Testing Services, or Western Regional Examining Board, and the National Exam for Dental Hygienists though the American Dental Association.

The program is accredited by the American Dental Association Commission on Dental Accreditation (CODA), 211 E. Chicago Avenue, Chicago, Illinois 60611-2678.

Emergency Medical Services, AAS

EMER.D002.UG
Associate of Applied Science
Offered at Northeast Campus

Health Science Pathway
Learn more about Emergency Medical Services

General Education Courses *

- BIOL 2401 - Anatomy and Physiology I (Lecture + Lab) + **
- BIOL 2402 - Anatomy and Physiology II (Lecture + Lab) +
- ENGL 1301 - Composition I +
- Creative Arts/Language, Philosophy and Culture Semester Hours: 3 ***

  Choose one from the following:

- PSYC 2315 - Psychology of Adjustment + **or**
- PSYC 2301 - General Psychology +

Choose one from the following:
- HIST 1301 - United States History I + **or**
- HIST 1302 - United States History II + **or**
- HIST 2301 - Texas History + **or**
- HIST 2311 - Western Civilization I +

Choose one from the following:
- GOVT 2306 - Texas Government (Texas Constitution & Topics) + **or**
- GOVT 2305 - Federal Government (Federal Constitution & Topics) +

- Life and Physical Sciences Semester Hours: 4 ****

Program Requirements

First Year

Fall Term

- EMSP 1356 - Patient Assessment and Airway Management
- EMSP 1438 - Introduction to Advanced Practice
- EMSP 2160 - Clinical -EMT Paramedic

Spring Term

- EMSP 1355 - Trauma Management
- EMSP 2161 - Clinical -EMT Paramedic
- EMSP 2444 - Cardiology

Summer Term

- EMSP 2534 - Medical Emergencies

Second Year

Fall Term

- EMSP 2162 - Clinical -EMT Paramedic
- EMSP 2305 - EMS Operations
- EMSP 2430 - Special Populations

Spring Term

- EMSP 2243 - Assessment Based Management

- EMSP 2267 - Practicum – EMT Paramedic

Total Degree Hours: 60

Students must be TSI compliant to register for core curriculum classes and EMSP classes.

** These courses must be completed before the Fall Term.*

*** Student must demonstrate mathematical competency prior to enrolling in BIOL 2401.*

**** Creative Arts/Language, Philosophy, and Culture must be chosen from the corresponding section of the Core Curriculum.*

***** Life and Physical Sciences may be chosen from any 4 hour BIOL, CHEM, PHYS, or GEOL course.*

Selective Admission Criteria:

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

- *Grade point average (GPA) taken from high school or college transcripts as applicable.*
- *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.*

Applicants must hold a current Texas EMT certificate.

Only the criteria listed are evaluated and considered for the purpose of selection and admission to the Paramedic Program. No specific minimum grade point average or 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 must undergo screening for substance abuse and a criminal background check in order to remain enrolled in the program. Details are provided at an orientation meeting prior to the beginning of classes.

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 (www.caahep.org) upon the recommendation of the Committee on Accreditation of Educational Programs for the Emergency Medical Services Professions (CoAEMSP).

Commission on Accreditation of Allied Health Education Programs 1361 Park Street, Clearwater, FL 33756 Phone 727-210-2350 www.caahep.org

To contact CoAEMSP: 8301 Lakeview Parkway Suite 111-312, Rowlett, TX 75088 Phone 214-703-8445 FAX 214-703-8992 www.coaemsp.org

After successful completion of this program, the student will be eligible to take the examination for certification as a Paramedic by the National Registry of EMT's, and apply for certification by the Texas Department of State Health Services.

Mental Health and Human Services, AAS

MENT.D004.UG
Associate of Applied Science
Offered at Northeast Campus

Health Science Pathway
Learn more about Mental Health & Human Services

Program Requirements

First Year

Fall Term

- ENGL 1301 - Composition I +
- COSC 1301 - Introduction to Computing +
- DAAC 2341 - Counseling Alcohol and Other Drug Addictions
- SCWK 1303 - Ethics for Social Services Professionals
- SOCW 2361 - Introduction to Social Work +

Spring Term

- ENGL 1302 - Composition II +
- MATH 1342 - Elementary Statistical Methods +
- PSYT 2339 - Counseling Theories
- SOCW 2362 - Social Welfare as a Social Institution +
- SOCI 1306 - Social Problems +

Choose one from the following:
- GOVT 2305 - Federal Government (Federal Constitution & Topics) + **or**
- GOVT 2306 - Texas Government (Texas Constitution & Topics) +

Second Year

Fall Term

- DAAC 2307 - Addicted Family Intervention

Choose one from the following:
- SPCH 1311 - Introduction to Speech Communication + **or**
- SPCH 1315 - Public Speaking + **or**
- SPCH 1321 - Business and Professional Communication +

- PSYT 2345 - Principles of Behavior Management and Modification
- GERS 1301 - Introduction to Gerontology
- Creative Arts/Language, Philosophy and Culture Semester Hours: 3 *

  Choose one from the following:
- GERS 1342 - Aging and Mental Health **or**
- GERS 1304 - Activity Directing I

Spring Term

- DAAC 2330 - Multicultural Counseling
- SCWK 2305 - Special Problems of Youth
- SOCW 2389 - Academic Cooperative +

Total Degree Hours: 60

** Creative Arts/Language, Philosophy, and Culture must be chosen from the corresponding section of the Core Curriculum.*

Mental Health Substance Abuse Counseling, AAS

MENT.D005.UG
Associate of Applied Science
Offered at Northeast Campus

Health Science Pathway
Learn more about Mental Health Substance Abuse Counseling

Program Requirements

First Year

Fall Term

- ENGL 1301 - Composition I +
- DAAC 1304 - Pharmacology of Addiction
- PSYC 2301 - General Psychology +
- PSYT 2339 - Counseling Theories
- DAAC 2341 - Counseling Alcohol and Other Drug Addictions
- COSC 1301 - Introduction to Computing +

Spring Term

- DAAC 2330 - Multicultural Counseling
- ENGL 1302 - Composition II +

- SCWK 2305 - Special Problems of Youth
- SCWK 1303 - Ethics for Social Services Professionals

Choose one from the following:
- SPCH 1311 - Introduction to Speech Communication + **or**
- SPCH 1315 - Public Speaking + **or**
- SPCH 1321 - Business and Professional Communication +

Second Year

Fall Term

- DAAC 2307 - Addicted Family Intervention

Choose one from the following:
- GOVT 2305 - Federal Government (Federal Constitution & Topics) + **or**
- GOVT 2306 - Texas Government (Texas Constitution & Topics) +

- PSYT 2345 - Principles of Behavior Management and Modification
- SOCW 2361 - Introduction to Social Work +

Spring Term

- DAAC 2366 - Practicum: Substance Abuse/Addiction Counseling (Capstone) *
- DAAC 2343 - Current Issues **
- Creative Arts/Language, Philosophy and Culture Semester Hours: 3 ***

- MATH 1342 - Elementary Statistical Methods +
- PSYT 1313 - Psychology of Personal Adjustment

Total Degree Hours: 60

** This course must be taken prior to enrollment in the Practicum which requires departmental approval.*

*** Must be taken concurrently with the Practicum.*

**** Creative Arts/Language, Philosophy, and Culture must be chosen from the corresponding section of the Core Curriculum.*

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, and 4) undergo a criminal background history check.

This degree meets all educational requirements for preparation for the state license examination for the LCDC.

Registered Dental Assistant

DNTA.T001.UG
Level 1 Certificate
Health Science Pathway

Offered at Northeast Campus

Program Requirements

First Year

Fall Term

- DNTA 1311 - Dental Science
- DNTA 1202 - Communication and Behavior in the Dental Office
- DNTA 1245 - Preventive Dentistry
- DNTA 1315 - Chairside Assisting
- DNTA 1305 - Dental Radiology

Spring Term

- DNTA 1353 - Dental Assisting Applications
- DNTA 1301 - Dental Materials
- DNTA 1251 - Dental Office Management
- DNTA 1103 - Registered Dental Assistant Exam Review
- DNTA 1360 - Clinical - Dental Assisting/Assistant (Capstone) *

Total Certificate Hours: 25

** Clinical course should be taken during graduating semester. Approval of the program coordinator is required prior to enrollment.*

Southeast Campus

Healthy Meal Planning

DIET.T008.UG
Occupational Skills Award
Offered at Southeast Campus

Health Science Pathway
Learn more about Healthy Meal Planning

Program Requirements

First Year

Fall Term

- HECO 1322 - Nutrition and Diet Therapy +
- FDNS 1370 - Principles of Food Preparation

Spring Term

Choose one of the following:

- DITA 1300 - Dietary Manager I *** or**
- FDNS 1309 - Nutrition in the Community **or**
- FDNS 1371 - Child Nutrition and Programs

Total Certificate Hours: 9

** Prerequisite for DITA 1300 is HECO 1322*

Special Admission Application is NOT required for this certificate.

Dietary Manager

DIET.T009.UG
Level 1 Certificate
Offered at Southeast Campus

Business & Industry Pathway
Learn more about Dietary Manager

Program Requirements

First Year

Fall Term

- FDNS 1103 - Introduction to Dietetics
- HECO 1322 - Nutrition and Diet Therapy +

Choose one from the following:

- FDNS 1370 - Principles of Food Preparation **or**
- CHEF 1301 - Basic Food Preparation

Choose one from the following:

- CHEF 1305 - Sanitation and Safety *** or**
- BIOL 2420 - Microbiology for Non-Science Majors (Lecture + Lab) +

Spring Term

- DITA 1300 - Dietary Manager I

- DITA 1301 - Dietary Manager II
- IFWA 2446 - Quantity Procedures

Second Year

Fall Term

- FDNS 1168 - Practicum-Dietary Management (Capstone)

Total Certificate Hours: 21

** Students who hold a valid ServSafe Manager Certificate may petition for Credits by Experience/Exam.*

Selective Admission Criteria:

Admission Criteria:

- *Accepted by TCC as a student*
- *Have completed FDNS 1103 and HECO 1322 within the last five years with a "B" or better*

Program Requirements:

Students who met the admission criteria and submitted a Dietetics Program Application will be accepted into the Dietary Manager program. Students who completed the certificate are eligible to sit for the national CDM (Certified Dietary Manager) credentialing examination.

- *Students accepted into the program must undergo and receive a clear criminal background check and negative substance abuse screening. In addition, students are required to meet physical requirements and Dietetics Program immunization requirements, proof of CPR for healthcare provider and ServSafe Manager Certification, and valid Texas driver license prior to starting practicum rotation.*
- *Students not enrolled in dietetic courses for two consecutive semesters will be removed from the program.*
- *Students must complete all courses with a "C" or better.*

TCC Dietary Manager Program is an approved program by the Association of Nutrition and Foodservice Professionals.

Nutrition Specialist I

DIET.T006.UG
Level 1 Certificate
Offered at Southeast Campus

Health Science Pathway
Learn more about Nutrition Specialist

Program Requirements

First Year

Fall Term

- FDNS 1103 - Introduction to Dietetics
- HECO 1322 - Nutrition and Diet Therapy +
- FDNS 1370 - Principles of Food Preparation

Spring Term

- DITA 1300 - Dietary Manager I (Capstone) *
- Nutrition Electives Semester Hours: 6 **

Total Certificate Hours: 16

** Prerequisite for DITA 1300 is HECO 1322.*

*** Nutrition Electives (2 courses) must be selected from the following courses: FDNS 1309, FDNS 1341, FDNS 1346, or FDNS 1371.*

Special Admission Application is NOT required for this certificate.

Food and Nutrition Coach

DIET.T007.UG
Level 2 Certificate
Offered at Southeast Campus

Health Science Pathway
Learn more about Food and Nutrition Coach

Program Requirements

First Year

Fall Term

- FDNS 1103 - Introduction to Dietetics
- HECO 1322 - Nutrition and Diet Therapy +

Choose one from the following:
- FDNS 1370 - Principles of Food Preparation **or**
- CHEF 1301 - Basic Food Preparation

Choose one from the following:
- CHEF 1305 - Sanitation and Safety **or**
- BIOL 2420 - Microbiology for Non-Science Majors (Lecture + Lab) +

- FDNS 1371 - Child Nutrition and Programs

Spring Term

- DITA 1300 - Dietary Manager I
- DITA 1301 - Dietary Manager II
- IFWA 2446 - Quantity Procedures
- FDNS 1309 - Nutrition in the Community

Summer Term

Choose one from the following:
- SPCH 1311 - Introduction to Speech Communication + **or**
- SPCH 1315 - Public Speaking + **or**
- SPCH 1321 - Business and Professional Communication +

- KINE 1164 - Introduction to Physical Fitness and Wellness +

Second Year

Fall Term

- FDNS 1341 - Nutrition in the Life Cycle
- FDNS 1346 - Medical Nutrition Therapy II

Choose one from the following:
- PSYC 2301 - General Psychology + **or**
- SOCI 1301 - Introduction to Sociology +

- BIOL 2401 - Anatomy and Physiology I (Lecture + Lab) +

Choose one from the following:
- FDNS 1168 - Practicum-Dietary Management (Capstone) **or**
- FDNS 2168 - Practicum-Community Nutrition/Wellness (Capstone)

Total Certificate Hours: 44

Students enrolled in the program must undergo and receive a clear criminal background check and negative substance abuse screening. In addition, students are required to meet physical requirements and Dietetics Program immunization requirements, proof of CPR for healthcare provider and ServSafe Manager Certification, and valid Texas driver license prior to starting practicum rotation.

Students must meet requirements of 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.

Application is NOT required for this certificate.

Completion of this certificate does not guarantee acceptance into the Dietetic Technician Program. Certificate completers are NOT eligible *to sit for the national DTR Credentialing examination.*

Dietetic Technician, AAS

DIET.D002.UG
Associate of Applied Science
Offered at Southeast Campus Only

Business & Industry Pathway
Learn more about Dietetic Technician

Prerequisites

- FDNS 1103 - Introduction to Dietetics
- HECO 1322 - Nutrition and Diet Therapy +

Program Requirements

First Year

Fall Term

- FDNS 1370 - Principles of Food Preparation

Choose one from the following:
- CHEF 1305 - Sanitation and Safety **or**
- BIOL 2420 - Microbiology for Non-Science Majors (Lecture + Lab) +

- DITA 1300 - Dietary Manager I
- DITA 1301 - Dietary Manager II
- FDNS 1371 - Child Nutrition and Programs

Spring Term

- FDNS 1309 - Nutrition in the Community
- FDNS 1346 - Medical Nutrition Therapy II
- IFWA 2446 - Quantity Procedures
- FDNS 1168 - Practicum-Dietary Management
- BIOL 2401 - Anatomy and Physiology I (Lecture + Lab) +

Summer Term

Choose one from the following:
- SPCH 1311 - Introduction to Speech Communication + **or**
- SPCH 1315 - Public Speaking + **or**
- SPCH 1321 - Business and Professional Communication +

Second Year

Fall Term

- FDNS 1341 - Nutrition in the Life Cycle
- FDNS 1447 - Medical Nutrition Therapy III
- ENGL 1301 - Composition I +
- BIOL 2402 - Anatomy and Physiology II (Lecture + Lab) +
- FDNS 2168 - Practicum-Community Nutrition/Wellness

Spring Term

- FDNS 2300 - Food Management Systems
- FDNS 2170 - Seminar for Dietetics
- FDNS 2169 - Practicum-Clinical Dietetics

Choose one from the following:

- PSYC 2301 - General Psychology + **or**
- SOCI 1301 - Introduction to Sociology +

Total Degree Hours: 60

Students who hold a valid ServSafe Manager Certificate may petition for Credit-by-Experience/Exam.

Selective Admission Criteria:

- *Accepted by TCC as a student*
- *Have completed FDNS 1103 and HECO 1322 within the last five years with a "B" or better*

Students may apply to the program during the semester that they meet the requirements. However, students will not be admitted to the program until the course grade is published on the student's transcript.

Students interested in applying to the Dietetic Technician Program may also register for the following courses prior to being accepted into the Dietetic Technician Program: FDNS 1103, HECO 1322, FDNS 1370, FDNS 1371, CHEF 1305, or any of the required general classes.

Selection Criteria:

A selection committee reviews the applications and selects those applicants based on the Applicant Score. There is no minimum GPA requirement.

Applicant Score = Grade Point Average of Dietetics Courses completed within the last five years+bonus points

Bonus points are assigned based on the following criteria.

- *Work on voluntary experience in the field of dietetics and healthcare within the last seven years (Only verified experience will be awarded bonus points.)*
- *Prior Associate, Bachelor or Graduate's degree (Official Transcript required)*
- *Final Grade in Dietetics and Anatomy and Physiology Courses within last five years (Official Transcript required)*

Program Completion Requirements:

- *All DITA, FDNS, HECO, and IFWA courses with a "C" or better to graduate from the Dietetic Technician Program.*

- *FDNS 1346 and FDNS 1447 must be completed within five years from graduation.*
- *All students must complete a minimum of 450 supervised practice hours (over three practicum courses) and receive satisfactory practicum evaluation to complete the DT program.*
- *Students not enrolled in dietetics courses for two consecutive semesters will be removed from the program.*
- *Students who meet* all verification requirements *will be eligible to sit for the national NDTR (Nutrition Dietetic Technician, Registered) credentialing examination.*

Additional Requirements:

Students accepted into the program must undergo and receive a clear criminal background check and negative substance abuse screening. In addition, students are required to meet physical requirements and Dietetics Program immunization requirements, and provide proof of CPR for healthcare provider, ServSafe Manager Certification, and valid Texas driver license prior to starting practicum rotation.

See DT Program handbook or TCC website for additional information.

TCC Dietetic Technician Program is accredited by the Accreditation Council for Education in Nutrition and Dietetics.

Trinity River Campus

Computed Tomography Advanced

RADT.T003.UG
Advanced Technical Certificate
Offered at Trinity River Campus

Health Science Pathway
Learn more about Computed Tomography

Program Requirements

Fall Term

- CTMT 2336 - Computed Tomography Equipment and Methodology
- CTMT 2460 - Clinical-Radiologic Technology/Science-Radiographer
- CTMT 2461 - Clinical-Radiologic Technology/Science-Radiographer
- RADR 2340 - Sectional Anatomy for Medical Imaging
- CTMT 1271 - Computed Tomography (CT) Review

Total Certificate Hours: 16

Selective Admission Criteria:

Must be a graduate of an accredited two-year program in Medical Radiography (Ionizing Radiation), Radiation Therapy, and/or Nuclear Medicine; must be in good standing and hold a current license with the ARRT or NMTCB; must be registered in Radiography, Radiation Therapy, and/or Nuclear Medicine within two weeks prior to the start of the program.

Central Sterile Processing

SRCS.T001.UG
Level 1 Certificate
Offered at Trinity River Campus

Health Science Pathway
Learn more about Central Sterile Processing

Program Requirements

First Year

Fall Term

- HPRS 1470 - Central Sterile Processing I
- HPRS 1370 - Central Sterile Processing II
- HPRS 1471 - Central Sterile Processing III

Spring Term

- HPRS 1561 - Clinical-Health Services/Allied Health/Health Sciences

Total Certificate Hours: 16

Selective Admission Criteria:

All applicants to the Central Sterile Processing Program are required to attend an information session before the application deadline. Complete details of the Central Sterile Processing program admissions process may be found on the TCC website.

Applicant Criteria:

- *Hold a TCCD Student Colleague Number*
- *Must meet with the CTE advisor*
- *IELTS 6.5 minimum score or TOEFL iBT test with 83 as a minimum score for ESL students*

Prior to application students with international college, credits must contact the International Admissions office at 817-515-1570, to verify those courses that will transfer to TCCD.

Once admitted to the program students must maintain a minimum grade of "C" (75%) in all courses found within the degree plan.

Students who are selected for admission must perform and pass a drug screening and criminal background check, both of which must report negative in order to remain in the program. Required immunizations must be completed prior to the beginning of clinical rotations.

After successful completion of the above curriculum, the student is eligible to take the certification examination to become a Certified Central Sterile Processor.

Nursing Field 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 the 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.

The Field of Study Curriculum for Nursing is intended for generic baccalaureate degree nursing students who plan to take their prerequisite and core curriculum courses at a community college and transfer the block of courses to a general academic teaching institution or health-related institution. The block of courses may also be transferred from one general academic teaching institution to another or to a health-related institution. The student shall receive full academic credit toward the degree program for the block of courses transferred. Students should consult an advisor regarding transfer to a specific college or university.

AFOS.F015.UG
Field of Study
Offered at All TCC Campuses

Health Science Pathway
Learn more about Nursing

Program Requirements

- HECO 1322 - Nutrition and Diet Therapy + *****
- BIOL 2401 - Anatomy and Physiology I (Lecture + Lab) +
- BIOL 2402 - Anatomy and Physiology II (Lecture + Lab) +
- BIOL 2421 - Microbiology for Science Majors (Lecture + Lab) +
- PSYC 2301 - General Psychology +
- PSYC 2314 - Life Span Growth and Development + *****
- MATH 1342 - Elementary Statistical Methods +
- ENGL 1301 - Composition I +

Choose one from the following:

- ENGL 1302 - Composition II + **or**
- ENGL 2311 - Technical and Business Writing +

Choose one from the following:

- CHEM 1405 - Introductory Chemistry I (Lecture + Lab) + **or**
- CHEM 1406 - Introductory Chemistry I (Lecture + Lab, Allied Health Emphasis) + **or**
- CHEM 1407 - Introductory Chemistry II (Lecture + Lab) + **or**
- CHEM 1411 - General Chemistry I (Lecture + Lab) + **or**
- CHEM 1412 - General Chemistry II (Lecture + Lab) + **or**
- CHEM 2423 - Organic Chemistry I (Lecture + Lab) + **or**
- CHEM 2425 - Organic Chemistry II (Lecture + Lab) +

Total Semester Credit Hours: 34

** These courses do not satisfy TCC's Core Curriculum requirements.*

Magnetic Resonance Imaging Technology Advanced

RADT.T005.UG
Advanced Technical Certificate
Offered at Trinity River Campus

Health Science Pathway
Learn more about MRI Technology

Program Requirements

First Year

Fall Term

- MRIT 2330 - Principles of Magnetic Resonance Imaging
- RADR 2340 - Sectional Anatomy for Medical Imaging
- MRIT 2560 - Clinical I-Radiologic Technology/Science-Radiographer (MRI)

Spring Term

- MRIT 2334 - Magnetic Resonance Equipment & Methodology
- MRIT 2355 - Magnetic Resonance Imaging Physics
- MRIT 2561 - Clinical II-Radiologic Technology/Science-Radiographer (MRI)

Summer Term

- MRIT 2462 - Clinical III-Radiologic Technology/Science-Radiographer (MRI)
- MRIT 1271 - Magnetic Resonance Imaging-Registry Review

Total Certificate Hours: 28

Selective Admission Criteria:

Magnetic Resonance Imaging is a post-associate three-semester certificate program. Additional information for the MRI program may be found on the TCC website.

All applicants must show proof of the following:

- *An overall G.P.A. of 2.5 or higher from an accredited Radiologic Health Science Program.*
- *Be a graduate of a two-year accredited Radiologic Health Science Program in Radiography, Radiation Therapy, Nuclear Medicine or Sonography.*
- *Have current Texas Department of Health certification and ARRT or NMTCB or ARDMS certificate.*
- *Have the TSI requirements satisfied.*

Long Term Care Administration

LONG.T001.UG
Level 1 Certificate
Offered at Trinity River Campus

Health Science Pathway
Learn more about Long Term Care Administration

Program Requirements

First Year

Fall Term

- LTCA 1311 - Introduction to Long-Term Care Administration
- LTCA 1312 - Resident Care in the Long-Term Care Facility *
- LTCA 2660 - Clinical – Hospital and Health Care Facilities Administration/Management

Spring Term

- LTCA 1313 - Organization and Management of Long Term Care Facilities *
- LTCA 2314 - Long-Term Care Law *
- LTCA 2315 - Financial Management of Long-Term Care Facilities *
- LTCA 2661 - Clinical – Hospital and Health Care Facilities Administration/Management

Total Certificate Hours: 27

** LTCA 1311 is a prerequisite for LTCA 1312, LTCA 1313, LTCA 2314, and LTCA 2315.*

Program Information:

The Nursing Home Administration course is offered in five three-semester-hour 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 students unable to obtain their own required internship experiences in an approved facility.

Vascular Interventional Radiography

RADT.T007.UG
Advanced Technical Certificate
Offered at Trinity River Campus

Health Science Pathway
Learn more about Vascular Interventional Radiography

Program Requirements

First Year

Fall Term

- VIRT 1310 - Principles of Interventional Radiology I
- VIRT 2340 - Advanced Patient Care and Pathophysiology for Interventional Radiology
- VIRT 2364 - Practicum - Vascular Interventional Technology Science

Spring Term

- VIRT 1320 - Interventional Radiology Equipment and Methodology
- VIRT 2310 - Principles of Interventional Radiology II
- VIRT 2365 - Practicum - Vascular Interventional Technology Science

Summer Term

- VIRT 2264 - Practicum - Vascular Interventional Technology Science
- VIRT 2330 - Advanced Vascular Interventional Procedures

Total Certificate Hours: 23

Selective Admission Criteria:

Vascular Interventional Radiography Advanced Technical is a post-associate three-semester certificate program.

All applicants must show proof of the following:

- *An overall G.P.A. of 2.5 or higher from an accredited Radiologic Health Science Program.*
- *Be a graduate of a two-year accredited Radiologic Health Science Program in Radiography.*
- *Have current Texas Medical Board and ARRT certificate.*
- *Have the TSI requirements satisfied.*

Medical Assistant

MDCA.T001.UG
Level 1 Certificate
Offered at Trinity River Campus

Health Science Pathway
Learn more about Medical Assistant

Program Requirements

First Year

Fall First 8-Week Term

- HPRS 1206 - Essentials of Medical Terminology
- MDCA 1310 - Medical Assistant Interpersonal and Communication Skills

Choose one from the following:

- MDCA 1409 - Anatomy & Physiology for Medical Assistant **or**
- BIOL 2401 - Anatomy and Physiology I (Lecture + Lab) +

Fall Second 8-Week Term

- HPRS 1304 - Basic Health Profession Skills
- MDCA 1352 - Medical Assistant Lab Procedure
- MDCA 1417 - Procedures in a Clinical Setting
- MDCA 1160 - Clinical Experience

Spring First 8-Week Term

- MDCA 1321 - Administrative Procedures
- MDCA 1448 - Pharmacology and Administration of Medications
- MDCA 1302 - Human Disease and Pathophysiology
- MDCA 1161 - Clinical Experience

Spring Second 8-Week Term

- MDCA 1343 - Medical Insurance
- MDCA 1305 - Medical Law and Ethics
- MDCA 1254 - Medical Assistant Credentialing Exam Review
- MDCA 1162 - Clinical - Medical/Clinical Assistant

Total Certificate Hours: 40

Selective Admission Criteria:

All applicants to the Medical Assistant Program are required to attend an information session before the application deadline. Complete details of the Medical Assistant program admissions process may be found on the TCC website.

Applicant Criteria:

- *Students must be TSI compliant*
- *Hold a TCCD Student Colleague Number*
- *Must meet with the CTE advisor*
- *IELTS 6.5 minimum score or TOEFL iBT test with 83 as a minimum score for ESL students*

Prior to application students with international college, credits must contact the International Admissions office at 817-515-1570, to verify those courses that will transfer to TCC.

Once admitted to the program students must maintain a minimum grade of "C" (75%) in all courses found within the degree plan.

Students who are selected for admission must perform and pass a drug screening and criminal background check, both of which must report negative in order to remain in the program.

Required immunizations must be completed prior to the beginning of clinical rotations.

After successful completion of the above curriculum, the student is eligible to take the certification examination to become a Certified Medical Assistant.

Diagnostic Medical Sonography

DMSO.T001.UG
Level 2 Certificate
Offered at Trinity River Campus

Health Science Pathway
Learn more about Diagnostic Medical Sonography

Program Requirements

First Year

Fall Term

- DMSO 1110 - Introduction to Sonography
- DMSO 1302 - Basic Ultrasound Physics
- DMSO 1441 - Abdominopelvic Sonography
- DMSO 1266 - Practicum (or Field Experience) Diagnostic Medical Sonography/Sonographer and Ultrasound Technician

Spring Term

- DSVT 1103 - Introduction to Vascular Technology
- DMSO 2305 - Sonography of Obstetrics/Gynecology
- DMSO 2243 - Advanced Ultrasound Physics
- DMSO 1366 - Practicum (or Field Experience) Diagnostic Medical Sonography/Sonographer and Ultrasound Technician

Summer Term

- DMSO 2253 - Sonography of Superficial Structures
- DMSO 2242 - Sonography of High Risk Obstetrics
- DMSO 1267 - Practicum (or Field Experience) Diagnostic Medical Sonography/Sonographer and Ultrasound Technician

Second Year

Fall Term

- DMSO 1355 - Sonographic Pathophysiology
- DSVT 1300 - Principles of Vascular Technology
- DMSO 1367 - Practicum (or Field Experience) Diagnostic Medical Sonography/Sonographer and Ultrasound Technician

Spring Term

- DSVT 2335 - Advanced Vascular Technology
- DMSO 2130 - Advanced Ultrasound and Review (Capstone)
- DSVT 1364 - Practicum (or Field Experience) Diagnostic Medical Sonography/Sonographer and Ultrasound Technician

Total Degree Hours: 41

Prerequisite: AAS Radiologic Technology

Students must meet requirements of 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.

Ophthalmic Technician, AAS

OPTS.D001.UG
Associate of Applied Science
Offered at Trinity River Campus

Health Science Pathway
Learn more about Ophthalmic Technician

Program Requirements

First Year

Fall Term

- OPTS 1311 - The Visual System
- OPTS 2341 - Ophthalmic Techniques
- ENGL 1301 - Composition I +

- MATH 1314 - College Algebra +

Spring Term

- OPTS 1319 - Vision Care Office Procedures
- OPTS 1315 - Basic Contact Lenses
- OPTS 2345 - Advanced Ophthalmic Techniques
- OPTS 1366 - Clinic Practicum I

Summer Term

- OPTS 1266 - Clinic Practicum II
- Creative Arts/Language, Philosophy and Culture Semester Hours: 6 *

Second Year

Fall Term

- OPTS 1305 - Geometric Optics
- OPTS 2366 - Clinic Practicum III
- OPTS 1492 - Ophthalmic Seminar
- OPTS 2335 - Advanced Contact Lenses

Spring Term

- HUMA 1301 - Introduction to Humanities I +
- OPTS 2350 - Ophthalmic Surgical Techniques
- OPTS 2367 - Clinic Practicum IV
- PSYC 2301 - General Psychology +
- Speech Elective Semester Hours: 3 *

Total Degree Hours: 60

** Speech, Creative Arts/Language, Philosophy, and Culture electives must be chosen from the corresponding section of the Core Curriculum.*

Respiratory Care, AAS

RESP.D001.UG
Associate of Applied Science
Offered at Trinity River Campus

Health Science Pathway
Learn more about Respiratory Care

Prerequisites

The following science courses are prerequisites to selection for the Respiratory Care Program. A grade of C or better is required.

- BIOL 2401 - Anatomy and Physiology I (Lecture + Lab) +
- BIOL 2402 - Anatomy and Physiology II (Lecture + Lab) +
- BIOL 2420 - Microbiology for Non-Science Majors (Lecture + Lab) +

Program Requirements

First Year

Fall Term

- RSPT 1101 - Introduction to Respiratory Care
- RSPT 1166 - Practicum (or Field Experience) - Respiratory Care Therapy/Therapist
- RSPT 1310 - Respiratory Care Procedures I
- RSPT 1113 - Respiratory Care Pharmacology
- RSPT 1240 - Advanced Cardiopulmonary Anatomy and Physiology
- HPRS 1206 - Essentials of Medical Terminology
- HPRS 2200 - Pharmacology for Health Professions

Spring Term

- HPRS 2201 - Pathophysiology
- RSPT 1266 - Practicum (or Field Experience) - Respiratory Care Therapy/Therapist
- RSPT 1311 - Respiratory Care Procedures II
- RSPT 2210 - Cardiopulmonary Disease
- ENGL 1301 - Composition I +

Summer Term

- RSPT 2139 - Advanced Cardiac Life Support
- RSPT 1267 - Practicum -Respiratory Care Therapy/Therapist
- RSPT 2414 - Mechanical Ventilation

Second Year

Fall Term

- RSPT 2266 - Practicum (or Field Experience) - Respiratory Care Therapy/Therapist
- RSPT 2425 - Cardiopulmonary Diagnostics
- HPRS 2172 - Health Care Communications
- Psychology Elective Semester Hours: 3
- Language, Philosophy and Culture or Creative Arts Elective Semester Hours: 3 *

Spring Term

- RSPT 1141 - Respiratory Home Care/Rehabilitation
- RSPT 2131 - Simulations in Respiratory Care
- RSPT 2233 - Respiratory Care Case Management
- RSPT 2147 - Specialties in Respiratory Care
- RSPT 2267 - Practicum -Respiratory Care Therapy/Therapist
- RSPT 2353 - Neonatal and Pediatric Cardiopulmonary Care

Total Degree Hours: 66

** Creative Arts/Language, Philosophy, and Culture must be chosen from the corresponding section of the Core Curriculum.*

Selective Admission Criteria:

All applicants to the Respiratory Care Program are required to attend an information session before the application deadline. Complete details of the Respiratory Care program admissions process may be found on the TCC website.

Application Criteria:

- *Students must be TSI compliant*
- *Hold a TCCD Student Colleague Number*
- *Must meet with the CTE advisor*
- *Currently have minimum GPA of 2.5*
- *Successfully Complete the HESI A2 Entrance Exam with a minimum score of 70 in each section*
- *IELTS 6.5 minimum score or TOEFL iBT test with 83 as a minimum score for ESL students*

Prior to application students with international college credits must contact International Admissions 817-515-1570.

Once admitted to the program students must maintain a minimum grade of "C" (75%) in all courses found within the degree plan.

Students who are selected for admission must perform and pass a drug screening and criminal background check, both of which must report negative in order to remain in the program. Required immunizations must be completed prior to the beginning of classes.

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.

The program is accredited by the Commission on Accreditation for Respiratory Care (CoARC), 1248 Harwood Road, Bedford, Texas 76021-4244.

Professional Licensure Disclosure:

The respiratory care program at Tarrant County College (TCC) meets the licensure requirements in all states except Alaska. Licensure requirements have not been determined in Alaska because licensure is not currently regulated. Use the link below to find information on the state or U.S. territory in which you intend to be licensed in order to identify whether TCC's Respiratory Care program meets, does not meet, or if it has not been determined if it meets the educational requirements for licensure. If TCC's program has not determined if it meets the educational

requirements for licensure in the state in question, it may satisfy all or a portion of the academic requirements. If that is the case, we recommend contacting the licensing agency directly before beginning the program.

A list of state agencies and contact information can be found at this link: https://www.aarc.org/advocacy/state-society-resources/state-licensure-contacts/

For more information, please contact Don Holt, donald.holt@tccd.edu.

Vocational Nursing

NURS.T001.UG
Level 2 Certificate
Offered at Trinity River Campus

Health Science Pathway
Learn more about Vocational Nursing

Prerequisites

The following general education course must be completed prior to applying to the LVN program:

- BIOL 2401 Anatomy and Physiology I (Lecture + Lab) +

The following general education course must be completed prior to the second semester of the LVN program:

- PSYC 2301 General Psychology + *

Program Requirements

First Year

Fall Term

- VNSG 1304 - Foundations of Nursing
- VNSG 1323 - Basic Nursing Skills
- VNSG 1360 - Clinical-Licensed Practical/Vocational Nurse Training **
- VNSG 1116 - Nutrition

Spring Term

- VNSG 1429 - Medical-Surgical Nursing I
- VNSG 1461 - Clinical-Licensed Practical/Vocational Nurse Training
- VNSG 1331 - Pharmacology
- VNSG 1301 - Mental Health and Mental Illness

Summer Term

- VNSG 1432 - Medical-Surgical Nursing II
- VNSG 1234 - Pediatrics

- VNSG 1230 - Maternal-Neonatal Nursing
- VNSG 1219 - Leadership and Professional Development
- VNSG 1462 - Clinical-Licensed Practical/Vocational Nurse Training

Total Degree Hours: 45

** Students are strongly urged to complete this course prior to entering the program.*

*** Credit Examination may be earned for this course by CNAs. Complete details of the CNA to LVN option are provided on the TCC website.*

Special Admission Criteria:

Requirements for Applicants:

- *The Biology class (BIOL 2401) must have been completed prior to application to the VN Program.*
- *Completion of all courses required for the program with a grade of C or better.*
- *Completion of the Test of English as a Foreign Language (TOEFL) or the International English Language Testing System (IELTS) if native/first language is not English.*

For complete details regarding the VN program refer to the TCC website.

Admission Criteria:

- *A grade of C or better on the required course: BIOL 2401.*
- *HESI A2 (75% or higher on Reading, Vocabulary, Grammar, Anatomy and Physiology, and Math) score on a standardized admission's test.*

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.*

Admitted to the VN Nursing Program:

- *Negative drug screen*
- *Background checks*
- *Proof of medical insurance*
- *Current healthcare provider CPR course (approved by the American Heart Association)*
- *Social Security card*
- *Participation in a VN 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*
- *Completion of English Proficiency, if required*

Applicants with a history of criminal charges, 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 Vocational Nursing Program.

Any student admitted to the Vocational Nursing Program must meet the legal requirements for licensure by the Texas Board of Nursing. Upon successful completion of the program, the student is eligible to take the National Council Licensing Examination (NCLEX).

CNA to VN Option:

The CNA to VN Option is a program for certified nursing assistants.

Eligible requirements for the option include:

- *Acceptance into the VN program*
- *Current certification as a CNA*

Credit-by-Exam:

Credit for the following courses can be earned through the credit-by-exam process:

- *VNSG 1360 - Clinical-Licensed Practical/Vocational Nurse Training*

Surgical Technology, AAS

SURG.D001.UG
Associate of Applied Science
Offered at Trinity River Campus

Health Science Pathway
Learn more about Surgical Technology

Prerequisites

The following courses must be completed prior to applying for admission into the Surgical Technology Program.

- BIOL 2401 - Anatomy and Physiology I (Lecture + Lab) +
- BIOL 2402 - Anatomy and Physiology II (Lecture + Lab) +
- BIOL 2420 - Microbiology for Non-Science Majors (Lecture + Lab) +

Program Requirements

First Year

Spring Term

- SRGT 1366 - Practicum-Surgical Technology/Technologist
- HPRS 1206 - Essentials of Medical Terminology
- SPCH 1311 - Introduction to Speech Communication +
- PSYC 2301 - General Psychology +
- PSYC 2314 - Life Span Growth and Development +

Summer Term

- SRGT 1405 - Introduction to Surgical Technology
- SRGT 1266 - Practicum-Surgical Technology/Technologist
- SRGT 1409 - Fundamentals of Perioperative Concepts and Techniques

Second Year

Fall Term

- HPRS 2201 - Pathophysiology
- SRGT 1441 - Surgical Procedures I
- SRGT 1442 - Surgical Procedures II
- SRGT 1367 - Practicum-Surgical Technology/Technologist

Spring Term

- SRGT 2466 - Practicum-Surgical Technology/Technologist
- SRGT 2270 - Professional Readiness
- HPRS 1202 - Wellness and Health Promotion
- ENGL 1301 - Composition I +

Total Semester Hours: 60

Selective Admission Criteria:

This program is a selective admission offering. Application information may be found on the TCC website.

- *All applicants to the Surgical Technology Program must attend an information session before the application deadline.*
- *Students who are selected for admission must undergo screening for substances of abuse and a criminal background check prior to the start of clinical rotations.*
- *International students must contact the International Admissions office at 817-515-1570.*
- *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.

Anesthesia Technology, AAS

ANES.D001.UG
Associate of Applied Science
Offered at Trinity River Campus

Health Science Pathway
Learn more about Anesthesia Technology

Prerequisites

The following science courses must be completed prior to applying for admission into the Anesthesia Technology Program.

- BIOL 2401 - Anatomy and Physiology I (Lecture + Lab) +
- BIOL 2402 - Anatomy and Physiology II (Lecture + Lab) +
- CHEM 1406 - Introductory Chemistry I (Lecture + Lab, Allied Health Emphasis) +
- ENGL 1301 - Composition I +
- PSYC 2301 - General Psychology +

Program Requirements

First Year

Fall Term

- HPRS 1206 - Essentials of Medical Terminology
- ANES 1371 - Principles of Anesthesia Technology
- ANES 1372 - Introduction to Anesthesia Technology
- PSYC 2314 - Life Span Growth and Development +

Spring Term

- ANES 1370 - Anesthesia (Basic) Pharmacology
- ANES 1373 - Anesthesia Technology Fundamentals I
- ANES 1474 - Anesthesia Technology Instrumentation I

Summer Term

- ANES 1375 - Anesthesia Technology Clinic Experience I

Second Year

Fall Term

- ANES 2373 - Anesthesia Technology Fundamentals II
- ANES 2474 - Anesthesia Technology Instrumentation II
- ANES 2375 - Anesthesia Technology Clinical Experience II

Spring Term

- ANES 2476 - Anesthesia Clinical Seminar & Review
- ANES 2475 - Anesthesia Technician Clinical Experience III

Total Degree Hours: 60

Selective Admission Criteria:

All applicants to the Anesthesia Technology Program are required to attend an information session before the application deadline.

Application Criteria:

- *Students must be TSI compliant*
- *Hold a TCCD Student Colleague Number*
- *Must meet with the CTE advisor*
- *Currently have Minimum GPA of 2.5*
- *Successfully Complete the HESI A2 Entrance Exam minimum score of 70 in each section*
- *IELTS 6.5 minimum score or TOEFL iBT test 83 minimum score for ESL students*

Prior to application, students with international college credits must contact International Admissions 817-515-1570 to verify those courses that will transfer to TCCD.

Once admitted to the program students must maintain a minimum grade of "C" (75%) in all courses found within the degree plan.

Students who are selected for admission must perform and pass a drug screening and criminal background check, both of which must report negative in order to remain in the program.

Required immunizations must be completed prior to the beginning of classes. For additional information refer to the TCC website.

After satisfactory completion of the above curriculum, the student is eligible to take the national examination to become certified as a Certified Anesthesia Technologist with the ASATT.

The Tarrant County College Anesthesia Technology program is applying for accreditation by the Commission on Accreditation of Allied Health Programs (CAAHEP), 25400 U.S. Highway 19 North, Suite 158, Clearwater, FL 33763.

Ophthalmic Assistant I

OPTS.T001.UG
Level 1 Certificate
Offered at Trinity River Campus

Health Science Pathway
Learn more about Ophthalmic Technician

Program Requirements

First Year

Fall Term

- OPTS 1311 - The Visual System
- OPTS 2341 - Ophthalmic Techniques

Spring Term

- OPTS 1319 - Vision Care Office Procedures
- OPTS 2345 - Advanced Ophthalmic Techniques
- OPTS 1315 - Basic Contact Lenses

Total Certificate Hours: 15

Ophthalmic Assistant II

OPTS.T002.UG
Level 2 Certificate
Offered at Trinity River Campus

Health Science Pathway
Learn more about Ophthalmic Technician

Program Requirements

First Year

Fall Term

- OPTS 1311 - The Visual System
- OPTS 2341 - Ophthalmic Techniques
- ENGL 1301 - Composition I +
- MATH 1314 - College Algebra +

Spring Term

- OPTS 1319 - Vision Care Office Procedures
- OPTS 1315 - Basic Contact Lenses
- OPTS 2345 - Advanced Ophthalmic Techniques
- OPTS 1366 - Clinic Practicum I

Summer Term

- OPTS 1266 - Clinic Practicum II
- Creative Arts/Language, Philosophy and Culture Semester Hours: 6 *

Total Certificate Hours: 32

** Creative Arts/Language, Philosophy, and Culture electives must be chosen from the corresponding section of the Core Curriculum.*

Diagnostic Medical Sonography, AAS

DMSO.D001.UG
Associate of Applied Science
Offered at Trinity River Campus

Health Science Pathway
Learn more about Diagnostic Medical Sonography

Prerequisites

The following courses must be completed prior to applying for admission into the Diagnostic Medical Sonography Program.

- MATH 1314 - College Algebra +
- ENGL 1301 - Composition I +
- BIOL 2401 - Anatomy and Physiology I (Lecture + Lab) +
- BIOL 2402 - Anatomy and Physiology II (Lecture + Lab) +

Choose one from the following:

- PHYS 1401 - College Physics I (Lecture + Lab) + **or**
- PHYS 1415 - Physical Science I (Lecture + Lab) +

- PSYC 2301 - General Psychology +
- Language, Philosophy & Culture or Creative Arts Elective: 3 *

Program Requirements

First Year

Fall Term

- DMSO 1110 - Introduction to Sonography
- DMSO 1441 - Abdominopelvic Sonography
- DMSO 1302 - Basic Ultrasound Physics
- DMSO 1266 - Practicum (or Field Experience) Diagnostic Medical Sonography/Sonographer and Ultrasound Technician

Spring Term

- DSVT 1103 - Introduction to Vascular Technology
- DMSO 2305 - Sonography of Obstetrics/Gynecology
- DMSO 2243 - Advanced Ultrasound Physics
- DMSO 1366 - Practicum (or Field Experience) Diagnostic Medical Sonography/Sonographer and Ultrasound Technician

Summer Term

- DMSO 2253 - Sonography of Superficial Structures

- DMSO 2242 - Sonography of High Risk Obstetrics
- DMSO 1267 - Practicum (or Field Experience) Diagnostic Medical Sonography/Sonographer and Ultrasound Technician

Second Year

Fall Term

- DMSO 1355 - Sonographic Pathophysiology
- DSVT 1300 - Principles of Vascular Technology
- DMSO 1367 - Practicum (or Field Experience) Diagnostic Medical Sonography/Sonographer and Ultrasound Technician

Spring Term

- DSVT 2335 - Advanced Vascular Technology
- DMSO 2130 - Advanced Ultrasound and Review (Capstone)
- DSVT 1364 - Practicum (or Field Experience) Diagnostic Medical Sonography/Sonographer and Ultrasound Technician

Total Degree Hours: 65

** Creative Arts/Language, Philosophy, and Culture elective must be chosen from the corresponding section of the Core Curriculum.*

Selective Admission Criteria:

All applicants to the Diagnostic Medical Sonography Program are required to attend an information session before the application deadline.

Application Criteria:

- *Students must be TSI compliant*
- *Hold a TCCD Student Colleague Number*
- *Must meet with the CTE advisor*
- *Currently have a minimum GPA of 2.5*
- *Successfully complete the HESI A2 Entrance Exam with a minimum score of 70 in each section*
- *IELTS 6.5 minimum score or TOEFL iBT test 83 as a minimum score for ESL students*

For additional information refer to the TCC website.

Prior to application, students with international college credits must contact International Admissions 817-515-1570 to verify those courses that will transfer to TCC.

Once admitted to the program students must maintain a minimum grade of "C" (78%) in all courses found within the degree plan.

Students who are selected for admission must perform and pass a drug screening and criminal background check, both of which must report negative in order to remain in the program. Required immunizations must be completed prior to the beginning of classes.

Health Information Technology, AAS

HITT.D001.UG
Associate of Applied Science
Offered at Trinity River Campus

Health Science Pathway
Learn more about Health Information Technology

Prerequisites

The following courses must be completed prior to applying for admission to the Health Information Technology Program.

- BIOL 2401 - Anatomy and Physiology I (Lecture + Lab) +
- BIOL 2402 - Anatomy and Physiology II (Lecture + Lab) +
- HPRS 1206 - Essentials of Medical Terminology

Program Requirements

First Year

Fall Term

- HITT 1301 - Health Data Content and Structure
- HITT 1311 - Health Information Systems
- HITT 1341 - Coding and Classification Systems
- HPRS 2201 - Pathophysiology

Spring Term

- HITT 1345 - Health Care Delivery Systems
- HITT 1342 - Ambulatory Coding
- HITT 1253 - Legal and Ethical Aspects of Health Information
- HPRS 2200 - Pharmacology for Health Professions
- Creative Arts/Language, Philosophy and Culture Semester Hours: 3 *

Summer Term

- HITT 2346 - Advanced Medical Coding
- HITT 2335 - Coding and Reimbursement Methodologies

Second Year

Fall Term

- HITT 2343 - Quality Assessment/Performance Improvement

- HITT 2260 - Clinical -Health Information and Medical Records Technology/Technician
- PSYC 2301 - General Psychology +
- ENGL 1301 - Composition I +

Spring Term

- HITT 2326 - Project Management for Health Professionals
- HITT 2261 - Clinical – Health Information and Medical Records Technology/Technician
- HITT 2149 - RHIT Competency Review
- HITT 2339 - Health Information Organization and Supervision

Total Degree Hours: 60

** Creative Arts/Language, Philosophy, and Culture electives must be chosen from the corresponding section of the Core Curriculum.*

Selective Admission Criteria:

All applicants to the Health Information Technology Program are required to attend an information session before the application deadline. Complete details of the Health Information Technology program admissions process may be on the TCC website.

Application Criteria:

- *Students must be TSI compliant*
- *Hold a TCCD Student Colleague Number*
- *Must meet with the CTE advisor*
- *Currently have a minimum GPA of 2.5*
- *Successfully complete the HESI A2 Entrance Exam with a minimum score of 70 in each section*
- *IELTS 6.5 minimum score or TOEFL iBT test 83 with a minimum score for ESL students*

Prior to application, students with international college credits must contact the International Admissions office at 817-515-1570 to verify those courses that will transfer to TCC.

Once admitted to the program students must complete and earn a minimum grade of "C" (75%) in all courses found on the program's degree plan.

Students who are selected for admission must perform and pass a drug screening and criminal background check prior to the start of the program. Required immunizations must be completed prior to the beginning of classes.

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.

The Tarrant County College Health Information Technology Program is accredited by the Commission on Accreditation for Health Informatics and Information Management Education (CAHIIM), 233 N. Michigan Avenue, 21st Floor, Chicago, Illinois 60601-5800. Phone 312-233-1100.

Nuclear Medicine Technology, AAS

NMTT.D001.UG
Associate of Applied Science
Offered at Trinity River Campus

Health Science Pathway
Learn more about Nuclear Medicine Technology

Prerequisites

The following courses must be completed prior to applying for admission into the Nuclear Medicine Technology Program.

- BIOL 2401 - Anatomy and Physiology I (Lecture + Lab) +
- BIOL 2402 - Anatomy and Physiology II (Lecture + Lab) +
- CHEM 1405 - Introductory Chemistry I (Lecture + Lab) +
- MATH 1314 - College Algebra +

Program Requirements

First Year

Fall Term

- SCIT 1320 - Physics for Allied Health
- NMTT 1301 - Introduction to Nuclear Medicine
- ENGL 1301 - Composition I +

Spring Term

- NMTT 2301 - Radiochemistry and Radiopharmacy
- NMTT 2209 - Nuclear Medicine Methodology I
- NMTT 1266 - Practicum I-Nuclear Medicine Technology
- Social and Behavioral Science Elective Semester Hours: 3 *

Summer Term

- NMTT 1309 - Nuclear Medicine Instrumentation
- NMTT 1313 - Nuclear Medicine Physics
- NMTT 1267 - Practicum II-Nuclear Medicine Technology

Second Year

Fall Term

- NMTT 2313 - Nuclear Medicine Methodology II
- NMTT 2333 - Positron Emission Tomography (PET) and Fusion Technology
- NMTT 2366 - Practicum III (or Field Experience)-Nuclear Medical Technology

- Creative Arts/Language, Philosophy, and Culture Elective Semester Hours: 3 *

Spring Term

- NMTT 2235 - Nuclear Medicine Seminar
- NMTT 2467 - Practicum IV (or Field Experience)-Nuclear Medicine Technology

Total Degree Hours: 60

** Creative Arts/Language, Philosophy, and Culture; and Social and Behavioral Science electives must come from the corresponding section of the Core Curriculum.*

Selective Admission Criteria:

All applicants to the Nuclear Medicine Technology Program are required to attend an information session before the application deadline. For additional information refer to the TCC website.

Application Criteria:

- *Students must be TSI compliant*
- *Hold a TCCD student Colleague number*
- *Must meet with the CTE advisor*
- *Currently have a minimum GPA of 2.5*
- *Successfully complete the HESI A2 entrance exam minimum score of 70 in each section IELTS 6.5 minimum score or TOEFL iBT test 83 minimum score for ESL Students*

Prior to application, students with international college credits must contact International Admissions 817-515-1570 to verify those courses that will transfer to TCCD. Once admitted to the program students must maintain a minimum grade of "C" (75%) in all courses found within the degree plan.

Students who are selected for admission must perform and pass a drug screening and criminal background check, both of which must report negative in order to remain in the program. Required immunizations must be completed prior to the beginning of classes.

After satisfactory completion of the above curriculum, the student is eligible to take the national examination to become certified as a Registered Nuclear Medicine Technologist (NM) with the A.R.R.T. and/or the N.M.T.C.B.

The Tarrant County College Nuclear Medicine Technology program has applied for accreditation by the Joint Review Committee on Educational Programs, 2000 N. Danforth Rd, Suite 130 #203, Edmond, OK, 73003, Tel: 405-285-0546, Fax: 405-285-0579, Email: jrcnmt@coxinet.net.

Nursing, AAS

NURS.D003.UG
Associate of Applied Science
Offered at Trinity River Campus

Health Science Pathway
Learn more about Nursing

General Education and Related Courses

The following science courses must be completed prior to applying for admission to the Nursing Program:

- BIOL 2401 - Anatomy and Physiology I (Lecture + Lab) +
- BIOL 2402 - Anatomy and Physiology II (Lecture + Lab) +

Choose one from the following:

- BIOL 2420 - Microbiology for Non-Science Majors (Lecture + Lab) + **or**
- BIOL 2421 - Microbiology for Science Majors (Lecture + Lab) +

Program Requirements

First Year

Fall Term

- RNSG 1413 - Foundations for Nursing Practice ** #
- RNSG 1360 - Clinical - Registered Nursing/Registered Nurse ** #
- RNSG 1105 - Nursing Skills I ** #
- PSYC 2301 - General Psychology +
- ENGL 1301 - Composition I +

Spring Term

- RNSG 1441 - Common Concepts of Adult Health
- RNSG 1461 - Clinical - Registered Nursing/Registered Nurse
- PSYC 2314 - Life Span Growth and Development +

Summer Term

- RNSG 2213 - Mental Health Nursing
- RNSG 2263 - Clinical-Registered Nursing/Registered Nurse

Second Year

Fall Term

- RNSG 2208 - Maternal and Newborn Nursing and Women's Health
- RNSG 2260 - Clinical-Registered Nursing/Registered Nurse
- RNSG 2201 - Care of Children and Families
- RNSG 2261 - Clinical-Registered Nursing/Registered Nurse

Spring Term

- RNSG 1443 - Complex Concepts of Adult Health

- RNSG 2461 - Clinical-Registered Nursing/Registered Nurse
    - Creative Arts/Language, Philosophy and Culture Semester Hours: 3 *

Total Degree Hours: 60

** Creative Arts/Language, Philosophy and Culture must be chosen from the corresponding section of the Core Curriculum.*

*** Mathematics competency is a prerequisite for this course.*

 # Credit-By-Examination may be earned for this course by LVNs, Military Medics, and Paramedics. Summer entry. Complete details of the Fast Track Option are provided on the TCC website.

Fall/Spring entry generic. Course sequence first year varies for spring.

Students are strongly urged to complete all general education requirements prior to entering the program.

Testing fees are assessed for all nursing theory courses.

Selective Admission Criteria:

Requirements for Applicants:

- *All Biology courses (BIOL 2401, BIOL 2402 and BIOL 2420) must have been completed prior to application to the Nursing Program.*
- *Completion of all courses required for the program with a grade of "C" or better.*
- *Completion of the Test of English as a Foreign Language (TOEFL) or the International English Language Testing System (IELTS) if native/first language is not English.*

Admission Criteria:

- *A grade of C or better on the required course: BIOL 2401, BIOL 2402 and BIOL 2420.*
- *HESI A2 (75% or higher on Reading, Vocabulary, Grammar, Anatomy & Physiology, and Math) score on a standardized admission's test.*

Complete details of the nursing admissions process can be found on the TCC website.

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 I.

Requirements for Students Admitted to the Nursing Program:

- *Negative drug screen*
- *Background checks*
- *Proof of medical insurance*
- *Current healthcare provider CPR course (approved by the American Heart Association)*
- *Social Security card*

- *Participation in 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*
- *Completion of English Proficiency, if required*

Applicants with a history of criminal charges, 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 Texas Board of Nursing. 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 approved by the Texas Board of Nursing, https://www.bon.texas.gov ,and accredited by the Accreditation Commission for Education in Nursing (ACEN), 3343 Peachtree Road NE, Suite 850, Atlanta, GA 30326, www.acenursing.org.

Physical Therapist Assistant, AAS

PTHA.D001.UG
Associate of Applied Science
Offered at Trinity River Campus

Health Science Pathway
Learn more about Physical Therapist Assistant

Program Requirements

First Year

Fall Term

- BIOL 2401 - Anatomy and Physiology I (Lecture + Lab) +
- HPRS 2200 - Pharmacology for Health Professions
- PTHA 1201 - The Profession of Physical Therapy
- PTHA 1321 - Pathophysiology for the PTA
- PTHA 1413 - Functional Anatomy

Spring Term

- BIOL 2402 - Anatomy and Physiology II (Lecture + Lab) +
- PSYC 2301 - General Psychology +
- PTHA 1405 - Basic Patient Care Skills
- PTHA 1431 - Physical Agents
- PTHA 1225 - Communication in Health Care

First Summer Term

- PTHA 2201 - Essentials of Data Collection

Choose one from the following:

- PSYC 2314 - Life Span Growth and Development + **or**
- PSYC 2308 - Child Psychology +

Second Summer Term

- ENGL 1301 - Composition I +
- PTHA 2431 - Management of Neurological Disorders

Second Year

Fall Term

- PTHA 2435 - Rehabilitation Techniques
- PTHA 2409 - Therapeutic Exercise
- PTHA 2360 - Clinical – Physical Therapist Assistant

Spring Term

- PTHA 2239 - Professional Issues
- PTHA 2361 - Clinical – Physical Therapist Assistant
- PTHA 2363 - Clinical -Physical Therapist Assistant
- Creative Arts/Language, Philosophy and Culture Semester Hours: 3 **

Total Degree Hours: 66

** Creative Arts/Language, Philosophy, and Culture must be chosen from the corresponding section of the Core Curriculum.*

Selective Admission Criteria:

All applicants to the Physical Therapist Assistant Program are required to attend an information session before the application deadline. Complete details of the Physical Therapist Assistant program admission process may be found on the TCC website.

Application Criteria:

- *Students must be TSI compliant*
- *Hold a TCCD Student Colleague Number*
- *Must meet with the CTE advisor*
- *Currently have a minimum GPA of 2.5*
- *Successfully Complete the HESI A2 Entrance Exam with a minimum score of 70 in each section*
- *IELTS 6.5 minimum score or TOEFL iBT test with 83 as the minimum score for ESL students*

This program is a selective admission offering.

Prior to application, students with international college credits must contact International Admissions 817-515-1570 to verify those courses that will transfer to TCCD.

Once admitted to the program, students must complete and earn a minimum grade of "C" (75%) in all courses found within the degree plan.

Students who are selected for admission must perform and pass a drug screening and a criminal background check prior to the start of the program, both of which must report negative in order to remain in the program. Required immunizations must be completed prior to the beginning of classes.

After successful completion of the above curriculum, the student is eligible to take the national examination to become certified as a Registered Physical Therapy Assistant (PTA).

The program is accredited by the Commission on Accreditation of Physical Therapy Education (CAPTE), Department of Accreditation, APTA, 1111 N. Fairfax Street, Alexandria, Virginia 22314.

Radiologic Technology, AAS

RADT.D001.UG
Associate of Applied Science
Offered at Trinity River Campus

Health Science Pathway
Learn more about Radiologic Technology

Prerequisites

The following courses are prerequisites for admission to the Radiologic Technology Program.

- BIOL 2401 - Anatomy and Physiology I (Lecture + Lab) +
- BIOL 2402 - Anatomy and Physiology II (Lecture + Lab) +

Program Requirements

Summer

First Summer Term

- RADR 1201 - Introduction to Radiography
- RADR 1203 - Patient Care

Second Summer Term

- RADR 1311 - Basic Radiographic Procedures
- HPRS 1206 - Essentials of Medical Terminology

First Year

Fall Term

- RADR 1266 - Practicum - Radiologic Technology/Science -Radiographer
- RADR 1313 - Principles of Radiographic Imaging I
- RADR 2301 - Intermediate Radiographic Procedures
- ENGL 1301 - Composition I +

Spring Term

- RADR 1267 - Practicum - Radiologic Technology/Science -Radiographer
- RADR 2305 - Principles of Radiographic Imaging II
- RADR 2331 - Advanced Radiographic Procedures
- Computer or Information Technology Elective Semester Hours: 3 **

Summer Term

- RADR 1366 - Practicum - Radiologic Technology/Science -Radiographer

Second Year

Fall Term

- RADR 2209 - Radiographic Imaging Equipment
- RADR 2233 - Advanced Medical Imaging
- RADR 2366 - Practicum – Radiologic Technology/Science Radiographer
- HPRS 2201 - Pathophysiology
- Creative Arts/Language, Philosophy and Culture Semester Hours: 3 *

Spring Term

- RADR 2213 - Radiation Biology and Protection
- RADR 2235 - Radiologic Technology Seminar
- RADR 2367 - Practicum – Radiologic Technology/Science Radiographer

Choose one from the following:

- PSYC 2301 - General Psychology + **or**
- PSYC 2315 - Psychology of Adjustment +

Total Degree Hours: 64

** Creative Arts/Language, Philosophy, and Culture must be chosen from the corresponding section of the Core Curriculum.*

*** Computer or Information Technology Elective: BCIS, COSC, INEW, ITCC, ITNW, ITSC, ITSE, ITSW, or ITSY.*

Selective Admission Criteria:

All applicants to the Radiologic Technology Program are required to attend an information session before the application deadline. Complete details of the Radiologic Technology program admissions process may be found on the TCC website.

Application Criteria:

- *Students must be TSI compliant*
- *Hold a TCCD Student Colleague Number*
- *Must meet with the CTE advisor*
- *Currently have a minimum GPA of 2.5*
- *Successfully Complete the HESI A2 Entrance Exam minimum score of 70 in each section*
- *IELTS 6.5 minimum score or TOEFL iBT test 83 minimum score for ESL students*

Prior to application, students with international college credits must contact International Admissions 817-515-1570 to verify those courses that will transfer to TCCD.

Once admitted to the program students must maintain a minimum grade of "C" (75%) in all courses found within the degree plan.

Students who are selected for admission must perform and pass a drug screening and criminal background check, both of which must report negative in order to remain in the program. Required immunizations must be completed prior to the beginning of classes.

After satisfactory completion of the above curriculum, the student is eligible to take the national examination to become certified as a Registered Radiologic Technologist (R) with the AART. Graduates may also choose to sit for additional registries related to the field or radiography.

The Tarrant County College Radiology Technology program is accredited by the Joint Review Committee on Education in Radiologic Technology (JRCERT), 20 N. Wacker Drive, Suite 2850, Chicago, Illinois 60606-3182.

Human and Public Service

Multiple Campuses

Associate of Arts in Kinesiology

AART.D002.UG
Associate of Arts
Offered at Northeast, Northwest, South, Southeast, and Trinity River Campus

Human & Public Service Pathway
Learn more about Kinesiology

Program Requirements

First Year

Fall Term

- ENGL 1301 - Composition I +
- HIST 1301 - United States History I +
- Mathematics Elective Semester Hours: 3 *

- KINE 1164 - Introduction to Physical Fitness and Wellness +
- KINE - Kinesiology Specialization Semester Hours: 3 **
- KINE - Kinesiology Activity Elective Semester Hour: 1 ***

Spring Term

- HIST 1302 - United States History II +

Choose one from the following:
- SPCH 1315 - Public Speaking + **or**
- SPCH 1311 - Introduction to Speech Communication + **or**
- SPCH 1321 - Business and Professional Communication +

- ENGL 1302 - Composition II +
- KINE - Kinesiology Specialization Semester Hours: 3 **
- KINE - Kinesiology Activity Elective Semester Hour: 1 ***
- KINE - Kinesiology Activity Elective Semester Hour: 1 ***

Second Year

Fall Term

- GOVT 2305 - Federal Government (Federal Constitution & Topics) +
- BIOL 2401 - Anatomy and Physiology I (Lecture + Lab) +
- KINE - Kinesiology Specialization Semester Hours: 3 **
- KINE - Kinesiology Specialization Semester Hours: 3 **
- Language, Culture, and Philosophy Semester Hours: 3 *

Spring Term

- GOVT 2306 - Texas Government (Texas Constitution & Topics) +
- BIOL 2402 - Anatomy and Physiology II (Lecture + Lab) +
- KINE - Kinesiology Specialization Semester Hours: 3 **
- Social and Behavior Science Semester Hours: 3 *
- Creative Arts Semester Hours: 3 *

Total Degree Hours: 60

** Mathematics, Creative Arts, Language, Culture, and Philosophy, and Social and Behavior Science electives must be selected from the Core Curriculum.*

*** Kinesiology Specialization courses: KINE 1301, KINE 1304, KINE 1306, KINE 1308, KINE 1321, KINE 1338, KINE 2356 or HECO 1322. Upon completion of the degree, one must have taken at least five of the eight courses listed.*

**** Kinesiology Activity Electives include KINE 1101 through KINE 1149 and KINE 2101 through KINE 2149.*

Associate of Arts in Teaching: Early Childhood through Grade 6

AATE.D003.UG
Associate of Arts in Teaching
Offered at Northeast and South Campus

Human & Public Service Pathway
Learn more about Teacher Education

Program Requirements

First Year

Fall Term

- ENGL 1301 - Composition I +
- HIST 1301 - United States History I +
- KINE 1164 - Introduction to Physical Fitness and Wellness +
- MATH 1314 - College Algebra +

Choose one from the following:

- BIOL 1408 - Biology for Non-Science Majors I (Lecture + Lab) + **or**
- BIOL Elective Semester Hours: 4 *****

Spring Term

- ENGL 1302 - Composition II +
- HIST 1302 - United States History II +
- MATH 1350 - Mathematics for Teachers I +

Choose one from the following:

- PHYS 1405 - Elementary Physics I (Lecture + Lab) + **or**
- PHYS Elective Semester Hours: 4 *****

Summer Term

Choose one from the following:

- ARTS 1301 - Art Appreciation + **or**
- Creative Arts Elective Semester Hours: 3 *****

Choose one from the following:

- SPCH 1311 - Introduction to Speech Communication + **or**
- SPCH 1315 - Public Speaking + **or**
- SPCH 1321 - Business and Professional Communication +

Choose one from the following:

- ENGL 2328 - American Literature II + **or**
- Language, Culture and Philosophy Semester Hours: 3 *

Second Year

Fall Term

- GOVT 2305 - Federal Government (Federal Constitution & Topics) +
- EDUC 1301 - Introduction to the Teaching Profession +
- MATH 1351 - Mathematics for Teachers II +
- Science Elective Semester Hours: 3

Spring Term

- GOVT 2306 - Texas Government (Texas Constitution & Topics) +
- EDUC 2301 - Introduction to Special Populations +
- Science Elective Semester Hours: 3

Choose one from the following:

- PSYC 2301 - General Psychology + **or**
- Social and Behavioral Science Elective Semester Hours: 3 *

Total Semester Hours: 60

** BIOL; PHYS; Creative Arts; Social and Behavioral Science; and Language, Culture and Philosophy electives must be chosen from the corresponding section of the 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 at TCC. Check with the transferring institution for GPA requirements.

Associate of Arts in Teaching: Grades 4-8 and Early Childhood through Grade 12 Special Education

AATE.D004.UG
Associate of Arts in Teaching
Offered at Northeast and South Campus

Human & Public Service Pathway
Learn more about Teacher Education

Program Requirements

First Year

Fall Term

- ENGL 1301 - Composition I +
- HIST 1301 - United States History I +
- KINE 1164 - Introduction to Physical Fitness and Wellness +
- MATH 1314 - College Algebra +

Choose one from the following:

- BIOL 1408 - Biology for Non-Science Majors I (Lecture + Lab) + **or**
- BIOL Elective Semester Hours: 4 *

Spring Term

- ENGL 1302 - Composition II +
- HIST 1302 - United States History II +
- MATH 1350 - Mathematics for Teachers I +

Choose one from the following:

- PHYS 1405 - Elementary Physics I (Lecture + Lab) + **or**
- PHYS Elective Semester Hours: 4 *

Summer Term

Choose one from the following:

- ARTS 1301 - Art Appreciation + **or**
- Creative Arts Elective Semester Hours: 3 *

Choose one from the following:

- SPCH 1311 - Introduction to Speech Communication + **or**
- SPCH 1315 - Public Speaking + **or**
- SPCH 1321 - Business and Professional Communication +

Choose one from the following:

- ENGL 2328 - American Literature II + **or**
- Language, Culture and Philosophy Semester Hours: 3 *

Second Year

Fall Term

- GOVT 2305 - Federal Government (Federal Constitution & Topics) +
- EDUC 1301 - Introduction to the Teaching Profession +
- MATH 1351 - Mathematics for Teachers II +
- Science Elective Semester Hours: 3

Spring Term

- GOVT 2306 - Texas Government (Texas Constitution & Topics) +
- EDUC 2301 - Introduction to Special Populations +
- Science Elective Semester Hours: 3

  Choose one from the following:
- PSYC 2301 - General Psychology + **or**
- Social and Behavioral Science Semester Hours: 3 *

Total Degree Hours: 60

** BIOL; PHYS; Creative Arts; Social and Behavioral Science; and Language, Culture and Philosophy electives must be chosen from the corresponding section of the 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 at TCC. Check with the transferring institution for GPA requirements.

Associate of Arts in Teaching: Grades 8-12 and Early Childhood through Grade 12 Other than Special Education

AATE.D005.UG
Associate of Arts in Teaching
Offered at Northeast and South Campus

Human & Public Service Pathway
Learn more about Teacher Education

Program Requirements

First Year

Fall Term

- ENGL 1301 - Composition I +
- HIST 1301 - United States History I +
- KINE 1164 - Introduction to Physical Fitness and Wellness +

  Choose one from the following:
- MATH 1314 - College Algebra + **or**
- Mathematics Elective Semester Hours: 3 *

  Choose one from the following:
- SPCH 1311 - Introduction to Speech Communication + **or**
- SPCH 1315 - Public Speaking + **or**
- SPCH 1321 - Business and Professional Communication +

Spring Term

- ENGL 1302 - Composition II +
- HIST 1302 - United States History II +

Choose one from the following:

- ARTS 1301 - Art Appreciation + **or**
- Creative Arts Elective Semester Hours: 3 *

- Life and Physical Sciences Elective Semester Hours: 4 *
- Academic Elective/Teaching Field Elective Semester Hours: 3 **

Second Year

Fall Term

- GOVT 2305 - Federal Government (Federal Constitution & Topics) +
- EDUC 1301 - Introduction to the Teaching Profession +

Choose one from the following:

- ENGL 2328 - American Literature II + **or**
- Language, Culture and Philosophy Elective Semester Hours: 3 *

- Life and Physical Sciences Elective Semester Hours: 4 *
- Academic Elective/Teaching Field Elective Semester Hours: 3 **

Spring Term

- GOVT 2306 - Texas Government (Texas Constitution & Topics) +
- EDUC 2301 - Introduction to Special Populations +

Choose one from the following:

- PSYC 2301 - General Psychology + **or**
- Social and Behavioral Science Elective Semester Hours: 3*

- Academic Elective/Teaching Field Elective Semester Hours: 3 **
- Academic Elective/Teaching Field Elective Semester Hours: 3 **

Total Degree Hours: 60

** Mathematics; Creative Arts; Language, Culture and Philosophy; Social and Behavioral Science; and Life and Physical Sciences electives must be chosen from the corresponding section of the Core Curriculum.*

*** Academic Elective/Teaching Field Elective must be chosen after consultation with advisor or Education Program Coordinator/Department Chair.*

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 at TCC. Check with the transferring institution for GPA requirements.

Criminal Justice Field 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.

AFOS.F024.UG
Field of Study
Offered at All TCC Campuses

Human & Public Service Pathway
Learn more about Criminal Justice

Program Requirements

- CRIJ 1301 - Introduction to Criminal Justice +
- CRIJ 1306 - Court Systems and Practices +
- CRIJ 1310 - Fundamentals of Criminal Law +
- CRIJ 2313 - Correctional Systems and Practices +
- CRIJ 2328 - Police Systems and Practices +

Total Semester Credit Hours: 15

Northeast Campus

After School Provider

CHIL.T007.UG
Level 1 Certificate
Offered at Northeast Campus

Human & Public Service Pathway
Learn more about Child Development

Program Requirements

Fall Term

- CDEC 2341 - The School Age Child
- ENGL 1301 - Composition I +
- TECA 1303 - Families, School and Community +
- TECA 1318 - Wellness of the Young Child +

- TECA 1354 - Child Growth and Development +

Spring Term

- CDEC 1419 - Child Guidance
- KINE 1164 - Introduction to Physical Fitness and Wellness +
- CDEC 1358 - Creative Arts for Early Childhood
- CDEC 1359 - Children with Special Needs

Total Certificate Hours: 26

The following courses require an annual background check:

TECA 1303 Families, School and Community +

TECA 1318 Wellness of the Young Child +

TECA 1354 Child Growth and Development +

Child Care Administration

CHIL.T002.UG
Level 2 Certificate
Offered at Northeast Campus

Human & Public Service Pathway
Learn more about Child Development

Program Requirements

First Year

Fall Term

- ENGL 1301 - Composition I +
- KINE 1164 - Introduction to Physical Fitness and Wellness +
- TECA 1354 - Child Growth and Development +
- TECA 1311 - Educating Young Children +

Spring Term

- CDEC 1321 - The Infant and Toddler
- CDEC 1419 - Child Guidance
- TECA 1318 - Wellness of the Young Child +

Second Year

Fall Term

- CDEC 1413 - Curriculum Resources for Early Childhood Programs
- CDEC 2326 - Administration of Programs for Children I
- TECA 1303 - Families, School and Community +

Spring Term

- CDEC 1359 - Children with Special Needs
- CDEC 2328 - Administration of Programs for Children II
- Child Development Elective Semester Hours: 3 *

Total Certificate Hours: 39

** Child Development Elective must be chosen from: CDEC 1323, CDEC 1356, CDEC 2307, CDEC 2324, or CDEC 2341.*

Students must meet requirements of 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.

The following courses require an annual background check:

TECA 1354 Child Growth and Development +

TECA 1311 Educating Young Children +

CDEC 1321 The Infant and Toddler

TECA 1318 Wellness of the Young Child +

CDEC 1419 Child Guidance

CDEC 1413 Curriculum Resources for Early Childhood Programs

TECA 1303 Families, School and Community +

Paralegal Studies

LEGA.T002.UG
Advanced Technical Certificate
Offered at Northeast Campus

Human & Public Service Pathway
Learn more about Paralegal Studies

Program Requirements

First Year

Fall Term

- LGLA 1307 - Introduction to Law and the Legal Professions
- LGLA 1303 - Legal Research
- LGLA 1305 - Legal Writing
- LGLA 1345 - Civil Litigation

Spring Term

- LGLA 1353 - Wills, Trusts, and Probate Administration
- LGLA 2303 - Torts and Personal Injury Law

Choose one from the following:

- LGLA 2380 - Cooperative Education Legal Assistant/Paralegal *** or**
- LGLA 2281 - Cooperative Education - Legal Assistant/Paralegal *** and**
- LGLA 2288 - Internship - Legal Assistant/Paralegal *****

- BUSI 2301 - Business Law +

Second Year

Fall Term

- 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 Paralegal (CP) examination given by the National Association of Legal Assistants, Inc.(NALA).

Preschool Child Care Provider

CHIL.T003.UG
Level 1 Certificate
Offered at Northeast Campus

Human & Public Service Pathway
Learn more about Child Development

Program Requirements

First Year

Fall Term

- ENGL 1301 - Composition I +
- KINE 1164 - Introduction to Physical Fitness and Wellness +
- TECA 1354 - Child Growth and Development +
- TECA 1311 - Educating Young Children +

Spring Term

- CDEC 1321 - The Infant and Toddler
- CDEC 1419 - Child Guidance
- TECA 1318 - Wellness of the Young Child +

Second Year

Fall Term

- CDEC 1413 - Curriculum Resources for Early Childhood Programs
- CDEC 1359 - Children with Special Needs

Total Certificate Hours: 27

The following courses require an annual background check:

TECA 1354 Child Growth and Development +

TECA 1311 Educating Young Children +

CDEC 1321 The Infant and Toddler

CDEC 1419 Child Guidance

TECA 1318 Wellness of the Young Child +

CDEC 1413 Curriculum Resources for Early Childhood Programs

Child Development, AAS

CHIL.D001.UG
Associate of Applied Science
Offered at Northeast Campus

Human & Public Service Pathway
Learn more about Child Development

Program Requirements

First Year

Fall Term

- ENGL 1301 - Composition I +
- KINE 1164 - Introduction to Physical Fitness and Wellness +
- TECA 1354 - Child Growth and Development +
- TECA 1311 - Educating Young Children +

Choose one from the following:

- Child Development Elective Semester Hours: 3 * **or**
- CDEC 2326 - Administration of Programs for Children I

Spring Term

- CDEC 1321 - The Infant and Toddler
- CDEC 1419 - Child Guidance
- TECA 1318 - Wellness of the Young Child +

Choose one from the following:

- Child Development Elective Semester Hours: 3 * **or**
- CDEC 2328 - Administration of Programs for Children II

Choose one from the following:

- SPCH 1311 - Introduction to Speech Communication + **or**
- SPCH 1315 - Public Speaking + **or**
- SPCH 1321 - Business and Professional Communication +

Summer Term

Choose one from the following:

- GOVT 2305 - Federal Government (Federal Constitution & Topics) + **or**
- GOVT 2306 - Texas Government (Texas Constitution & Topics) +

Second Year

Fall Term

- CDEC 1356 - Emergent Literacy for Early Childhood
- CDEC 1413 - Curriculum Resources for Early Childhood Programs
- TECA 1303 - Families, School and Community +
- Science or Mathematics Elective Semester Hours: 3 **
- Creative Art/Language, Philosophy and Culture Elective Semester Hours: 3 **

Spring Term

- CDEC 1358 - Creative Arts for Early Childhood

- CDEC 1359 - Children with Special Needs
- Child Development Elective Semester Hours: 3 *
- CDEC 2386 - Internship – Child Care Provider/Assistant (Capstone)***

Total Degree Hours: 60

** Child Development Elective must be chosen from: CDEC 1323 , CDEC 2307, CDEC 2324 , CDEC 2326, CDEC 2328, or CDEC 2341.*

*** Creative Arts/Language, Philosophy and Culture and Life and Physical Sciences or Mathematics must be chosen from the corresponding section in the Core Curriculum .*

**** Capstone is taken in the student's final spring semester.*

The following courses require an annual background check:

TECA 1354 Child Growth and Development +

CDEC 1321 The Infant and Toddler

CDEC 1419 Child Guidance

CDEC 1413 Curriculum Resources for Early Childhood Programs

TECA 1318 Wellness of the Young Child +

TECA 1311 Educating Young Children +

TECA 1303 Families, School and Community +

CDEC 2386 Internship – Child Care Provider/Assistant

Paralegal Studies, AAS

LEGA.D002.UG
Associate of Applied Science
Offered at Northeast Campus

Human & Public Service Pathway
Learn more about Paralegal Studies

Program Requirements

First Year

Fall Term

- LGLA 1307 - Introduction to Law and the Legal Professions
- LGLA 1303 - Legal Research
- ACCT 2301 - Principles of Financial Accounting +

- ENGL 1301 - Composition I +
- PSYC 2315 - Psychology of Adjustment +

Spring Term

- LGLA 1305 - Legal Writing
- LGLA 1345 - Civil Litigation
- BCIS 1305 - Business Computer Applications +
- ENGL 1302 - Composition II +
- Mathematics or Science Elective Semester Hours: 3 *

Second Year

Fall Term

- LGLA 1353 - Wills, Trusts, and Probate Administration
- LGLA 2303 - Torts and Personal Injury Law

Choose one from the following:
- LGLA 2380 - Cooperative Education Legal Assistant/Paralegal ** **or**
- LGLA 2281 - Cooperative Education - Legal Assistant/Paralegal ** **and**
- LGLA 2288 - Internship - Legal Assistant/Paralegal **

- BUSI 2301 - Business Law +
- SPCH 1321 - Business and Professional Communication +

Spring Term

- LGLA 1355 - Family Law
- LGLA 2311 - Business Organizations
- CRIJ 1306 - Court Systems and Practices +
- GOVT 2306 - Texas Government (Texas Constitution & Topics) +
- Creative Arts/Language, Philosophy and Culture Semester Hours: 3 *

Total Degree Hours: 60

** Mathematics or Science and Creative Arts/Language, Philosophy, and Culture must be chosen from the corresponding section of the Core Curriculum.*

*** 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.*

NOTE: Mathematical competency is required for completion by TSI liable students.

The Paralegal Studies program, including both the Associate of Applied Science Degree and the Certificate of Completion, is approved by the American Bar Association.

Northwest Campus

Criminal Justice, AAS

CRIM.D001.UG
Associate of Applied Science
Offered at Northwest Campus

Human & Public Service Pathway
Learn more about Criminal Justice

Program Requirements

First Year

Fall Term

- CRIJ 1301 - Introduction to Criminal Justice + **FOS**
- CRIJ 1310 - Fundamentals of Criminal Law + **FOS**
- ENGL 1301 - Composition I +
- SOCI 1301 - Introduction to Sociology +
- Mathematics or Life and Physical Sciences Elective Semester Hours: 3 **

Spring Term

- CRIJ 1307 - Crime in America +
- CRIJ 2328 - Police Systems and Practices + **FOS**
- Creative Art/Language, Philosophy and Culture Semester Hours: 3 **
- CRIJ 2313 - Correctional Systems and Practices + **FOS**

Choose one from the following:

- SPCH 1321 - Business and Professional Communication + **or**
- SPCH 1311 - Introduction to Speech Communication + **or**
- SPCH 1315 - Public Speaking +

Summer Term

- GOVT 2306 - Texas Government (Texas Constitution & Topics) +

Second Year

Fall Term

- CRIJ 2323 - Legal Aspects of Law Enforcement +
- GOVT 2305 - Federal Government (Federal Constitution & Topics) +
- Approved Electives Semester Hours: 3 *

- ENGL 1302 - Composition II +

Spring Term

- CRIJ 2314 - Criminal Investigation +
- CRIJ 1306 - Court Systems and Practices + **FOS**

Choose one from the following:

- CJSA 2388 - Internship in Criminal Justice and Safety Studies (Capstone) **or**
- CJSA 2334 - Contemporary Issues in Criminal Justice (Capstone)

- Approved Electives Semester Hours: 6 *

Total Degree Hours: 60

** All electives must have prior approval of the Program Coordinator. Approved Electives: CJSA 1347, CJSA 1348, CJSA 2331, CRIJ 1313, CJLE 1111, CJLE 1345, CJLE 1373, CJLE 1375, CJLE 1506, CJLE 1512, CJLE 1518, CJLE 2247, FIRT 1301, HMSY 1337, SLPS 1371, SLPS 1372, or SLPS 2371.*

*** Creative Arts/Language, Philosophy and Culture, and Mathematics and Physical Sciences elective must be chosen from the corresponding section of the Core Curriculum.*

NOTE: Mathematical competency is required for completion by TSI-liable students. Capstone should be taken in the graduating semester and requires department approval prior to enrollment.

FOS: Criminal Justice Field of Study

Security Management

CRIM.T006.UG
Occupational Skills Award
Offered at Northwest Campus

Human & Public Service Pathway
Learn more about Criminal Justice

Program Requirements

Fall Term

- SLPS 1371 - Introduction to Security Management
- SLPS 2371 - Fundamentals of Physical Security
- SLPS 1372 - Security and Loss Prevention

Total Certificate Hours: 9

Basic Peace Officer Certification

CRIM.T003.UG
Level 1 Certificate
Offered at Northwest Campus

Human & Public Service Pathway
Learn more about Law Enforcement

Program Requirements

Fall Term

- CJLE 1506 - Basic Peace Officer I
- CJLE 1512 - Basic Peace Officer II
- CJLE 1518 - Basic Peace Officer III
- CJLE 2247 - Tactical Skills for Police
- CJLE 1111 - Basic Firearms

Total Certificate Hours: 18

Special Admissions Criteria and Program Information:

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 TSI Assessment 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.*

Crime Analyst

CRIM.T005.UG
Level 1 Certificate
Offered at Northwest Campus

Human & Public Service Pathway
Learn more about Criminal Justice

Program Requirements

Fall Term

- CRIJ 1301 - Introduction to Criminal Justice +
- GISC 1402 - Understanding Geographic Information Systems
- CJSA 1347 - Police Organization and Administration

Spring Term

- CRIJ 1307 - Crime in America +
- MATH 1342 - Elementary Statistical Methods +
- GISC 2404 - Geographic Information Systems (GIS) Design with Vector Analysis
- HMSY 1340 - Homeland Security Intelligence Operations (Capstone)

Total Certificate Hours: 23

Fire Protection Technology, AAS

FIRP.D001.UG
Associate of Applied Science
Offered at Northwest Campus

Human & Public Service Pathway
Learn more about Fire Protection Technology

Program Requirements

First Year

Fall Term

Choose one from the following:

- COSC 1301 - Introduction to Computing + **or**
- BCIS 1305 - Business Computer Applications +

- FIRT 1301 - Fundamentals of Fire Protection
- ENGL 1301 - Composition I +
- GOVT 2306 - Texas Government (Texas Constitution & Topics) +

Choose one from the following:

- SOCI 1301 - Introduction to Sociology + **or**
- Any Psychology course

Spring Term

- FIRT 1338 - Fire Protection Systems
- FIRT 1307 - Fire Prevention Codes and Inspections
- FIRT 1329 - Building Codes and Construction
- CHEM 1406 - Introductory Chemistry I (Lecture + Lab, Allied Health Emphasis) +
- Creative Arts/Language, Philosophy and Culture Elective Semester Hours: 3 **
- KINE 1164 - Introduction to Physical Fitness and Wellness +

Second Year

Fall Term

- FIRT 1433 - Fire Chemistry I
- FIRT 1311 - Fire Service Hydraulics
- FIRT 1309 - Fire Administration I
- Fire Technology Electives Semester Hours: 6 *

Spring Term

- FIRT 1349 - Fire Administration II
- FIRT 1315 - Hazardous Materials I

Choose one from the following:

- FIRT 2388 - Internship Emergency Management (Capstone) **or**
- FIRT 2331 - Firefighting Strategies and Tactics II

- Fire Technology Electives Semester Hours: 3 *

Total Degree Hours: 60

** Suggested electives include: FIRS 1301, FIRS 1313, FIRS 1319, FIRS 1323, FIRS 1329, FIRT 1371, or FIRT 2309.*

*** Creative Arts/Language, Philosophy and Culture must be chosen from the corresponding section of the Core Curriculum.*

NOTE: Mathematical competency is required for completion by TSI liable students.

Basic Firefighter Certification

FIRP.T002.UG
Level 1 Certificate
Offered at Northwest Campus

Human & Public Service Pathway
Learn more about Firefighter Certification

Program Requirements

Fall Term

- FIRS 1301 - Firefighter Certification I
- FIRT 1338 - Fire Protection Systems
- FIRS 1313 - Firefighter Certification III
- FIRS 1319 - Firefighter Certification IV
- FIRS 1323 - Firefighter Certification V
- FIRS 1329 - Firefighter Certification VI

Total Certificate Hours: 18

The courses listed above are taught in an academy format (daytime - Monday through Friday from 8 a.m. to 5 p.m. and nighttime - Monday and Thursday from 6 p.m. to 10 p.m., and Saturday 8 a.m. to 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.

Selective 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 TSI Assessment 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.*

Trinity River Campus

Library Technician, AAS

LIBR.D001.UG
Associate of Applied Science
Offered at Trinity River Campus

Human & Public Service Pathway
Learn more about Library Technician

Program Requirements

First Year

Fall Term

- ENGL 1301 - Composition I +
- LBRA 1371 - Introduction to Library Technology

Choose one from the following:

- SPCH 1311 - Introduction to Speech Communication + **or**
- SPCH 1315 - Public Speaking + **or**
- SPCH 1321 - Business and Professional Communication +

- HIST 1301 - United States History I +

Choose one from the following:

- BCIS 1305 - Business Computer Applications + **or**
- COSC 1301 - Introduction to Computing +

Spring Term

Choose one from the following:

- ENGL 1302 - Composition II + **or**
- ENGL 2311 - Technical and Business Writing +

- HIST 1302 - United States History II +
- LBRA 1373 - Public Services
- PSYC 2301 - General Psychology +
- Creative Arts Semester Hours: 3 *

Second Year

Fall Term

- GOVT 2305 - Federal Government (Federal Constitution & Topics) +
- LBRA 1375 - Information Sources and Services
- ENGL 2328 - American Literature II +
- Mathematics Elective Semester Hours: 3 *
- Social or Behavioral Science Semester Hours: 3 *

Spring Term

- GOVT 2306 - Texas Government (Texas Constitution & Topics) +
- LBRA 1372 - Organization of Information
- LBRA 1174 - Practicum in Library Technology (Capstone)

Choose one of the following:

- ITSW 1407 - Introduction to Database **or**
- ITSE 1411 - Beginning Web Programming

- Life and Physical Sciences Semester Hours: 4 *

Total Degree Hours: 60

** Mathematics, Creative Arts, Social/Behavioral Science, and Life and Physical Sciences electives must be chosen from the corresponding section of the Core Curriculum.*

Educational Sign Language Interpreting

SIGN.T006.UG
Enhanced Skills Certificate
Offered at Trinity River Campus

Human & Public Service Pathway
Learn more about Sign Language Interpreting

Program Requirements

Fall Term

- SLNG 2315 - Interpreting in Educational Settings
- SLNG 2311 - Interpreting in Specialized Courses

Total Certificate Hours: 6

Library Technician

LIBR.T001.UG
Level 1 Certificate
Offered at Trinity River Campus

Human & Public Service Pathway
Learn more about Library Technician

Program Requirements

First Year

Fall Term

- LBRA 1371 - Introduction to Library Technology

Choose one from the following:
- SPCH 1311 - Introduction to Speech Communication + **or**
- SPCH 1315 - Public Speaking + **or**
- SPCH 1321 - Business and Professional Communication +

- BCIS 1305 - Business Computer Applications +

Spring Term

- LBRA 1375 - Information Sources and Services
- LBRA 1373 - Public Services
- LBRA 1372 - Organization of Information
- LBRA 1174 - Practicum in Library Technology (Capstone) *

Total Certificate Hours: 19

** Practicum LBRA 1174 must be taken with LBRA 1375.*

Sign Language Interpreting, AAS

SIGN.D003.UG
Associate of Applied Science
Offered at Trinity River Campus

Human & Public Service Pathway
Learn more about Sign Language Interpreting

Prerequisites

The following courses are prerequisites for admission into American Sign Language (ASL) III.

- SGNL 1401 - Beginning American Sign Language I +
- SGNL 1402 - Beginning American Sign Language II +

Program Requirements

First Year

Fall Term

- SGNL 2301 - Intermediate American Sign Language I +
- SLNG 1347 - Deaf Culture
- ENGL 1301 - Composition I +
- SPCH 1311 - Introduction to Speech Communication +
- SLNG 1215 - Visual and Gestural Communication

Spring Term

- SGNL 2302 - Intermediate American Sign Language II +
- SLNG 2301 - Interpreting I
- SLNG 1321 - Introduction to the Interpreting Profession
- SLNG 1211 - Fingerspelling and Numbers
- SOCI 1301 - Introduction to Sociology +

Summer Term

- SLNG 2302 - Interpreting II
- SLNG 1207 - Intra-lingual Skills Development for Interpreters

Second Year

Fall Term

- SLNG 2431 - Interpreting III
- SLNG 1350 - Sign-to-Voice
- SLNG 2288 - Internship - Sign Language Interpretation and Translation
- Mathematics or Life and Physical Science Semester Hours: 3 *

Spring Term

- SLNG 2436 - Interpreting IV
- SLNG 2267 - Practicum II (Capstone)
- SLNG 2303 - Transliterating
- Creative Arts/Language, Philosophy and Culture Semester Hours: 3 *

Total Degree Hours: 65

** Creative Arts/Language, Philosophy, and Culture, and Mathematics or Science must be chosen from the corresponding section of the Core Curriculum.*

NOTE: Mathematical competency is required for completion by TSI liable students.

Student must have credit for SGNL 1401 before taking SLNG 1211.
Student must have credit for SGNL 1401 and SGNL 1402 before taking SGNL 2301.
Student must have credit for SGNL 2301 before taking SGNL 2302.

Selective Admission Criteria:

A selection committee reviews applications and selects applicants who best meet the following criteria:

- *Prior to admission to Interpreting II, students must successfully complete ASL I, II, III and IV and Composition I with a GPA of 3.0.*
- *Students must demonstrate language fluency and proficiency in both English and American Sign Language.*
- *Recommendations by American Sign Language instructors and/or Deaf Community members will be required.*

Students who are selected for admission into interpreting specialized courses must complete and earn a minimum grade of "C" for each specialized course and Composition I.

After satisfactory completion of specialized courses in the Sign Language Interpreting Program, the student is prepared to take the state basic certification exam administered by the Board of Evaluators of Interpreters for the Deaf

Students seeking certification through the Board of Evaluators of Interpreters for the Deaf must meet the following requirements set forth by the Texas Department of Assistive and Rehabilitative Services:

1) Pass a criminal background history;
2) Complete 30 hours of college credit to take the Test of English Proficiency; and
3) Complete a minimum of 60 hours of college credit to take the Basic performance test.

Sign Language Communicator

SIGN.T001.UG
Level 1 Certificate
Offered at Trinity River Campus

Human & Public Service Pathway
Learn more about Sign Language Interpreting

Prerequisites

The following courses are prerequisites for admission into American Sign Language (ASL) III.

- SGNL 1401 - Beginning American Sign Language I +
- SGNL 1402 - Beginning American Sign Language II +

Program Requirements

First Year

Fall Term

- SGNL 2301 - Intermediate American Sign Language I +
- SLNG 1347 - Deaf Culture
- SLNG 1215 - Visual and Gestural Communication
- ENGL 1301 - Composition I +

Spring Term

- SGNL 2302 - Intermediate American Sign Language II + (Capstone)
- SLNG 1211 - Fingerspelling and Numbers
- SLNG 1321 - Introduction to the Interpreting Profession
- SPCH 1311 - Introduction to Speech Communication +

Total Certificate Hours: 30

Basic American Sign Language Acquisition

SIGN.T002.UG
Level 1 Certificate
Offered at Trinity River Campus

Human & Public Service Pathway
Learn more about Sign Language Interpreting

Program Requirements

First Year

First Summer Term

- SGNL 1401 - Beginning American Sign Language I +

Second Summer Term

- SGNL 1402 - Beginning American Sign Language II +

Fall Term

- SGNL 2301 - Intermediate American Sign Language I +
- SLNG 1215 - Visual and Gestural Communication
- ENGL 1301 - Composition I +

Total Certificate Hours: 16

Student must have credit for SGNL 1401 and SGNL 1402 before taking SGNL 2301.

Conversational ASL for Healthcare Workers Certificate

SIGN.T005.UG
Occupational Skills Award
Offered at Trinity River Campus

Human & Public Service Pathway
Learn more about Sign Language Interpreting

Program Requirements

First Year

Fall Term

- SGNL 1401 - Beginning American Sign Language I +
- SGNL 1402 - Beginning American Sign Language II +

Spring Term

- SLNG 1347 - Deaf Culture
- SLNG 1202 - Conversational Sign Language in the Workplace II

Total Certificate Hours: 13

Science, Technology, Engineering & Mathematics

Multiple Campuses

Associate of Science

While this suggested course of study 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.

ASCI.D001.UG
Associate of Science
Offered at All Campuses

STEM Pathway
Learn more about STEM

Program Requirements

Composition - 6 Hours

Two three-credit-hour courses

- ENGL 1301 - Composition I +

Choose one from the following:

- ENGL 1302 - Composition II + **or**
- ENGL 2311 - Technical and Business Writing +

Speech and Communication Skills - 3 Hours

One three-credit-hour course

- SPCH 1311 - Introduction to Speech Communication +
- SPCH 1315 - Public Speaking +
- SPCH 1321 - Business and Professional Communication +

Mathematics - 3 Hours

One three-credit-hour course

- MATH 1314 - College Algebra +
- MATH 1316 - Plane Trigonometry +
- MATH 2412 - Pre-Calculus Math +
- MATH 2413 - Calculus I +

Life and Physical Sciences - 8 Hours

Two four-credit-hour laboratory science courses *****
Both courses must be from the same subject series

- BIOL 1406 - Biology for Science Majors I (Lecture + Lab) +
- BIOL 1407 - Biology for Science Majors II (Lecture + Lab) +
- CHEM 1411 - General Chemistry I (Lecture + Lab) +
- CHEM 1412 - General Chemistry II (Lecture + Lab) +
- CHEM 2423 - Organic Chemistry I (Lecture + Lab) +
- CHEM 2425 - Organic Chemistry II (Lecture + Lab) +
- GEOL 1403 - Physical Geology (Lecture + Lab) +
- GEOL 1404 - Historical Geology (Lecture + Lab) +
- PHYS 1401 - College Physics I (Lecture + Lab) +
- PHYS 1402 - College Physics II (Lecture + Lab) +
- PHYS 2425 - University Physics I (Lecture + Lab) +
- PHYS 2426 - University Physics II (Lecture + Lab) +

Creative Arts - 3 Hours

One three-credit-hour course

- ARTS 1301 - Art Appreciation +
- ARTS 1303 - Art History I (Prehistoric to the 14th century) +
- COMM 2366 - Film Appreciation +
- DANC 2303 - Dance Appreciation +
- DRAM 1310 - Theater Appreciation +
- DRAM 2366 - Film Appreciation +
- HUMA 1315 - Fine Arts Appreciation +
- MUSI 1306 - Music Appreciation +
- MUSI 1307 - Music Literature +
- MUSI 1310 - American Music +

Language, Culture and Philosophy - 3 Hours

One three-credit-hour course

- ENGL 2322 - British Literature I +
- ENGL 2323 - British Literature II +
- ENGL 2327 - American Literature I +

- ENGL 2328 - American Literature II +
- ENGL 2332 - World Literature I +
- ENGL 2333 - World Literature II +
- FREN 2311 - Intermediate French I +
- FREN 2312 - Intermediate French II +
- GERM 2311 - Intermediate German I +
- GERM 2312 - Intermediate German II +
- HIST 2311 - Western Civilization I +
- HIST 2321 - World Civilizations I +
- HIST 2322 - World Civilizations II +
- HIST 2312 - Western Civilization II +
- HUMA 1301 - Introduction to Humanities I +
- PHIL 1301 - Introduction to Philosophy +
- PHIL 1304 - Introduction to World Religions +
- PHIL 2306 - Introduction to Ethics +
- PHIL 2316 - Classical Philosophy +
- SPAN 2311 - Intermediate Spanish I +
- SPAN 2312 - Intermediate Spanish II +

American History - 6 Hours

Two three-credit-hour courses

Choose one from the following:

- HIST 1301 - United States History I + **or**
- HIST 2327 - Mexican American History I +

Choose one from the following:

- HIST 1302 - United States History II + **or**
- HIST 2328 - Mexican American History II + **or**
- HIST 2301 - Texas History +

Government and Political Science - 6 Hours

Two three-credit-hour courses

- GOVT 2305 - Federal Government (Federal Constitution & Topics) +
- GOVT 2306 - Texas Government (Texas Constitution & Topics) +

Social or Behavioral Science - 3 Hours

One three-credit-hour course

- ANTH 2346 - General Anthropology +
- ECON 2301 - Principles of Macroeconomics +
- ECON 2302 - Principles of Microeconomics +
- GEOG 1301 - Physical Geography +

- GEOG 1302 - Human Geography +
- GEOG 1303 - World Regional Geography +
- PSYC 2301 - General Psychology +
- SOCI 1301 - Introduction to Sociology +

Health and Wellness - 1 Hour

One one-credit-hour course

- KINE 1164 - Introduction to Physical Fitness and Wellness +

Electives * - 18 Hours

- Additional courses to complete 60 credit hours Semester Hours: 18

Elective courses must be selected from the following if not taken as part of the preceding core. Electives should be chosen to coordinate with the senior institution's major:

Biology

- BIOL 1406 - Biology for Science Majors I (Lecture + Lab) + **and**
- BIOL 1407 - Biology for Science Majors II (Lecture + Lab) +

- BIOL 1411 - General Botany (Lecture + Lab) + **and**
- BIOL 2421 - Microbiology for Science Majors (Lecture + Lab) +

- BIOL 2316 - Genetics (Lecture) +

Computer Science

- COSC 1420 - "C" Programming +
- COSC 1436 - Programming Fundamentals I +
- COSC 1437 - Programming Fundamentals II +
- COSC 2425 - Computer Organization +
- COSC 2436 - Programming Fundamentals III +

Geology

- GEOL 1402 - Earth Science for Non-Science Majors II (Lecture + Lab) +
- GEOL 1403 - Physical Geology (Lecture + Lab) +
- GEOL 1404 - Historical Geology (Lecture + Lab) +
- GEOL 1447 - Meteorology (Lecture + Lab) +

Physics

- PHYS 1401 - College Physics I (Lecture + Lab) + **and**
- PHYS 1402 - College Physics II (Lecture + Lab) +

- PHYS 1405 - Elementary Physics I (Lecture + Lab) + **and**
- PHYS 1407 - Elementary Physics II (Lecture + Lab) +

- PHYS 2425 - University Physics I (Lecture + Lab) + **and**
- PHYS 2426 - University Physics II (Lecture + Lab) +

Chemistry

- CHEM 1411 - General Chemistry I (Lecture + Lab) + **and**
- CHEM 1412 - General Chemistry II (Lecture + Lab) +

- CHEM 2423 - Organic Chemistry I (Lecture + Lab) + **and**
- CHEM 2425 - Organic Chemistry II (Lecture + Lab) +

Engineering

- ENGR 1201 - Introduction to Engineering +
- ENGR 1304 - Engineering Graphics I +
- ENGR 2301 - Engineering Mechanics - Statics +
- ENGR 2302 - Engineering Mechanics -Dynamics +
- ENGR 2305 - Electrical Circuits I +
- ENGR 2332 - Mechanics of Materials +

Mathematics

- MATH 2412 - Pre-Calculus Math +
- MATH 2413 - Calculus I +
- MATH 2414 - Calculus II +
- MATH 2415 - Calculus III +
- MATH 2318 - Linear Algebra +
- MATH 2320 - Differential Equations +

Total Degree Hours: 60

** Students must be TSI compliant to enroll in many of the courses listed. Some courses may also require additional pre-requisites. Check course descriptions for details.*

Developmental courses cannot be used to fulfill a degree requirement.

Associate of Science in Chemistry

ASCI.D002.UG
Associate of Science
Offered at Northeast, Northwest, South, Southeast and Trinity River Campus

STEM Pathway
Learn more about Chemistry

Program Requirements

Summer

Choose one from the following:

- MATH 1314 - College Algebra + * **or**
- MATH 1316 - Plane Trigonometry + **or**
- MATH 2412 - Pre-Calculus Math + **or**
- MATH 2413 - Calculus I + **

First Year

Fall Term

- CHEM 1411 - General Chemistry I (Lecture + Lab) +
- ENGL 1301 - Composition I +
- HIST 1301 - United States History I +

Choose one from the following:

- SPCH 1311 - Introduction to Speech Communication + **or**
- SPCH 1315 - Public Speaking + **or**
- SPCH 1321 - Business and Professional Communication +

Spring Term

- CHEM 1412 - General Chemistry II (Lecture + Lab) +
- ENGL 1302 - Composition II +
- HIST 1302 - United States History II +

Choose one from the following:

- CHEM 2289 - Academic Cooperative + **or**
- CHEM 2389 - Academic Cooperative + **or**
- MATH 2413 - Calculus I + **or**
- MATH 2414 - Calculus II +

- Creative Arts Semester Hours: 3 ***

Second Year

Fall Term

- CHEM 2423 - Organic Chemistry I (Lecture + Lab) +

Choose one from the following:

- PHYS 1401 - College Physics I (Lecture + Lab) + ** **or**
- PHYS 2425 - University Physics I (Lecture + Lab) +

- GOVT 2305 - Federal Government (Federal Constitution & Topics) +
- KINE 1164 - Introduction to Physical Fitness and Wellness +
- Language, Culture and Philosophy Semester Hours: 3 ***

Spring Term

- CHEM 2425 - Organic Chemistry II (Lecture + Lab) +

  Choose one from the following:
- PHYS 1402 - College Physics II (Lecture + Lab) + **or**
- PHYS 2426 - University Physics II (Lecture + Lab) +

- GOVT 2306 - Texas Government (Texas Constitution & Topics) +
- Social and Behavior Science Semester Hours: 3 ***

Total Degree Hours: 60

** MATH 1314 is a prerequisite for CHEM 1411 .*

*** University Physics is recommended for students planning on going into graduate school in Chemistry or Engineering. MATH 2413 is prerequisite for PHYS 2425 and MATH 2414 is a prerequisite for PHYS 2426.*

**** Speech, Creative Arts, Language, Philosophy and Culture and Social and Behavior Science electives must be selected from the Core Curriculum.*

Associate of Science in Mathematics

ASCI.D003.UG
Associate of Science
Offered at Northeast, Northwest, South, Southeast, and Trinity River Campus

STEM Pathway
Learn more about Mathematics

Program Requirements

First Year

Fall Term

- MATH 2413 - Calculus I +

  Choose one from the following:
- MATH 1316 - Plane Trigonometry + **or**
- MATH 1332 - Contemporary Mathematics (Quantitative Reasoning) + **or**
- MATH 1342 - Elementary Statistical Methods + **or**

- MATH 2412 - Pre-Calculus Math +

- ENGL 1301 - Composition I +
- HIST 1301 - United States History I +
- Life and Physical Sciences Semester Hours: 4 *

Spring Term

- MATH 2414 - Calculus II +
- HIST 1302 - United States History II +
- ENGL 1302 - Composition II +
- Life and Physical Sciences Semester Hours: 4 *

Second Year

Fall Term

- MATH 2415 - Calculus III +
- GOVT 2305 - Federal Government (Federal Constitution & Topics) +
- KINE 1164 - Introduction to Physical Fitness and Wellness +
- Creative Arts Semester Hours: 3 **
- Language, Philosophy and Culture Semester Hours: 3 **

Spring Term

Choose two from the following:

- MATH 2305 - Discrete Mathematics + **or**
- MATH 2318 - Linear Algebra + **or**
- MATH 2320 - Differential Equations +

- SPCH 1311 - Introduction to Speech Communication +
- GOVT 2306 - Texas Government (Texas Constitution & Topics) +
- Social and Behavior Science Semester Hours: 3 **

Total Degree Hours: 60

** Life and Physical Science electives must be chosen from two of the following courses within the same group:*

- *BIOL 1406 and BIOL 1407* **or**
- *CHEM 1411, CHEM 1412, CHEM 2423 or CHEM 2425* **or**
- *GEOL 1403 and GEOL 1404* **or**
- *PHYS 1401, PHYS 1402, PHYS 2425 or PHYS 2426*

*** Creative Arts, Language, Philosophy, and Culture, and Social and Behavior Science electives must be chosen from the Core Curriculum.*

Civil Engineering Field 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.

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

AFOS.F017.UG
Field of Study
Offered at All TCC Campuses

STEM Pathway
Learn more about Engineering

Program Requirements

Mathematics

- MATH 2413 - Calculus I + *
- MATH 2414 - Calculus II +
- MATH 2415 - Calculus III +
- MATH 2320 - Differential Equations +

Chemistry

- CHEM 1409 - General Chemistry for Engineering Majors (Lecture + Lab) +

Physics

- PHYS 2425 - University Physics I (Lecture + Lab) + *
- PHYS 2426 - University Physics II (Lecture + Lab) + *

Engineering

- ENGR 1304 - Engineering Graphics I +
- ENGR 2301 - Engineering Mechanics - Statics +
- ENGR 2302 - Engineering Mechanics -Dynamics +
- ENGR 2332 - Mechanics of Materials +

Total Semester Credit Hours: 39

** Fulfills a TCC Core Curriculum requirement.*

Mechanical Engineering Field 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 the 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.

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

AFOS.F019.UG
Field of Study
Offered at All TCC Campuses

STEM Pathway
Learn more about Engineering

Program Requirements

Mathematics

- MATH 2413 - Calculus I + *
- MATH 2414 - Calculus II +
- MATH 2415 - Calculus III +

Chemistry

- CHEM 1409 - General Chemistry for Engineering Majors (Lecture + Lab) +

Physics

- PHYS 2425 - University Physics I (Lecture + Lab) + *
- PHYS 2426 - University Physics II (Lecture + Lab) + *

Engineering

- ENGR 2301 - Engineering Mechanics - Statics +
- ENGR 2302 - Engineering Mechanics -Dynamics +
- ENGR 2305 - Electrical Circuits I +
- ENGR 2332 - Mechanics of Materials +

Total Semester Credit Hours: 36

** Fulfills a TCC Core Curriculum requirement.*

Information Technology: Network Support, AAS

ITCS.D002.UG
Associate of Applied Science
Offered at South, Northeast, and Southeast Campus

STEM Pathway
Learn more about Network Support

Program Requirements

First Year

Fall Term

Choose one from the following:

- COSC 1301 - Introduction to Computing + **or**
- BCIS 1305 - Business Computer Applications +

- ITSC 1305 - Introduction to PC Operating Systems
- ITSC 1425 - Personal Computer Hardware
- ENGL 1301 - Composition I +

Spring Term

- COSC 1436 - Programming Fundamentals I +
- ITNW 1425 - Fundamentals of Networking Technologies
- ITCC 1414 - CCNA 1: Introduction to Networks
- ITNW 1408 - Implementing and Supporting Client Operating Systems

Summer Term

Choose one from the following:

- SPCH 1321 - Business and Professional Communication + **or**
- SPCH 1311 - Introduction to Speech Communication + **or**
- SPCH 1315 - Public Speaking +

Second Year

Fall Term

- ITCC 1444 - CCNA 2: Switching, Routing, and Wireless Essentials
- ITCC 2420 - CCNA 3: Enterprise Networking, Security, and Automation
- Creative Arts/Language, Philosophy and Culture Semester Hours: 3 *
- Social or Behavioral Science Semester Hours: 3 *

Spring Term

- ITSC 1407 - UNIX Operating System I

- ITSY 1300 - Fundamentals of Information Security
- ITNW 1454 - Implementing and Supporting Servers

Choose one from the following:
- MATH 1314 - College Algebra + **or**
- MATH 1316 - Plane Trigonometry + **or**
- MATH 2412 - Pre-Calculus Math + **or**
- MATH 2413 - Calculus I +

Total Degree Hours: 60

** Social/Behavioral Science and Creative Arts/Language, Philosophy and Culture must be chosen from the corresponding section of the Core Curriculum.*

Information Technology: Cybersecurity, AAS

ITCS.D007.UG
Associate of Applied Science
Offered at All Campuses

STEM Pathway
Learn more about Information Technology

Program Requirements

First Year

Fall Term

Choose one from the following:
- COSC 1301 - Introduction to Computing + **or**
- BCIS 1305 - Business Computer Applications +

- ITSC 1305 - Introduction to PC Operating Systems
- ITSY 1300 - Fundamentals of Information Security
- ENGL 1301 - Composition I +

Spring Term

Choose one from the following:
- ITCC 1414 - CCNA 1: Introduction to Networks **or**
- ITNW 1425 - Fundamentals of Networking Technologies

- ITSC 1425 - Personal Computer Hardware
- COSC 1436 - Programming Fundamentals I +
- ITSY 2400 - Operating System Security

Summer Term

- ITSY 2341 - Security Management Practices
- Social/Behavioral Science Elective Semester Hours: 3 *
- Creative Arts/Language, Philosophy and Culture Elective Semester Hours: 3 *

Second Year

Fall Term

- ITSY 2401 - Firewalls and Network Security

Choose one from the following:

- ITSY 2342 - Incident Response and Handling **or**
- ITSY 2443 - Computer System Forensics

Choose one from the following:

- SPCH 1321 - Business and Professional Communication + **or**
- SPCH 1311 - Introduction to Speech Communication + **or**
- SPCH 1315 - Public Speaking +

- ITSY 2330 - Intrusion Detection

Spring Term

Choose one from the following:

- MATH 1314 - College Algebra + **or**
- MATH 1316 - Plane Trigonometry + **or**
- MATH 2412 - Pre-Calculus Math + **or**
- MATH 2413 - Calculus I +

- ITSY 2372 - Ethical Hacking
- ITSY 2459 - Security Assessment and Auditing (Capstone)

Total Degree Hours: 60

** Social/Behavioral Science and Creative Arts/Language, Philosophy and Culture must be chosen from the corresponding section of the Core Curriculum.*

Advanced Cisco Support

ITCS.T018.UG
Enhanced Skills Certificate
Offered at Northeast Campus

STEM Pathway
Learn more about Network Support

Program Requirements

Fall Term

- ITCC 2454 - CCNP R&S ROUTE
- ITCC 2455 - CCNP R&S SWITCH
- ITCC 2456 - CCNP R&S TSHOOT

Total Certificate Hours: 12

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).

Cybersecurity Specialist

ITCS.T019.UG
Level 1 Certificate
Offered at All TCC Campuses

STEM Pathway
Learn more about Information Technology

Program Requirements

First Year

Fall Term

Choose one from the following:

- BCIS 1305 - Business Computer Applications + **or**
- COSC 1301 - Introduction to Computing +

- ITSC 1305 - Introduction to PC Operating Systems
- ITNW 1425 - Fundamentals of Networking Technologies
- ITSY 1300 - Fundamentals of Information Security

Spring Term

- ITSY 2341 - Security Management Practices
- ITSY 2400 - Operating System Security
- ITSY 2401 - Firewalls and Network Security
- ITSY 2330 - Intrusion Detection (Capstone)

Total Certificate Hours: 27

Ethical Hacking

ITCS.T020.UG
Level 2 Certificate
Offered at All TCC Campuses

STEM Pathway
Learn more about Information Technology

Program Requirements

First Year

Fall Term

Choose one from the following:

- BCIS 1305 - Business Computer Applications + **or**
- COSC 1301 - Introduction to Computing +

- ITSC 1305 - Introduction to PC Operating Systems
- ITSC 1425 - Personal Computer Hardware
- ENGL 1301 - Composition I +

Spring Term

- ITNW 1425 - Fundamentals of Networking Technologies
- ITSY 1300 - Fundamentals of Information Security
- ITSY 2341 - Security Management Practices
- ITSY 2400 - Operating System Security

Second Year

Fall Term

- COSC 1436 - Programming Fundamentals I +
- ITSY 2401 - Firewalls and Network Security
- ITSY 2330 - Intrusion Detection

Choose one from the following:

- SPCH 1311 - Introduction to Speech Communication + **or**
- SPCH 1315 - Public Speaking + **or**
- SPCH 1321 - Business and Professional Communication +

Spring Term

Choose one from the following:

- ITSY 2342 - Incident Response and Handling **or**

- ITSY 2443 - Computer System Forensics
- ITSY 2372 - Ethical Hacking (Capstone)

Total Certificate Hours: 47

Students must meet requirements of 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.

Information Technology Support

ITCS.T004.UG
Level 1 Certificate
Offered at Northeast, Northwest, South, and Southeast Campus

STEM Pathway
Learn more about Network Support

Program Requirements

Fall Term

- ITSC 1305 - Introduction to PC Operating Systems
- ITSC 1425 - Personal Computer Hardware
- ITSY 1300 - Fundamentals of Information Security

Choose one from the following:
- COSC 1301 - Introduction to Computing + **or**
- BCIS 1305 - Business Computer Applications +

Spring Term

- COSC 1436 - Programming Fundamentals I +

Choose one from the following:
- ITCC 1414 - CCNA 1: Introduction to Networks (Capstone) **or**
- ITNW 1425 - Fundamentals of Networking Technologies (Capstone)

Total Certificate Hours: 21

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).

Network Support

ITCS.T009.UG
Level 2 Certificate
Offered at Northeast, South, and Southeast Campus

STEM Pathway
Learn more about Network Support

Program Requirements

Fall Term

- ITSC 1305 - Introduction to PC Operating Systems
- ITSC 1425 - Personal Computer Hardware
- ITNW 1425 - Fundamentals of Networking Technologies
- ITCC 1414 - CCNA 1: Introduction to Networks

Choose one from the following:

- COSC 1301 - Introduction to Computing + **or**
- BCIS 1305 - Business Computer Applications +

Spring Term

- COSC 1436 - Programming Fundamentals I +
- ITNW 1408 - Implementing and Supporting Client Operating Systems
- ITSC 1407 - UNIX Operating System I
- ITCC 1444 - CCNA 2: Switching, Routing, and Wireless Essentials
- ITCC 2420 - CCNA 3: Enterprise Networking, Security, and Automation

Summer Term

- ITSY 1300 - Fundamentals of Information Security
- ITNW 1454 - Implementing and Supporting Servers

Total Certificate Hours: 45

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).

Information Technology: Programming, AAS

ITCS.D003.UG
Associate of Applied Science
Offered at All TCC Campuses

STEM Pathway
Learn more about Information Technology

Program Requirements

First Year

Fall Term

Choose one from the following:

- COSC 1301 - Introduction to Computing + **or**
- BCIS 1305 - Business Computer Applications +

- ENGL 1301 - Composition I +

Choose one from the following:

- MATH 1314 - College Algebra + **or**
- MATH 1316 - Plane Trigonometry + **or**
- MATH 2412 - Pre-Calculus Math + **or**
- MATH 2413 - Calculus I +

Choose one from the following:

- SPCH 1321 - Business and Professional Communication + **or**
- SPCH 1311 - Introduction to Speech Communication + **or**
- SPCH 1315 - Public Speaking +

Spring Term

Choose one from the following:

- ITCC 1414 - CCNA 1: Introduction to Networks **or**
- ITNW 1425 - Fundamentals of Networking Technologies

- COSC 1436 - Programming Fundamentals I +
- Creative Arts/Language, Philosophy and Culture Semester Hours: 3 *
- Social or Behavioral Science Semester Hours: 3 *

Summer Term

- ITSC 1305 - Introduction to PC Operating Systems
- ITSC 1425 - Personal Computer Hardware

Second Year

Fall Term

- ITSY 1300 - Fundamentals of Information Security
- COSC 1437 - Programming Fundamentals II +

Choose one from the following:

- COSC 1420 - "C" Programming + **or**
- ITSE 2417 - Java Programming

Choose one from the following:

- ITSE 1479 - Introduction to Scripting Languages **or**
- ITSE 1430 - Introduction to C# Programming

Spring Term

- COSC 2436 - Programming Fundamentals III +
- ITSE 2409 - Database Programming
- ITSE 1450 - System Analysis and Design (Capstone)

Total Degree Hours: 60

** Social/Behavioral Science and Creative Arts/Language, Philosophy and Culture must be chosen from the corresponding section of the Core Curriculum.*

Programming I

ITCS.T010.UG
Level 1 Certificate
Offered at All TCC Campuses

STEM Pathway
Learn more about Information Technology

Program Requirements

Fall Term

- COSC 1436 - Programming Fundamentals I +
- COSC 1437 - Programming Fundamentals II +

Choose one from the following:

- COSC 1420 - "C" Programming + **or**
- ITSE 2417 - Java Programming

Choose one from the following:

- ITSE 1479 - Introduction to Scripting Languages **or**
- ITSE 1430 - Introduction to C# Programming

Total Certificate Hours: 16

Programming II

ITCS.T011.UG
Level 2 Certificate
Offered at All TCC Campuses

STEM Pathway
Learn more about Information Technology

Program Requirements

Fall Term

- COSC 1436 - Programming Fundamentals I +

Choose one from the following:
- COSC 1301 - Introduction to Computing + **or**
- BCIS 1305 - Business Computer Applications +

- ITSC 1305 - Introduction to PC Operating Systems
- ITSC 1425 - Personal Computer Hardware

Choose one from the following:
- ITCC 1414 - CCNA 1: Introduction to Networks **or**
- ITNW 1425 - Fundamentals of Networking Technologies

Spring Term

- ITSY 1300 - Fundamentals of Information Security
- COSC 1437 - Programming Fundamentals II +

Choose one from the following:
- COSC 1420 - "C" Programming + **or**
- ITSE 2417 - Java Programming

Choose one from the following:
- ITSE 1479 - Introduction to Scripting Languages **or**
- ITSE 1430 - Introduction to C# Programming

Summer Term

- ITSE 2409 - Database Programming
- COSC 2436 - Programming Fundamentals III +
- ITSE 1450 - System Analysis and Design (Capstone)

Total Certificate Hours: 45

Students must meet requirements of 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.

Web Applications Programming I

ITCS.T022.UG
Level 1 Certificate
Offered at Northeast, Northwest, South, Southeast, and Trinity River Campus

STEM Pathway
Learn more about Information Technology

Program Requirements

Fall Term

Choose one from the following:

- COSC 1301 - Introduction to Computing + **or**
- BCIS 1305 - Business Computer Applications +

- COSC 1436 - Programming Fundamentals I +
- ITSC 1305 - Introduction to PC Operating Systems

Spring Term

- ITSC 1425 - Personal Computer Hardware
- ITSE 1473 - Mobile Applications Development
- ITSE 1411 - Beginning Web Programming (Capstone)

Total Certificate Hours: 22

Cisco Support

ITCS.T001.UG
Level 1 Certificate
Offered at Northeast, South, and Southeast Campus

STEM Pathway
Learn more about Network Support

Program Requirements

First Year

Fall Term

- ITNW 1425 - Fundamentals of Networking Technologies
- ITCC 1414 - CCNA 1: Introduction to Networks

Spring Term

- ITCC 1444 - CCNA 2: Switching, Routing, and Wireless Essentials
- ITCC 2420 - CCNA 3: Enterprise Networking, Security, and Automation

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).

Web Applications Programming II

ITCS.T023.UG
Level 2 Certificate
Offered at Northeast, Northwest, South, Southeast, and Trinity River Campus

STEM Pathway
Learn more about Information Technology

Program Requirements

First Year

Fall Term

- COSC 1436 - Programming Fundamentals I +

  Choose one from the following:
- ITCC 1414 - CCNA 1: Introduction to Networks **or**
- ITNW 1425 - Fundamentals of Networking Technologies

- ITSY 1300 - Fundamentals of Information Security

Spring Term

- ITSE 1411 - Beginning Web Programming
- ITSE 1473 - Mobile Applications Development
- ITSE 2417 - Java Programming

Summer Term

- ITSE 2409 - Database Programming
- ITSE 2402 - Intermediate Web Programming (Capstone)

Total Certificate Hours: 31

Students must meet requirements of 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.

Information Technology: Web Applications Programming, AAS

ITCS.D009.UG
Associate of Applied Science
Offered at Northeast, South, Southeast, and Trinity River Campus

STEM Pathway
Learn more about Information Technology

Program Requirements

First Year

Fall Term

Choose one from the following:

- COSC 1301 - Introduction to Computing + **or**
- BCIS 1305 - Business Computer Applications +

- ENGL 1301 - Composition I +

Choose one from the following:

- MATH 1314 - College Algebra + **or**
- MATH 1316 - Plane Trigonometry + **or**
- MATH 2412 - Pre-Calculus Math + **or**
- MATH 2413 - Calculus I +

Choose one from the following:

- SPCH 1321 - Business and Professional Communication + **or**
- SPCH 1311 - Introduction to Speech Communication + **or**
- SPCH 1315 - Public Speaking +

Spring Term

Choose one from the following:

- ITCC 1414 - CCNA 1: Introduction to Networks **or**
- ITNW 1425 - Fundamentals of Networking Technologies

- COSC 1436 - Programming Fundamentals I +
- Creative Arts/Language, Philosophy and Culture Semester Hours: 3 *
- Social or Behavioral Science Semester Hours: 3 *

Summer Term

- ITSC 1305 - Introduction to PC Operating Systems
- ITSC 1425 - Personal Computer Hardware

Second Year

Fall Term

- ITSY 1300 - Fundamentals of Information Security
- ITSE 1411 - Beginning Web Programming
- ITSE 1473 - Mobile Applications Development
- ITSE 2417 - Java Programming

Spring Term

- ITSE 2409 - Database Programming
- ITSE 2402 - Intermediate Web Programming
- INEW 2434 - Advanced Web Programming (Capstone)

Total Degree Hours: 60

** Social/Behavioral Science and Creative Arts/Language, Philosophy and Culture must be chosen from the corresponding section of the Core Curriculum.*

Mobile Applications Programming

ITCS.T024.UG
Enhanced Skills Certificate
Offered at Northeast, South, Southeast, and Trinity River Campus

STEM Pathway
Learn more about Information Technology

Program Requirements

Fall Term

- ITSE 1492 - Special Topics in Computer Programming - Android OS Programming
- ITSE 2410 - iOS Application Programming
- ITSE 2343 - Advanced Mobile Programming

Total Certificate Hours: 11

Northeast Campus

Convergence Cloud Technology

ITCT.T005.UG
Level 1 Certificate
Offered at Northeast Campus

STEM Pathway
Learn more about Convergence Technologies

Program Requirements

First Year

Fall Term

- CPMT 1351 - IT Essentials: PC Hardware and Software
- ITNW 1425 - Fundamentals of Networking Technologies
- ITCC 1414 - CCNA 1: Introduction to Networks
- ITNW 1313 - Computer Virtualization

Spring Term

- ITCC 1444 - CCNA 2: Switching, Routing, and Wireless Essentials
- ITCC 2420 - CCNA 3: Enterprise Networking, Security, and Automation
- ITNW 1408 - Implementing and Supporting Client Operating Systems
- ITNW 1372 - VMware vSphere: Install/Configure/Manage (Capstone)

Summer Term

- ITSC 2325 - Advanced Linux

Total Certificate Hours: 32

Advanced Convergence Technologies

ITCT.T003.UG
Level 1 Certificate
Offered at Northeast Campus

STEM Pathway
Learn more about Convergence Technologies

Program Requirements

First Year

Fall Term

- ITNW 1454 - Implementing and Supporting Servers
- ITSY 1342 - Information Technology Security

Spring Term

- ITSC 1316 - Linux Installation and Configuration
- ITCC 2341 - CCNA Security (Capstone)

Second Year

Fall Term

- ITNW 1372 - VMware vSphere: Install/Configure/Manage
- ITSC 2325 - Advanced Linux

Total Certificate Hours: 19

Convergence Technologies

ITCT.T006.UG
Occupational Skills Award
Offered at Northeast Campus

STEM Pathway
Learn more about Convergence Technologies

Program Requirements

First Year

Fall Term

- CPMT 1351 - IT Essentials: PC Hardware and Software
- ITNW 1408 - Implementing and Supporting Client Operating Systems
- ITNW 1313 - Computer Virtualization

Total Certificate Hours: 10

Convergence Technologies: Cloud Technology, AAS

ITCT.D003.UG
Associate of Applied Science
Offered at Northeast Campus

STEM Pathway
Learn more about Convergence Technologies

Program Requirements

First Year

Fall Term

- CPMT 1351 - IT Essentials: PC Hardware and Software
- ITNW 1425 - Fundamentals of Networking Technologies
- ITCC 1414 - CCNA 1: Introduction to Networks
- ENGL 1301 - Composition I +

Spring Term

- ITCC 1444 - CCNA 2: Switching, Routing, and Wireless Essentials
- ITCC 2420 - CCNA 3: Enterprise Networking, Security, and Automation
- ITNW 1313 - Computer Virtualization
- ITNW 1408 - Implementing and Supporting Client Operating Systems

Summer Term

- ITSY 1342 - Information Technology Security

Second Year

Fall Term

- ITCC 2341 - CCNA Security
- ITNW 1454 - Implementing and Supporting Servers
- ITSC 1316 - Linux Installation and Configuration
- Mathematics Elective Semester Hours: 3 *

Spring Term

- ITNW 1372 - VMware vSphere: Install/Configure/Manage
- ITSC 2325 - Advanced Linux (Capstone)

Choose one from the following:

- GOVT 2305 - Federal Government (Federal Constitution & Topics) + **or**
- GOVT 2306 - Texas Government (Texas Constitution & Topics) +

Choose one from the following:

- SPCH 1321 - Business and Professional Communication + **or**
- SPCH 1311 - Introduction to Speech Communication + **or**

- SPCH 1315 - Public Speaking + **or**
- ENGL 2311 - Technical and Business Writing +

- Creative Arts/Language, Philosophy and Culture Semester Hours: 3 *

Total Degree Hours: 60

** Mathematics, Creative Arts/Language, Philosophy, and Culture electives must be chosen from the corresponding section in the Core Curriculum.*

Southeast Campus

Associate of Science in Engineering

While this suggested course of study 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.

Completion of the Associate of Science in Engineering degree does not complete State of Texas requirements for Core Curriculum.

ASCE.D006.UG
Associate of Science
Offered at Southeast Campus

STEM Pathway
Learn more about Engineering

Program Requirements

First Year

Fall Term

- MATH 2413 - Calculus I +
- ENGL 1301 - Composition I +
- ENGR 1201 - Introduction to Engineering +
- ECON 2301 - Principles of Macroeconomics +

Choose one from the following:
- SPCH 1311 - Introduction to Speech Communication + **or**
- SPCH 1321 - Business and Professional Communication +

Spring Term

- MATH 2414 - Calculus II +

- PHYS 2425 - University Physics I (Lecture + Lab) +

Choose one from the following:
- ENGL 1302 - Composition II + **or**
- ENGL 2311 - Technical and Business Writing +

Choose one from the following:
- COSC 1436 - Programming Fundamentals I + * **or**
- COSC 1420 - "C" Programming +

Second Year

Fall Term

- MATH 2415 - Calculus III +
- PHYS 2426 - University Physics II (Lecture + Lab) +
- GOVT 2305 - Federal Government (Federal Constitution & Topics) +
- HIST 1301 - United States History I +

Choose one from the following:
- ENGR 2301 - Engineering Mechanics - Statics + ** **or**
- ENGR 2305 - Electrical Circuits I + **or**
- Restricted Elective Semester Hours: 3 *****

Spring Term

- CHEM 1411 - General Chemistry I (Lecture + Lab) +
- Restricted Elective Semester Hours: 3 *****

Choose one from the following:
- ENGR 1304 - Engineering Graphics I + *** **or**
- Restricted Elective Semester Hours: 3 *****

Choose one from the following:
- ENGR 2302 - Engineering Mechanics -Dynamics + **** **or**
- Restricted Elective Semester Hours: 3 *****

Total Degree Hours: 60

*	*COSC 1420 is strongly recommended for Electrical Engineering majors.*
**	*Civil Engineering and Mechanical Engineering majors need to take ENGR 2301.* *Electrical Engineering majors need to take ENGR 2305.* *General Engineering majors need to take ENGR 2301 or ENGR 2305.*
***	*Civil Engineering and Industrial Engineering majors need to take ENGR 1304.*

****	*Mechanical Engineering majors need to take ENGR 2302.*
*****	*Restricted Electives: Students should select courses that best match the degree requirements at the four-year engineering school of choice from the following approved list:*
	• *Restricted Electives for Civil Engineering majors:* *ENGR 2302 ENGR 2332 GOVT 2306 HIST 1302 MATH 2320*
	• **Restricted Electives for Electrical Engineering majors:** *ENGR 2301 ENGR 2302 ENGR 2308 MATH 2318 GOVT 2306 HIST 1302 MATH 2320*
	• *Restricted Electives for Industrial Engineering majors:* *ENGR 2301 ENGR 2305 ENGR 2308 GOVT 2306 HIST 1302 ENGL 2311 MATH 2320*
	• *Restricted Electives for Mechanical Engineering majors:* *ENGR 1304 ENGR 2305 ENGR 2332 GOVT 2306 HIST 1302 MATH 2320*
	• **Restricted Electives for all other Engineering majors:** *ENGL 2311 GOVT 2306 HIST 1302 ENGR 1304 ENGR 2301 ENGR 2302 ENGR 2305 ENGR 2308 ENGR 2332 MATH 2320*
*****	*MATH 2320 is no longer required for the Associate of Science in Engineering degree; however, it is strongly recommended.*

Computer Support Specialist (Customer Service/Call Center/Teleservice Operations)

CSSC.T001.UG
Level 1 Certificate
Offered at Southeast Campus

STEM Pathway
Learn more about Computer Support Specialist

Program Requirements

First Year

Fall Term

- ITSC 1305 - Introduction to PC Operating Systems
- ITNW 1408 - Implementing and Supporting Client Operating Systems

Spring Term

- ITSC 1425 - Personal Computer Hardware
- ITSC 2346 - Computer Center Management
- ITSC 2439 - Personal Computer Help Desk Support (Capstone)

Total Certificate Hours: 18

South Campus

Basic CAD Technician

CADD.T013.UG
Occupational Skills Award
Offered at South Campus

STEM Pathway
Learn more about Computer-Aided Drafting & Design

Program Requirements

Fall Term

- DFTG 1305 - Introduction to Technical Drawing
- MCHN 1338 - Basic Machine Shop I
- DFTG 1409 - Basic Computer-Aided Drafting
- DFTG 2440 - Solid Modeling and Design

Total Certificate Hours: 14

Game and Simulation Programming I

ITCS.T007.UG
Level 1 Certificate
Offered at South Campus

STEM Pathway
Learn more about Information Technology

Program Requirements

Fall Term

- GAME 1304 - Level Design
- GAME 1403 - Introduction to Game Design and Development
- GAME 1328 - Video Game Design

Spring Term

Choose one from the following:

- GAME 1334 - Video Game Art I **or**
- GAME 1409 - Introduction to Animation Programming

- GAME 1443 - Game and Simulation Programming I
- GAME 2308 - Portfolio for Game Development (Capstone)

Total Certificate Hours: 20

Electronics Technology: Electronics and Telecommunication, AAS

ELEC.D004.UG
Associate of Applied Science
Offered at South Campus

STEM Pathway
Learn more about Electronics Technology

Program Requirements

First Year

Fall Term

- CETT 1409 - DC-AC Circuits
- CETT 1449 - Digital Systems
- RBTC 1401 - Programmable Logic Controllers
- Mathematics Elective Semester Hours: 3 *

Spring Term

- CETT 1441 - Solid State Circuits
- CETT 1445 - Microprocessor
- ENGL 1301 - Composition I +

Choose one from the following:
- GOVT 2306 - Texas Government (Texas Constitution & Topics) + **or**
- GOVT 2305 - Federal Government (Federal Constitution & Topics) +

Choose one from the following:
- SPCH 1321 - Business and Professional Communication + **or**
- SPCH 1311 - Introduction to Speech Communication + **or**
- SPCH 1315 - Public Speaking +

Second Year

Fall Term

- CETT 2435 - Advanced Microprocessors

- RBTC 1447 - Electro-Mechanical Devices
- EECT 2439 - Communications Circuits
- Creative Arts/Language, Philosophy and Culture Semester Hours: 3 *

Spring Term

- CSIR 1459 - Digital Data Communication
- ELMT 2337 - Electronic Troubleshooting, Service and Repair (Capstone)
- EECT 2435 - Telecommunications
- ENGR 1201 - Introduction to Engineering +

Total Degree Hours: 60

** Mathematics, Creative Arts/Language, Philosophy and Culture electives must be chosen from the corresponding section of the Core Curriculum.*

Electronics Technology: Engineering Technology, AAS

ELEC.D005.UG
Associate of Applied Science
Offered at South Campus

STEM Pathway
Learn more about Electronics Technology

Program Requirements

First Year

Fall Term

- CETT 1409 - DC-AC Circuits
- CETT 1449 - Digital Systems
- RBTC 1401 - Programmable Logic Controllers
- Mathematics Elective Semester Hours: 3 *

Spring Term

- CETT 1441 - Solid State Circuits
- CETT 1445 - Microprocessor
- ENGR 1201 - Introduction to Engineering +

Choose one from the following:
- SPCH 1321 - Business and Professional Communication + **or**
- SPCH 1311 - Introduction to Speech Communication + **or**
- SPCH 1315 - Public Speaking +

Summer Term

- ENGL 1301 - Composition I +

Choose one from the following:

- GOVT 2306 - Texas Government (Texas Constitution & Topics) + **or**
- GOVT 2305 - Federal Government (Federal Constitution & Topics) +

- KINE 1164 - Introduction to Physical Fitness and Wellness +

Second Year

Fall Term

- CETT 2435 - Advanced Microprocessors
- RBTC 1447 - Electro-Mechanical Devices
- PHYS 2425 - University Physics I (Lecture + Lab) +
- Creative Arts/Language, Philosophy and Culture Semester Hours: 3 *

Spring Term

- ENGR 2332 - Mechanics of Materials +
- PHYS 2426 - University Physics II (Lecture + Lab) +
- ENGR 2305 - Electrical Circuits I + (Capstone)

Total Degree Hours: 60

** Mathematics, Creative Arts/Language, Philosophy and Culture electives must be chosen from the corresponding section of the Core Curriculum.*

Electronics Technology: Advanced Energy Technician, AAS

ELEC.D009.UG
Associate of Applied Science
Offered at South Campus

STEM Pathway
Learn more about Electronics Technology

Program Requirements

First Year

Fall Term

- CETT 1409 - DC-AC Circuits

- CETT 1449 - Digital Systems
- RBTC 1401 - Programmable Logic Controllers
- Mathematics Elective Semester Hours: 3 *

Spring Term

- CETT 1441 - Solid State Circuits
- CETT 1445 - Microprocessor
- ENGL 1301 - Composition I +
- PTRT 1313 - Industrial Safety

Summer Term

Choose one from the following:

- SPCH 1321 - Business and Professional Communication + **or**
- SPCH 1311 - Introduction to Speech Communication + **or**
- SPCH 1315 - Public Speaking +

Second Year

Fall Term

- CETT 2435 - Advanced Microprocessors

Choose one from the following:

- ELMT 1402 - Solar Photovoltaic Systems **or**
- PTRT 1407 - Recovery and Production Methods **or**
- PTRT 1417 - Natural Gas Processing I

Choose one from the following:

- GOVT 2306 - Texas Government (Texas Constitution & Topics) + **or**
- GOVT 2305 - Federal Government (Federal Constitution & Topics) +

- ELMT 2337 - Electronic Troubleshooting, Service and Repair (Capstone)

Spring Term

- CSIR 1459 - Digital Data Communication
- RBTC 1351 - Robotic Mechanisms
- Creative Arts/Language, Philosophy and Culture Semester Hours: 3 *

Choose one from the following:

- WIND 2459 - Wind Power Delivery System **or**
- PTRT 1424 - Petroleum Instrumentation **or**
- PTRT 2423 - Natural Gas Production

Total Degree Hours: 60

** Mathematics, Creative Arts/Language, Philosophy and Culture electives must be chosen from the corresponding section of the Core Curriculum.*

Electronics Technology: Robotics and Automation, AAS

ELEC.D006.UG
Associate of Applied Science
Offered at South Campus

STEM Pathway
Learn more about Electronics Technology

Program Requirements

First Year

Fall Term

- CETT 1409 - DC-AC Circuits
- CETT 1449 - Digital Systems
- RBTC 1401 - Programmable Logic Controllers
- Mathematics Elective Semester Hours: 3 *

Spring Term

- CETT 1441 - Solid State Circuits
- CETT 1445 - Microprocessor

Choose one from the following:

- GOVT 2306 - Texas Government (Texas Constitution & Topics) + **or**
- GOVT 2305 - Federal Government (Federal Constitution & Topics) +

- RBTC 1351 - Robotic Mechanisms

Second Year

Fall Term

- CETT 2435 - Advanced Microprocessors
- ENGL 1301 - Composition I +
- RBTC 1447 - Electro-Mechanical Devices
- HYDR 1345 - Hydraulics and Pneumatics
- Creative Arts/Language, Philosophy and Culture Semester Hours: 3 *

Spring Term

- ELMT 2337 - Electronic Troubleshooting, Service and Repair

- ELPT 2455 - Programmable Logic Controllers II
- RBTC 2445 - Robot Application, Set-Up and Testing (Capstone)

Choose one from the following:

- SPCH 1321 - Business and Professional Communication + **or**
- SPCH 1311 - Introduction to Speech Communication + **or**
- SPCH 1315 - Public Speaking +

Total Degree Hours: 60

** Mathematics, Creative Arts/Language, Philosophy and Culture electives must be chosen from the corresponding section of the Core Curriculum.*

Fundamentals of Electronics

ELEC.T008.UG
Occupational Skills Award
Offered at South Campus

STEM Pathway
Learn more about Electronics Technology

Program Requirements

Fall Term

- CETT 1409 - DC-AC Circuits
- CETT 1449 - Digital Systems
- RBTC 1401 - Programmable Logic Controllers

Total Certificate Hours: 12

Electronics Technology

ELEC.T001.UG
Level 1 Certificate
Offered at South Campus

STEM Pathway
Learn more about Electronics Technology

Program Requirements

Fall Term

- Mathematics Elective Semester Hours: 3 *

- CETT 1409 - DC-AC Circuits
- CETT 1449 - Digital Systems
- RBTC 1401 - Programmable Logic Controllers

Spring Term

- CETT 1441 - Solid State Circuits
- CETT 1445 - Microprocessor (Capstone)

Total Certificate Hours: 23

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

Electronics Engineering Technology

ELEC.T002.UG
Level 1 Certificate
Offered at South Campus

STEM Pathway
Learn more about Electronics Technology

Program Requirements

Fall Term

- ENGR 1201 - Introduction to Engineering +
- CETT 1449 - Digital Systems

Choose one from the following:
- CETT 1409 - DC-AC Circuits **or**
- ENGR 2305 - Electrical Circuits I +

Spring Term

Choose one from the following:
- RBTC 1351 - Robotic Mechanisms **or**
- ENGR 2301 - Engineering Mechanics - Statics +

Choose one from the following:
- RBTC 1401 - Programmable Logic Controllers **or**
- ENGR 2302 - Engineering Mechanics -Dynamics +

Choose one from the following:
- PHYS 1401 - College Physics I (Lecture + Lab) + **or**
- PHYS 2425 - University Physics I (Lecture + Lab) +

- CETT 1445 - Microprocessor (Capstone)

Summer Term

Choose one from the following:

- PHYS 1402 - College Physics II (Lecture + Lab) + **or**
- PHYS 2426 - University Physics II (Lecture + Lab) +

Total Certificate Hours: 29

Building Technology

CADD.T008.UG
Level 1 Certificate
Offered at South Campus

Business & Industry Pathway
Learn more about Computer-Aided Drafting & Design

Program Requirements

Fall Term

- DFTG 1305 - Introduction to Technical Drawing

Choose one from the following:

- BCIS 1305 - Business Computer Applications + **or**
- COSC 1301 - Introduction to Computing +

- DFTG 1409 - Basic Computer-Aided Drafting
- ENGL 1301 - Composition I +

Spring Term

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

Total Certificate Hours: 29

Mechatronics Technician

ELEC.T003.UG
Level 1 Certificate
Offered at South Campus

STEM Pathway
Learn more about Electronics Technology

Program Requirements

Fall Term

- Mathematics Elective Semester Hours: 3 *
- CETT 1409 - DC-AC Circuits
- CETT 1449 - Digital Systems
- RBTC 1401 - Programmable Logic Controllers

Spring Term

- RBTC 1351 - Robotic Mechanisms
- CETT 1441 - Solid State Circuits
- CETT 1445 - Microprocessor
- RBTC 2445 - Robot Application, Set-Up and Testing (Capstone)

Total Certificate Hours: 30

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

Fundamentals of Oil and Gas Production

ELEC.T009.UG
Occupational Skills Award
Offered at South Campus

STEM Pathway
Learn more about Electronics Technology

Program Requirements

Fall Term

- CETT 1409 - DC-AC Circuits
- CETT 1449 - Digital Systems
- PTRT 1417 - Natural Gas Processing I

Total Certificate Hours: 12

Civil Technology

CADD.T009.UG
Level 1 Certificate
Offered at South Campus

STEM Pathway
Learn more about Computer-Aided Drafting & Design

Program Requirements

Fall Term

- DFTG 1305 - Introduction to Technical Drawing
- DFTG 1409 - Basic Computer-Aided Drafting
- ENGL 1301 - Composition I +
- DFTG 2421 - Topographical Drafting

Spring Term

- DFTG 2431 - Advanced Technologies in Architectural Design and Drafting
- DFTG 1430 - Civil Drafting 1
- DFTG 2427 - Landscape Drafting
- DFTG 2438 - Final Project - Advanced Drafting (Capstone)

Total Certificate Hours: 30

Oil and Gas Production Technology

ELEC.T005.UG
Level 1 Certificate
Offered at South Campus

STEM Pathway
Learn more about Electronics Technology

Program Requirements

Fall Term

- CETT 1409 - DC-AC Circuits
- CETT 1449 - Digital Systems
- RBTC 1401 - Programmable Logic Controllers
- Mathematics Elective Semester Hours: 3 *

Spring Term

- PTRT 1313 - Industrial Safety
- PTRT 1417 - Natural Gas Processing I
- ELMT 2337 - Electronic Troubleshooting, Service and Repair (Capstone)

Choose one from the following:

- PTRT 1424 - Petroleum Instrumentation **or**
- PTRT 2423 - Natural Gas Production

Total Certificate Hours: 29

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

Renewable Energy Technology

ELEC.T006.UG
Level 1 Certificate
Offered at South Campus

STEM Pathway
Learn more about Electronics Technology

Program Requirements

Fall Term

- CETT 1409 - DC-AC Circuits
- CETT 1449 - Digital Systems
- ELMT 1402 - Solar Photovoltaic Systems
- Mathematics Elective Semester Hours: 3 *

Spring Term

- PTRT 1313 - Industrial Safety
- WIND 2459 - Wind Power Delivery System
- RBTC 1401 - Programmable Logic Controllers
- ELMT 2337 - Electronic Troubleshooting, Service and Repair (Capstone)

Total Certificate Hours: 29

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

Manufacturing Technology

CADD.T010.UG
Level 2 Certificate
Offered at South Campus

STEM Pathway
Learn more about Computer-Aided Drafting & Design

Program Requirements

Fall Term

- DFTG 1305 - Introduction to Technical Drawing
- MCHN 1338 - Basic Machine Shop I
- DFTG 1409 - Basic Computer-Aided Drafting
- DFTG 2440 - Solid Modeling and Design

Spring Term

- DFTG 1445 - Parametric Modeling and Design
- DFTG 2402 - Machine Drafting

Choose one from the following:
- DFTG 2423 - Pipe Drafting **or**
- MCHN 2434 - Operation of CNC Machining Centers

Choose one from the following:
- DFTG 1458 - Electrical and Electronics Drafting **or**
- MCHN 2431 - Operation of CNC Turning Centers

- ENGL 1301 - Composition I +

Summer Term

Choose one from the following:
- DFTG 2419 - Intermediate Computer-Aided Drafting **or**
- MCHN 2435 - Advanced CNC Machining

Choose one from the following:
- DFTG 2458 - Advanced Machine Design **or** (Capstone)
- MCHN 2444 - Computerized Numerical Control Programming (Capstone)

- MCHN 2303 - Fundamentals of Computer Numerical Controlled (CNC) Machine Controls

Total Certificate Hours: 44

Students pursuing this award program are required to meet Texas Success Initiative (TSI) standards and course prerequisites.

CNC Machinist Technology

CADD.T012.UG
Level 1 Certificate
Offered at South Campus

STEM Pathway
Learn more about Computer-Aided Drafting & Design

Program Requirements

Fall Term

- DFTG 1305 - Introduction to Technical Drawing
- MCHN 1338 - Basic Machine Shop I
- DFTG 1409 - Basic Computer-Aided Drafting
- DFTG 2440 - Solid Modeling and Design

Spring Term

- MCHN 2303 - Fundamentals of Computer Numerical Controlled (CNC) Machine Controls
- MCHN 2434 - Operation of CNC Machining Centers
- MCHN 2431 - Operation of CNC Turning Centers (Capstone)

Total Certificate Hours: 25

Computer-Aided Drafting and Design Technology: Building/Civil Technology, AAS

CADD.D005.UG
Associate of Applied Science
Offered at South Campus

STEM Pathway
Learn more about Computer-Aided Drafting & Design

Program Requirements

First Year

Fall Term

- DFTG 1305 - Introduction to Technical Drawing
- DFTG 1409 - Basic Computer-Aided Drafting
- ENGL 1301 - Composition I +
- DFTG 1417 - Architectural Drafting-Residential

Spring Term

- DFTG 2421 - Topographical Drafting

Choose one from the following:
- MATH 1314 - College Algebra + **or**
- MATH 1324 - Mathematics for Business and Social Sciences + **or**
- MATH 1332 - Contemporary Mathematics (Quantitative Reasoning) +

Choose one from the following:
- SPCH 1321 - Business and Professional Communication + **or**
- SPCH 1315 - Public Speaking + **or**
- SPCH 1311 - Introduction to Speech Communication +

- CNBT 1302 - Mechanical, Electrical & Plumbing Systems in Construction I

Second Year

Fall Term

- DFTG 2428 - Architectural Drafting - Commercial
- SRVY 1301 - Introduction to Surveying
- DFTG 1430 - Civil Drafting 1

Choose one from the following:
- GOVT 2306 - Texas Government (Texas Constitution & Topics) + **or**
- GOVT 2305 - Federal Government (Federal Constitution & Topics) +

Spring Term

- DFTG 2431 - Advanced Technologies in Architectural Design and Drafting
- DFTG 2427 - Landscape Drafting
- DFTG 2440 - Solid Modeling and Design
- Creative Arts/Language, Philosophy and Culture Semester Hours: 3 *
- DFTG 2438 - Final Project - Advanced Drafting (Capstone)

Total Degree Hours: 60

** Creative Arts/Language, Philosophy and Culture elective must be chosen from the corresponding section of the Core Curriculum.*

Game and Simulation Programming II

ITCS.T008.UG
Level 2 Certificate
Offered at South Campus

STEM Pathway
Learn more about Information Technology

Program Requirements

Fall Term

- COSC 1436 - Programming Fundamentals I +
- ITSC 1305 - Introduction to PC Operating Systems
- ITSC 1425 - Personal Computer Hardware

Choose one from the following:
- ITCC 1414 - CCNA 1: Introduction to Networks **or**
- ITNW 1425 - Fundamentals of Networking Technologies

Choose one from the following:
- GAME 1334 - Video Game Art I **or**
- GAME 1409 - Introduction to Animation Programming

Spring Term

- ITSY 1300 - Fundamentals of Information Security

Choose one from the following:
- GAME 1304 - Level Design **or**
- GAME 2325 - 3D Animation II - Character Setup

- GAME 1403 - Introduction to Game Design and Development

Choose one from the following:
- GAME 1328 - Video Game Design **or**
- GAME 1436 - Introduction to 3D Game Modeling

- GAME 1443 - Game and Simulation Programming I

Summer Term

- GAME 1459 - Game and Simulation Programming II
- GAME 2308 - Portfolio for Game Development (Capstone)

Total Certificate Hours: 42

Students must meet requirements of 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.

Electrical Line Technician, AAS

LNWK.D001.UG
Associate of Applied Science
Offered at South Campus

STEM Pathway
Learn more about Electrical Line Technician

Program Requirements

First Year

Fall Term

- LNWK 1301 - Orientation and Line Skill Fundamentals
- TECM 1303 - Technical Calculations
- LNWK 1311 - Climbing Skills
- LNWK 2321 - Live Line Safety

Spring Term

- LNWK 1341 - Distribution Operations
- OSHT 1305 - OSHA Regulations -Construction Industry
- COSC 1301 - Introduction to Computing +
- HART 1401 - Basic Electricity for Heating, Ventilation and Air Conditioning (HVAC)
- GEOL 1305 - Environmental Science (Lecture) +

Summer Term

- ENGL 1301 - Composition I +

Choose one from the following:

- MATH 1332 - Contemporary Mathematics (Quantitative Reasoning) + **or**
- MATH 1314 - College Algebra + **or**
- MATH 1324 - Mathematics for Business and Social Sciences +

Second Year

Fall Term

- Creative Arts/Language, Philosophy and Culture Elective Semester Hours: 3 *****
- HART 2431 - Advanced Electricity for Heating, Ventilation and Air Conditioning (HVAC)

- LNWK 2322 - Distribution Line Construction
- LNWK 1331 - Transformer Connections

Spring Term

- LNWK 1371 - Underground Distribution Systems
- LNWK 2324 - Troubleshooting Distribution Systems
- KINE 1164 - Introduction to Physical Fitness and Wellness +

Choose one from the following:

- SPCH 1321 - Business and Professional Communication + **or**
- SPCH 1311 - Introduction to Speech Communication + **or**
- SPCH 1315 - Public Speaking +

Choose one from the following:

- GOVT 2305 - Federal Government (Federal Constitution & Topics) + **or**
- GOVT 2306 - Texas Government (Texas Constitution & Topics) +

Total Degree Hours: 60

** Creative Arts/Language, Philosophy and Culture elective must be chosen from the corresponding section of the Core Curriculum.*

Ground Technician

LNWK.T001.UG
Level 1 Certificate
Offered at South Campus

STEM Pathway
Learn more about Electrical Line Technician

Program Requirements

First Year

Fall Term

- LNWK 1301 - Orientation and Line Skill Fundamentals
- TECM 1303 - Technical Calculations
- LNWK 1311 - Climbing Skills
- LNWK 2321 - Live Line Safety

Spring Term

- LNWK 1341 - Distribution Operations (Capstone)

- OSHT 1305 - OSHA Regulations -Construction Industry
- COSC 1301 - Introduction to Computing +
- HART 1401 - Basic Electricity for Heating, Ventilation and Air Conditioning (HVAC)

Total Certificate Hours: 25

Line Technician

LNWK.T002.UG
Level 2 Certificate
Offered at South Campus

STEM Pathway
Learn more about Electrical Line Technician

Program Requirements

First Year

Fall Term

- LNWK 1301 - Orientation and Line Skill Fundamentals
- TECM 1303 - Technical Calculations
- LNWK 1311 - Climbing Skills
- LNWK 2321 - Live Line Safety

Spring Term

- LNWK 1341 - Distribution Operations
- OSHT 1305 - OSHA Regulations -Construction Industry
- COSC 1301 - Introduction to Computing +
- HART 1401 - Basic Electricity for Heating, Ventilation and Air Conditioning (HVAC)

Second Year

Fall Term

- HART 2431 - Advanced Electricity for Heating, Ventilation and Air Conditioning (HVAC)
- LNWK 2322 - Distribution Line Construction
- LNWK 1331 - Transformer Connections
- GEOL 1305 - Environmental Science (Lecture) +

Spring Term

- LNWK 2324 - Troubleshooting Distribution Systems (Capstone)
- LNWK 1371 - Underground Distribution Systems

Total Certificate Hours: 44

Computer-Aided Drafting and Design Technology: Manufacturing Technology, AAS

CADD.D004.UG
Associate of Applied Science
Offered at South Campus

STEM Pathway
Learn more about Computer-Aided Drafting & Design

Program Requirements

First Year

Fall Term

- DFTG 1305 - Introduction to Technical Drawing
- MCHN 1338 - Basic Machine Shop I
- ENGL 1301 - Composition I +
- DFTG 1409 - Basic Computer-Aided Drafting

Spring Term

- DFTG 1445 - Parametric Modeling and Design
- DFTG 2440 - Solid Modeling and Design

Choose one from the following:
- MATH 1314 - College Algebra + **or**
- MATH 1324 - Mathematics for Business and Social Sciences + **or**
- MATH 1332 - Contemporary Mathematics (Quantitative Reasoning) +

- DFTG 2402 - Machine Drafting

Second Year

Fall Term

Choose one from the following:
- DFTG 2423 - Pipe Drafting **or**
- MCHN 2434 - Operation of CNC Machining Centers

Choose one from the following:
- DFTG 1458 - Electrical and Electronics Drafting **or**
- MCHN 2431 - Operation of CNC Turning Centers

Choose one from the following:

- SPCH 1321 - Business and Professional Communication + **or**
- SPCH 1311 - Introduction to Speech Communication + **or**
- SPCH 1315 - Public Speaking +

Choose one from the following:

- DFTG 2419 - Intermediate Computer-Aided Drafting **or**
- MCHN 2435 - Advanced CNC Machining

- Creative Arts/Language, Philosophy and Culture Semester Hours: 3*

Spring Term

Choose one from the following:

- DFTG 2458 - Advanced Machine Design **or**
- MCHN 2444 - Computerized Numerical Control Programming

- DFTG 2438 - Final Project - Advanced Drafting (Capstone)

Choose one from the following:

- GOVT 2306 - Texas Government (Texas Constitution & Topics) + **or**
- GOVT 2305 - Federal Government (Federal Constitution & Topics) +

- MCHN 2303 - Fundamentals of Computer Numerical Controlled (CNC) Machine Controls

Total Degree Hours: 60

** Creative Arts/Language, Philosophy and Culture must be chosen from the corresponding section of the Core Curriculum.*

Information Technology: Game, Simulation, and Animation Design, AAS

ITCS.D006.UG
Associate of Applied Science
Offered at South Campus

STEM Pathway
Learn more about Information Technology

Program Requirements

First Year

Fall Term

Choose one from the following:

- COSC 1301 - Introduction to Computing + **or**
- BCIS 1305 - Business Computer Applications +

- ENGL 1301 - Composition I +

Choose one from the following:
- MATH 1314 - College Algebra + **or**
- MATH 1316 - Plane Trigonometry + **or**
- MATH 2412 - Pre-Calculus Math + **or**
- MATH 2413 - Calculus I +

Choose one from the following:
- SPCH 1321 - Business and Professional Communication + **or**
- SPCH 1311 - Introduction to Speech Communication + **or**
- SPCH 1315 - Public Speaking +

Spring Term

Choose one of the following:
- ITCC 1414 - CCNA 1: Introduction to Networks **or**
- ITNW 1425 - Fundamentals of Networking Technologies

- COSC 1436 - Programming Fundamentals I +
- Creative Arts/Language, Philosophy and Culture Semester Hours: 3 *
- Social or Behavioral Science Semester Hours: 3 *

Summer Term

- ITSC 1305 - Introduction to PC Operating Systems
- ITSC 1425 - Personal Computer Hardware

Second Year

Fall Term

- ITSY 1300 - Fundamentals of Information Security
- GAME 1443 - Game and Simulation Programming I

Choose one from the following:
- GAME 1304 - Level Design **or**
- GAME 2325 - 3D Animation II - Character Setup

Choose one from the following:
- GAME 1328 - Video Game Design **or**
- GAME 1436 - Introduction to 3D Game Modeling

Choose one from the following:

- GAME 1334 - Video Game Art I **or**
- GAME 1409 - Introduction to Animation Programming

Spring Term

- GAME 1403 - Introduction to Game Design and Development
- GAME 1459 - Game and Simulation Programming II
- GAME 2308 - Portfolio for Game Development
  (Capstone)

Total Degree Hours: 60

** Social/Behavioral Science and Creative Arts/Language, Philosophy and Culture must be chosen from the corresponding section of the Core Curriculum.*

Animation for Game and Simulation

ITCS.T016.UG
Level 1 Certificate
Offered at South Campus

STEM Pathway
Learn more about Information Technology

Program Requirements

First Year

Fall Term

Choose one from the following:

- GAME 1334 - Video Game Art I **or**
- GAME 1409 - Introduction to Animation Programming

- GAME 1403 - Introduction to Game Design and Development

Spring Term

- GAME 1436 - Introduction to 3D Game Modeling
- GAME 2325 - 3D Animation II - Character Setup
- GAME 1443 - Game and Simulation Programming I

Total Certificate Hours: 18

Information Technology: Mission Critical Operations Data Center, AAS

ITCS.D008.UG
Associate of Applied Science
Offered at South Campus

STEM **Pathway**
Learn more about Information Technology

Program Requirements

First Year

Fall Term

Choose one from the following:

- COSC 1301 - Introduction to Computing + **or**
- BCIS 1305 - Business Computer Applications +

- ITSC 1305 - Introduction to PC Operating Systems
- MCOD 1371 - Introduction to Mission Critical Operations
- ENGL 1301 - Composition I +

Spring Term

- ITNW 1313 - Computer Virtualization

Choose one from the following:

- ITNW 1425 - Fundamentals of Networking Technologies **or**
- ITCC 1414 - CCNA 1: Introduction to Networks

- ITSY 1300 - Fundamentals of Information Security
- MCOD 1372 - Mission Critical Operations Infrastructure

Summer Term

- ITSW 1407 - Introduction to Database
- Social/Behavioral Science Elective Semester Hours: 3 *****

Second Year

Fall Term

- COSC 1436 - Programming Fundamentals I +
- ITNW 1435 - Information Storage and Management

Choose one from the following:

- SPCH 1321 - Business and Professional Communication + **or**
- SPCH 1311 - Introduction to Speech Communication +

- Creative Arts/Language, Philosophy and Culture Semester Hours: 3 *

Spring Term

- ITSC 1425 - Personal Computer Hardware

Choose one from the following:
- MATH 1314 - College Algebra + **or**
- MATH 1316 - Plane Trigonometry + **or**
- MATH 2412 - Pre-Calculus Math + **or**
- MATH 2413 - Calculus I +

- ITSE 2409 - Database Programming
- MCOD 2371 - Critical Site Operations (Capstone)

Total Degree Hours: 60

** Social/Behavioral Science and Creative Arts/Language, Philosophy and Culture must be chosen from the corresponding section of the Core Curriculum.*

Data Center Operations

ITCS.T021.UG
Level 1 Certificate
Offered at South Campus

STEM **Pathway**
Learn more about Information Technology

Program Requirements

First Year

Fall Term

Choose one from the following:
- COSC 1301 - Introduction to Computing + **or**
- BCIS 1305 - Business Computer Applications +

- ITSW 1407 - Introduction to Database
- MCOD 1371 - Introduction to Mission Critical Operations
- ITNW 1313 - Computer Virtualization
- ITSC 1305 - Introduction to PC Operating Systems

Spring Term

- ITSY 1300 - Fundamentals of Information Security
- COSC 1436 - Programming Fundamentals I +

Choose one from the following:
- ITNW 1425 - Fundamentals of Networking Technologies **or**
- ITCC 1414 - CCNA 1: Introduction to Networks

- MCOD 1372 - Mission Critical Operations Infrastructure (Capstone)

Total Certificate Hours: 30

Trinity River Campus

Geographic Information Systems, AAS

GINS.D001.UG
Associate of Applied Science
Offered at Trinity River Campus

STEM Pathway
Learn more about Geographic Information Systems

Program Requirements

First Year

Fall Term

- ENGL 1301 - Composition I +

Choose one of the following:
- BCIS 1305 - Business Computer Applications + **or**
- COSC 1301 - Introduction to Computing +

- GISC 1402 - Understanding Geographic Information Systems
- GISC 2411 - Geographic Information Systems (GIS) Applications

Spring Term

- MATH 1314 - College Algebra +
- ITSW 1407 - Introduction to Database
- COSC 1436 - Programming Fundamentals I +
- Creative Arts/Language, Philosophy and Culture Semester Hours: 3 *

Summer Term

Choose one of the following:

- GOVT 2305 - Federal Government (Federal Constitution & Topics) + **or**
- GOVT 2306 - Texas Government (Texas Constitution & Topics) +

- MATH 1342 - Elementary Statistical Methods +

Second Year

Fall Term

- GISC 2402 - Geographic Information Systems (GIS) Design with Raster Analysis
- GISC 2404 - Geographic Information Systems (GIS) Design with Vector Analysis
- GISC 2401 - Data Acquisition and Analysis in Geographic Information Systems (GIS)
- SPCH 1311 - Introduction to Speech Communication +

Spring Term

- ITSE 1430 - Introduction to C# Programming
- GISC 2420 - Intermediate Geographic Information Systems (GIS)
- GISC 2264 - Practicum – Cartography (Capstone)
- Any 1 hour KINE course

Total Degree Hours: 60

** Creative Arts/Language, Philosophy and Culture must be chosen from the corresponding section of the Core Curriculum.*

Geographic Information Systems

GINS.T001.UG
Level 2 Certificate
Offered at Trinity River Campus

STEM Pathway
Learn more about Geographic Information Systems

Program Requirements

Fall Term

- GISC 1402 - Understanding Geographic Information Systems

Choose one from the following:

- BCIS 1305 - Business Computer Applications + **or**
- COSC 1301 - Introduction to Computing +

- GISC 2411 - Geographic Information Systems (GIS) Applications
- MATH 1314 - College Algebra +

Spring Term

- MATH 1342 - Elementary Statistical Methods +
- GISC 2404 - Geographic Information Systems (GIS) Design with Vector Analysis
- GISC 2401 - Data Acquisition and Analysis in Geographic Information Systems (GIS)
- GISC 2402 - Geographic Information Systems (GIS) Design with Raster Analysis

Summer Term

- ITSE 1430 - Introduction to C# Programming
- ITSW 1407 - Introduction to Database
- GISC 2420 - Intermediate Geographic Information Systems (GIS) (Capstone)

Total Certificate Hours: 41

Students must meet requirements of the Texas Success Initiative (TSI) for graduation.

Basic Geographic Information Systems (GIS) Skills

GINS.T004.UG
Level 1 Certificate
Offered at Trinity River Campus

STEM Pathway
Learn more about Geographic Information Systems

Program Requirements

Fall Term

- GISC 1402 - Understanding Geographic Information Systems

Choose one from the following:
- GISC 2411 - Geographic Information Systems (GIS) Applications **or**
- GISC 2401 - Data Acquisition and Analysis in Geographic Information Systems (GIS)

- GISC 2402 - Geographic Information Systems (GIS) Design with Raster Analysis
- GISC 2404 - Geographic Information Systems (GIS) Design with Vector Analysis
- GISC 2420 - Intermediate Geographic Information Systems (GIS) (Capstone)

Total Certificate Hours: 20

Geographic Information Systems (GIS) Programmer

GINS.T003.UG
Level 1 Certificate
Offered at Trinity River Campus

STEM Pathway
Learn more about Geographic Information Systems

Program Requirements

Fall Term

- GISC 1402 - Understanding Geographic Information Systems
- COSC 1301 - Introduction to Computing +

Choose one from the following:
- GISC 2411 - Geographic Information Systems (GIS) Applications **or**
- GISC 2401 - Data Acquisition and Analysis in Geographic Information Systems (GIS)

- ITSE 1411 - Beginning Web Programming

Spring Term

- GISC 2402 - Geographic Information Systems (GIS) Design with Raster Analysis
- GISC 2404 - Geographic Information Systems (GIS) Design with Vector Analysis
- COSC 1436 - Programming Fundamentals I +

Summer Term

- COSC 1437 - Programming Fundamentals II +
- GISC 2420 - Intermediate Geographic Information Systems (GIS)
- GISC 2435 - Programming for Geographic Information Systems (GIS) (Capstone)

Total Certificate Hours: 39

Course Numbering System

Tarrant County College is a member of the Texas Common Course Numbering System (TCCNS). The common course number facilitates the transfer of these courses between and among participating colleges and universities. Courses with a "+" in the title are academic courses from the Academic Course Guide Manual (ACGM) and have been assigned a common course number.

Each course is identified by its course prefix/rubric and course number. For example:

Four-Letter Course Prefix/Rubric

Indicates the discipline. For example, ENGL = English; BIOL = Biology; MATH = Mathematics, etc.

Four-Digit Course Number

Course Level:

The first digit indicates the course level:

- A "0" in the first digit in a course number indicates the course is a sub-freshman-level course.
- A "1" in the first digit in a course number indicates the course is a freshman-level course.
- A "2" in the first digit in a course number indicates the course is a sophomore-level course.

Credit Hours: The second digit in a course number indicates the credit hours.

Unique Identifier: The third digit in a course number distinguish the course from other of the same level, credit value, and prefix.

- For Workforce Education Course Manual (WECM) courses, a "7" as the third digit indicates the course is a Local Need Course. A "6" or "8" indicate the course is External Learning (Clinical, Cooperative Education, or Internship. A "9" indicates it is Special Topics Course.

Course Sequence: The fourth digit in a course number indicates the course sequence.

Courses

New Courses for 2021-2022

Course Numbering System

ABDR 1271 - Current Trends in Automotive Collision
Semester Hours: 2 | **Lecture Hours:** 1 | **Laboratory Hours:** 2
Topics address current events, I-CAR required skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student.
Required Corequisite(s): ABDR 1431

ABDR 1307 - Collision Repair Welding
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 3
A study of collision repair welding and cutting procedures.
Required Corequisite(s): ABDR 2437

ABDR 1431 - Basic Refinishing
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 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.

ABDR 1519 - Basic Metal Repair
Semester Hours: 5 | **Lecture Hours:** 3 | **Laboratory Hours:** 6
Covers basic metal principles and working techniques including proper tool usage and product application.

ABDR 1555 - Non-Structural Metal Repair

Semester Hours: 5 | **Lecture Hours:** 3 | **Laboratory Hours:** 6
Demonstrate sheet metal repair skills using mechanical and hydraulic equipment. Emphasis on attachment devices used to straighten and align exterior body panels.
Required Prerequisite(s): ABDR 1519

ABDR 1558 - Intermediate Refinishing
Semester Hours: 5 | **Lecture Hours:** 3 | **Laboratory Hours:** 6
Training in mixing and spraying of automotive topcoats. Introduction to partial panel refinishing techniques.
Recommended Prerequisite(s): ABDR 1431

ABDR 2402 - Auto Body Mechanical and Electrical Service
Semester Hours: 4 | **Lecture Hours:** 2 | **Laboratory Hours:** 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.
Required Prerequisite(s): ABDR 2437

ABDR 2437 - Structural Analysis and Damage Repair V
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 3
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(s): ABDR 1555
Required Corequisite(s): ABDR 1307

ABDR 2549 - Advanced Refinishing
Semester Hours: 5 | **Lecture Hours:** 3 | **Laboratory Hours:** 6
Application of multi-stage refinishing techniques. Advanced skill development solving refinishing problems. Application of multi-stage refinishing techniques with emphasis on formula mixing and special spraying techniques.
Required Prerequisite(s): ABDR 1558

ABDR 2551 - Specialized Refinishing Techniques
Semester Hours: 5 | **Lecture Hours:** 3 | **Laboratory Hours:** 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.
Required Prerequisite(s): ABDR 2549

ACCT 2301 - Principles of Financial Accounting +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
This course is an introduction to the fundamental concepts of financial accounting as prescribed by U.S. generally accepted accounting principles (GAAP) as applied to transactions and events that affect business organizations. Students will examine the procedures and systems to accumulate, analyze, measure, and record financial transactions. Students will use recorded financial information to prepare a balance sheet, income statement, statement of cash flows, and statement of shareholders' equity to communicate the business entity's results of operations and financial position to users of financial information who are external to the company. Students will study the nature of assets, liabilities, and owners' equity while learning to use reported financial information for purposes of making decisions about the company. Students will be exposed to International Financial Reporting

Standards (IFRS).
Recommended Corequisite(s): MATH 1324

ACCT 2302 - Principles of Managerial Accounting +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
This course is an introduction to the fundamental concepts of managerial accounting appropriate for all organizations. Students will study information from the entity's accounting system relevant to decisions made by internal managers, as distinguished from information relevant to users who are external to the company. The emphasis is on the identification and assignment of product costs, operational budgeting and planning, cost control, and management decision making. Topics include product costing methodologies, cost behavior, operational and capital budgeting, and performance evaluation.
Required Prerequisite(s): ACCT 2301

ACNT 1303 - Introduction to Accounting
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 1
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
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Introduction to utilizing the computer in maintaining accounting records with primary emphasis on a general ledger package.
Recommended Prerequisite/Corequisite(s): ACCT 2301

ACNT 1313 - Computerized Accounting Applications
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Use of the computer to develop and maintain accounting records and to process common business applications for managerial decision-making.
Recommended Prerequisite(s): ACCT 2301

ACNT 1329 - Payroll and Business Tax Accounting
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 1
A study of payroll procedures, taxing entities, and reporting requirements of local, state, and federal taxing authorities in a manual and a computerized environment.
Required Corequisite(s): ACCT 2301 or ACNT 1303

ACNT 1331 - Federal Income Tax -Individual
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 1
A study of the federal tax law for preparation of individual income tax returns.
Recommended Prerequisite(s): ACCT 2301

ACNT 2303 - Intermediate Accounting I
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 1
Analysis of generally accepted accounting principles, concepts, and theory underlying the preparation of financial statements.
Required Prerequisite(s): ACCT 2302

ACNT 2309 - Cost Accounting
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 1
A study of budgeting, cost analysis and cost control systems using traditional and contemporary costing methods and theories in decision making.
Required Prerequisite(s): ACCT 2302

ACNT 2336 - Financial Statement Analysis
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Financial statement analysis from a decision-maker's perspective. This course may also be offered for qualifying education credit for CPA examinations by Texas community colleges that meet Texas State Board of Public Accountancy standards.

ACNT 2380 - Cooperative Education -Accounting
Semester Hours: 3 | **Lecture Hours:** 1 | **Laboratory Hours:** 19
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.
Required Prerequisite(s): 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 1101 - Introduction to Aviation
Semester Hours: 1 | **Lecture Hours:** 1 | **Laboratory Hours:** 0
An overview of aviation maintenance including the history of aviation, the mechanic's roles and duties, and nomenclature of aircraft and safety.

AERM 1141 - Wood, Fabric, and Finishes
Semester Hours: 1 | **Lecture Hours:** 1 | **Laboratory Hours:** 1
A course in the use and care of various covering materials, finishes, and wood structures including approved methods and procedures. Safety also addressed.

AERM 1153 - Aircraft Welding
Semester Hours: 1 | **Lecture Hours:** 1 | **Laboratory Hours:** 1
Skill development in repair procedures for steel, magnesium, brass, and aluminum materials. Includes the selection and application of appropriate methods of welding, brazing, and soldering. Fundamentals of safety procedures also addressed.

AERM 1205 - Weight and Balance
Semester Hours: 2 | **Lecture Hours:** 1 | **Laboratory Hours:** 2
An introduction to Federal Aviation Administration (FAA) required subjects relating to the weighing of aircraft, the performance of weight-and-balance calculations, and appropriate maintenance record entries.
Required Prerequisite/Corequisite(s): AERM 1208

AERM 1208 - Federal Aviation Regulations
Semester Hours: 2 | **Lecture Hours:** 1 | **Laboratory Hours:** 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 1243 - Instruments and Navigation/Communication
Semester Hours: 2 | **Lecture Hours:** 1 | **Laboratory Hours:** 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 electronic equipment installations. Computer applications.

AERM 1254 - Aircraft Composites
Semester Hours: 2 | **Lecture Hours:** 1 | **Laboratory Hours:** 2
Comprehensive concepts of the inspection and repair of composite, fabric, core, and laminated structural materials including doors, windows, bonded structures, and interior furnishings. Safety procedures to include the handling and storage of composite materials will also be addressed.

AERM 1303 - Shop Practices
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 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
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 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
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 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 safety also addressed.

AERM 1315 - Aviation Science
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 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 power plant mechanics.

AERM 1340 - Aircraft Propellers
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 2
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, installation of propellers, and safety procedures are also addressed.

AERM 1344 - Aircraft Reciprocating Engines
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 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

Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 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(s): AERM 1314

AERM 1347 - Airframe Auxiliary Systems
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 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
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 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
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 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
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 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
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 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 1452 - Aircraft Sheet Metal
Semester Hours: 4 | **Lecture Hours:** 2 | **Laboratory Hours:** 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
Semester Hours: 4 | **Lecture Hours:** 2 | **Laboratory Hours:** 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
Semester Hours: 1 | **Lecture Hours:** 1 | **Laboratory Hours:** 0
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.
Required Prerequisite(s): AERM 1205, AERM 1208, AERM 1303, AERM 1310, AERM 1314 and AERM 1315

AERM 2172 - Oral and Practical Exams, Airframe
Semester Hours: 1 | **Lecture Hours:** 1 | **Laboratory Hours:** 0
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.
Required Prerequisite(s): AERM 1141, AERM 1243, AERM 1153, AERM 1254, AERM 1345, AERM 1347, AERM 1349, AERM 1350, AERM 1452, AERM 2231 and AERM 2233

AERM 2173 - Oral and Practical Exams, Powerplant
Semester Hours: 1 | **Lecture Hours:** 1 | **Laboratory Hours:** 0
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.
Required Prerequisite(s): AERM 1340, AERM 1344, AERM 1351, AERM 1357, AERM 1456, AERM 2252, AERM 2351 and AERM 2547

AERM 2231 - Airframe Inspection
Semester Hours: 2 | **Lecture Hours:** 1 | **Laboratory Hours:** 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
Semester Hours: 2 | **Lecture Hours:** 1 | **Laboratory Hours:** 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
Semester Hours: 2 | **Lecture Hours:** 1 | **Laboratory Hours:** 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.
Required Prerequisite/Corequisite(s): Consult the Department Chairperson

AERM 2351 - Aircraft Turbine Engine Overhaul
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 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(s): AERM 1351

AERM 2359 - Advanced Composite Repair
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 2
An advanced study and practical application of composite repair, processes, and tooling. Includes complex repair

and manufacturing techniques.
Required Prerequisite(s): AERM 1303, AERM 1315, AERM 1254, PLTC 1303, and PLTC 1271

AERM 2547 - Aircraft Reciprocating Engine Overhaul
Semester Hours: 5 | **Lecture Hours:** 3 | **Laboratory Hours:** 7
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(s): AERM 1344

AERO 1291 - Aerospace Engineering Technology: Airframe and Component Structural Design
Semester Hours: 2 | **Lecture Hours:** 2 | **Laboratory Hours:** 0
A study in fixed-wing and helicopter aircraft design to include airframe structures, primary and secondary flight controls, powerplant, and other component areas. Course will analyze efforts on aircraft operating in aerospace environment.

AGCR 2418 - Soil Science
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 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 1215 - Private Flight
Semester Hours: 2 | **Lecture Hours:** 0 | **Laboratory Hours:** 4
Flight and ground training to prepare student for completion of the Federal Aviation Administration Private Pilot Certificate.
See Projected Flight Costs

AIRP 1255 - Intermediate Flight
Semester Hours: 2 | **Lecture Hours:** 0 | **Laboratory Hours:** 5
Provides students with flight hours and skills necessary to fulfill cross-country hours required for the Federal Aviation Administration Commercial Pilot certificate.
See Projected Flight Costs

AIRP 1270 - Private Flight, Helicopter
Semester Hours: 2 | **Lecture Hours:** 0 | **Laboratory Hours:** 4
Flight and ground training to prepare the student for the completion of the Federal Aviation Administration private pilot certificate.
See Projected Flight Costs

AIRP 1271 - Intermediate Flight, Helicopter
Semester Hours: 2 | **Lecture Hours:** 0 | **Laboratory Hours:** 5
Provides students with flight hours and skills necessary to fulfill solo cross-country hours required for the Federal Aviation Administration (FAA) Commercial Pilot, single engine land, airplane certificate.
See Projected Flight Costs

AIRP 1301 - Air Navigation

Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Instruction in visual flight rules navigation in the National Airspace System. Topics include, flight computers, plotters, navigation logs, and publications.

AIRP 1307 - Aviation Meteorology
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
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 1313 - Introduction to Aviation
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
A study of the historical development of the aviation industry, including key events in civil, military, and space exploration and an overview of legislation relating to aviation.

AIRP 1317 - Private Pilot Ground School
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
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
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 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.

AIRP 1343 - Aerodynamics
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Study of the physical laws of flight. Topics include physical terms and the four forces of flight. Aircraft design, stability control, and high-speed flight characteristics are also included.

AIRP 1345 - Aviation Safety
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
A study of the fundamentals essential to the safety of flight. A survey of the aviation industry including decision-making factors, accident reporting, accident investigation, air traffic systems, aircraft technologies, and accident case studies.

AIRP 1347 - Human Factors in Aviation
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 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 1451 - Instrument Ground School
Semester Hours: 4 | **Lecture Hours:** 4 | **Laboratory Hours:** 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.
Recommended Corequisite(s): AIRP 2250

AIRP 2143 - Instructor-Multiengine Airplane
Semester Hours: 1 | **Lecture Hours:** 0 | **Laboratory Hours:** 2
Flight instruction necessary to qualify for the Federal Aviation Administration Flight Instructor - Multiengine Airplane Rating. Includes combined ground and flight instruction and analysis of flight maneuvers. Preparation for the Federal Aviation Administration Airman Certification Standards for Flight Instructor Multiengine.

AIRP 2151 - Multiengine Flight
Semester Hours: 1 | **Lecture Hours:** 0 | **Laboratory Hours:** 3
Preparation for the multiengine class rating which will be added to a current pilot certificate. Includes explanation and demonstration of all required Federal Aviation Administration normal and emergency operations and procedures. Preparation for the Federal Aviation Administration Airman Certification Standards for Multiengine Add-On.
See Projected Flight Costs
This course is only available through Summer 2021.

AIRP 2236 - Certified Flight Instructor-Flight
Semester Hours: 2 | **Lecture Hours:** 0 | **Laboratory Hours:** 4
Flight and ground instruction required to qualify for the Federal Aviation Administration Certified Flight Instructor. Preparation for the Federal Aviation Administration Airman Certification Standards for Certified Flight Instructor.
See Projected Flight Costs

AIRP 2239 - Commercial Flight
Semester Hours: 2 | **Lecture Hours:** 0 | **Laboratory Hours:** 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 to perform commercial pilot maneuvers. Preparation for the Federal Aviation Administration Airman Certification Standards for Commercial Pilot Certificate.
See Projected Flight Costs

AIRP 2242 - Flight Instructor–Instrument Flight
Semester Hours: 2 | **Lecture Hours:** 0 | **Laboratory Hours:** 4
Flight and ground instruction required to qualify for the Federal Aviation Administration Certified Flight Instructor--Instrument Certificate. Preparation for the Federal Aviation Administration Airman Certification Standards for Certified Flight Instructor - Instrument.
See Projected Flight Costs

AIRP 2250 - Instrument Flight
Semester Hours: 2 | **Lecture Hours:** 0 | **Laboratory Hours:** 4
Preparation for the Federal Aviation Administration Airman Certification Standards for the Instrument Rating.
See Projected Flight Costs

AIRP 2270 - Instrument Flight, Helicopter
Semester Hours: 2 | **Lecture Hours:** 0 | **Laboratory Hours:** 4
Preparation for completion of the Federal Aviation Administration (FAA) Instrument Pilot Rating with mastery of

all instrument flight procedures.
See Projected Flight Costs

AIRP 2271 - Commercial Flight, Helicopter
Semester Hours: 2 | **Lecture Hours:** 0 | **Laboratory Hours:** 5
Flight instruction necessary to quality for the Federal Aviation Administration (FAA) Commercial Pilot Certificate. Instruction includes both dual and solo flight training to prepare the student for mastery of all commercial pilot maneuvers.
See Projected Flight Costs

AIRP 2272 - Certified Flight Instructor–Helicopter
Semester Hours: 2 | **Lecture Hours:** 1 | **Laboratory Hours:** 2
Flight instruction necessary to qualify for the Federal Aviation Administration (FAA) Certified Flight Instructor–Airplane certificate. Topics include ground and flight instruction for helicopter.
See Projected Flight Costs

AIRP 2273 - Flight Instructor–Instrument Helicopter
Semester Hours: 2 | **Lecture Hours:** 2 | **Laboratory Hours:** 0
Skill development for flight instructors necessary to qualify for the Federal Aviation Administration (FAA) Certified Flight Instructor Instrument Rating – Helicopter.
See Projected Flight Costs
This course is only available through Fall 2020.

AIRP 2333 - Aircraft Systems
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Study of the theory, operation, and application of pneumatic, hydraulic, electrical, fuel, environmental, protection, and warning systems. Emphasis on subsystems and control systems.

AIRP 2337 - Commercial Ground School
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
A study of advanced aviation topics used for Federal Aviation Administration certification at the commercial pilot level. Preparation for the Federal Aviation Administration Airman Certification Standards for Commercial Pilot Certificate.

AIRP 2349 - Instructor Ground School
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 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. Preparation for the Federal Aviation Administration Airman Certification Standards for Certified Flight Instructor.

AIRP 2380 - Cooperative Education- Commercial Pilot
Semester Hours: 3 | **Lecture Hours:** 1 | **Laboratory Hours:** 14
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.

ANES 1370 - Anesthesia (Basic) Pharmacology

Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Introduction to the theory and concepts in the proper use and safe practice of delivery and storage of anesthesia medications which includes: Stocking of the drug cart and assisting anesthesia care provider in the preparation of medications.
Required Prerequisite(s): *Acceptance into the Anesthesia Technology Program.*

ANES 1371 - Principles of Anesthesia Technology
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
This course introduces the theoretical and practical aspects of the physical sciences. The dependence of medical diagnostics and the analogous relationship to the human body to the sciences are emphasized. Topics include flow, pressure, resistance, electronic circuit analysis and Ohm's Law. Introduction to the theory and concepts of the use and function of anesthesia supplies and equipment used for various surgical procedures to include cases in: General, regional, and conscious sedation.
Required Prerequisite(s): *Acceptance into the Anesthesia Technology Program.*

ANES 1372 - Introduction to Anesthesia Technology
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
This course provides an introduction to distinctive areas of anesthesia technology and the role of the technologist. An overview of typical surgical procedures and instrumentation and surgical department orientation are covered as well as medical terminology, blood-borne pathogens and non-patient related emergencies.
Required Prerequisite(s): *Acceptance into the Anesthesia Technology Program.*

ANES 1373 - Anesthesia Technology Fundamentals I
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 2
Students are introduced to the surgical suite and the typical daily duties of an anesthesia technologist. Didactic as well as laboratory instruction are provided to supply the student with the required theoretical principles of the profession.
Required Prerequisite(s): *Acceptance into the Anesthesia Technology Program.*

ANES 1375 - Anesthesia Technology Clinic Experience I
Semester Hours: 3 | **Lecture Hours:** 0 | **Laboratory Hours:** 16
This course is the student's first opportunity to observe and gain experience in a health care facility. Clinical hours are scheduled in the hospital setting under direct supervision. Students will observe all procedures and may begin to assist in non-direct patient duties. Students experience various anesthesia technology environments as scheduled.
Required Prerequisite(s): ANES 1370 and ANES 1372

ANES 1474 - Anesthesia Technology Instrumentation I
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 2
The primary focus of this course is the anesthesia machine. However, all ancillary equipment, including but not limited to gas cylinders, hospital supply lines, ventilators and absorbers will also be covered. The setup, calibration, operation, basic troubleshooting, maintenance and safety checks for each is taught.
Required Prerequisite(s): ANES 1372 and ANES 1371

ANES 2373 - Anesthesia Technology Fundamentals II
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 2
The concepts of Anesthesia Technology Fundamentals I will be expanded upon. Focus will be on the various types of surgical procedures, including emergency situation management and how the role of the anesthesia technologist

varies in each. Patient transport, monitoring and positioning will be stressed.
Required Prerequisite(s): ANES 1373 and ANES 1375

ANES 2375 - Anesthesia Technology Clinical Experience II
Semester Hours: 3 | **Lecture Hours:** 0 | **Laboratory Hours:** 16
This course provides the practical application of the principles covered in the didactic and laboratory portions of the program. Students observe, assist and perform duties assigned in the clinical setting. A written journal detailing the clinical phase of instruction will be required.
Required Prerequisite(s): ANES 1375

ANES 2474 - Anesthesia Technology Instrumentation II
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 2
This course is a continuation of Anesthesia Technology Instrumentation I and expands upon the scope of anesthesia instrumentation. Various pieces of instrumentation such as cell savers, patient warmers, fluid warmers, ACT machines and pulse oximeters will be discussed.
Required Prerequisite(s): ANES 1474

ANES 2475 - Anesthesia Technician Clinical Experience III
Semester Hours: 4 | **Lecture Hours:** 0 | **Laboratory Hours:** 16
This course provides the practical application of the principles covered in the didactic and laboratory portions of the program. Students observe, assist and perform duties assigned in the clinical setting. A written journal detailing the clinical phase of instruction will be required.
Required Prerequisite(s): ANES 1375 and ANES 2375

ANES 2476 - Anesthesia Clinical Seminar & Review
Semester Hours: 4 | **Lecture Hours:** 4 | **Laboratory Hours:** 0
Students discuss with other students the cases most recently performed during their clinical experience. Research papers will be required on a variety of related topics as well as a review of the written journal detailing the clinical phase of instruction. This course will help to prepare students for the written examinations that will lead to credentialing in AT. Guest speakers may be scheduled. Resume-writing and interview skills will be covered.
Required Prerequisite(s): ANES 1375 and ANES 2375

ANTH 2302 - Introduction to Archeology +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
The study of the human past through material remains. The course includes a discussion of methods and theories relevant to archeological inquiry. Topics may include the adoption of agriculture, response to environmental change, the emergence of complex societies, and ethics in the discipline.

ANTH 2346 - General Anthropology +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
The study of human beings, their antecedents, related primates, and their cultural behavior and institutions. Introduces the major subfields: physical and cultural anthropology, archeology, linguistics, their applications, and ethics in the discipline.

ANTH 2351 - Cultural Anthropology +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
The study of human cultures. Topics may include social organization, institutions, diversity, interactions between human groups, and ethics in the discipline.

ARCE 1342 - Codes, Specifications, and Contract Documents
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Study of ordinances, codes and legal documents as they relate to specifications and drawings. Discussion of owner-architect-contractor responsibilities, duties, and legal relationships.

ARCE 2352 - Mechanical, Electrical and Plumbing (MEP) Systems
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Preparation of drawings for mechanical, electrical, and plumbing (MEP) systems with emphasis on applicable building and energy codes, product references, and specifications for construction. Course will include a survey of buildings that conserve energy, water, and human resources; sustainable design and construction. The course will illustrate the connection of the previously mentioned topics, when applicable, to the digital age and the Internet of Things (IoT) which are reshaping our built environment.
Required Prerequisite(s): ARCH 2312

ARCH 1301 - Architectural History I +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Part one of a survey of the history of world architecture from pre-history to the present. This course focuses on the period from pre-history up to at least the 14th Century. Course is intended to fulfill all or part of the following National Architectural Accrediting Board (NAAB). Student Performance Criteria: A.7 History and Global Culture

ARCH 1302 - Architectural History II +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Part two of a survey of the history of world architecture from pre-history to the present. This course focuses on the period of Neo-Classicism up to the Modern era. Course is intended to fulfill all or part of the following National Architectural Accrediting Board (NAAB). Student Performance Criteria: A.7 History and Global

ARCH 1303 - Architectural Design I +
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 4
An introductory studio providing foundation in the conceptual, perceptual, and manual skills necessary for two-dimensional and three-dimensional design. 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. Course is intended to fulfill all or part of the following National Architectural Accrediting Board (NAAB). Student Performance Criteria: A.1 Professional Communication Skills A.2 Design Thinking Skills A.4 Architectural Design Skills A.5 Ordering Systems
Recommended Prerequisite(s): ARCH 1315

ARCH 1304 - Architectural Design II +
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 4
Creative problem solving and presentation of principles, concepts and ideas as applied to introductory architectural projects. Architectural drafting procedures, practices and symbols including the preparation of detailed working drawings for commercial building, with emphasis on commercial construction methods. Course is intended to fulfill all or part of the following National Architectural Accrediting Board (NAAB). Student Performance Criteria: A.1 Professional Communication Skills A.2 Design Thinking Skills A.4 Architectural Design Skills A.5 Ordering Systems
Required Prerequisite(s): ARCH 1303
Recommended Prerequisite(s): ARCH 1315

ARCH 1307 - Architectural Graphics I +

Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 4
Introduction to basic drawing methods and tools. Exploration of techniques available for the design process with emphasis on two-dimensional and three-dimensional composition. Presentation of advance architectural topics with application in computer-aided environment utilizing three dimensional objects or spaces. Course is intended to fulfill all or part of the following National Architectural Accrediting Board (NAAB). Student Performance Criteria: A.1 Professional Communication Skills
Recommended Prerequisite(s): ARCH 1303 or ARCH 1304

ARCH 1308 - Architectural Graphics II +
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 4
Continuation of the study, methodology, and production of architectural drawings. Exploration of techniques available for the design process with emphasis on three-dimensional composition both analog and digital. These techniques will be implemented through the use and instruction of Building Information Management System software. Course is intended to fulfill all or part of the following National Architectural Accrediting Board (NAAB). Student Performance Criteria: A.1 Professional Communication Skills A.5 Ordering Systems
Required Prerequisite(s): ARCH 1307

ARCH 1311 - Introduction to Architecture +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
An introduction to architecture that explores the practices, principles, and wider context of architecture and design. Focuses on the role of architecture in society, culture, and the broader physical context of the built environment. Course is intended to fulfill all or part of the following National Architectural Accrediting Board (NAAB). Student Performance Criteria: A.8 Cultural Diversity and Social Equity D.1 Stakeholder Roles in Architecture

ARCH 1315 - Architectural Computer Graphics +
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 4
Effective use of representational media, computer aided design, and digital media to engage formal, organizational, and environmental principles. Emphasis on the appropriate media to inform two-dimensional and three-dimensional design based upon the conventions of architectural graphic communication. Course is intended to fulfill all or part of the following National Architectural Accrediting Board (NAAB). Student Performance Criteria: A.1 Professional Communication Skills A.4 Architecture Design Skills

ARCH 2301 - Architectural Freehand Drawing I +
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 4
Development of freehand drawing skills in architecture. Methods and skills, including emphasis on principles of light, shade, scale, proportion, line, and tonal quality for exploring and developing conceptual ideas and for clear graphic presentations. Course is intended to fulfill all or part of the following National Architectural Accrediting Board (NAAB). Student Performance Criteria: A.1 Professional Communication Skills A.4 Architectural Design Skills

ARCH 2302 - Architectural Freehand Drawing II +
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 4
Advanced freehand design drawing skills in architecture. Emphasis is on using freehand techniques in visual thinking and analysis. Development of conceptual ideas for clear graphic presentations. Course is intended to fulfill all or part of the following National Architectural Accrediting Board (NAAB). Student Performance Criteria: A.1 Professional Communication Skills A.4 Architecture Design Skills
Required Prerequisite(s): ARCH 2301

ARCH 2312 - Architectural Technology +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Introduction to materials and methods in the design and construction of buildings. Course will include a survey of buildings that conserve energy, water, and human resources; sustainable design and construction. The course will illustrate the connection of the previously mentioned topics, when applicable, to the digital age and the Internet of Things (IoT) which are reshaping our built environment. Course is intended to fulfill all or part of the following National Architectural Accrediting Board (NAAB) Student Performance Criteria: B.7 Building Envelope Systems and Assemblies B.8 Building Materials and Assemblies

ARCH 2603 - Architectural Design III +
Semester Hours: 6 | **Lecture Hours:** 2 | **Laboratory Hours:** 4
An intermediate architectural design studio that continues and expands the study of concepts from Architectural Design II. The course is intended to fulfill all or part of each of the following 2014 National Architectural Accrediting Board (NAAB). Student Performance Criteria: A.4 Architectural Design Skills A.6 Use of Precedents B.2 Site Design
Required Prerequisite(s): ARCH 1304 and ARCH 1308

ARCH 2604 - Architectural Design IV +
Semester Hours: 6 | **Lecture Hours:** 2 | **Laboratory Hours:** 4
A concluding architectural design studio for the lower-division which continues from Architectural Design III. Course is intended to fulfill all or part of each of the following 2014 National Architectural Accrediting Board (NAAB). Student Performance Criteria: B1. Pre-Design B3. Codes and Regulations B5. Structural Systems
Required Prerequisite(s): ARCH 2603

ARCT 2367 - Practicum in Architectural Engineering Technology/Technician
Semester Hours: 3 | **Lecture Hours:** 0 | **Laboratory Hours:** 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(s): Department Chair approval

ARTC 1302 - Digital Imaging I
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 4
Digital imaging using raster image editing and/or image creation software: scanning, resolution, file formats, output devices, color systems, and image-acquisitions.

ARTC 1305 - Basic Graphic Design
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 2
Graphic design with emphasis on the visual communication process. Topics include basic terminology and graphic design principles.

ARTC 1313 - Digital Publishing I
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 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 1353 - Computer Illustration

Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 4
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
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 4
Principles of digital image processing and digital painting. Emphasis on raster-based image and the creative aspects of electronic illustration for commercial or fine art applications.
Required Prerequisite(s): ARTC 1302

ARTC 2313 - Digital Publishing II
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 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.
Required Prerequisite(s): ARTC 1313

ARTC 2317 - Typographic Design
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 4
Exploration of typographic design including computer generated letterforms as elements of design. Includes theory and techniques of traditional, contemporary, and experimental typography.
Required Prerequisite(s): ARTC 1305

ARTC 2335 - Portfolio Development for Graphic Design
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 2
Preparation of a portfolio comprised of completed graphic design projects. Evaluation and demonstration of portfolio presentation methods based on the student's specific area of study.
Required Prerequisite(s): ARTC 1302, ARTC 1305, ARTC 1313, and ARTC 1353

ARTC 2340 - Computer Illustration II
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 4
Advanced use of software applications and/or various media with emphasis on output procedures, the resolution of complex design issues, and concept development.
Required Prerequisite(s): ARTC 1353

ARTS 1301 - Art Appreciation +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
A general introduction to the visual arts designed to create an appreciation of the vocabulary, media, techniques, and purposes of the creative process. Students will critically interpret and evaluate works of art within formal, cultural, and historical contexts. General education course open to all; design principles from the layman's point of view.

ARTS 1303 - Art History I (Prehistoric to the 14th century) +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
A chronological analysis of the historical and cultural contexts of the visual arts from prehistoric times to the 14th century.

ARTS 1304 - Art History II (14th century to the present) +

Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
A chronological analysis of the historical and cultural contexts of the visual arts from the 14th century to the present day.

ARTS 1311 - Design I (2-Dimensional) +
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 4
An introduction to the fundamental terminology, concepts, theory, and application of two-dimensional design.

ARTS 1312 - Design II (3-Dimensional) +
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 4
An introduction to the fundamental terminology, concepts, theory, and application of three-dimensional design.
Recommended Prerequisite(s): ARTS 1311

ARTS 1316 - Drawing I +
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 4
A foundation studio course exploring drawing with emphasis on descriptive, expressive and conceptual approaches. Students will learn to see and interpret a variety of subjects while using diverse materials and techniques. Course work will facilitate a dialogue in which students will engage in critical analysis and begin to develop their understanding of drawing as a discipline.

ARTS 1317 - Drawing II +
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 4
A studio course exploring drawing with continued emphasis on descriptive, expressive and conceptual approaches. Students will further develop the ability to see and interpret a variety of subjects while using diverse materials and techniques. Course work will facilitate a dialogue in which students will employ critical analysis to broaden their understanding of drawing as a discipline.

ARTS 2313 - Graphic Design +
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 4
Studio course that introduces basic objectives, principles, and methods used in graphic design. The course focuses on creativity, aesthetic judgment, and critical-thinking skills to expand conceptual solutions within the realm of contemporary graphic design.
Recommended Prerequisite(s): ARTS 1311, ARTS 1316, and basic computer literacy

ARTS 2316 - Painting I +
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 4
Studio art course that introduces the fundamental principles, materials, and techniques of painting.
Recommended Prerequisite(s): ARTS 1311 or ARTS 1316

ARTS 2317 - Painting II +
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 4
Continuation of ARTS 2316. Studio art course that furthers the study of the principles, materials, and techniques of painting.
Required Prerequisite(s): ARTS 2316

ARTS 2323 - Life Drawing +
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 4
Studio art course that introduces the analytic study of the human form and the figure's potential for compositional

and expressive use in drawing.
Recommended Prerequisite(s): ARTS 1317

ARTS 2326 - Sculpture +
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 4
A studio art course that introduces the materials, processes, and issues pertaining to the making of three-dimensional objects and environments. The course explores the use of varied materials and techniques along with the formal and conceptual principles that form the basis of contemporary sculpture.
Recommended Prerequisite(s): ARTS 1312

ARTS 2333 - Printmaking +
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 4
A studio art course that introduces the materials, processes, and concepts pertaining to traditional and contemporary printmaking. The course explores the use of varied tools and techniques along with the formal and conceptual principles to create editioned and unique works.
Recommended Prerequisite(s): ARTS 1311 or ARTS 1316

ARTS 2341 - Metals +
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 4
A studio art course that introduces metalsmithing using basic techniques in jewelry design and metal construction. The course provides instruction and practical fabrication experience as it relates to the design and production of small-scale functional and/or non-functional objects.
Recommended Prerequisite(s): ARTS 1312

ARTS 2346 - Ceramics I +
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 4
A studio art course that introduces basic building, throwing, and other techniques as it relates to the design and production of ceramic sculpture and pottery.

ARTS 2347 - Ceramics II +
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 4
A continuation of ARTS 2346. A studio art course that furthers the study of building, throwing, and other techniques as it relates to the design and production of ceramic sculpture and pottery.
Required Prerequisite(s): ARTS 2346

ARTS 2348 - Digital Media +
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 4
Studio art course that introduces the potential of basic digital media manipulation and graphic creation. The course emphasizes still and time-based media.
Recommended Prerequisite(s): Basic computer literacy and ARTS 1311 or ARTS 1316

ARTS 2356 - Photography I (Fine Arts Emphasis) +
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 4
A studio art course that introduces the technical and conceptual basics of photography as a creative medium.
Required Prerequisite(s): Freshman studio core (Prerequisite applies to art majors only)

ARTS 2357 - Photography II (Fine Arts Emphasis) +

Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 4
Continuation of ARTS 2356. A studio art course that furthers the study of the technical and conceptual basics of photography as a creative medium.
Required Prerequisite(s): ARTS 2356

ARTS 2389 - Academic Cooperative +
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 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 studio art and/or art history.

ARTV 1303 - Basic Animation
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 4
Examination of animation concepts, principles, and storyboard for basic production. Emphasizes creating movement and expression utilizing traditionally or digitally generated image sequences.
Required Prerequisite(s): ARTC 1353

AUMT 1306 - Automotive Engine Removal and Installation
Semester Hours: 3 | **Lecture Hours:** 1 | **Laboratory Hours:** 7
Fundamentals of engine inspection, removal and installation procedures. May be taught manufacturer specific.
Required Prerequisite(s): AUMT 1307

AUMT 1307 - Automotive Electrical Systems
Semester Hours: 3 | **Lecture Hours:** 1 | **Laboratory Hours:** 7
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 publications. May be taught manufacturer specific.
Recommended Prerequisite/Corequisite(s): AUMT 1371

AUMT 1316 - Automotive Suspension and Steering Systems
Semester Hours: 3 | **Lecture Hours:** 1 | **Laboratory Hours:** 7
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.
Required Prerequisite(s): AUMT 1307

AUMT 1319 - Automotive Engine Repair
Semester Hours: 3 | **Lecture Hours:** 1 | **Laboratory Hours:** 7
Fundamentals of engine operation, diagnosis and repair. Emphasis on identification, inspection, measurements, and disassembly, repair, and reassembly of the engine. May be taught manufacturer-specific.
Required Prerequisite/Corequisite(s): AUMT 1307

AUMT 1345 - Automotive Climate Control Systems
Semester Hours: 3 | **Lecture Hours:** 1 | **Laboratory Hours:** 7
Diagnosis and repair of manual/electronic climate control systems. Includes the refrigeration cycle and EPA guidelines for refrigerant handling. May be taught manufacturer-specific.
Required Prerequisite(s): AUMT 1307

AUMT 1371 - Manufacturer's Maintenance and Pre-delivery

Semester Hours: 3 | **Lecture Hours:** 1 | **Laboratory Hours:** 7
This is an introductory course designed to provide the student with the fundamentals of operation and maintenance procedures of vehicle subsystems which include researching vehicle service information. Students will learn basic automotive shop safety, tool, and equipment use. Upon completion of the course, students should be able to safely and accurately perform basic automotive maintenance. May be taught manufacturer specific.

AUMT 1405 - Introduction to Automotive Technology
Semester Hours: 4 | **Lecture Hours:** 2 | **Laboratory Hours:** 6
An introduction to the automotive industry including automotive history, safety practices, shop equipment and tools, vehicle subsystems, service publications, professional responsibilities, and basic automotive maintenance. May be taught manufacturer-specific.

AUMT 1407 - Automotive Electrical Systems
Semester Hours: 4 | **Lecture Hours:** 2 | **Laboratory Hours:** 6
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 publications. May be taught manufacturer specific.
Required Prerequisite/Corequisite(s): AUMT 1405

AUMT 1410 - Automotive Brake Systems
Semester Hours: 4 | **Lecture Hours:** 2 | **Laboratory Hours:** 6
Operation and repair of drum/disc type brake systems. Topics include brake theory, diagnosis, and repair of power, manual, anti-lock brake systems, and parking brakes. May be taught manufacturer specific.
Required Prerequisite/Corequisite(s): AUMT 1407

AUMT 1416 - Automotive Suspension and Steering Systems
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 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.
Required Prerequisite/Corequisite(s): AUMT 1407

AUMT 1419 - Automotive Engine Repair
Semester Hours: 4 | **Lecture Hours:** 2 | **Laboratory Hours:** 6
Fundamentals of engine operation, diagnosis and repair. Emphasis on identification, inspection, measurements, and disassembly, repair, and reassembly of the engine. May be taught manufacturer-specific.
Required Prerequisite/Corequisite(s): AUMT 1407

AUMT 2188 - Internship-Automobile/Automotive Mechanics Technology/Technician
Semester Hours: 1 | **Lecture Hours:** 0 | **Laboratory Hours:** 4
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(s): AUMT 1371
NOTE: Completion of at least two AUMT courses and Automotive department approval.

AUMT 2307 - Hybrid Systems Diagnostics
Semester Hours: 3 | **Lecture Hours:** 1 | **Laboratory Hours:** 7
An advanced study of hybrid vehicles and the unique characteristics of hybrid systems. Includes hybrid safety

procedures and diagnosis and repair of hybrid systems.
Recommended Prerequisite(s): AUMT 1407

AUMT 2311 - Automotive Electronic Controls
Semester Hours: 3 | **Lecture Hours:** 1 | **Laboratory Hours:** 7
A study of electronic principles, semiconductor and integrated circuits, digital fundamentals, microcomputer systems, and electrical test equipment as applied to automotive technology. May be taught manufacturer specific.
Required Prerequisite(s): AUMT 1371

AUMT 2321 - Automotive Electrical Diagnosis and Repair
Semester Hours: 3 | **Lecture Hours:** 1 | **Laboratory Hours:** 7
Repair of automotive electrical subsystems, lighting, instrumentation, and accessories. Emphasis on accurate diagnosis and proper repair methods using various troubleshooting skills and techniques. May be taught manufacturer specific.
Required Prerequisite/Corequisite(s): AUMT 1307

AUMT 2388 - Internship - Automobile/Automotive Mechanics Technology/Technician
Semester Hours: 3 | **Lecture Hours:** 1 | **Laboratory Hours:** 8
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.

AUMT 2413 - Automotive Drive Train and Axles
Semester Hours: 4 | **Lecture Hours:** 2 | **Laboratory Hours:** 6
A study of automotive clutches, clutch operation devices, manual transmissions/transaxles, and differentials with emphasis on diagnosis and repair. May be taught manufacturer specific.
Required Prerequisite/Corequisite(s): AUMT 1407

AUMT 2417 - Automotive Engine Performance Analysis I
Semester Hours: 4 | **Lecture Hours:** 2 | **Laboratory Hours:** 6
Theory, operation, diagnosis of drivability concerns, and repair of ignition and fuel delivery systems. Use of current engine performance diagnostic equipment. May be taught manufacturer specific.
Required Prerequisite/Corequisite(s): AUMT 1407

AUMT 2425 - Auto Automatic Transmission/Transaxle
Semester Hours: 4 | **Lecture Hours:** 2 | **Laboratory Hours:** 6
A study of the operation, hydraulic circuits and electronic controls of modern automatic transmissions and automatic transaxles. Diagnosis, disassembly, and assembly procedures with emphasis on the use of special tools and repair techniques. May be taught manufacturer-specific.
Required Prerequisite/Corequisite(s): AUMT 1407

AUMT 2434 - Auto Engine Performance Analysis II
Semester Hours: 4 | **Lecture Hours:** 2 | **Laboratory Hours:** 6
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 Prerequisite/Corequisite(s): AUMT 2417

AVIM 2337 - Aviation Law

Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
A study of domestic and international aviation law.

AVNC 1303 - Introduction to Aviation Electronic Systems
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 3
An introduction to the relationship between aviation electronic, flight, and navigational systems with emphasis on their operation and function.
Required Prerequisite(s): AERM 1314

AVNC 1343 - Aviation Electrical and Electronic Systems Installation
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 3
A comprehensive study of and practical experience in 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.

AVNC 1370 - Aircraft Communication Systems Line Maintenance
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 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
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 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 1372 - Air Traffic Control Surveillance Systems Line Maintenance
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 3
A course (aircraft line maintenance) in the theory, operation, testing, and inspection of Air Traffic Control Radar-based surveillance systems and Space-based surveillance systems to include; ATCRBS elementary air traffic control systems (Mode A, Mode C, and Mode S) and Automatic Dependant Surveillance and Broadcast (ADS-B) and Mode S Extended Squitter (ES) systems. This course will also address the theory, operation, testing, and inspection of aircraft Traffic Collision and Avoidance Systems (TCAS) as well. The student will receive training on the setup and use of common and peculiar test equipment associated with the testing of Aircraft Traffic Control Surveillance Systems (ATCRBS) and Traffic Collision Avoidance Systems (TCAS).

BCIS 1305 - Business Computer Applications +
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 3
Introduces and develops foundational skills in applying essential and emerging business productivity information technology tools. The focus of this course is on business productivity software applications, including word

processing, spreadsheets, databases, presentation graphics, data analytics, and business-oriented utilization of the internet. (BCIS 1305 is included in the Business Field of Study.)

BIOL 1406 - Biology for Science Majors I (Lecture + Lab) +
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 3
Fundamental principles of living organisms will be studied including physical and chemical properties of life, organization, function, evolutionary adaptation, and classification. Concepts of cytology, reproduction, genetics, and scientific reasoning are included. Laboratory activities will reinforce the fundamental principles of living organisms, including physical and chemical properties of life, organization, function, evolutionary adaptation, and classification. Study and examination of the concepts of cytology, reproduction, genetics, and scientific reasoning are included.
Required Prerequisite(s): TSI Met in Reading and Writing. TSI Met in Algebraic Math pathway.
Recommended Prerequisite(s): MATH 1314

BIOL 1407 - Biology for Science Majors II (Lecture + Lab) +
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 3
Continuation of BIOL 1406. The diversity and classification of life will be studied, including animals, plants, protists, fungi, and prokaryotes. Special emphasis will be given to anatomy, physiology, ecology, and evolution of plants and animals. Laboratory activities will reinforce study of the diversity and classification of life, including animals, plants, protists, fungi, and prokaryotes. Special emphasis will be given to anatomy, physiology, ecology, and evolution of plants and animals.
Required Prerequisite(s): BIOL 1406
Recommended Prerequisite(s): MATH 1314

BIOL 1408 - Biology for Non-Science Majors I (Lecture + Lab) +
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 2
Provides a survey of biological principles with an emphasis on humans, including chemistry of life, cells, structure, function, and reproduction. Laboratory activities will reinforce a survey of biological principles with an emphasis on humans, including chemistry of life, cells, structure, function, and reproduction.
Required Prerequisite(s): TSI Met in Reading and Writing

BIOL 1409 - Biology for Non-Science Majors II (Lecture + Lab) +
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 2
This course will provide a survey of biological principles with an emphasis on humans, including evolution, ecology, plant and animal diversity, and physiology. Laboratory activities will reinforce a survey of biological principles with an emphasis on humans, including evolution, ecology, plant and animal diversity, and physiology.
Required Prerequisite(s): TSI Met in Reading and Writing

BIOL 1411 - General Botany (Lecture + Lab) +
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 3
Fundamental biological concepts relevant to plant physiology, life cycle, growth and development, structure and function, and cellular and molecular metabolism. The role of plants in the environment, evolution, and phylogeny of major plant groups, algae, and fungi. Laboratory activities will reinforce fundamental biological concepts relevant to plant physiology, life cycle, growth and development, structure and function, and cellular and molecular metabolism. The role of plants in the environment, evolution, and phylogeny of major plant groups, algae, and fungi. (This course is intended for science majors.)
Recommended Prerequisite(s): MATH 1314 (or concurrent enrollment in higher level mathematics)

BIOL 2306 - Environmental Biology (Lecture) +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Principles of environmental systems and ecology, including biogeochemical cycles, energy transformations, abiotic interactions, symbiotic relationships, natural resources and their management, lifestyle analysis, evolutionary trends, hazards and risks, and approaches to ecological research.
Required Prerequisite(s): TSI Met in Reading and Writing. TSI Met in Non-Algebraic Math pathway.
Recommended Prerequisite(s): MATH 1314

BIOL 2316 - Genetics (Lecture) +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Study of the principles of molecular and classical genetics and the function and transmission of hereditary material. May include population genetics and genetic engineering.
Required Prerequisite(s): BIOL 1406 and BIOL 1407
Recommended Prerequisite(s): MATH 1314

BIOL 2389 - Academic Cooperative +
Semester Hours: 3 | **Lecture Hours:** 1 | **Laboratory Hours:** 5
An instructional program designed to integrate on-campus study with practical hands-on work experience in the biological sciences/life sciences. In conjunction with class seminars, the individual student will set specific goals and objectives in the study of living organisms and their systems.
Required Prerequisite(s): BIOL 1406, BIOL 1407, and CHEM 1411
Required Corequisite(s): Instructor Approval

BIOL 2401 - Anatomy and Physiology I (Lecture + Lab) +
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 2
Anatomy and Physiology I is the first part of a two-course sequence. It is a study of the structure and function of the human body including cells, tissues and organs of the following systems: integumentary, skeletal, muscular, nervous and special senses. Emphasis is on interrelationships among systems and regulation of physiological functions involved in maintaining homeostasis. Content may be either integrated or specialized. The lab provides a hands-on learning experience for exploration of human system components and basic physiology. Systems to be studied include integumentary, skeletal, muscular, nervous, and special senses.
Required Prerequisite(s): TSI Met in Reading and Writing. TSI Met in Non-Algebraic Math pathway.

BIOL 2402 - Anatomy and Physiology II (Lecture + Lab) +
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 2
Anatomy and Physiology II is the second part of a two-course sequence. It is a study of the structure and function of the human body including the following systems: endocrine, cardiovascular, immune , lymphatic, respiratory, digestive (including nutrition), urinary (including fluid and electrolyte balance), and reproductive (including human development and genetics). Emphasis is on interrelationships among systems and regulation of physiological functions involved in maintaining homeostasis. The lab provides a hands-on learning experience for exploration of human system components and basic physiology. Systems to be studied include endocrine, cardiovascular, immune, lymphatic, respiratory, digestive (including nutrition), urinary (including fluid and electrolyte balance), and reproductive (including human development and genetics).
Required Prerequisite(s): BIOL 2401

BIOL 2406 - Environmental Biology (Lecture + Lab) +
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 3
Principles of environmental systems and ecology, including biogeochemical cycles, energy transformations, abiotic

interactions, symbiotic relationships, natural resources and their management, lifestyle analysis, evolutionary trends, hazards and risks, and approaches to ecological research. Laboratory activities will reinforce principles of environmental systems and ecology, including biogeochemical cycles, energy transformations, abiotic interactions, symbiotic relationships, natural resources and their management, lifestyle analysis, evolutionary trends, hazards and risks, and approaches to ecological research.
Required Prerequisite(s): TSI Met in Reading and Writing. TSI Met in Non-Algebraic Math pathway.
Recommended Prerequisite(s): MATH 1314

BIOL 2420 - Microbiology for Non-Science Majors (Lecture + Lab) +
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 4
This course covers basic microbiology and immunology and is primarily directed at pre-nursing, pre-allied health, and non-science majors. It provides an introduction to historical concepts of the nature of microorganisms, microbial diversity, the importance of microorganisms and acellular agents in the biosphere, and their roles in human and animal diseases. Major topics include bacterial structure as well as growth, physiology, genetics, and biochemistry of microorganisms. Emphasis is on medical microbiology, infectious diseases, and public health. Lab activities cover basics of culture and identification of bacteria and microbial ecology.
Required Prerequisite(s): TSI Met in Reading and Writing. TSI Met in Non-Algebraic Math pathway.
Recommended Prerequisite(s): MATH 1314

BIOL 2421 - Microbiology for Science Majors (Lecture + Lab) +
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 4
Principles of microbiology, including metabolism, structure, function, genetics, and phylogeny of microbes. The course will also examine the interactions of microbes with each other, hosts, and the environment. Laboratory activities will reinforce principles of microbiology, including metabolism, structure, function, genetics, and phylogeny of microbes.
Required Prerequisite(s): CHEM 1411, BIOL 1406, and BIOL 1407

BMGT 1301 - Supervision
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
The role of the supervisor. Includes managerial functions as applied to leadership, counseling, motivation, and human relations skills.

BMGT 1305 - Communications in Management
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Basic theory and processes of communication skills necessary for the management of an organization's workforce.

BMGT 1313 - Principles of Purchasing
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 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
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Concepts, terminology, principles, theories, and issues in the field of management.

BMGT 1331 - Production and Operations Management

Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Fundamentals of techniques used in the practice of production and operations management. Includes location, design, and resource allocation.

BMGT 1341 - Business Ethics
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 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 2309 - Leadership
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
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
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Includes planning and implementing quality programs in an organization and analyzing cost/benefit of quality. Also covers the impact of employee empowerment.

BMGT 2341 - Strategic Management
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Strategic management process, including analysis of how organizations develop and implement a strategy for achieving organizational objectives in a changing environment.

BTND 1371 - Introduction to Bartending/Mixologist
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
The study of mixologist as it relates to the act of bartending, exploring current issues and trends in mixology, service of responsible alcohol service, guest service, purchasing/inventory control of alcohol service and sanitation and safety.

BUSG 1302 - E-Business Management
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 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 1307 - Entrepreneurship & Economic Development
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Overview of entrepreneurship as an economic development strategy. Includes community support systems for entrepreneurs.

BUSG 1315 - Small Business Operations
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Operating a small business. Emphasizes management functions including planning, leading, organizing, staffing, and controlling operations.

BUSG 1341 - Small Business Financing

Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Financial structure of a small business. Includes business financing, budgeting, record keeping, taxation, insurance, and banking.

BUSG 1370 - Entrepreneurial Mindset
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Exploration of the values, abilities, and personal characteristics of successful entrepreneurs demonstrate. Skill development in the recognition, and application of innovative strategies and processes in start-up ventures and existing organizations. An overview of the wide-ranging nature of entrepreneurship: for profit, not for profit, and social enterprise. A central theme of the course will be to promote awareness of, interest in, and the development of an entrepreneurial mindset.

BUSG 2300 - Business Leadership Application
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Application of leadership skills that address social, political, economic, environmental, and legal issues.

BUSG 2305 - Business Law/Contracts
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Principles of law which form the legal framework for business activity including applicable statutes, contracts, and agency.

BUSG 2309 - Small Business Management and Entrepreneurship
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 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 1301 - Business Principles +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
This course provides a survey of economic systems, forms of business ownership, and considerations for running a business. Students will learn various aspects of business, management, and leadership functions; organizational considerations; and decision-making processes. Financial topics are introduced, including accounting, money and banking, and securities markets. Also included are discussions of business challenges in the legal and regulatory environment, business ethics, social responsibility, and international business. Emphasized is the dynamic role of business in everyday life.

BUSI 1307 - Personal Finance +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
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. NOTE: This course is not part of the business field of study and may not transfer toward a degree in business.

BUSI 2301 - Business Law +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
The course provides the student with foundational information about the U.S. legal system and dispute resolution, and their impact on business. The major content areas will include general principles of law, the relationship of business and the U.S. Constitution, state and federal legal systems, the relationship between law and ethics, contracts, sales, torts, agency law, intellectual property, and business law in the global context.
Required Prerequisite(s): High school coursework in U.S. history and government, or equivalent.

BUSI 2305 - Business Statistics +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 1
Descriptive and inferential statistical techniques for business and economic decision making. Topics include the collection, description, analysis, and summarization of data; probability; discrete and continuous random variables; the binomial and normal distributions; sampling distributions; tests of hypotheses; estimation and confidence intervals; linear regression; and correlation analysis. Statistical software is used to analyze data throughout the course. (BUSI 2305 is included in the Business Field of Study.)
Required Prerequisite(s): MATH 1324 or MATH 1314 and BCIS 1305

CDEC 1321 - The Infant and Toddler
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
A study of appropriate infant and toddler programs (birth to age three), including an overview of development, quality routines, learning environments, materials and activities, and teaching/guidance techniques.

CDEC 1323 - Observation and Assessment
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
A study of observation skills, assessment techniques, and documentation of children's development.

CDEC 1356 - Emergent Literacy for Early Childhood
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
An exploration of principles, methods, and materials for teaching language and literacy through a play-based integrated curriculum to children from birth through age eight.

CDEC 1358 - Creative Arts for Early Childhood
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
An exploration of principles, methods, and materials for teaching music, movement, visual arts, and dramatic play through process-oriented experiences to support divergent thinking for children birth through age eight.

CDEC 1359 - Children with Special Needs
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 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 1413 - Curriculum Resources for Early Childhood Programs
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 4
A study of the fundamentals of developmentally appropriate curriculum design and implementation in early care and education programs for children birth through age eight.
Required Prerequisite(s): CDEC 1419

CDEC 1419 - Child Guidance
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 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.
Recommended Prerequisite(s): TECA 1311 or TECA 1354

CDEC 2307 - Math and Science for Early Childhood

Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
An exploration of principles, methods, and materials for teaching children math and science concepts and process skills through discovery and play.

CDEC 2324 - Child Development Associate Training III
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Continuation of the requirements for the Child Development Associate credential (CDA). The three functional areas of study include family, program management and professionalism.

CDEC 2326 - Administration of Programs for Children I
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 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
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 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, technical applications in programs and planning parent education/partnerships.

CDEC 2341 - The School Age Child
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
A study of programs for the school age child, including an overview of development, learning environments, materials, activities and guidance techniques.

CDEC 2386 - Internship – Child Care Provider/Assistant
Semester Hours: 3 | **Lecture Hours:** 1 | **Laboratory Hours:** 8
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. Includes application of early childhood principles, methods, materials, and appropriate guidance techniques for teaching young children in a framework which utilizes active learning. Supervised direct application in a laboratory setting. This course serves as the Capstone experience for child development majors.
Required Prerequisite(s): CDEC 1419 and CDEC 1413

CETT 1409 - DC-AC Circuits
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 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(s): TSI Met in Algebraic Math pathway.

CETT 1441 - Solid State Circuits
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 3
A study of various semiconductor devices incorporated in circuits and their applications. Emphasis on circuit

construction, measurements, and analysis.
Required Prerequisite(s): CETT 1409 and TSI Met in Algebraic Math pathway.

CETT 1445 - Microprocessor
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 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(s): CETT 1449

CETT 1449 - Digital Systems
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 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(s): TSI Met in Algebraic Math pathway.

CETT 2435 - Advanced Microprocessors
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 3
An advanced course utilizing the microprocessor in control systems and interfacing. Emphasis on microprocessor hardware and implementation of peripheral interfacing.
Recommended Prerequisite(s): CETT 1445

CHEF 1264 - Practicum in Culinary Arts and Chef Training
Semester Hours: 2 | **Lecture Hours:** 0 | **Laboratory Hours:** 14
Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student. As outlined in the learning plan, apply the theory, concepts, and skills involving specialized materials, tools, equipment, procedures, regulations, laws, and interactions within and among political, economic, environmental, social, and legal systems associated with the occupation and the business/industry; and will demonstrate legal and ethical behavior, safety practices, interpersonal and teamwork skills, and appropriate written and verbal communication skills using the terminology of the occupation and the business/industry.
Required Prerequisite(s): Enrollment into class with approved petition. Class to be taken within last 12 hours of degree program.

CHEF 1301 - Basic Food Preparation
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 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/Corequisite(s): CHEF 1305

CHEF 1302 - Principles of Healthy Cuisine
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 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. Modify recipes and substitute ingredients to reduce calories, sugar, fat, and sodium; create recipes using healthy techniques; identify common food allergies and special dietary needs; relate nutritional guidelines to diets and recipe production.
Licensure/Certification Agency: American Culinary Federation Educational Institute.
Required Prerequisite(s): CHEF 1301, CHEF 1305, and CHEF 2301 with a "C" or better.

CHEF 1305 - Sanitation and Safety
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
A study of personal cleanliness; sanitary practices in food preparation; causes, investigation, control of illness caused by food contamination (Hazard Analysis Critical Control Points); and work place safety standards.

CHEF 1310 - Garde Manger
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 3
A study of cold foods and garnishes. Emphasis on design, techniques, and display of fine foods. Identify tools and equipment common to the Garde Manger Station; develop fundamental skills in preparation of forcemeats; demonstrate basic skills in charcuterie and aspic development; and demonstrate cold food techniques for presentation. Licensing/Certification Agency: American Culinary Federation Educational Institute
Required Prerequisite(s): CHEF 1301, CHEF 1305, and CHEF 2301 with a "C" or better

CHEF 1341 - American Regional Cuisine
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 3
A study of the development of regional cuisine's in the United States with emphasis on the similarities in production and service systems. Applications of skills to develop, organize, and acquire knowledge of recipe strategies and production systems. Compare the unique similarities and differences in American cuisine; explain the importance of the immigration phenomena in the shaping of American cuisine; produce regional cuisine dishes which employ standard principles, concepts, and quality factors. Licensure/Certification Agency: American Culinary Federation Educational Institute.
Required Prerequisite(s): CHEF 1301 CHEF 1305 and CHEF 2301 with a "C" or better

CHEF 1345 - International Cuisine
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 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. Explain the impact of global cuisines in the development of classical cooking principles and food preparation; interpret basic and advanced cooking principles in the preparation of classical food dishes; identify the origin of menu items. Licensing/Certification Agency: American Culinary Federation Educational Institute.
Required Prerequisite(s): CHEF 1301, CHEF 1305, and CHEF 2301 with a "C" or better

CHEF 2301 - Intermediate Food Preparation
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 4
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. Master the identification of spices, herbs, oils, and vinegar's; discuss and prepare various proteins; discuss and prepare various fruits, vegetables, and starches; discuss and prepare sandwiches and salads. Licensure/Certification Agency: American Culinary Federation Educational Institute.
Required Prerequisite(s): CHEF 1301 and CHEF 1305 with a "C" or better. Student must have current Serv-Safe Manager Certification. Enrollment into class with approved petition.

CHEM 1405 - Introductory Chemistry I (Lecture + Lab) +
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 3
Survey course introducing chemistry. Topics may include inorganic, organic, biochemistry, food/physiological chemistry, and environmental/consumer chemistry. Designed for non-science and allied health students.
Required Prerequisite(s): TSI Met in Non-Algebraic Math pathway.

CHEM 1406 - Introductory Chemistry I (Lecture + Lab, Allied Health Emphasis) +
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 3
Survey course introducing chemistry. Topics include inorganic, organic, biochemistry, food/physiological chemistry, and environmental/consumer chemistry. Emphasis on importance of chemical concepts to living organisms -including humans. Designed for non-science and allied health students.
Required Prerequisite(s): TSI Met in Non-Algebraic Math pathway.

CHEM 1407 - Introductory Chemistry II (Lecture + Lab) +
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 3
Continuation of CHEM 1405. Survey course introducing chemistry. Topics include inorganic, organic, biochemistry, food/physiological chemistry, and environmental/consumer chemistry. Designed for non-science and allied health students.
Required Prerequisite(s): CHEM 1406, CHEM 1405, or CHEM 1411

CHEM 1409 - General Chemistry for Engineering Majors (Lecture + Lab) +
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 3
Fundamental principles of chemistry for engineering majors; topics include measurements, fundamental properties of matter, states of matter, chemical reactions, acid-base concepts, chemical stoichiometry, periodicity of elemental properties, atomic structure, chemical bonding, molecular structure, solutions, properties of gases, phase-diagrams, introduction to chemical equilibrium, chemical thermodynamics, electrochemistry, and an introduction to descriptive inorganic chemistry and organic chemistry. Basic laboratory experiments supporting theoretical principles presented in lecture; introduction of the scientific method, experimental design, chemical instrumentation, data collection and analysis, and preparation of laboratory reports.
Required Prerequisite(s): MATH 1314 and high school Chemistry or equivalent preparation

CHEM 1411 - General Chemistry I (Lecture + Lab) +
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 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. Basic laboratory experiments supporting theoretical principles in lecture; introduction of the scientific method, experimental design, data collection and analysis, and preparation of laboratory reports.
Required Prerequisite(s): MATH 1314 or equivalent academic preparation
Recommended Prerequisite(s): High School Chemistry

CHEM 1412 - General Chemistry II (Lecture + Lab) +
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 3
Chemical equilibrium; phase diagrams and spectrometry; acid-base concepts; thermodynamics; kinetics; electrochemistry; nuclear chemistry; an introduction to organic chemistry and descriptive inorganic chemistry. Basic laboratory experiments supporting theoretical principles presented in lecture; introduction of the scientific method, experimental design, chemical instrumentation, data collection and analysis, and preparation of laboratory reports.
Required Prerequisite(s): CHEM 1411 or CHEM 1409

CHEM 2289 - Academic Cooperative +
Semester Hours: 2 | **Lecture Hours:** 1 | **Laboratory Hours:** 4
An instructional program designed to integrate on-campus study with practical hands-on work experience in the

physical sciences. In conjunction with class seminars, the individual students will set specific goals and objectives in the scientific study of inanimate objects, processes of matter and energy, and associated phenomena.
Required Prerequisite(s): CHEM 1411, CHEM 1405, or CHEM 1406 and instructor permission

CHEM 2389 - Academic Cooperative +
Semester Hours: 3 | **Lecture Hours:** 1 | **Laboratory Hours:** 5
An instructional program designed to integrate on-campus study with practical hands-on work experience in the physical sciences. In conjunction with class seminars, the individual students will set specific goals and objectives in the scientific study of inanimate objects, processes of matter and energy, and associated phenomena. Students will conduct undergraduate research under the direction of a faculty member in chemistry.
Required Prerequisite(s): CHEM 1411, CHEM 1405, or CHEM 1406 and instructor permission

CHEM 2423 - Organic Chemistry I (Lecture + Lab) +
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 4
Fundamental principles of organic chemistry will be studied, including the structure, bonding, properties, and reactivity of organic molecules; and properties and behavior of organic compounds and their derivatives. Emphasis is placed on organic synthesis and mechanisms. Includes study of covalent and ionic bonding, nomenclature, stereochemistry, structure and reactivity, reaction mechanisms, functional groups, and synthesis of simple molecules. Laboratory activities will reinforce fundamental principles of organic chemistry, including the structure, bonding, properties, and reactivity of organic molecules; and properties and behavior of organic compounds and their derivatives. Methods for the purification and identification of organic compounds will be examined. This course is intended for students in science or pre-professional programs.
Required Prerequisite(s): CHEM 1412

CHEM 2425 - Organic Chemistry II (Lecture + Lab) +
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 4
Continuation of CHEM 2423. Advanced principles of organic chemistry will be studied, including the structure, properties, and reactivity of aliphatic and aromatic organic molecules; and properties and behavior of organic compounds and their derivatives. Emphasis is placed on organic synthesis and mechanisms. Includes study of covalent and ionic bonding, nomenclature, stereochemistry, structure and reactivity, reaction mechanisms, functional groups, and synthesis of simple molecules. Laboratory activities reinforce advanced principles of organic chemistry, including the structure, properties, and reactivity of aliphatic and aromatic organic molecules; and properties and behavior of organic compounds and their derivatives. This course is intended for students in science or pre-professional programs.
Required Prerequisite(s): CHEM 2423

CHIN 1411 - Beginning Chinese I +
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 2
Fundamental skills in listening comprehension, speaking, reading, and writing. Includes basic vocabulary, grammatical structures, and culture through contextualized presentations, interactive activities, and extensive laboratory practice.

CHIN 1412 - Beginning Chinese II +
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 2
Fundamental skills in listening comprehension, speaking, reading, and writing. Includes basic vocabulary, grammatical structures, and culture. Laboratory practice.
Recommended Prerequisite(s): CHIN 1411

CJLE 1111 - Basic Firearms
Semester Hours: 1 | **Lecture Hours:** 0 | **Laboratory Hours:** 3
Firearm safety, cleaning and care techniques, proper shooting principles, and firearm proficiency. This course was designed to be repeated multiple times if content varies.
Required Corequisite(s): CJLE 1506, CJLE 1512, CJLE 1518, and CJLE 2247

CJLE 1345 - Intermediate Crime Scene Investigation
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 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 1373 - Serial Killers and Extraordinary Homicide
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
This course will cover the study of serial killers, mass murderers and other forms of extraordinary murder. We will examine the history and frequency of these crimes, the profiles of the killers (and their victims), explore theories of causation, and discuss the special issues surrounding investigation, prosecution, punishment, and prevention of these offender types.
Recommended Prerequisite(s): CRIJ 1301

CJLE 1375 - Sex Crimes
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
This course serves as an introduction to criminal sexual offending, sexual victimization and other sexual behaviors, both criminal and noncriminal, which might be encountered by criminal justice professionals during their course of their duties. The course will examine the various definitions of sexual offending, the major criminological theories related to sexual offending, a brief history of social and legal responses to sex and sexual offending, and potential treatments and criminal justice responses to sexual offenders. The course will also address the consequences of criminal sexual victimization for the crime victims.
Recommended Prerequisite(s): CRIJ 1301

CJLE 1506 - Basic Peace Officer I
Semester Hours: 5 | **Lecture Hours:** 3 | **Laboratory Hours:** 8
Basic preparation for a new peace officer. Should be taken in conjunction with Basic Peace Officer II and III to satisfy the Texas Commission on Law Enforcement (TCLEOSE) approved Basic Peace Officer Training Academy. ***THIS COURSE MAY BE OFFERED ONLY BY INSTITUTIONS LICENSED AS A POLICE ACADEMY BY Texas Commission on Law Enforcement.***
Required Corequisite(s): CJLE 1111, CJLE 1512, CJLE 1518, and CJLE 2247

CJLE 1512 - Basic Peace Officer II
Semester Hours: 5 | **Lecture Hours:** 3 | **Laboratory Hours:** 8
Basic preparation for a new peace officer. Should be taken in conjunction with Basic Peace Officer I and III to satisfy the Texas Commission on Law Enforcement (TCLEOSE) approved Basic Peace Officer Academy. ***THIS COURSE MAY BE OFFERED ONLY BY INSTITUTIONS LICENSED AS A POLICE ACADEMY BY Texas Commission on Law Enforcement.***
Required Corequisite(s): CJLE 1111, CJLE 1506, CJLE 1518, and CJLE 2247

CJLE 1518 - Basic Peace Officer III

Semester Hours: 5 | **Lecture Hours:** 3 | **Laboratory Hours:** 8
Basic preparation for a new peace officer. Should be taken in conjunction with Basic Peace Officer I and II 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.
Required Corequisite(s): CJLE 1111, CJLE 1506, CJLE 1512, and CJLE 2247

CJLE 2247 - Tactical Skills for Police
Semester Hours: 2 | **Lecture Hours:** 1 | **Laboratory Hours:** 4
Development of proficiency with a range of impact weapons and/or chemical agents and defensive techniques necessary to control a violent person. This course was designed to be repeated multiple times if content varies.
Required Corequisite(s): CJLE 1506, CJLE 1512, CJLE 1518, and CJLE 1111

CJSA 1347 - Police Organization and Administration
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Study of the principles of or organizational structure and administration. Topics include theories of management, motivation, and leadership. Focus on a quality approach toward police community interaction.

CJSA 1348 - Ethics in Criminal Justice
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 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 2331 - Child Abuse: Prevention and Investigation
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 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
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
A series of lectures and class participation exercises presenting selected topics currently confronting criminal justice personnel and the public they serve. (Capstone Course - Must be taken during the last semester of the program.)

CJSA 2388 - Internship in Criminal Justice and Safety Studies
Semester Hours: 3 | **Lecture Hours:** 0 | **Laboratory Hours:** 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 1110 - Basic Construction Safety
Semester Hours: 1 | **Lecture Hours:** 1 | **Laboratory Hours:** 0
Basic job site construction safety in residential, commercial, and industrial construction.

CNBT 1300 - Residential and Light Commercial Construction Drawings
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 3
Introduction to construction drawings with a focus on residential and light commercial construction.

CNBT 1302 - Mechanical, Electrical & Plumbing Systems in Construction I

Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
A presentation of the basic mechanical, electrical, and plumbing components in construction and their relationship to residential and light commercial buildings.

CNBT 1311 - Construction Methods and Material I
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Introduction to construction materials and methods and their applications.

CNBT 1316 - Construction Technology I
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 3
Introduction to site preparation foundations, form work, safety, tools, and equipment.

CNBT 1342 - Building Codes and Inspections
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Building codes and standards applicable to building construction and inspection processes.

CNBT 1344 - Construction Materials Testing
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 3
Laboratory testing and field inspection procedures associated with construction materials.

CNBT 1346 - Construction Estimating I
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 3
Fundamentals of estimating materials, equipment, and labor costs in construction.
Required Corequisite(s): CNBT 1300

CNBT 1350 - Construction Technology II
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 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 2266 - Practicum in Construction Engineering Technology/Technician
Semester Hours: 2 | **Lecture Hours:** 0 | **Laboratory Hours:** 14
Practical, general workplace training supported by an individualized learning plan developed by employer, College, and student. This is a Capstone course.
Required Prerequisite(s): Approval of Department Chair

CNBT 2335 - Computer-Aided Construction Scheduling
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 3
Advanced construction scheduling utilizing computer scheduling software to perform various scheduling procedures.
Required Prerequisite(s): CNBT 1346

CNBT 2337 - Construction Estimating II
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 3
Advanced estimating concepts using computer software for construction and crafts.
Required Prerequisite(s): CNBT 1346

CNBT 2342 - Construction Management I

Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Overview of the construction industry and management skills on the job site. Topics include written and oral communications, leadership and motivation, problem solving, and decision making. The course also deals with the concepts and principles in estimating, planning, scheduling, controlling and construction ethics.

COMM 1307 - Introduction to Mass Communication +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Survey of basic content and structural elements of mass media and their functions and influences on society.

COMM 1316 - News Photography I +
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 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 - Introduction to Electronic Media +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
An overview of the development, regulation, economics, social impact, and industry practices in electronic media.

COMM 1336 - Video Production I +
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 4
Practical experience in the operation of studio and control room equipment, including both pre- and post-production needs.
Recommended Prerequisite(s): COSC 1301

COMM 2303 - Audio Production +
Semester Hours: 3 | **Lecture Hours:** 1 | **Laboratory Hours:** 3
Practical experience in the operation of audio equipment, including both pre- and post-production needs.
Recommended Prerequisite(s): COSC 1301

COMM 2311 - Media Writing +
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 3
Fundamentals of writing for the mass media. Includes instruction in professional methods and techniques for gathering, processing, and delivering content.
Recommended Prerequisite(s): Average keyboarding skills

COMM 2332 - Radio and Television News +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 3
Preparation and analysis of news styles for the electronic media.

COMM 2339 - Writing for Radio, Television and Film +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 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 - Film Appreciation +
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 2
Survey and analyze cinema including history, film techniques, production procedures, selected motion pictures, and cinema's impact on and reflection of society. Students may not earn credit for both COMM-2366 and DRAM 2366.

COSC 1301 - Introduction to Computing +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 1
Overview of computer systems-hardware, operating systems, the Internet, and application software including word processing, spreadsheets, presentation graphics, and databases. Current topics such as the effect of computers on society, and the history and use of computers in business, educational, and other interdisciplinary settings are also studied. This course is not intended to count toward a student's major field of study in business or computer science.

COSC 1420 - "C" Programming +
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 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(s): COSC 1436

COSC 1436 - Programming Fundamentals I +
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 2
Introduces the fundamental concepts of structured programming and provides a comprehensive introduction to programming for computer science and technology majors. Topics include software development methodology, data types, control structures, functions, arrays, and the mechanics of running, testing, and debugging. This course assumes computer literacy. This course is included in the Field of Study Curriculum for Computer Science.
Recommended Prerequisite(s): COSC 1301

COSC 1437 - Programming Fundamentals II +
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 2
This course focuses on the object-oriented programming paradigm, emphasizing the definition and use of classes along with fundamentals of object-oriented design. The course includes basic analysis of algorithms, searching and sorting techniques, and an introduction to software engineering processes. Students will apply techniques for testing and debugging software. (This course is included in the Field of Study Curriculum for Computer Science.)
Required Prerequisite(s): COSC 1436

COSC 2425 - Computer Organization +
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 2
The organization of computer systems is introduced using assembly language. Topics include basic concepts of computer architecture and organization, memory hierarchy, data types, computer arithmetic, control structures, interrupt handling, instruction sets, performance metrics, and the mechanics of testing and debugging computer systems. Embedded systems and device interfacing are introduced.
Required Prerequisite(s): COSC 1436

COSC 2436 - Programming Fundamentals III +
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 2
Further applications of programming techniques, introducing the fundamental concepts of data structures and algorithms. Topics include data structures (including stacks, queues, linked lists, hash tables, trees, and graphs), searching, sorting, recursion, and algorithm analysis. Programs will be implemented in an appropriate object oriented language. (This course is included in the Field of Study Curriculum for Computer Science.)
Required Prerequisite(s): COSC 1437

CPMT 1351 - IT Essentials: PC Hardware and Software

Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 3
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 addressed by CISCO CCENT, CCNA, and COMPTIA certifications. 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.

CRIJ 1301 - Introduction to Criminal Justice +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
This course provides a historical and philosophical overview of the American criminal justice system, including the nature, extent, and impact of crime; criminal law; and justice agencies and processes.

CRIJ 1306 - Court Systems and Practices +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
This course is a study of the court system as it applies to the structures, procedures, practices and sources of law in American courts, using federal and Texas statutes and case law.
Recommended Prerequisite(s): CRIJ 1310

CRIJ 1307 - Crime in America +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
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(s): SOCI 1301

CRIJ 1310 - Fundamentals of Criminal Law +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
This course is the study of criminal law including application of definitions, statutory elements, defenses and penalties using Texas statutes, the Model Penal Code, and case law. The course also analyzes the philosophical and historical development of criminal law and criminal culpability.

CRIJ 1313 - Juvenile Justice System +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 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 +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
This course is a survey of institutional and non-institutional corrections. Emphasis will be placed on the organization and operation of correctional systems; treatment and rehabilitation; populations served; Constitutional issues; and current and future issues.

CRIJ 2314 - Criminal Investigation +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Investigative theory; collection and preservation of evidence; sources of information; interview and interrogation; uses of forensic sciences; and case and trial preparation.
Recommended Prerequisite(s): CRIJ 1310

CRIJ 2323 - Legal Aspects of Law Enforcement +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Police authority; responsibilities; constitutional constraints; laws of arrest, search, and seizure; and police liability.

CRIJ 2328 - Police Systems and Practices +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
This course examines the establishment, role and function of police in a democratic society. It will focus on types of police agencies and their organizational structure, police-community interaction, police ethics, and use of authority.

CSIR 1459 - Digital Data Communication
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 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(s): CETT 1441 and CETT 1445

CTMT 1271 - Computed Tomography (CT) Review
Semester Hours: 2 | **Lecture Hours:** 2 | **Laboratory Hours:** 0
Computed Tomography (CT) Review addresses 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.
Required Prerequisite(s): Graduate of a 2-year accredited medical radiography program in ionizing radiation, ARRT certification in Radiography, Radiation Therapy, or Nuclear Medicine

CTMT 2336 - Computed Tomography Equipment and Methodology
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Skill development in the operation of computed tomographic equipment, focusing on routine protocols, image quality, quality assurance, and radiation protection.

CTMT 2460 - Clinical-Radiologic Technology/Science-Radiographer
Semester Hours: 4 | **Lecture Hours:** 0 | **Laboratory Hours:** 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.

CTMT 2461 - Clinical-Radiologic Technology/Science-Radiographer
Semester Hours: 4 | **Lecture Hours:** 0 | **Laboratory Hours:** 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.

DAAC 1304 - Pharmacology of Addiction
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 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 2307 - Addicted Family Intervention
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 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 2330 - Multicultural Counseling
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
An examination of the multicultural counseling theories and characteristics of diverse populations.

DAAC 2341 - Counseling Alcohol and Other Drug Addictions
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Advanced examination of knowledge, skills, attitudes, techniques, confidentiality, and ethical guidelines applied in the counseling, treatment, prevention, and recovery of substance use disorders

DAAC 2343 - Current Issues
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Examination of current issues related to substance use and addictive disorders. Includes special populations, dual diagnosis, ethics, gambling, and infectious diseases associated with addiction counseling.

DAAC 2366 - Practicum: Substance Abuse/Addiction Counseling
Semester Hours: 3 | **Lecture Hours:** 0 | **Laboratory Hours:** 21
Practical, general workplace training supported by an individualized learning plan developed by the employer, College, and student.
Required Prerequisite(s): Consent of Program Coordinator
Required Corequisite(s): DAAC 2343

DANC 1110 - Tap Dance +
Semester Hours: 1 | **Lecture Hours:** 0 | **Laboratory Hours:** 3
Instruction in the fundamental techniques and concepts associated with Tap dance. May be repeated for credit once.

DANC 1112 - Dance Practicum +
Semester Hours: 1 | **Lecture Hours:** 0 | **Laboratory Hours:** 3
Practicum in dance related topics with emphasis on practical skills necessary for the field. May be repeated for credit once.

DANC 1151 - Freshman Dance Performance +
Semester Hours: 1 | **Lecture Hours:** 0 | **Laboratory Hours:** 3
Instruction in dance performance through experiential projects at the freshman level. May be repeated for credit once.

DANC 1201 - Dance Composition - Improvisation +
Semester Hours: 2 | **Lecture Hours:** 1 | **Laboratory Hours:** 2
This introductory course in improvisation will investigate spontaneous problem solving as a means of generating movement for dance composition. Students will be called upon to explore and respond to various forms of stimuli in a safe and supportive learning environment within solo and group work.

DANC 1241 - Beginning Ballet +
Semester Hours: 2 | **Lecture Hours:** 1 | **Laboratory Hours:** 2
Instruction in the fundamental techniques and concepts associated with ballet. May be repeated for credit once.

DANC 1245 - Beginning Modern Dance +
Semester Hours: 2 | **Lecture Hours:** 1 | **Laboratory Hours:** 2
Instruction in the fundamental techniques and concepts associated with the concert form of modern dance. May be repeated for credit once.

DANC 1247 - Beginning Jazz Dance +
Semester Hours: 2 | **Lecture Hours:** 1 | **Laboratory Hours:** 2
Instruction in the fundamental techniques and concepts associated with jazz dance. May be repeated for credit once.

DANC 1301 - Dance Composition - Choreography +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
This course is an examination of the principles of movement generation, phrasing, choreographic structure, and manipulation. Integration of choreographic principles will foster the growth of personal artistic style.
Required Prerequisite(s): DANC 1201

DANC 2151 - Sophomore Dance Performance +
Semester Hours: 1 | **Lecture Hours:** 0 | **Laboratory Hours:** 3
Instruction in dance performance through experiential projects at the sophomore level. May be repeated for credit once.

DANC 2241 - Intermediate Ballet +
Semester Hours: 2 | **Lecture Hours:** 1 | **Laboratory Hours:** 2
Instruction in the intermediate techniques and concepts associated with ballet. May be repeated for credit once.

DANC 2245 - Intermediate Modern Dance +
Semester Hours: 2 | **Lecture Hours:** 1 | **Laboratory Hours:** 2
Instruction in the intermediate techniques and concepts associated with the concert form of modern dance. May be repeated for credit once.

DANC 2247 - Intermediate Jazz Dance +
Semester Hours: 2 | **Lecture Hours:** 1 | **Laboratory Hours:** 2
Instruction in the intermediate techniques and concepts associated with jazz dance. May be repeated for credit once.

DANC 2303 - Dance Appreciation +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
A general survey of dance forms designed to create an appreciation of the vocabulary, techniques, and purposes of the creative process. This course includes critical interpretation and evaluations of choreographic works and dance forms within cultural and historical contexts.

DEMR 1229 - Preventative Maintenance
Semester Hours: 2 | **Lecture Hours:** 1 | **Laboratory Hours:** 3
An introductory course designed to provide the student with basic knowledge of proper servicing practices. Content includes record keeping and condition of major systems.
Required Prerequisite(s): DEMR 1305

DEMR 1230 - Steering and Suspension I
Semester Hours: 2 | **Lecture Hours:** 1 | **Laboratory Hours:** 3
A study of design, function, maintenance, and repair of steering and suspension systems. Emphasis on

troubleshooting and repair of failed components.
Required Prerequisite(s): DEMR 1305

DEMR 1280 - Cooperative Education - Diesel Mechanics Technology/Technician
Semester Hours: 2 | **Lecture Hours:** 1 | **Laboratory Hours:** 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. Includes a lecture component.
Required Prerequisite(s): DEMR 1301 and DEMR 1305

DEMR 1301 - Shop Safety and Procedures
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 2
A study of shop safety, rules, basic shop tools, and test equipment.

DEMR 1305 - Basic Electrical Systems
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 2
Basic principles of electrical systems of diesel powered equipment with emphasis on starters, alternators, and batteries
Required Prerequisite(s): DEMR 1301

DEMR 1306 - Diesel Engine I
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 2
An introduction to the basic principles of diesel engines and systems.
Required Prerequisite(s): DEMR 1305

DEMR 1316 - Basic Hydraulics
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 2
Fundamentals of hydraulics including components and related systems.
Required Prerequisite(s): DEMR 1305

DEMR 1317 - Basic Brake Systems
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 2
Basic principles of brake systems of diesel powered equipment. Emphasis on maintenance, repairs, and troubleshooting.
Required Prerequisite(s): DEMR 1305

DEMR 1321 - Power Train I
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 2
Fundamental repair and theory of power trains including clutches, transmissions, drive shafts, and differentials. Emphasis on inspection and repair.
Required Prerequisite(s): DEMR 1305

DEMR 1323 - Heating, Ventilation, and Air Conditioning (HVAC) Troubleshooting and Repair
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 2
Introduction to heating, ventilation, and air conditioning theory, testing, and repair. Emphasis on refrigerant reclamation, safety procedures, specialized tools, and repairs.
Required Prerequisite(s): DEMR 1305

DEMR 1327 - Tractor Trailer Service and Repair
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 2
An introduction to and familiarization with components and systems related to tractor trailer service. Emphasis on records required by the Department of Transportation.
Required Prerequisite(s): DEMR 1305

DFTG 1305 - Introduction to Technical Drawing
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 4
An introduction to reading, interpreting, and developing technical drawings, including the principles of drafting and computer-aided design.

DFTG 1409 - Basic Computer-Aided Drafting
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 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.
Required Prerequisite(s): DFTG 1305

DFTG 1417 - Architectural Drafting-Residential
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 3
Preparation of architectural drawings for residential structures with emphasis on light frame construction methods, including architectural drafting procedures, practices, terms, and symbols.
Required Prerequisite(s): DFTG 1305 and DFTG 1409

DFTG 1430 - Civil Drafting 1
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 3
Preparation of civil drawings including drafting methods and principles used in civil engineering.

DFTG 1445 - Parametric Modeling and Design
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 3
Parametric-based design software for 3D design and drafting.
Required Prerequisite(s): DFTG 1305 and DFTG 1409

DFTG 1458 - Electrical and Electronics Drafting
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 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.
Required Prerequisite(s): DFTG 1305 and DFTG 1409

DFTG 2402 - Machine Drafting
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 3
Production of detail and assembly drawings of machines, threads, and gears, utilizing tolerances, limit dimensioning, and surface finishes.
Required Prerequisite(s): DFTG 1305 and DFTG 1409

DFTG 2419 - Intermediate Computer-Aided Drafting

Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 3
A continuation of practices and techniques in computer-aided design including the development and use of prototype drawings, construction of pictorial drawings, extracting data, and basics of 3D.
Required Prerequisite(s): DFTG 1305 and DFTG 1409

DFTG 2421 - Topographical Drafting
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 3
Plotting of surveyor's field notes. Includes drawing elevations, contour lines, plan and profiles, and laying out traverses.
Required Prerequisite(s): DFTG 1305 and DFTG 1409

DFTG 2423 - Pipe Drafting
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 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.
Required Prerequisite(s): DFTG 1305 and DFTG 1409

DFTG 2427 - Landscape Drafting
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 3
A study of site planning and landscape design.
Required Prerequisite(s): DFTG 1305 and DFTG 1409

DFTG 2428 - Architectural Drafting - Commercial
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 3
Preparation of architectural drawings for commercial structures with emphasis on construction methods, including architectural drafting procedures, practices, governing codes, accessibility requirements, terms and symbols.
Required Prerequisite(s): DFTG 1305, DFTG 1409, and DFTG 1417

DFTG 2431 - Advanced Technologies in Architectural Design and Drafting
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 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.
Required Prerequisite(s): DFTG 1305, DFTG 1409, DFTG 1417, and DFTG 2428

DFTG 2438 - Final Project - Advanced Drafting
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 3
An advanced course in which students produce a comprehensive project from conception to conclusion.
Required Prerequisite(s): DFTG 1305, DFTG 1409, DFTG 1417, DFTG 2421, DFTG 2428, and DFTG 2440

DFTG 2440 - Solid Modeling and Design
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 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.
Required Prerequisite(s): DFTG 1305 and DFTG 1409

DFTG 2458 - Advanced Machine Design

Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 3
Design process skills for the production of complete design package, which includes jig and fixture design, extrusion dies, and injection mold design.
Required Prerequisite(s): DFTG 1305 and DFTG 1409

DHYG 1191 - Special Topics in Dental Hygienist
Semester Hours: 1 | **Lecture Hours:** 0 | **Laboratory Hours:** 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
Semester Hours: 2 | **Lecture Hours:** 2 | **Laboratory Hours:** 0
General nutrition and nutritional biochemistry emphasizing the effect nutrition has on oral health.

DHYG 1215 - Community Dentistry
Semester Hours: 2 | **Lecture Hours:** 1 | **Laboratory Hours:** 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 1219 - Dental Materials
Semester Hours: 2 | **Lecture Hours:** 1 | **Laboratory Hours:** 3
Physical and chemical properties of dental materials including the application and manipulation of the various materials used in dentistry.

DHYG 1227 - Preventive Dental Hygiene Care
Semester Hours: 2 | **Lecture Hours:** 1 | **Laboratory Hours:** 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.

DHYG 1235 - Pharmacology for the Dental Hygienist
Semester Hours: 2 | **Lecture Hours:** 2 | **Laboratory Hours:** 1
Classification of drugs and their uses, actions, interactions, side effects, contraindications, with emphasis on dental applications.

DHYG 1239 - General and Oral Pathology
Semester Hours: 2 | **Lecture Hours:** 2 | **Laboratory Hours:** 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
Semester Hours: 2 | **Lecture Hours:** 0 | **Laboratory Hours:** 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

Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 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
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 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
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Normal and diseased periodontium including the structural, functional, and environmental factors. Emphasis on etiology, pathology, treatment modalities, and therapeutic and preventive periodontics.

DHYG 1431 - Preclinical Dental Hygiene
Semester Hours: 4 | **Lecture Hours:** 2 | **Laboratory Hours:** 6
Foundational knowledge for performing clinical skills and management of medical emergencies for patients with emphasis on procedures and rationale for performing dental hygiene care. Introduction to ethical principles as they apply to dental hygiene care.

DHYG 2153 - Dental Hygiene Practice
Semester Hours: 1 | **Lecture Hours:** 0 | **Laboratory Hours:** 2
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, preparation for employment, and introduction to the dental team.

DHYG 2201 - Dental Hygiene Care I
Semester Hours: 2 | **Lecture Hours:** 2 | **Laboratory Hours:** 1
Dental hygiene care for the medically or dentally compromised patient including supplemental instrumentation techniques.

DHYG 2331 - Dental Hygiene Care II
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 3
A continuation of Dental Hygiene Care I. Dental hygiene care for the medically or dentally compromised patient including advanced instrumentation techniques.

DHYG 2360 - Clinical-Dental Hygiene/Hygienist
Semester Hours: 3 | **Lecture Hours:** 0 | **Laboratory Hours:** 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
Semester Hours: 3 | **Lecture Hours:** 0 | **Laboratory Hours:** 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.

DITA 1300 - Dietary Manager I
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 3
Preparation for supervisory roles in food service departments. Emphasis on normal and therapeutic nutrition and food service systems management. Major topics include dietary and meal planning guidelines, sources and functions of nutrients, diet therapy, nutritional assessment and care, food production management and purchasing, and regulatory agencies.
Required Prerequisite(s): HECO 1322 and TSI Met in Non-Algebraic Math pathway
Recommended Corequisite(s): DITA 1301

DITA 1301 - Dietary Manager II
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 3
Emphasis on food service sanitation and safety, administrative and personnel management. Major topics include regulatory agencies, computer applications, production management, budgeting and cost control, personnel management, quality assurance, leadership skills, human relations, and communications. *Student may take this course prior to DITA 1300 Dietary Manager I.*
Required Prerequisite(s): TSI Met in Non-Algebraic Math pathway
Recommended Corequisite(s): DITA 1300

DMSO 1110 - Introduction to Sonography
Semester Hours: 1 | **Lecture Hours:** 1 | **Laboratory Hours:** 1
An introduction to the profession of sonography and the role of the sonographer. Emphasis on medical terminology, ethical/legal aspects, written and verbal communication, and professional issues relating to registry, accreditation, professional organizations and history of the profession.
Required Prerequisite(s): Admission into the Diagnostic Medical Sonography Program
Required Corequisite(s): DMSO 1302, DMSO 1441, and DMSO 1266

DMSO 1266 - Practicum (or Field Experience) Diagnostic Medical Sonography/Sonographer and Ultrasound Technician
Semester Hours: 2 | **Lecture Hours:** 0 | **Laboratory Hours:** 14
Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and students.
Required Prerequisite(s): Admission into the Diagnostic Medical Sonography Program
Required Corequisite(s): DMSO 1110, DMSO 1302, and DMSO 1441

DMSO 1267 - Practicum (or Field Experience) Diagnostic Medical Sonography/Sonographer and Ultrasound Technician
Semester Hours: 2 | **Lecture Hours:** 0 | **Laboratory Hours:** 16
Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.
Required Prerequisite(s): Admission into the Diagnostic Medical Sonography Program
Required Corequisite(s): DMSO 2242 and DMSO 2253

DMSO 1302 - Basic Ultrasound Physics
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 2
Basic acoustical physics and acoustical waves in human tissue. Emphasis on ultrasound transmission in soft tissues, attenuation of sound energy, parameters affecting sound transmission, and resolution of sound beams.
Required Prerequisite(s): Admission into the Diagnostic Medical Sonography Program
Required Corequisite(s): DMSO 1110, DMSO 1441, and DMSO 1266

DMSO 1355 - Sonographic Pathophysiology
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Pathology and pathophysiology of the abdominal structures visualized with ultrasound. Includes abdomen, and pelvis.
Required Prerequisite(s): Admission into the Diagnostic Medical Sonography Program
Required Corequisite(s): DMSO 1367 and DSVT 1300

DMSO 1366 - Practicum (or Field Experience) Diagnostic Medical Sonography/Sonographer and Ultrasound Technician
Semester Hours: 3 | **Lecture Hours:** 0 | **Laboratory Hours:** 24
Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.
Required Prerequisite(s): Admission into the Diagnostic Medical Sonography Program
Required Corequisite(s): DSVT 1103, DMSO 2305, and DMSO 2243

DMSO 1367 - Practicum (or Field Experience) Diagnostic Medical Sonography/Sonographer and Ultrasound Technician
Semester Hours: 3 | **Lecture Hours:** 0 | **Laboratory Hours:** 24
Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.
Required Prerequisite(s): Admission into the Diagnostic Medical Sonography Program
Required Corequisite(s): DMSO 1355 and DSVT 1300

DMSO 1441 - Abdominopelvic Sonography
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 4
Normal anatomy and physiology of the abdominal and pelvic cavities as related to scanning techniques, transducer selection, and scanning protocols.
Required Prerequisite(s): Admission into the Diagnostic Medical Sonography Program
Required Corequisite(s): DMSO 1110, DMSO 1302, and DMSO 1266

DMSO 2130 - Advanced Ultrasound and Review
Semester Hours: 1 | **Lecture Hours:** 0 | **Laboratory Hours:** 3
Knowledge, skills, and professional values within a legal and ethical framework addressing emerging technologies and professional development.
Required Prerequisite(s): Admission into the Diagnostic Medical Sonography Program
Required Corequisite(s): DSVT 2335 and DSVT 1364

DMSO 2242 - Sonography of High Risk Obstetrics
Semester Hours: 2 | **Lecture Hours:** 1 | **Laboratory Hours:** 2
Maternal disease and fetal abnormalities. Includes scanning techniques, patient history and laboratory data, transducer selection, and scanning protocols.
Required Prerequisite(s): Admission into the Diagnostic Medical Sonography Program
Required Corequisite(s): DMSO 2253 and DMSO 1267

DMSO 2243 - Advanced Ultrasound Physics
Semester Hours: 2 | **Lecture Hours:** 1 | **Laboratory Hours:** 2
Theory and application of ultrasound principles. Includes advances in ultrasound technology.

Required Prerequisite(s): Admission into the Diagnostic Medical Sonography Program
Required Corequisite(s): DMSO 2305, DMSO 1366, and DSVT 1103

DMSO 2253 - Sonography of Superficial Structures
Semester Hours: 2 | **Lecture Hours:** 2 | **Laboratory Hours:** 1
Detailed study of normal and pathological superficial structures as related to scanning techniques, patient history and laboratory data, transducer selection, and scanning protocols.
Required Prerequisite(s): Admission into the Diagnostic Medical Sonography Program
Required Corequisite(s): DMSO 2242 and DMSO 1267

DMSO 2305 - Sonography of Obstetrics/Gynecology
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 4
Detailed study of the pelvis and obstetrics/gynecology as related to scanning techniques, patient history and laboratory data, transducer selection, and scanning protocols.
Required Prerequisite(s): Admission into the Diagnostic Medical Sonography Program
Required Corequisite(s): DSVT 1103, DMSO 2243, and DMSO 1366

DNTA 1103 - Registered Dental Assistant Exam Review
Semester Hours: 1 | **Lecture Hours:** 1 | **Laboratory Hours:** 0
Preparation for Dental Assistants to meet Texas State Board of Dental Examiners (TSBDE) examination requirements. Includes review of radiology, infection control, and jurisprudence and take the TSBDE exam upon completion of course.

DNTA 1202 - Communication and Behavior in the Dental Office
Semester Hours: 2 | **Lecture Hours:** 1 | **Laboratory Hours:** 2
The study of human interaction and communication in the dental office.

DNTA 1245 - Preventive Dentistry
Semester Hours: 2 | **Lecture Hours:** 1 | **Laboratory Hours:** 2
The study of nutrition and preventable dental disease and community dental health.

DNTA 1251 - Dental Office Management
Semester Hours: 2 | **Lecture Hours:** 2 | **Laboratory Hours:** 0
Use computers/and or manual systems to process dental information and interpret and practice learned dental office management skills.

DNTA 1301 - Dental Materials
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 3
Composition, properties, procedures and safety standards related to dental materials.

DNTA 1305 - Dental Radiology
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 3
Introduction to radiation physics, radiation protection, and the operation of radiographic equipment. Instruction in exposure, processing and mounting of dental radiographs, and study of federal and state safety and standard practices.

DNTA 1311 - Dental Science

Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 2
A fundamental study of anatomical systems with emphasis placed on head and neck anatomy. Topics include embryology of the teeth along with basic dental terminology.

DNTA 1315 - Chairside Assisting
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 2
A study of pre-clinical chairside assisting procedures, instrumentation, OSHA and other regulatory agencies' standards.

DNTA 1353 - Dental Assisting Applications
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 3
An expanded study of dental assisting techniques with emphasis on four-handed dentistry and utilization of armamentarium for general practice and specialty procedures
Recommended Prerequisite(s): DNTA 1315

DNTA 1360 - Clinical - Dental Assisting/Assistant
Semester Hours: 3 | **Lecture Hours:** 0 | **Laboratory Hours:** 14
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(s): Coordinator Approval

DRAM 1120 - Theatre Practicum I +
Semester Hours: 1 | **Lecture Hours:** 0 | **Laboratory Hours:** 3
Practicum in theater open to all students with emphasis on technique and procedures with experience gained in play production.

DRAM 1121 - Theatre Practicum II +
Semester Hours: 1 | **Lecture Hours:** 0 | **Laboratory Hours:** 3
Practicum in theater open to all students with emphasis on technique and procedures with experience gained in play production.

DRAM 1310 - Theater Appreciation +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Survey of theater including its history, dramatic works, stage techniques, production procedures, and relation to other art forms. Participation in productions may be required.

DRAM 1322 - Stage Movement +
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 4
Principles, practices, and exercises in awareness, relaxation, freedom, flexibility, and expressiveness in the actor's physical instrument.

DRAM 1330 - Stagecraft I +
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 4
Study and application of the methods and components of theatrical production which may include one or more of the following: theater facilities, scenery construction and painting, properties, lighting, costume, makeup, sound, and theatrical management.

DRAM 1341 - Stage Makeup +

Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 4
Design and execution of makeup for the stage performer. Includes discussion of makeup principles and practical experience of makeup application.

DRAM 1351 - Acting I +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
An introduction to the fundamental principles and tools of acting as used in auditions, rehearsals, and performances. This may include ensemble performing, character and script analysis, and basic theater terminology. This exploration will emphasize the development of the actor's instrument: voice, body and imagination.

DRAM 1352 - Acting II +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Exploration and further training within the basic principles and tools of acting, including an emphasis on critical analysis of oneself and others. The tools include ensemble performing, character and script analysis, and basic theater terminology. This will continue the exploration of the development of the actor's instrument: voice, body and imagination.

DRAM 2120 - Theatre Practicum III +
Semester Hours: 1 | **Lecture Hours:** 0 | **Laboratory Hours:** 3
Practicum in theatre open to all students with emphasis on technique and procedures with experience gained in play productions.

DRAM 2121 - Theatre Practicum IV +
Semester Hours: 1 | **Lecture Hours:** 0 | **Laboratory Hours:** 3
Practicum in theatre open to all students with emphasis on technique and procedures with experience gained in play productions.

DRAM 2331 - Stagecraft II +
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 4
Continued study and application of the methods and components of theatrical production which may include one or more of the following: theater facilities, scenery construction and painting, properties, lighting, costume, makeup, sound and theatrical management. Topics will alternate with DRAM 1330.

DRAM 2335 - Theater Design
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Survey of principles and practices of theater design and its elements. The fundamentals of art and their application to major areas of theatrical design.

DRAM 2336 - Voice for the Actor +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Principles, practices, and exercises in awareness, relaxation, freedom, flexibility, and expressiveness in the actor's vocal instrument.

DRAM 2355 - Script Analysis +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Examination of foundational skills for understanding the structure and content of play scripts for interpretation and conceptualization in theater productions by directors, designers, actors, and technicians. Introduces students to significant plays in the history of dramatic literature in the playwright's social and cultural context.

DRAM 2366 - Film Appreciation +
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 2
Survey and analyze cinema including history, film techniques, production procedures, selected motion pictures, and cinema's impact on and reflection of society. Students may not earn credit for both DRAM-2366 and COMM 2366.

DSVT 1103 - Introduction to Vascular Technology
Semester Hours: 1 | **Lecture Hours:** 0 | **Laboratory Hours:** 3
Introduction to basic non-invasive vascular theories. Emphasizes image orientation, transducer handling, and identification of anatomic structures.
Required Prerequisite(s): Admission into the Diagnostic Medical Sonography Program
Required Corequisite(s): DMSO 2305, DMSO 2243, and DMSO 1366

DSVT 1300 - Principles of Vascular Technology
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 4
Introduction to non-invasive vascular technology modalities. Includes 2D imaging, Doppler, plethysmography, and segmental pressures. Emphasis on performing basic venous and arterial imaging and non-imaging exams.
Required Prerequisite(s): Admission into the Diagnostic Medical Sonography Program
Required Corequisite(s): DMSO 1355 and DMSO 1367

DSVT 1364 - Practicum (or Field Experience) Diagnostic Medical Sonography/Sonographer and Ultrasound Technician
Semester Hours: 3 | **Lecture Hours:** 0 | **Laboratory Hours:** 24
Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.
Required Prerequisite(s): Admission into the Diagnostic Medical Sonography Program
Required Corequisite(s): DMSO 2130 and DSVT 2335

DSVT 2335 - Advanced Vascular Technology
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 2
Non-Invasive vascular concepts. Includes harmonics, contrast, power Doppler, digital intraoperative, intravascular, abdominal vascular, graft surveillance, vascular interventions, and research. Emphasizes extensive review of case studies, technical reporting, preliminary interpretation, and registry review.
Required Prerequisite(s): Admission into the Diagnostic Medical Sonography Program
Required Corequisite(s): DMSO 2130 and DSVT 1364

ECON 2301 - Principles of Macroeconomics +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 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.

ECON 2302 - Principles of Microeconomics +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 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 economic majors.
Recommended Prerequisite(s): ECON 2301

EDUC 1300 - Learning Framework +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
A study of the research and theory in the psychology of learning, cognition, and motivation; factors that impact learning; and application of learning strategies. Theoretical models of strategic learning, cognition, and motivation serve as the conceptual basis for the introduction of college-level student academic strategies. Students use assessment instruments (e.g., learning inventories) to help them identify their own strengths and weaknesses as strategic learners. Students are ultimately expected to integrate and apply the learning skills discussed across their own academic programs and become effective and efficient learners. Students developing these skills should be able to continually draw from the theoretical models they have learned. (A student may NOT earn credit for both EDUC-1300 and PSYC 1300.)
NOTE: While traditional study skills courses include some of the same learning strategies – e.g., note-taking, reading, test preparation etc. – as learning framework courses, the focus of study skills courses is solely or primarily on skill acquisition. Study skills courses, which are not under-girded by scholarly models of the learning process, are not considered college-level, and, therefore, are distinguishable from Learning Framework courses.

EDUC 1301 - Introduction to the Teaching Profession +
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 2
An enriched, integrated pre-service course and content experience that provides active recruitment and institutional support of students interested in a teaching career, especially in high-need fields. The course provides students with opportunities to participate in early field observations at all levels of P-12 schools with varied and diverse student populations and provides students with support from college and school faculty, preferably in small cohort groups, for the purpose of introduction to analysis of the culture of schooling and classrooms. Course content should be aligned as applicable with State Board for Educator Certification Pedagogy and Professional Responsibilities standards; and the course must include a minimum of 16 contact hours of field experience in P-12 classrooms.

EDUC 2301 - Introduction to Special Populations +
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 2
An enriched, integrated pre-service course and content experience that 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. The course provides students with opportunities to participate in early field observations of P-12 special populations and should be aligned as applicable with State Board for Educator Certification Pedagogy and Professional Responsibilities standards. Must include a minimum of 16 contact hours of field experience in P-12 classrooms with special populations.
Required Prerequisite(s): EDUC 1301

EECT 2435 - Telecommunications
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 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 Prerequisite(s): EECT 2439 and CETT 1441

EECT 2439 - Communications Circuits
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 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 Prerequisite(s): CETT 1409 and CETT 1441

ELMT 1402 - Solar Photovoltaic Systems
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 3
Design and installation of solar photovoltaic systems and their applications.

ELMT 2337 - Electronic Troubleshooting, Service and Repair
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 4
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.
Recommended Prerequisite(s): CETT 1441 and CETT 1445

ELPT 1311 - Basic Electrical Theory
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 3
Basic theory and practice of electrical circuits. Includes calculations as applied to alternating and direct current.

ELPT 1315 - Electrical Calculations I
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 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 1321 - Introduction to Electrical Safety and Tools
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 2
Safety rules and regulations. Includes the selection, inspection, use, and maintenance of common tools for electricians.

ELPT 1345 - Commercial Wiring
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 3
Commercial wiring methods. Includes overcurrent protection, raceway panel board installation, proper grounding techniques, and associated safety procedures.

ELPT 1371 - Introduction to Electrical Controls
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 3
General principles of electrical controls and their components in the electrical power industry. Includes reading electrical diagrams and identifying industrial switches and pilot devices. Introduction to hardwiring and troubleshooting of industrial control relays and timers. Commercial lighting system installation, wiring, and their integration to specialized control systems.

ELPT 2380 - Cooperative Education-Electrical and Power Transmission Installation/Installer, General
Semester Hours: 3 | **Lecture Hours:** 1 | **Laboratory Hours:** 19
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.
Required Prerequisite(s): ELPT 1311, ELPT 1315, ELPT 1321, ELPT 1345, and ELPT 1371

ELPT 2455 - Programmable Logic Controllers II
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 3
Advanced concepts in programmable logic controllers and their applications and interfacing to industrial controls.

EMSP 1160 - Clinical-Emergency Medical Technology
Semester Hours: 1 | **Lecture Hours:** 0 | **Laboratory Hours:** 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(s): TSI Met in Reading and Writing. TSI Met in Algebraic Math pathway.
Required Corequisite(s): EMSP 1501

EMSP 1355 - Trauma Management
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 2
Knowledge and skills in the assessment and management of patients with traumatic injuries.
Required Corequisite(s): EMSP 2161
Recommended Prerequisite(s): EMSP 1356 and EMSP 1438

EMSP 1356 - Patient Assessment and Airway Management
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 2
Knowledge and skills required to perform patient assessment, airway management, and artificial ventilation.
Required Prerequisite(s): TSI Met in Reading and Writing. TSI Met in Algebraic Math pathway and Texas EMT certification.
Required Corequisite(s): EMSP 2160

EMSP 1438 - Introduction to Advanced Practice
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 2
Fundamental elements associated with emergency medical services to include preparatory practices, pathophysiology, medication administration, and related topics.
Required Prerequisite(s): TSI Met in Reading and Writing. TSI Met in Algebraic Math pathway.
Required Corequisite(s): EMSP 2160

EMSP 1501 - Emergency Medical Technician
Semester Hours: 5 | **Lecture Hours:** 3 | **Laboratory Hours:** 6
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(s): TSI Met in Reading and Writing. TSI Met in Algebraic Math pathway.
Required Corequisite(s): EMSP 1160

EMSP 2160 - Clinical -EMT Paramedic
Semester Hours: 1 | **Lecture Hours:** 0 | **Laboratory Hours:** 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. Clinical experiences are unpaid external learning experiences.
Recommended Prerequisite/Corequisite(s): EMSP 1356 and EMSP 1438

EMSP 2161 - Clinical -EMT Paramedic
Semester Hours: 1 | **Lecture Hours:** 0 | **Laboratory Hours:** 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. Clinical experiences are unpaid external learning experiences.
Recommended Prerequisite/Corequisite(s): EMSP 1355 and EMSP 2444

EMSP 2162 - Clinical -EMT Paramedic
Semester Hours: 1 | **Lecture Hours:** 0 | **Laboratory Hours:** 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. Clinical experiences are unpaid external learning experiences.
Recommended Prerequisite/Corequisite(s): EMSP 2430 and EMSP 2305

EMSP 2243 - Assessment Based Management
Semester Hours: 2 | **Lecture Hours:** 1 | **Laboratory Hours:** 4
A summative experience covering comprehensive, assessment-based patient care management for the paramedic level. Includes specific care when dealing with pediatric, adult, geriatric, and special-needs patients.
Recommended Corequisite(s): EMSP 2267

EMSP 2267 - Practicum – EMT Paramedic
Semester Hours: 2 | **Lecture Hours:** 0 | **Laboratory Hours:** 18
Practical, general workplace training supported by an individualized learning plan developed by the employer, College, and student. This may be a paid or unpaid experience.
Recommended Prerequisite/Corequisite(s): EMSP 2243

EMSP 2305 - EMS Operations
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 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 Corequisite(s): EMSP 2162

EMSP 2430 - Special Populations
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 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(s): EMSP 2534
Required Corequisite(s): EMSP 2162

EMSP 2444 - Cardiology
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 2
Assessment and management of patients with cardiac emergencies. Includes single and multi-lead ECG interpretation.
Required Prerequisite(s): EMSP 1438, EMSP 1356, and EMSP 2160
Required Corequisite(s): EMSP 2161

EMSP 2534 - Medical Emergencies
Semester Hours: 5 | **Lecture Hours:** 4 | **Laboratory Hours:** 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 Prerequisite(s): EMSP 2444, EMSP 1355, and EMSP 2161

ENGL 1301 - Composition I +

Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 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(s): TSI Met in Reading and Writing

ENGL 1302 - Composition II +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 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(s): ENGL 1301

ENGL 2307 - Creative Writing I +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 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.
Required Prerequisite(s): ENGL 1301

ENGL 2311 - Technical and Business Writing +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 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.
Required Prerequisite(s): ENGL 1301

ENGL 2322 - British Literature I +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 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(s): ENGL 1301 and ENGL 1302

ENGL 2323 - British Literature II +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 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(s): ENGL 1301 and ENGL 1302

ENGL 2327 - American Literature I +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 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(s): ENGL 1301 and ENGL 1302

ENGL 2328 - American Literature II +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 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(s): ENGL 1301 and ENGL 1302

ENGL 2332 - World Literature I +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 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(s): ENGL 1301 and ENGL 1302

ENGL 2333 - World Literature II +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 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(s): ENGL 1301 and ENGL 1302

ENGL 2341 - Forms of Literature +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
The study of one or more literary genres including, but not limited to, poetry, fiction, drama and film.
Required Prerequisite(s): ENGL 1301 and ENGL 1302

ENGL 2351 - Mexican-American Literature +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
A survey of Mexican American/Chicanx literature from Mesoamerica to the present. Students will study literary works of fiction, poetry, drama, essays, and memoirs in relation to their historical, linguistic, political, regional, gendered, and cultural contexts. Texts will be selected from a diverse group of authors, literary movements, and media forms. Topics and themes may include the literary performance of identity and culture, aesthetic mediation of racialization, struggle and protest, and artistic activism.
Required Prerequisite(s): ENGL 1301 and ENGL 1302

ENGL 2389 - Academic Cooperative +
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 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.
Required Prerequisite(s): ENGL 1301

ENGR 1201 - Introduction to Engineering +
Semester Hours: 2 | **Lecture Hours:** 1 | **Laboratory Hours:** 3
An introduction to the engineering profession with emphasis on technical communication and team-based

engineering design.
Required Prerequisite(s): MATH 1314 or equivalent academic preparation

ENGR 1304 - Engineering Graphics I +
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 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.
Required Prerequisite(s): MATH 1314 or equivalent academic preparation

ENGR 2301 - Engineering Mechanics - Statics +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 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 Prerequisite(s): PHYS 2425
Required Prerequisite/Corequisite(s): MATH 2414

ENGR 2302 - Engineering Mechanics -Dynamics +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 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(s): ENGR 2301

ENGR 2305 - Electrical Circuits I +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 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(s): PHYS 2426 and MATH 2414
Recommended Prerequisite(s): MATH 2320 or equivalent

ENGR 2308 - Engineering Economics +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Methods used for determining the comparative financial desirability of engineering alternatives. Provides the student with the basic tools required to analyze engineering alternatives in terms of their worth and cost, an essential element of engineering practice. The student is introduced to the concept of the time value of money and the methodology of basic engineering economy techniques. The course will address some aspects of sustainability and will provide the student with the background to enable them to pass the Engineering Economy portion of the Fundamentals of Engineering exam.
Required Prerequisite(s): MATH 2413

ENGR 2332 - Mechanics of Materials +

Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Stresses, deformations, stress-strain relationships, torsions, beams, shafts, columns, elastic defections in beams, combined loading, and combined stresses.
Required Prerequisite(s): ENGR 2301

EPCT 1311 - Introduction to Environmental Science
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 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
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 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 1327 - Basic Water Works Operation
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 2
Study of conventional water treatment plants including administration and management. Emphasis on the operation of motors, pumps, and disinfection in small water plants.

EPCT 1328 - Basic Wastewater Operations
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Introduction to the information and operational skills needed for wastewater treatment plants.

EPCT 1341 - Principles of Industrial Hygiene
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 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
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 2
Sampling protocol, procedures, quality control, preservation technology, and field analysis. Emphasis on analysis commonly performed by the field technician.

EPCT 1401 - Hazardous Waste Operations and Emergency Response (HAZWOPER) Training and Related Topics
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 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 1407 - Introduction to Environmental Safety and Health
Semester Hours: 4 | **Lecture Hours:** 4 | **Laboratory Hours:** 0
An historic overview of environmental safety and health. Emphasis on the use of occupational safety and health codes.

EPCT 1440 - Industrial Chemical Processes
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 2
An overview of chemical processes used in the chemical industry.
Recommended Prerequisite(s): CHEM 1405

ESOL 0301 - ESOL Oral Communication 1
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Develops listening and speaking skills in speakers of languages other than English and prepares them to function in educational, vocational and/or personal English-speaking contexts. This course cannot be used to fulfill degree requirements.
Required Prerequisite(s): Appropriate scores on a TCC approved placement test.

ESOL 0302 - ESOL Oral Communication 2
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Develops listening and speaking skills in speakers of languages other than English and prepares them to function in educational, vocational and/or personal English-speaking contexts. This course cannot be used to fulfill degree requirements.
Required Prerequisite(s): Appropriate scores on a TCC approved placement test or ESOL 0301

ESOL 0303 - ESOL Oral Communication 3
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Develops listening and speaking skills in speakers of languages other than English and prepares them to function in educational, vocational and/or personal English-speaking contexts. This course cannot be used to fulfill degree requirements.
Required Prerequisite(s): Appropriate scores on a TCC approved placement test or ESOL 0302

ESOL 0304 - Grammar for Non-native Speakers 1
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Focuses on Standard English grammar usage for academic purposes. Open only to non-native speakers. This course cannot be used to fulfill degree requirements.
Required Prerequisite(s): Appropriate scores on a TCC approved placement test

ESOL 0305 - Grammar for Non-native Speakers 2
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Focuses on Standard English grammar usage for academic purposes. Open only to non-native speakers. This course cannot be used to fulfill degree requirements.
Required Prerequisite(s): Appropriate scores on a TCC approved placement test or ESOL 0304

ESOL 0306 - Grammar for Non-native Speakers 3
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Focuses on Standard English grammar usage for academic purposes. Open only to non-native speakers. This course cannot be used to fulfill degree requirements.
Required Prerequisite(s): Appropriate scores on a TCC approved placement test or ESOL 0305

ESOL 0307 - ESOL Reading and Vocabulary 1
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Develops English reading proficiency and vocabulary for academic, career, or personal purposes in speakers of languages other than English and prepares them to function in a multicultural, multilingual society. This course

cannot be used to fulfill degree requirements.
Required Prerequisite(s): Appropriate scores on a TCC approved placement test

ESOL 0308 - ESOL Reading and Vocabulary 2
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Develops English reading proficiency and vocabulary for academic, career, or personal purposes in speakers of languages other than English and prepares them to function in a multicultural, multilingual society. This course cannot be used to fulfill degree requirements.
Required Prerequisite(s): Appropriate scores on a TCC approved placement test or ESOL 0307

ESOL 0309 - ESOL Reading and Vocabulary 3
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Develops English reading proficiency and vocabulary for academic, career, or personal purposes in speakers of languages other than English and prepares them to function in a multicultural, multilingual society. This course cannot be used to fulfill degree requirements.
Required Prerequisite(s): Appropriate scores on a TCC approved placement test or ESOL 0308

ESOL 0310 - Writing for Non-native Speakers 1
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Focuses on strategies and techniques of writing and composition. Open only to non-native speakers. This course cannot be used to fulfill degree requirements.
Required Prerequisite(s): Appropriate scores on a TCC approved placement test

ESOL 0311 - Writing for Non-native Speakers 2
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Focuses on strategies and techniques of writing and composition. Open only to non-native speakers. This course cannot be used to fulfill degree requirements.
Required Prerequisite(s): Appropriate scores on a TCC approved placement test or ESOL 0310

ESOL 0312 - Writing for Non-native Speakers 3
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Focuses on strategies and techniques of writing and composition. Open only to non-native speakers. This course cannot be used to fulfill degree requirements.
Required Prerequisite(s): Appropriate scores on a TCC approved placement test or ESOL 0311

FDNS 1103 - Introduction to Dietetics
Semester Hours: 1 | **Lecture Hours:** 1 | **Laboratory Hours:** 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 1168 - Practicum-Dietary Management
Semester Hours: 1 | **Lecture Hours:** 0 | **Laboratory Hours:** 10
Practical, general workplace training supported by an individualized learning plan developed by the employer, College, and student. NOTE: Enrollment in the practicum requires admission to the Dietary Manager Certificate program or to the Dietetic Technician degree program. All prerequisites must be completed with a grade of "C" or better. A granted petition is required for registration. See program director for additional practicum requirements.
Required Prerequisite(s): Admission to Dietary Manager Program or Dietetic Technician Program. FDNS 1103,

FDNS 1370 or CHEF 1301, DITA 1300, and DITA 1301
Recommended Prerequisite(s): CHEF 1305

FDNS 1309 - Nutrition in the Community
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 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(s): HECO 1322

FDNS 1341 - Nutrition in the Life Cycle
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 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.
Recommended Prerequisite(s): HECO 1322

FDNS 1346 - Medical Nutrition Therapy II
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 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(s): DITA 1300 with a minimum grade of "C"
Recommended Corequisite(s): BIOL 2401

FDNS 1370 - Principles of Food Preparation
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 4
Application of food science principles to meal preparation including study of food composition, selection, cooking techniques, heat transfer, food safety, nutrition and ingredient substitution.

FDNS 1371 - Child Nutrition and Programs
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Study of nutritional requirements and growth assessment for children 0-18 at low or moderate risk. Review of child nutrition regulatory processes and federal child nutrition programs. Develop practical skills in meal planning and providing nutrition education for children.

FDNS 1447 - Medical Nutrition Therapy III
Semester Hours: 4 | **Lecture Hours:** 4 | **Laboratory Hours:** 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(s): FDNS 1346 with a minimum grade of "C"
Recommended Prerequisite/Corequisite(s): BIOL 2401

FDNS 2168 - Practicum-Community Nutrition/Wellness
Semester Hours: 1 | **Lecture Hours:** 0 | **Laboratory Hours:** 10
Practical, general workplace training supported by an individualized learning plan developed by the employer,

College, and student.
Required Prerequisite(s): FDNS 1103, HECO 1322, FDNS 1309, DITA 1300, DITA 1301, and FDNS 1371 or FDNS 1341 with a "C" or better. NOTE: All prerequisites must be completed with a grade of " C" or better. A granted petition is required for registration.

FDNS 2169 - Practicum-Clinical Dietetics
Semester Hours: 1 | **Lecture Hours:** 0 | **Laboratory Hours:** 10
Practical, general workplace training supported by an individualized learning plan developed by the employer, College, and student. NOTE: Enrollment in the practicum requires admission to the Dietetic Technician degree program. A granted petition is required for registration.
Required Prerequisite(s): FDNS 1447 completed within the last three years with a minimum grade of "C" earned. FDNS 1168 with a minimum grade of "C" earned. Passing grade on BIOL 2401.

FDNS 2170 - Seminar for Dietetics
Semester Hours: 1 | **Lecture Hours:** 1 | **Laboratory Hours:** 0
Preparation for the NDTR credentialing exam and employment in the field of Dietetics. Review NDTR exam study questions, test-taking strategies, Dietetics scope of practice, Code of Ethics for Dietetics professional.
Required Prerequisite/Corequisite(s): FDNS 1447

FDNS 2300 - Food Management Systems
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 2
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.
Recommended Prerequisite(s): DITA 1301

FDST 1323 - Principles of Viticulture I
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 2
Principles and practices of grape production including propagation, trellis and production systems, climate requirements, and economic factors affecting the choice of vineyard type and location.

FDST 2333 - Wine Types and Sensory Evaluation
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
A study of the major types of wines including factors that affect quality with on the development of sensory evaluation techniques.
Required Prerequisite(s): RSTO 1319

FDST 2335 - Wine Growing Regions of the World
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
A study of the major wine growing regions of the world including their history and diversity, vinicultural and enological practices and procedures, wine types, and the sensory evaluation of their productions.

FIRS 1301 - Firefighter Certification I
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 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 the Texas Commission on Fire Protection (TCFP).
Required Corequisite(s): FIRS 1313, FIRS 1319, FIRS 1323, FIRS 1329, and FIRT 1338

FIRS 1313 - Firefighter Certification III
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 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 Corequisite(s): FIRS 1301, FIRS 1319, FIRS 1323, FIRS 1329, and FIRT 1338.

FIRS 1319 - Firefighter Certification IV
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 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 Corequisite(s): FIRS 1301, FIRS 1313, FIRS 1323, FIRS 1329, and FIRT 1338

FIRS 1323 - Firefighter Certification V
Semester Hours: 3 | **Lecture Hours:** 1 | **Laboratory Hours:** 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 Corequisite(s): FIRS 1301, FIRS 1313, FIRS 1319, FIRS 1329, and FIRT 1338.

FIRS 1329 - Firefighter Certification VI
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 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 Corequisite(s): FIRS 1301, FIRS 1313, FIRS 1319, FIRS 1323, and FIRT 1338.

FIRT 1301 - Fundamentals of Fire Protection
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Orientation to the fire service, career opportunities, and related fields. This course meets Fire and Emergency Services Higher Education (FESHE) Model Curriculum core requirements.

FIRT 1307 - Fire Prevention Codes and Inspections
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Local building and fire prevention codes. Fire prevention inspections, practices, and procedures. This course meets Fire and Emergency Services Higher Education (FESHE) Model Curriculum core requirements.

FIRT 1309 - Fire Administration I

Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 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
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Application of hydraulic principles to analyze and solve water supply problems related to fire protection.

FIRT 1315 - Hazardous Materials I
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 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
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 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. This course meets Fire and Emergency Services Higher Education (FESHE) Model Curriculum core requirements.

FIRT 1338 - Fire Protection Systems
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 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. This course meets Fire and Emergency Services Higher Education (FESHE) Model Curriculum core requirements.

FIRT 1349 - Fire Administration II
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 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(s): FIRT 1309

FIRT 1371 - Introduction to Emergency Management
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
This course identifies the threats that emergency managers deal with, disasters, emergency, and hazards. It describes the history of emergency management and the threats of today with advances in technology.

FIRT 1433 - Fire Chemistry I
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 1
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. This course meets Fire and Emergency Services Higher Education (FESHE) Model Curriculum core requirements.

FIRT 2309 - Firefighting Strategies and Tactics I
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 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

Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Emphasis on use of incident management in large scale command problems and other specialized fire problems. (Capstone course - Must be taken during the last semester of the program.)

FIRT 2388 - Internship Emergency Management
Semester Hours: 3 | **Lecture Hours:** 0 | **Laboratory Hours:** 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 1304 - Lighting for Film or Video
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 4
Fundamentals of lighting techniques for film or video production with respect to lighting tools, composition and camera motion to support dynamic storytelling.
Required Prerequisite(s): COMM 1336, COMM 2303, and RTVB 1321
Required Prerequisite/Corequisite(s): FLMC 2333
Recommended Prerequisite(s): COMM 1307 or COMM 1335

FLMC 2333 - Cinematography
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 4
Advanced concepts of theoretical elements and practical applications of the cinematic craft.
Required Prerequisite(s): RTVB 1321, COMM 1336, and COMM 2303
Required Prerequisite/Corequisite(s): FLMC 1304
Recommended Prerequisite(s): COMM 1307 or COMM 1335

FLMC 2334 - Directing for Film or Video
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 4
Analysis of directing styles to formulate a personal directing style. Includes directing a film or video production.
A granted petition is required for registration.

Required Prerequisite(s): COMM 1336, COMM 2303, and RTVB 1321
Required Prerequisite/Corequisite(s): FLMC 1304 and FLMC 2333

FREN 1411 - Beginning French I +
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 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 +
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 2
Continuation of FREN 1411. Fundamental skills in listening comprehension, speaking, reading, and writing. Includes basic vocabulary, grammatical structures, and culture with emphasis on conversation. Laboratory practice.
Recommended Prerequisite(s): FREN 1411

FREN 2311 - Intermediate French I +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Continuation of FREN 1412. 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(s): FREN 1412

FREN 2312 - Intermediate French II +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Continuation of FREN 2311. Review and application of skills in listening comprehension, speaking, reading, and writing. Emphasizes conversation, vocabulary acquisition, reading, composition, and culture.
Recommended Prerequisite(s): FREN 2311

FSHN 1301 - Textiles
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 1
A general study of textiles with emphasis on factors that affect the hand, appearance, and performance in clothing use. Examination of the fibers, yarns, dyeing, printing and finishing. Application of textiles used in the apparel industry.

FSHN 1312 - Apparel and Accessories Marketing Operations
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
An overview of fashion trends and concepts to include branding, environmental influences, and marketing operations.

FSHN 2301 - Fashion Promotion
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
A survey of fashion direction, publicity, and fashion event coordination. Emphasis on fashion event production.

FSHN 2305 - Fashion Retailing
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
An overview of retailing procedures used in various types of fashion companies. A study of operations, personnel, merchandising, sales promotion, and finance and control. Examination of job opportunities available in the retail fashion industry.

FSHN 2309 - Fashion Image
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Instruction in the techniques used to analyze the fashion image of individual clients. Emphasis on personal coloring, body types, and wardrobe coordination. Study of fashion image consultant business practices and job qualifications.

GAME 1304 - Level Design
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 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 1328 - Video Game Design
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 3
Introduction to video game design techniques which inspire artists and non-artists. Including characters, environments, architecture, static objects, user interface, and storyboards for games. Emphasizes applying 2D design concepts.

GAME 1334 - Video Game Art I
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 3
Introduces tools and techniques used in the creation of assets for a game engine.

GAME 1403 - Introduction to Game Design and Development
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 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 1409 - Introduction to Animation Programming
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 2
Mathematical elements and algorithms involved in basic animation. Includes generating graphics, viewing 3D environments such as visible line detection and 3D surfaces, image processing techniques, and special effects.

GAME 1436 - Introduction to 3D Game Modeling
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 3
Introduction to 3D game modeling using Architectural spaces and modeling in a real-time game editor. Includes techniques for building, texturing, and lighting.

GAME 1443 - Game and Simulation Programming I
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 3
Game and simulation programming. Includes advanced pointer manipulation techniques and pointer applications, points and vectors, sound, and graphics.
Recommended Prerequisite(s): COSC 1436

GAME 1459 - Game and Simulation Programming II
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 2
Design and development of game and simulation programs including user interface design, mathematical elements, image and file structure, and software development techniques.
Recommended Prerequisite(s): GAME 1443 and COSC 1436

GAME 2308 - Portfolio for Game Development
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 3
Design and management of an industry standard portfolio. Includes techniques in self-promotion, résumé writing, portfolio distribution systems, and interviewing.

GAME 2325 - 3D Animation II - Character Setup
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 4
Character animation for application interfaces. Skinning and weighting, forward kinematics, inverse kinetics, constraints, expressions, scripting and driven keys, mesh deformers, morph targets/blend shapes, and animation user interfaces.

GEOG 1301 - Physical Geography +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
This course introduces students to the processes that drive Earth's physical systems. Students will explore the relationships among these physical systems, with emphasis on weather and climate, water, ecosystems, geologic processes and landform development, and human interactions with the physical environment.

GEOG 1302 - Human Geography +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
This course introduces students to fundamental concepts, skills, and practices of human geography. Place, space, and scale serve as a framework for understanding patterns of human experience. Topics for discussion may include globalization, population and migration, culture, diffusion, political and economic systems, language, religion, gender, and ethnicity.

GEOG 1303 - World Regional Geography +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
This course is an introduction to the world's major regions seen through their defining physical, social, cultural, political, and economic features. These regions are examined in terms of their physical and human characteristics and their interactions. The course emphasizes relations among regions on issues such as trade, economic development, conflict, and the role of regions in the globalization process.

GEOL 1305 - Environmental Science (Lecture) +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
A survey of the forces, including humans, that shape our physical and biologic environment, and how they affect life on Earth. Introduction to the science and policy of global and regional environmental issues, including pollution, climate change, and sustainability of land, water, and energy resources.

GEOL 1401 - Earth Science for Non-Science Majors I (Lecture + Lab) +
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 3
Survey of geology, meteorology, oceanography, and astronomy. Lab activities will cover methods used to collect and analyze data in geology, meteorology, oceanography, and astronomy.

GEOL 1402 - Earth Science for Non-Science Majors II (Lecture + Lab) +
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 3
Extension of the study of geology, astronomy, meteorology and oceanography, focusing on natural resources, hazards and climate variability. Lab activities will focus on methods used to collect and analyze data related to natural resources, hazards and climate variability.
Required Prerequisite(s): GEOL 1401 or GEOL 1403

GEOL 1403 - Physical Geology (Lecture + Lab) +
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 3
Introduction to the study of the materials and processes that have modified and shaped the surface and interior of Earth over time. These processes are described by theories based on experimental data and geologic data gathered from field observations. Laboratory activities will cover methods used to collect and analyze earth science data.

GEOL 1404 - Historical Geology (Lecture + Lab) +
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 3
A comprehensive survey of the history of life and major events in the physical development of Earth as interpreted from rocks and fossils. Laboratory activities will introduce methods used by scientists to interpret the history of life and major events in the physical development of Earth from rocks and fossils.
Required Prerequisite(s): GEOL 1403

GEOL 1405 - Environmental Science (Lecture + Lab) +
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 3
A survey of the forces, including humans, that shape our physical and biologic environment, and how they affect life

on Earth. Introduction to the science and policy of global and regional environmental issues, including pollution, climate change, and sustainability of land, water, and energy resources. Lab activities will cover methods used to collect and analyze environmental data. (Students should not take both GEOL 1305 and GEOL 1405)

GEOL 1445 - Oceanography (Lecture + Lab) +
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 3
Survey of oceanography and related sciences.

GEOL 1447 - Meteorology (Lecture + Lab) +
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 3
Survey of meteorology and related sciences. May not be used as a prerequisite for GEOL 1404.

GERM 1411 - Beginning German I +
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 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 +
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 2
Continuation of GERM 1411. Fundamental skills in listening comprehension, speaking, reading, and writing. Includes basic vocabulary, grammatical structures, and culture.
Recommended Prerequisite(s): GERM 1411

GERM 2311 - Intermediate German I +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 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(s): GERM 1412

GERM 2312 - Intermediate German II +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Continuation of GERM 2311. Review and application of skills in listening comprehension, speaking, reading, and writing. Emphasizes conversation, vocabulary acquisition, reading, composition, and culture.
Recommended Prerequisite(s): GERM 2311

GERS 1301 - Introduction to Gerontology
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Overview of the social, psychological, and biological changes that accompany aging. Focuses on the implications of these changes for the individual, as well as for the larger society.

GERS 1304 - Activity Directing I
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
The role of the director in providing activity services. Includes study of history, regulations, communications, advocacy, ethics, service delivery, and volunteer management.

GERS 1342 - Aging and Mental Health

Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Examination of current issues relating to mental health of older adults. Includes the theoretical and empirical foundations relevant to the psychological study of older adults.

GISC 1402 - Understanding Geographic Information Systems
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 2
Theory and application of geographic information science (GIS). Includes an overview of the general principles of GIS and practical experience in its use.

GISC 2264 - Practicum – Cartography
Semester Hours: 2 | **Lecture Hours:** 0 | **Laboratory Hours:** 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)
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 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
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 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
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 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
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 2
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)
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 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)
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 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(s): COSC 1436

GOVT 2305 - Federal Government (Federal Constitution & Topics) +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 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(s): TSI Met in Reading and Writing

GOVT 2306 - Texas Government (Texas Constitution & Topics) +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 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(s): TSI Met in Reading and Writing

HALT 1301 - Principles of Horticulture
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 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
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 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(s): HALT 1301

HALT 1307 - Plant Diseases
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 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(s): HALT 1301

HALT 1309 - Interior Plants
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 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(s): HALT 1301

HALT 1311 - Shrubs, Vines, and Groundcovers
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 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(s): HALT 1301

HALT 1313 - Economic Entomology

Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 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(s): HALT 1301

HALT 1317 - Trees
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 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(s): HALT 1301

HALT 1333 - Landscape Irrigation
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 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
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 2
A course in computer-aided landscape design. Emphasis on the application of design concepts and techniques using software.

HALT 1422 - Landscape Design
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 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(s): HALT 1301

HALT 2301 - Arboriculture
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 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(s): HALT 1301

HALT 2307 - Horticultural Food Crops
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 2
A study of commercial and home cultivated food crops including various vegetables, fruits, and nuts. Topics address planting, maintenance, harvest, and storage of the various crops.

HALT 2308 - Greenhouse Management
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 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(s): HALT 1301

HALT 2314 - Plant Propagation

Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 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(s): HALT 1301

HALT 2315 - Landscape Management
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 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(s): HALT 1301

HALT 2318 - Soil Fertility and Fertilizers
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 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(s): HALT 1301

HALT 2320 - Nursery Production and Management
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 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(s): HALT 1301

HALT 2323 - Horticultural Pest Control
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 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(s): HALT 1301

HAMG 1213 - Front Office Management
Semester Hours: 2 | **Lecture Hours:** 2 | **Laboratory Hours:** 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 1317 - Recreational Services
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
The study of the recreation and entertainment industry. Emphasizes sporting and entertainment venues, tourism attractions, and other public and private sector special events.

HAMG 1321 - Introduction to the Hospitality Industry
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
An exploration of the elements and career opportunities within the multiple segments of the hospitality industry.

HAMG 1324 - Hospitality Human Resources Management
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Principles and procedures of human resource management in the hospitality industry.

HAMG 1340 - Hospitality Legal Issues
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 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 2267 - Practicum-Hospitality Administration and Management
Semester Hours: 2 | **Lecture Hours:** 0 | **Laboratory Hours:** 14
Practical, general workplace training supported by an individualized learning plan developed by the employer, College, and student.

HAMG 2301 - Principles of Food and Beverage Operations
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
An overview of 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 2305 - Hospitality Management and Leadership
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
An 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
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 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
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
An application of the essential components of successful convention and meeting planning.

HART 1401 - Basic Electricity for Heating, Ventilation and Air Conditioning (HVAC)
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 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
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 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(s): HART 1401 and HART 2431

HART 1407 - Refrigeration Principles
Semester Hours: 4 | **Lecture Hours:** 2 | **Laboratory Hours:** 7
An introduction to the refrigeration cycle, heat transfer theory, temperature/pressure relationship, refrigerant handling, refrigeration components, and safety.

HART 1441 - Residential Air Conditioning

Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 2
A study of components, applications, and installation of mechanical air conditioning systems including operating conditions, troubleshooting, repair, and charging of air conditioning systems.
Required Prerequisite(s): HART 1401 and HART 1407

HART 1445 - Gas and Electric Heating
Semester Hours: 4 | **Lecture Hours:** 2 | **Laboratory Hours:** 7
Study of the procedures and principles used in servicing heating systems including gas fired furnaces and electric heating systems.
Required Prerequisite(s): HART 1401
Required Corequisite(s): HART 2431

HART 2402 - Commercial Air-Conditioning System Design
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 2
Advanced study in essential elements of commercial air conditioning contracting including duct systems design; equipment selection using manufacturer's data; and preparation of shop drawing and submittals.
Recommended Prerequisite(s): HART 2445

HART 2431 - Advanced Electricity for Heating, Ventilation and Air Conditioning (HVAC)
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 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(s): HART 1401

HART 2434 - Advanced Air Conditioning Controls
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 2
Theory and application of electrical control devices, electromechanical controls, and/or pneumatic controls.
Recommended Prerequisite(s): HART 1403

HART 2436 - Air Conditioning Troubleshooting
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 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 Prerequisite(s): HART 1403, HART 1441, HART 1445, and HART 2445

HART 2438 - Air Conditioning Installation and Startup
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 2
A study of air-conditioning system installation, refrigerant piping, condensate disposal, and air cleaning equipment with emphasis on startup and performance testing.

HART 2441 - Commercial Air Conditioning
Semester Hours: 4 | **Lecture Hours:** 2 | **Laboratory Hours:** 7
A study of components, applications, and installation of air conditioning systems with capacities of 25 tons of less.
Recommended Prerequisite(s): HART 1441

HART 2442 - Commercial Refrigeration

Semester Hours: 4 | **Lecture Hours:** 2 | **Laboratory Hours:** 7
Theory and practical application in the maintenance of commercial refrigeration; medium and low temperature applications and ice machines.
Required Prerequisite(s): HART 1441 and HART 2431

HART 2443 - Industrial Air Conditioning
Semester Hours: 4 | **Lecture Hours:** 2 | **Laboratory Hours:** 7
A study of components, accessories, applications, and installation of air conditioning systems above 25 tons capacity.
Recommended Prerequisite(s): HART 1441

HART 2445 - Residential Air Conditioning Systems Design
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 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
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 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 Prerequisite(s): HART 1403, HART 1441, HART 1445, and HART 2445

HECO 1322 - Nutrition and Diet Therapy +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
This course introduces general nutritional concepts in health and disease and includes practical applications of that knowledge. Special emphasis is given to nutrients and nutritional processes including functions, food sources, digestion, absorption, and metabolism. Food safety, availability, and nutritional information including food labels, advertising, and nationally established guidelines are addressed.

HIST 1301 - United States History I +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 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. United States History I includes the study of pre-Columbian, colonial, revolutionary, early national, slavery and sectionalism, and the Civil War/Reconstruction eras. Themes that may be addressed in United States History I 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(s): ENGL 1301 with a grade of C or TSI Met in Reading and Writing

HIST 1302 - United States History II +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 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. United States History II examines industrialization, immigration, world wars, the Great Depression, 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(s): ENGL 1301 with a grade of C or TSI Met in Reading and Writing

HIST 2301 - Texas History +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 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 in Texas History include: Spanish colonization and Spanish Texas; Mexican Texas; the Republic of Texas; statehood and secession; oil, industrialization, and urbanization; civil rights; and modern Texas.
Required Prerequisite(s): ENGL 1301 with minimum grade of C or TSI Met in Reading and Writing

HIST 2311 - Western Civilization I +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
A survey of the social, political, economic, cultural, religious, and intellectual history of Europe and the Mediterranean world from human origins to the 17th century. Themes that should be addressed in Western Civilization I include the cultural legacies of Mesopotamia, Egypt, Greece, Rome, Byzantium, Islamic civilizations, and Europe through the Middle Ages, Renaissance, and Reformations.
Required Prerequisite(s): ENGL 1301 with minimum grade of C or TSI Met in Reading and Writing

HIST 2312 - Western Civilization II +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
A survey of the social, political, economic, cultural, religious, and intellectual history of Europe and the Mediterranean world from the 17th century to the modern era. Themes that should be addressed in Western Civilization II include absolutism and constitutionalism, growth of nation states, the Enlightenment, revolutions, classical liberalism, industrialization, imperialism, global conflict, the Cold War, and globalism.
Required Prerequisite(s): ENGL 1301 with minimum grade of C or TSI Met in Reading and Writing

HIST 2321 - World Civilizations I +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
A survey of the social, political, economic, cultural, religious, and intellectual history of the world from the emergence of human cultures through the 15th century. The course 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.
Required Prerequisite(s): ENGL 1301 with minimum grade of C or TSI Met in Reading and Writing

HIST 2322 - World Civilizations II +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
A survey of the social, political, economic, cultural, religious, and intellectual history of the world from the 15th century to the present. This course 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.
Required Prerequisite(s): ENGL 1301 with minimum grade of C or TSI Met in Reading and Writing

HIST 2327 - Mexican American History I +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
A survey of the economic, social, political, intellectual, and cultural history of Mexican Americans/Chicanx. Periods include early indigenous societies, conflict and conquest, early European colonization and empires, New Spain, early revolutionary period, Mexican independence and nation building, United States expansion to the United

States-Mexico War Era. Themes to be addressed are mestizaje and racial formation in the early empire, rise and fall of native and African slavery, relationship to early global economies, development of New Spain's/Mexico's northern frontier, gender and power, missions, resistance and rebellion, emergence of Mexican identities, California mission secularization, Texas independence, United States' wars with Mexico, and the making of borders and borderlands. (May be applied to U.S. History requirement.)
Required Prerequisite(s): ENGL 1301 with minimum grade of C or TSI Met in Reading and Writing

HIST 2328 - Mexican American History II +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
A survey of the economic, social, political, intellectual, and cultural history of Mexican Americans/Chicanx. Periods include the United States-Mexico War Era, incorporation of Northern Mexico into the United States, Porfirian Mexico, and the nineteenth century American West, 1910 Mexican Revolution and Progressive Era, the Great Depression and New Deal, World War II and the Cold War, Civil Rights Era, Conservative Ascendancy, the age of NAFTA and turn of the 21st Century developments. Themes to be addressed are the making of borders and borderlands, impact of Treaty of Guadalupe Hidalgo, gender and power, migration and national identities, citizenship and expulsion, nineteenth century activism and displacement, industrialization and the making of a transnational Mexican working class, urbanization and community formation, emergence of a Mexican American Generation, war and citizenship, organized advocacy and activism, Chicano Movement, changing identifications and identities, trade and terrorism. (May be applied to U.S. History requirement.)
Required Prerequisite(s): ENGL 1301 with minimum grade of C or TSI Met in Reading and Writing

HIST 2381 - African American History +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
A survey of the social, political, economic, cultural, and intellectual history of people of African descent in the formation and development of the United States to the Civil War/Reconstruction period. African American History I includes the study of African origins and legacy, transAtlantic slave trade, and the experiences of African Americans during Colonial, Revolutionary, Early National, Antebellum, and the Civil War/Reconstruction Eras. This course will enable students to understand African American history as an integral part of U.S. history. (May be applied to the U.S. History requirement.)
Required Prerequisite(s): ENGL 1301 with minimum grade of C or TSI Met in Reading and Writing

HIST 2389 - Academic Cooperative: Becoming A Global Citizen +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 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.
Required Prerequisite(s): ENGL 1301 with minimum grade of C or TSI Met in Reading and Writing

HITT 1253 - Legal and Ethical Aspects of Health Information
Semester Hours: 2 | **Lecture Hours:** 2 | **Laboratory Hours:** 0
Concepts of privacy, security, confidentiality, ethics, health care legislation, and regulations relating to the maintenance and use of health information.

HITT 1301 - Health Data Content and Structure
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 4
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 1311 - Health Information Systems
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 3
Introduction to health IT standards, health-related data structures, software applications and enterprise architecture in health care and public health.
Recommended Prerequisite(s): Any Computer Applications Course

HITT 1341 - Coding and Classification Systems
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 4
Fundamentals of coding rules, conventions, and guidelines using clinical classification systems.

HITT 1342 - Ambulatory Coding
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 4
Fundamentals of ambulatory coding rules, conventions, and guidelines.

HITT 1345 - Health Care Delivery Systems
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 4
Examination of delivery systems including organization, financing, accreditation, licensure, and regulatory agencies.

HITT 2149 - RHIT Competency Review
Semester Hours: 1 | **Lecture Hours:** 0 | **Laboratory Hours:** 2
Review Health Information Technology (HIT) competencies, skills and knowledge.

HITT 2260 - Clinical -Health Information and Medical Records Technology/Technician
Semester Hours: 2 | **Lecture Hours:** 0 | **Laboratory Hours:** 10
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
Semester Hours: 2 | **Lecture Hours:** 0 | **Laboratory Hours:** 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.

HITT 2326 - Project Management for Health Professionals
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 2
General principles of project management tools and techniques that results in the ability to create and follow a project management plan.

HITT 2335 - Coding and Reimbursement Methodologies
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 2
Advanced coding techniques with emphasis on case studies, health records and federal regulations regarding prospective payment systems and methods of reimbursement.

HITT 2339 - Health Information Organization and Supervision
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 3
Principles of organization and supervision of human, financial and physical resources.

HITT 2343 - Quality Assessment/Performance Improvement
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 4
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. Approaches to assessing patient safety issues and implementation of quality management and reporting through electronic systems.

HITT 2346 - Advanced Medical Coding
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 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.

HMSY 1337 - Introduction to Homeland Security
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 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.

HMSY 1340 - Homeland Security Intelligence Operations
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 2
A study of the intelligence community. Includes the role of intelligence and law enforcement. Topics include collection methods, management of operations, classification, production and analysis, and assessment of threat vulnerability. Source development will be conducted.

HPRS 1202 - Wellness and Health Promotion
Semester Hours: 2 | **Lecture Hours:** 2 | **Laboratory Hours:** 0
An overview of wellness theory and its application throughout the life span. Focus is on attitude development, impact of cultural beliefs, and communication of wellness.

HPRS 1206 - Essentials of Medical Terminology
Semester Hours: 2 | **Lecture Hours:** 2 | **Laboratory Hours:** 0
A study of medical terminology, word origin, structure, and application.

HPRS 1304 - Basic Health Profession Skills
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 2
A study of the concepts that serve as the foundation for health profession courses, including client care and safety issues, basic client monitoring, and health documentation methods.

HPRS 1370 - Central Sterile Processing II
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 2
The course explores two subsections of the Central Sterile Processing Certification program: A) Inventory Control-prepares the student with organizational skills needed to control, track and distribute inventory through the use of different techniques in inventory control and distribution, as well as the use of bar codes and radio frequency identification to track inventories. B) Sterile Storage and Distribution-introduces the basic procedures of packaging processes through a comparison of reusable and disposable packaging materials, basic package closure methods, and factors, which affect shelf-life and stock rotation.

HPRS 1470 - Central Sterile Processing I
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 2
This course will teach subsections of the Central Sterile Processing Certification program related to: A) Introduction to Central Service-an introduction to the central service role, surgical supplies, basic and specialty surgical instruments, and packaging and sterilization. B) Infection Control and Occupational Safety-related to the principles and practice of infection control and OSHA guidelines along with common safety and hazards protocols. C) Regulations and Standards-teaches the difference between the regulations and voluntary and regulatory standards, the role and responsibilities of federal agencies that impact Central Services, and the important aspects of the regulations and standards they administer.

HPRS 1471 - Central Sterile Processing III
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 2
An exploration of the subsections of the Central Sterile Processing Certification program: A) Instrument and Instrument Identification-identifying surgical instruments by name and purpose, examination of the process by which surgical instruments are manufactured and prepared for the sterilization process. B) Endoscopic Instruments-proper care, handling and processing of endoscopic instruments. C) Decontamination-describe how reusable equipment, instruments, and supplies are cleaned and decontaminated by means of manual or mechanical cleaning processes and chemical disinfection and the proper use of Personal Protective Equipment (PPE) and Standard Precautions. D) Preparation and Handling-relates to basic principles of various packaging materials and closure methods used for sterilization preparation as they relate to the Association of Advancement of Medical Instrument (AAMI) standards. E) Sterilization- relates sterilization procedures and theory including high and low temperature sterilization, sterilization equipment, types of sterilizers, various cycles, quality assurance concepts, documentation, standards, policies and procedures.

HPRS 1561 - Clinical-Health Services/Allied Health/Health Sciences
Semester Hours: 5 | **Lecture Hours:** 0 | **Laboratory Hours:** 15
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.

HPRS 2172 - Health Care Communications
Semester Hours: 1 | **Lecture Hours:** 1 | **Laboratory Hours:** 0
Methods of communication with clients, client support groups, health care professionals, and external agencies.
Required Prerequisite(s): Computer Literacy

HPRS 2200 - Pharmacology for Health Professions
Semester Hours: 2 | **Lecture Hours:** 2 | **Laboratory Hours:** 0
A study of drug classifications, actions, therapeutic uses, adverse effects, routes of administration, and calculation of dosages.

HPRS 2201 - Pathophysiology
Semester Hours: 2 | **Lecture Hours:** 2 | **Laboratory Hours:** 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 1302 - Human Resources Training and Development
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
An overview of human resources training and development as related to organizational mission and goals.

HRPO 1306 - Basic Mediator Training
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Topics include history of mediation, Alternative Dispute Resolution legislation in Texas, conflict resolution theory, mediation theory and practice, mediation process and techniques, self-awareness and ethics. When scheduled for 40 or more hours, can be used to meet the standards for basic mediation training in Texas as established by the Texas Mediation Trainer Roundtable.

HRPO 1311 - Human Relations
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Practical application of the principles and concepts of the behavioral sciences to interpersonal relationships in the business and industrial environment.

HRPO 2301 - Human Resources Management
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Behavioral and legal approaches to the management of human resources in organizations.

HRPO 2303 - Employment Practices
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
A study of employment issues including techniques for human resource forecasting, selection, and placement including interview techniques, pre-employment testing and other predictors. Topics include recruitment methods, the selection process, Equal Employment Opportunity (EEO), EEO recordkeeping, and Affirmative Action Plans.

HRPO 2304 - Employee Relations
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
An examination of policies, practices, and issues required to build strong employee relations. Topics include communications, employee conduct rules, performance appraisal methods, Title VII, Family Medical Leave Act, Fair Labor Standards Act, and Americans with Disabilities Act updates.

HRPO 2305 - Human Resources Information Systems
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
An introduction to Human Resource Information Systems (HRIS).
Recommended Prerequisite(s): BCIS 1305

HRPO 2306 - Benefits and Compensation
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
An overview of employee compensation systems. Topics include compensation systems, direct and indirect compensation, internal and external determination of compensation, benefits administration, managing and evaluating for effectiveness, legal and regulatory issues, pay equity, job analysis affecting job compensation and competencies.

HRPO 2307 - Organizational Behavior
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
The analysis and application of organizational theory, group dynamics, motivation theory, leadership concepts, and the integration of interdisciplinary concepts from the behavioral sciences.

HUMA 1301 - Introduction to Humanities I +

Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
This stand-alone course is an interdisciplinary survey of cultures focusing on the philosophical and aesthetic factors in human values with an emphasis on the historical development of the individual and society and the need to create.

HUMA 1305 - Introduction to Mexican-American Studies +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
This interdisciplinary survey examines the different cultural, artistic, economic, historical, political, and social aspects of the Mexican-American/Chicano/a communities. It also covers issues such as dispossession, immigration, transnationalism, and other topics that have shaped the Mexican-American experience.

HUMA 1315 - Fine Arts Appreciation +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
This course is an exploration of the purposes and processes in the visual and performing arts (such as music, painting, architecture, drama, and dance) and the ways in which they express the values of cultures and human experience.

HYDR 1345 - Hydraulics and Pneumatics
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 3
Discussion of the fundamentals of hydraulics and pneumatics, components of each system, and the operations, maintenance, and analysis of each system.

IBUS 1301 - Principles of Exports
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Export management processes and procedures. Includes governmental controls and compliance, licensing of products, documentation, commercial invoices, and transportation. Emphasizes human and public relations, management of personnel, finance, and accounting procedures.

IBUS 1302 - Principles of Imports
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 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.

IBUS 1305 - Introduction to International Business and Trade
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
The techniques for entering the international marketplace. Emphasis on the impact and dynamics of sociocultural, demographic, economic, technological, and political-legal factors in the foreign trade environment. Topics include patterns of world trade, internationalization of the firm, and operating procedures of the multinational enterprise.

IFWA 2446 - Quantity Procedures
Semester Hours: 4 | **Lecture Hours:** 2 | **Laboratory Hours:** 4
Exploration of the theory and application of quantity procedures for the operation of commercial, institutional, and industrial food services. Emphasis on quantity cookery and distribution.
Required Prerequisite(s): FDNS 1370 or CHEF 1301 and TSI Met in Non-Algebraic Math pathway
Recommended Prerequisite(s): CHEF 1305
NOTE: A granted petition is required. ServSafe Management Certification is required for granted petition.

IMED 1316 - Web Design I

Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 4
Instruction in web design and related graphic design issues including mark-up languages, websites, and browsers.
Required Prerequisite(s): ARTC 1305
Required Corequisite(s): ARTC 1302

IMED 2315 - Web Design II
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 4
A study of mark-up language 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(s): ARTC 1302 and IMED 1316

INEW 2434 - Advanced Web Programming
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 2
Web programming using industry-standard languages and data stores. Design, code, and implement a dynamic website; and develop connectivity between data store and website.

INMT 1305 - Introduction to Industrial Maintenance
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Basic mechanical skills and repair techniques common to most fields of industrial maintenance. Topics include precision measuring instruments and general safety rules common in industry, including lock-out/tag-out.

INMT 1370 - Composite Fundamentals
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 2
An introduction to composites with an emphasis on types, properties, processes, testing and assembly. Topics include material configuration and application, mechanical properties and testing methods, designs and prints, tooling and manufacturing, environmental control and other manufacturing practices.

INMT 2345 - Industrial Troubleshooting
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 4
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.
Recommended Prerequisite(s): INMT 1305 and HYDR 1345
Recommended Corequisite(s): CETT 1409

INMT 2380 - Cooperative Education - Manufacturing Technology/Technician
Semester Hours: 3 | **Lecture Hours:** 1 | **Laboratory Hours:** 17
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. Within the lecture component, an OSHA 10 hour General Industry card provided.
Required Prerequisite(s): INMT 1305 and INMT 2345

INRW 0090 - Adult Education Reading/Writing
Semester Hours: 0 | **Lecture Hours:** 0 | **Laboratory Hours:** 0
A combined lecture/computer based course focusing on improvement of basic reading and writing skills. This is an Adult Education course and cannot be used to fulfill degree requirements. It is designed to review basic skills and prepare students for INRW 0399.

INRW 0111 - Non-course Based Reading/Writing
Semester Hours: 0 | **Lecture Hours:** 0 | **Laboratory Hours:** 0
Non-course based instruction in integrated reading and writing.

INRW 0112 - Non-course Based Reading/Writing
Semester Hours: 0 | **Lecture Hours:** 0 | **Laboratory Hours:** 0
Non-course based instruction in integrated reading and writing.
Required Corequisite(s): INRW 0399 and Approved Core Course

INRW 0114 - Non-course Based Reading/Writing
Semester Hours: 0 | **Lecture Hours:** 0 | **Laboratory Hours:** 0
Integration of critical reading and academic writing skills. Successful completion of this intervention and approved credit level course fulfills TSI requirements for reading and/or writing.
This is a developmental course and cannot be used to fulfill degree requirements.

Required Prerequisite(s): INRW 0090 or equivalent scores on an approved placement test
Required Corequisite(s): Approved Core Course

INRW 0399 - Integrated Reading and Writing II
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
A combined three-hour lecture/one-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.
This is a developmental course and cannot be used to fulfill degree requirements.
Required Prerequisite(s): INRW 0090 with a minimum grade of "C" (70%), or equivalent scores on an approved placement test
Required Corequisite(s): Approved Core Course

ITCC 1414 - CCNA 1: Introduction to Networks
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 2
This course covers networking architecture, structure, security, and functions; introduces the principles and structure of IP addressing and the fundamentals of Ethernet concepts, media, and operations to provide a foundation for the curriculum.
Recommended Prerequisite(s): ITNW 1425, or consent of Department Chair

ITCC 1444 - CCNA 2: Switching, Routing, and Wireless Essentials
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 2
Describes the architecture, components, and operations of routers and switches in small networks and introduces wireless local area networks (WLAN) and security concepts; provides an in-depth understanding of how routers and switches operate and are implemented in the LAN environment.
Recommended Prerequisite(s): ITCC 1414

ITCC 2341 - CCNA Security
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 3
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.

ITCC 2420 - CCNA 3: Enterprise Networking, Security, and Automation

Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 2
Describes the architecture, components, operations, and security to scale for large, complex networks, including wide area network (WAN) technologies. Emphasizes network security concepts and introduces network virtualization and automation.
Recommended Prerequisite(s): ITCC 1444

ITCC 2454 - CCNP R&S ROUTE
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 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.
Suggested Prerequisite: CCNA 1-3 or CCNA Certification

ITCC 2455 - CCNP R&S SWITCH
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 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.
Suggested Prerequisite: CCNP 1-3 or CCNA Certification

ITCC 2456 - CCNP R&S TSHOOT
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 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(s): ITCC 2455

ITNW 1313 - Computer Virtualization
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 3
Implement and support virtualization of clients of servers in a networked computing environment. This course explores installation, configuration, and management of computer virtualization workstation and servers.

ITNW 1372 - VMware vSphere: Install/Configure/Manage
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 3
Explores installation, configuration, and management of VMware vSphere ESXI and vCenter Server.
Recommended Prerequisite(s): ITNW 1425 and ITNW 1454

ITNW 1408 - Implementing and Supporting Client Operating Systems
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 2
The fundamentals of managing and configuring local, network, and distributed network clients. Topics may adapt to changes in industry practices.
Recommended Prerequisite(s): ITSC 1305 or equivalent

ITNW 1425 - Fundamentals of Networking Technologies
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 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(s): ITSC 1305

ITNW 1435 - Information Storage and Management
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 2
An introduction to data storage-related technologies. Topics include data storage for cloud, Big Data, mobile, social media, and software-defined data centers. Provides a strong understanding of storage technologies and prepares students for advanced concepts, technologies, and processes.
Recommended Prerequisite(s): ITNW 1425

ITNW 1454 - Implementing and Supporting Servers
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 2
Implement, administer, and troubleshoot information systems that incorporate servers in a networked computing environment.
Recommended Prerequisite(s): ITNW 1408

ITSC 1305 - Introduction to PC Operating Systems
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 3
Introduction to personal computer operating systems including installation, configuration, file management, memory and storage management, control of peripheral devices, and use of utilities.

ITSC 1316 - Linux Installation and Configuration
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 3
Introduction to Linux operating system. Includes Linux installation, basic administration, utilities and commands, upgrading, networking, security, and application installation. Emphasizes hands-on setup, administration, and management of Linux.

ITSC 1407 - UNIX Operating System I
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 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(s): ITSC 1305

ITSC 1425 - Personal Computer Hardware
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 2
Current personal computer hardware including assembly, upgrading, setup, configuration, and troubleshooting.

ITSC 2325 - Advanced Linux
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 3
Provides instruction in advance open-source Linux operating system. Develops directory services for clients, support users remotely, and install and configure network services.
Required Prerequisite(s): ITSC 1316 or ITSC 1407 or Instructor Approval

ITSC 2346 - Computer Center Management
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Assessment of needs of a computing center and general principles of hardware and software acquisition, maintenance, licensing, and improving usage scheduling. Emphasis on interpersonal communication and management skills.

ITSC 2439 - Personal Computer Help Desk Support
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 2
Diagnosis and solution of user hardware and software related problems with on-the-job and/or simulated projects.

ITSE 1411 - Beginning Web Programming
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 2
Skills development in web programming including mark-up and scripting languages.
Recommended Prerequisite(s): COSC 1301

ITSE 1430 - Introduction to C# Programming
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 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(s): COSC 1436

ITSE 1450 - System Analysis and Design
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 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(s): COSC 1436

ITSE 1473 - Mobile Applications Development
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 2
An overview of different mobile platforms and their development environments. Design, write, and test small interactive programs for mobile platforms using current development software products. Major topics are discussion of the design process, develop applications and publish applications.
Recommended Prerequisite(s): COSC 1436

ITSE 1479 - Introduction to Scripting Languages
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 2
Introduction to scripting languages including basic data types, control structures, regular expressions, input/output, and textual analysis. Topics may adapt to changes in industry practices.
Recommended Prerequisite(s): BCIS 1305 or COSC 1301

ITSE 1492 - Special Topics in Computer Programming - Android OS Programming
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 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. Complete the procedures to become a registered Android developer. Design interfaces for Android applications.
Recommended Prerequisite(s): ITSE 1473
Recommended Corequisite(s): COSC 1436

ITSE 2343 - Advanced Mobile Programming
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 3
Programming for mobile devices including file access methods, data structures, modular programming, program testing and documentation.

Recommended Prerequisite(s): ITSE 1473
Recommended Corequisite(s): COSC 1436

ITSE 2402 - Intermediate Web Programming
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 2
Server-side and client-side techniques for Web development.
Recommended Prerequisite(s): Competency in basic Web programming or Departmental Approval

ITSE 2409 - Database Programming
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 2
Database development using database programming techniques emphasizing database structures, modeling, and database access.
Recommended Prerequisite(s): COSC 1436

ITSE 2410 - iOS Application Programming
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 2
Course explores developing applications for iOS devices. Will include the current iOS programming language, use of the iOS SDK environment, and current programming issues in the iOS environment.
Recommended Prerequisite(s): COSC 1436

ITSE 2417 - Java Programming
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 2
Java programming for applications and web applets.
Recommended Prerequisite(s): COSC 1436

ITSW 1407 - Introduction to Database
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 2
Introduction to relational and non-relational database theory and the practical applications of a contemporary databases. Topics may adapt to changes in industry practices.
Recommended Prerequisite(s): BCIS 1305 or COSC 1301

ITSW 1410 - Introduction to Presentation Graphics Software
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 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(s): BCIS 1305 or COSC 1301

ITSY 1300 - Fundamentals of Information Security
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 3
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.

ITSY 1342 - Information Technology Security
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 3
Instruction in security for network computer hardware, software, virtualization, and data, including physical security; backup procedures; relevant tools; encryption; and protection from viruses. Topics may adapt to changes in industry practices.

Recommended Prerequisite(s): Successful completion of network administration course is strongly recommended before taking this class.
Recommended Corequisite(s): ITNW 1425

ITSY 2330 - Intrusion Detection
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 3
Computer information systems security monitoring, intrusion detection, and crisis management. Includes alarm management, signature configuration, sensor configuration, and troubleshooting components. Emphasizes identifying, resolving, and documenting network crises and activating the response team.
Recommended Prerequisite(s): ITSY 2400

ITSY 2341 - Security Management Practices
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 3
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.
Required Prerequisite(s): ITSY 1300 or ITSY 1342

ITSY 2342 - Incident Response and Handling
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 3
In-depth coverage of incident response and incident handling, including identifying sources of attacks and security breaches; analyzing security logs; recovering the system to normal; performing postmortem analysis; and implementing and modifying security measures.
Required Prerequisite(s): ITSY 2400 and ITSY 2401

ITSY 2372 - Ethical Hacking
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 3
Course provides an in-depth coverage of ethical hacking practices, including an understanding of the landscape, key terms, and concepts that a security professional needs to know about hackers and computer criminals. Emphasis is on the technical aspects of ethical hacking and how to be proactive to hacking attempts with defensive countermeasures.
Required Prerequisite(s): ITSY 1300 or ITSY 1342

ITSY 2400 - Operating System Security
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 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(s): ITSY 1300

ITSY 2401 - Firewalls and Network Security
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 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(s): ITSY 1300

ITSY 2443 - Computer System Forensics

Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 2
In-depth study of system forensics including methodologies used for analysis of computer security breaches. Collect document and evaluate evidence to perform postmortem analysis of a security breach.
Recommended Prerequisite(s): ITSY 1300 and ITSY 1342

ITSY 2459 - Security Assessment and Auditing
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 2
Comprehensive experience for the security curriculum. Synthesizes technical material covered in prior courses to monitor, audit, analyze, and revise computer and network security systems that ensure appropriate levels of protection are in place to assure regulatory compliance.
Recommended Prerequisite(s): ITSY 2341 and ITSY 2400

KINE 1102 - Aerobic Fitness Beginning +
Semester Hours: 1 | **Lecture Hours:** 0 | **Laboratory Hours:** 3
Instruction and participation in physical and recreational activities. Improves cardiovascular fitness, muscular endurance/strength, flexibility, and body composition.
(Course is coeducational)

KINE 1103 - Basketball Beginning +
Semester Hours: 1 | **Lecture Hours:** 0 | **Laboratory Hours:** 3
Instruction and participation in physical and recreational activities. 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)

KINE 1104 - Bowling Beginning +
Semester Hours: 1 | **Lecture Hours:** 0 | **Laboratory Hours:** 3
Instruction and participation in physical and recreational activities. Develops the basic skills necessary to enjoy the lifetime sport of bowling.
(Course is coeducational)

KINE 1105 - Camping and Backpacking Beginning +
Semester Hours: 1 | **Lecture Hours:** 0 | **Laboratory Hours:** 3
Instruction and participation in physical and recreational activities. Develops the basic skills necessary to enjoy the lifetime sport of camping and backpacking.
(Course is coeducational)

KINE 1107 - Conditioning Beginning +
Semester Hours: 1 | **Lecture Hours:** 0 | **Laboratory Hours:** 3
Instruction and participation in physical and recreational activities. Improves cardiovascular-respiratory fitness, body composition, flexibility, and muscular endurance, and muscular strength.
(Course is coeducational)

KINE 1111 - Golf Beginning +
Semester Hours: 1 | **Lecture Hours:** 0 | **Laboratory Hours:** 3
Instruction and participation in physical and recreational activities. Develops and improves individual skills, and the understanding of the rules of golf.
(Course is coeducational)

KINE 1113 - Kickboxing Beginning +
Semester Hours: 1 | **Lecture Hours:** 0 | **Laboratory Hours:** 3
Instruction and participation in physical and recreational activities. Improves cardiovascular fitness, muscular endurance/strength, flexibility and body composition.
(Course is coeducational)

KINE 1116 - Recreational Sports Beginning +
Semester Hours: 1 | **Lecture Hours:** 0 | **Laboratory Hours:** 3
Instruction and participation in physical and recreational activities. Develops and improves basic skills, strategies and rules of various recreational sports.
(Course is coeducational)

KINE 1117 - Sailing Beginning +
Semester Hours: 1 | **Lecture Hours:** 0 | **Laboratory Hours:** 3
Instruction and participation in physical and recreational activities. 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)

KINE 1119 - Self Defense Beginning +
Semester Hours: 1 | **Lecture Hours:** 0 | **Laboratory Hours:** 3
Instruction and participation in physical and recreational activities. Improves awareness skills and develops self-defense techniques against various attacks including: chokes, head locks, grabs, ground fighting and ground defense techniques, frontal and rear attacks, attacks from multiple opponents, weapons and weapon disarmament.
(Course is coeducational)

KINE 1121 - Swim Conditioning Beginning +
Semester Hours: 1 | **Lecture Hours:** 0 | **Laboratory Hours:** 3
Instruction and participation in physical and recreational activities. Improves cardiovascular fitness, muscular strength/endurance and body composition.
(Course is coeducational)

KINE 1122 - Swimming Beginning +
Semester Hours: 1 | **Lecture Hours:** 0 | **Laboratory Hours:** 3
Instruction and participation in physical and recreational activities. Develops good swimming technique, improves cardiovascular fitness level, and teaches water safety skills.
(Course is coeducational)

KINE 1125 - Tennis Beginning +
Semester Hours: 1 | **Lecture Hours:** 0 | **Laboratory Hours:** 3
Instruction and participation in physical and recreational activities. Develops and improves skills, strategies, and rules for the game of tennis.
(Course is coeducational)

KINE 1127 - Pickleball - Beginning +
Semester Hours: 1 | **Lecture Hours:** 0 | **Laboratory Hours:** 3
Instruction and participation in physical and recreational activities. This course is coeducational. Students will learn the basics of pickleball play. The class will study basic skills and how to apply them into game situations. Skills

such as ball control, forehand/backhand drive, drive/lob serve, forehand/backhand lob, smash and strategy will be covered.
(Course is coeducational)

KINE 1128 - Volleyball Beginning +
Semester Hours: 1 | **Lecture Hours:** 0 | **Laboratory Hours:** 3
Instruction and participation in physical and recreational activities. Develops and improves basic skills, strategies and rules for the game of volleyball.
(Course is coeducational)

KINE 1129 - Walk or Jog Beginning +
Semester Hours: 1 | **Lecture Hours:** 0 | **Laboratory Hours:** 3
Instruction and participation in physical and recreational activities. Improves cardiovascular fitness, body composition and flexibility.
(Course is coeducational)

KINE 1131 - Water Aerobics Beginning +
Semester Hours: 1 | **Lecture Hours:** 0 | **Laboratory Hours:** 3
Instruction and participation in physical and recreational activities. Develops cardiovascular endurance, flexibility, and muscular endurance/strength through the resistance medium of water, and covers weight control.
(Course is coeducational)

KINE 1132 - Water Exercise Beginning +
Semester Hours: 1 | **Lecture Hours:** 0 | **Laboratory Hours:** 3
Instruction and participation in physical and recreational activities. Improves cardiovascular fitness, muscular strength/endurance, and flexibility through water exercises, and covers a diet/weight management program.
(Course is coeducational)

KINE 1133 - Weight Training Beginning +
Semester Hours: 1 | **Lecture Hours:** 0 | **Laboratory Hours:** 3
Instruction and participation in physical and recreational activities. Improves muscular endurance and/or muscular strength.
(Course is coeducational)

KINE 1134 - Yoga Beginning +
Semester Hours: 1 | **Lecture Hours:** 0 | **Laboratory Hours:** 3
Instruction and participation in physical and recreational activities. Improves flexibility, muscular endurance/strength and mental well-being.
(Course is coeducational)

KINE 1148 - Pilates Beginning +
Semester Hours: 1 | **Lecture Hours:** 0 | **Laboratory Hours:** 3
Instruction and participation in physical and recreational activities. 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.

KINE 1149 - Fencing - Beginning

Semester Hours: 1 | **Lecture Hours:** 0 | **Laboratory Hours:** 3
Instruction and participation in physical and recreational activities. Students will learn basic foil fencing techniques and footwork. This class will study the basic fencing rules, etiquette, scoring systems, terminology, strategies and tactics plus a brief introduction to the history of the sport.

KINE 1164 - Introduction to Physical Fitness and Wellness +
Semester Hours: 1 | **Lecture Hours:** 1 | **Laboratory Hours:** 2
This course will provide an overview of the lifestyle necessary for fitness and health. Students will participate in physical activities and assess their fitness status. Students will be introduced to proper nutrition, weight management, cardiovascular health, flexibility, and strength training. 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.

KINE 1301 - Foundations of Kinesiology +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
The purpose of this course is to provide students with an introduction to human movement that includes the historical development of physical education, exercise science, and sport. This course offers the student both an introduction to the knowledge base, as well as, information on expanding career opportunities.

KINE 1304 - Personal and Community Health +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
This course provides an introduction to the fundamentals, concepts, strategies, applications, and contemporary trends related to understanding personal and/or community health issues. This course also focuses on empowering various populations with the ability to practice healthy living, promote healthy lifestyles, and enhance individual well-being.

KINE 1306 - First Aid +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Instruction and practice for emergency care. Designed to enable students to recognize and avoid hazards within their environment, to render intelligent assistance in case of accident or sudden 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.

KINE 1308 - Sports Officiating +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
The purpose of the course is to study officiating requirements for sports and games with an emphasis on mechanics, rule interpretation, and enforcement. (Course is coeducational.)

KINE 1321 - Coaching/Sports/Athletics I +
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 2
Study of the history, theories, philosophies, rules, and terminology of competitive sports. Includes coaching techniques.

KINE 1338 - Concepts of Physical Fitness +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
This course is designed to familiarize students with knowledge, understanding and values of health related fitness and its influence on the quality of life emphasizing the development and implementation of fitness programs. This

course may not be substituted for KINE-1164 in the TCC Core Curriculum.
Recommended Prerequisite(s): KINE 1164

KINE 1346 - Drug Use & Abuse
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Study of the use, misuse and abuse of drugs and other harmful substances in today's society. Physiological, sociological, pharmacological and psychological factors will be emphasized.

KINE 2101 - Aerobic Dance Intermediate +
Semester Hours: 1 | **Lecture Hours:** 0 | **Laboratory Hours:** 3
Instruction and participation in physical and recreational activities. Improves cardiovascular fitness, muscular endurance, strength, flexibility and body composition.
(Course is coeducational)

KINE 2102 - Aerobic Fitness Intermediate +
Semester Hours: 1 | **Lecture Hours:** 0 | **Laboratory Hours:** 3
Instruction and participation in physical and recreational activities. Improves cardiovascular fitness, muscular endurance/strength, flexibility and body composition.
(Course is coeducational)

KINE 2103 - Basketball Intermediate +
Semester Hours: 1 | **Lecture Hours:** 0 | **Laboratory Hours:** 3
Instruction and participation in physical and recreational activities. 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)

KINE 2104 - Bowling Intermediate +
Semester Hours: 1 | **Lecture Hours:** 0 | **Laboratory Hours:** 3
Instruction and participation in physical and recreational activities. Develops the basic skills necessary to enjoy the lifetime sport of bowling.
(Course is coeducational)

KINE 2107 - Conditioning Intermediate +
Semester Hours: 1 | **Lecture Hours:** 0 | **Laboratory Hours:** 3
Instruction and participation in physical and recreational activities. Improves cardiovascular-respiratory fitness, body composition, flexibility and muscular endurance, and muscular strength.
(Course is coeducational)

KINE 2111 - Golf Intermediate +
Semester Hours: 1 | **Lecture Hours:** 0 | **Laboratory Hours:** 3
Instruction and participation in physical and recreational activities. Develops and improves individual skills, and the understanding of the rules of golf.
(Course is coeducational)

KINE 2113 - Kickboxing Intermediate +
Semester Hours: 1 | **Lecture Hours:** 0 | **Laboratory Hours:** 3
Instruction and participation in physical and recreational activities. Improves cardiovascular fitness, muscular

endurance/strength, flexibility and body composition.
(Course is coeducational)

KINE 2117 - Sailing Intermediate +
Semester Hours: 1 | **Lecture Hours:** 0 | **Laboratory Hours:** 3
Instruction and participation in physical and recreational activities. 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)

KINE 2119 - Self Defense Intermediate +
Semester Hours: 1 | **Lecture Hours:** 0 | **Laboratory Hours:** 3
Instruction and participation in physical and recreational activities. Continuation of KINE 1119 with emphasis on more advanced techniques.

KINE 2121 - Swim Conditioning Intermediate +
Semester Hours: 1 | **Lecture Hours:** 0 | **Laboratory Hours:** 3
Instruction and participation in physical and recreational activities. Improves cardiovascular fitness, muscular strength/endurance and body composition.
(Course is coeducational)

KINE 2122 - Swimming Intermediate +
Semester Hours: 1 | **Lecture Hours:** 0 | **Laboratory Hours:** 3
Instruction and participation in physical and recreational activities. Develops good swimming technique, improves cardiovascular fitness level and teaches water safety skills.
(Course is coeducational)

KINE 2123 - Swimming Advanced +
Semester Hours: 1 | **Lecture Hours:** 0 | **Laboratory Hours:** 3
Instruction and participation in physical and recreational activities. Develops good swimming technique, improves cardiovascular fitness level, and teaches water safety skills.
(Course is coeducational)

KINE 2125 - Tennis Intermediate +
Semester Hours: 1 | **Lecture Hours:** 0 | **Laboratory Hours:** 3
Instruction and participation in physical and recreational activities. Develops and improves skills, strategies and rules for the game of tennis.
(Course is coeducational)

KINE 2126 - Tennis Advanced +
Semester Hours: 1 | **Lecture Hours:** 0 | **Laboratory Hours:** 3
Instruction and participation in physical and recreational activities. Develops and improves skills, strategies and rules for the game of tennis.
(Course is coeducational)

KINE 2127 - Pickleball - Intermediate
Semester Hours: 1 | **Lecture Hours:** 0 | **Laboratory Hours:** 3
Instruction and participation in physical and recreational activities. This course is for students with credit in

Beginning Pickleball or equivalent experience. Basic skills will be reviewed and refined. New and advanced skills and tactics will be introduced.
Recommended Prerequisite(s): KINE 1127

KINE 2128 - Volleyball Intermediate +
Semester Hours: 1 | **Lecture Hours:** 0 | **Laboratory Hours:** 3
Instruction and participation in physical and recreational activities. Develops and improves basic skills, strategies and rules for the game of volleyball.
(Course is coeducational)

KINE 2129 - Walk or Jog Intermediate +
Semester Hours: 1 | **Lecture Hours:** 0 | **Laboratory Hours:** 3
Instruction and participation in physical and recreational activities. Improves cardiovascular fitness, body composition and flexibility.
(Course is coeducational)

KINE 2131 - Water Aerobics Intermediate +
Semester Hours: 1 | **Lecture Hours:** 0 | **Laboratory Hours:** 3
Instruction and participation in physical and recreational activities. Develops cardiovascular endurance, flexibility, and muscular endurance/strength through the resistance medium of water, and covers weight control.
(Course is coeducational)

KINE 2132 - Water Exercise Intermediate +
Semester Hours: 1 | **Lecture Hours:** 0 | **Laboratory Hours:** 3
Instruction and participation in physical and recreational activities. Improves cardiovascular fitness, muscular strength/endurance, flexibility through water exercises, and covers a diet/weight management program.
(Course is coeducational)

KINE 2133 - Weight Training Intermediate +
Semester Hours: 1 | **Lecture Hours:** 0 | **Laboratory Hours:** 3
Instruction and participation in physical and recreational activities. Improves muscular endurance and/or muscular strength.
(Course is coeducational)

KINE 2134 - Yoga Intermediate +
Semester Hours: 1 | **Lecture Hours:** 0 | **Laboratory Hours:** 3
Instruction and participation in physical and recreational activities. Improves flexibility, muscular endurance/strength, and mental well-being.
(Course is coeducational)

KINE 2148 - Pilates Intermediate +
Semester Hours: 1 | **Lecture Hours:** 0 | **Laboratory Hours:** 3
Instruction and participation in physical and recreational activities. 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.

KINE 2149 - Fencing - Intermediate +

Semester Hours: 1 | **Lecture Hours:** 0 | **Laboratory Hours:** 3
Instruction and participation in physical and recreational activities. This course is for students with credit in Fencing - Beginning or equivalent experience. Basic skills will be reviewed and refined. New and advanced skills and tactics will be introduced.
Recommended Prerequisite(s): KINE 1149

KINE 2356 - Care and Prevention of Athletic Injuries +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Prevention and care of athletic injuries with emphasis on qualities of a good athletic trainer, avoiding accidents and injuries, recognizing signs and symptoms of specific sports injuries and conditions, immediate and long-term care of injuries, and administration procedures in athletic training.

LBRA 1174 - Practicum in Library Technology
Semester Hours: 1 | **Lecture Hours:** 0 | **Laboratory Hours:** 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.

LBRA 1371 - Introduction to Library Technology
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 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. This course is the recommended prerequisite for all other LBRA courses.

LBRA 1372 - Organization of Information
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 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.
Recommended Prerequisite(s): LBRA 1371

LBRA 1373 - Public Services
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 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 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.
Recommended Prerequisite(s): LBRA 1371

LBRA 1375 - Information Sources and Services
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 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.

LGLA 1303 - Legal Research
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Presents standard and/or computer-assisted legal research techniques in a law library emphasizing the paralegal's role.
Required Corequisite(s): LGLA 1307

LGLA 1305 - Legal Writing
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 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 Prerequisite/Corequisite(s): LGLA 1303 and LGLA 1307

LGLA 1307 - Introduction to Law and the Legal Professions
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 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
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 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 Prerequisite/Corequisite(s): LGLA 1303 and LGLA 1307

LGLA 1353 - Wills, Trusts, and Probate Administration
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Fundamental concepts of the law of wills, trusts, and probate administration emphasizing the paralegal's role.
Recommended Prerequisite(s): LGLA 1305 and LGLA 1345

LGLA 1355 - Family Law
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 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 Prerequisite(s): LGLA 1305 and LGLA 1345

LGLA 2281 - Cooperative Education - Legal Assistant/Paralegal
Semester Hours: 2 | **Lecture Hours:** 1 | **Laboratory Hours:** 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
Semester Hours: 2 | **Lecture Hours:** 0 | **Laboratory Hours:** 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(s): LGLA 2281

LGLA 2303 - Torts and Personal Injury Law

Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 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.
Recommended Prerequisite(s): LGLA 1305 and LGLA 1345

LGLA 2311 - Business Organizations
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 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
Semester Hours: 3 | **Lecture Hours:** 1 | **Laboratory Hours:** 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 1319 - Introduction to Business Logistics
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 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 and International Transportation Management
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 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 and Distribution Center Management
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 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 2334 - Principles of Traffic Management
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 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 2371 - Leadership in Logistics and Supply Chain Management
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Leadership and its relationship to logistics and supply chain management. Prepares the student with leadership and communication skills required to motivate others in various logistics and supply chain management functions.
Required Prerequisite(s): LMGT 2334

LMGT 2388 - Internship: Logistics and Materials Management
Semester Hours: 3 | **Lecture Hours:** 0 | **Laboratory Hours:** 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.
Required Prerequisite(s): LMGT 2371

LNWK 1301 - Orientation and Line Skill Fundamentals
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 4
Examination of utility company operations. Topics include company structure, safety and distribution standards handbook, lineman's tools, vocabulary, and work procedures. Discussion of basic electrical systems including the history of power generation and distribution with emphasis on generating plants and substations.

LNWK 1311 - Climbing Skills
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 4
Theory and application of pole climbing. Includes safety, climbing techniques, tool inspection, poles inspection, personal protective equipment, and fall protection.

LNWK 1331 - Transformer Connections
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 4
An introduction to basic transformer connections and theory (including basic alternating current (AC) theory) and their direct application to single phase and three phase transformers. Students will study and practice basic transformer connections and fundamentals.

LNWK 1341 - Distribution Operations
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 4
A study of the theoretical and practical operation of electrical utility distribution systems. Topics include customer service voltages, capacitors, and coordination of protection equipment.

LNWK 1371 - Underground Distribution Systems
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 4
Examination of Electric Utility underground distribution systems and processes also federal regulations governing the industry. Topics include personal safety, system and procedure safety, proper use of tools and equipment, digging procedures, equipment identification, understanding and utilization OSHA regulations along with local regulations.

LNWK 2321 - Live Line Safety
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 4
Study of cover-up procedures and safety requirements for work on energized electrical circuits. Includes use, care and inspection of cover-up material, recognizing nominal voltages and energized parts, approach distances, and safety.
Recommended Prerequisite(s): LNWK 1301

LNWK 2322 - Distribution Line Construction
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 4
Study of electric distribution line construction. Includes reading staking sheets and framing specifications, tailboard discussions, pole framing and setting, installing conductors, transformers and other line equipment, and OSHA and NESC regulations.
Recommended Prerequisite(s): LNWK 1311

LNWK 2324 - Troubleshooting Distribution Systems
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 4
Study of power outages and voltage complaints on distribution systems. Includes lockout-tagout procedures, safety grounds, backfeed, induced voltage, causes of outages, and analyzing voltage complaints.

LTCA 1311 - Introduction to Long-Term Care Administration
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 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 regulatory standards and statutes.

LTCA 1312 - Resident Care in the Long-Term Care Facility
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
A study of the delivery of services to residents of long-term care facilities including ethical considerations and quality of life issues.
Required Prerequisite(s): LTCA 1311

LTCA 1313 - Organization and Management of Long Term Care Facilities
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
An overview of the functional organizational structures common to long term care facilities. Includes an examination of the role of the long-term care facility administrator in the organization and management of long-term care facilities.
Required Prerequisite(s): LTCA 1311

LTCA 2314 - Long-Term Care Law
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
A study of federal, state, and local statutes and regulations affecting the long-term care industry.
Required Prerequisite(s): LTCA 1311

LTCA 2315 - Financial Management of Long-Term Care Facilities
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 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 payer sources. Also covers strategies to promote financial sustainability.
Required Prerequisite(s): LTCA 1311

LTCA 2660 - Clinical – Hospital and Health Care Facilities Administration/Management
Semester Hours: 6 | **Lecture Hours:** 0 | **Laboratory Hours:** 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
Semester Hours: 6 | **Lecture Hours:** 0 | **Laboratory Hours:** 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.

MATH 0090 - Adult Education Math
Semester Hours: 0 | **Lecture Hours:** 0 | **Laboratory Hours:** 0
Basic arithmetic operations (whole numbers, fractions, mixed numbers, decimals and signed numbers), exponents,

percents and proportions, metric system, geometry of measurement, expressions and equations with variables, and statistical graphs. Computer software will be used in this course. This is an Adult Education course and cannot be used to fulfill degree requirements. It is designed to review basic skills and prepare students for MATH 0361.

MATH 0111 - Non-course Based Mathematics
Semester Hours: 0 | **Lecture Hours:** 0 | **Laboratory Hours:** 0
Non-course based mathematics instruction.

MATH 0132 - Coreq Contemporary Math
Semester Hours: 1 | **Lecture Hours:** 1 | **Laboratory Hours:** 0
This supports students in developing skills, strategies, and reasoning needed to succeed in mathematics, including communication and appropriate use of technology. If successful in the accompanying credit course, this satisfies a developmental math requirement.
Required Prerequisite(s): TSI MATH score of 310-335 with ABE score of 5-6 or TSI MATH score of 336-339 or MATH 0090
Required Corequisite(s): MATH 1332

MATH 0142 - Coreq Elementary Statistics
Semester Hours: 1 | **Lecture Hours:** 1 | **Laboratory Hours:** 0
This supports students in developing skills, strategies, and reasoning needed to succeed in mathematics, including communication and appropriate use of technology. If successful in the accompanying credit course, this satisfies a developmental math requirement.
Required Prerequisite(s): TSI MATH score of 310-335 with ABE score of 5-6 or TSI MATH score of 336-339 or MATH 0090
Required Corequisite(s): MATH 1342

MATH 0214 - Coreq College Algebra
Semester Hours: 2 | **Lecture Hours:** 2 | **Laboratory Hours:** 0
This supports students in developing skills, strategies, and reasoning needed to succeed in mathematics, including communication and appropriate use of technology. If successful in the accompanying credit course, this satisfies a developmental math requirement.
Required Prerequisite(s): TSI MATH score of 340-349 or MATH 0361
Required Corequisite(s): MATH 1314

MATH 0224 - Coreq Math Business/Social Sciences
Semester Hours: 2 | **Lecture Hours:** 2 | **Laboratory Hours:** 0
This supports students in developing skills, strategies, and reasoning needed to succeed in mathematics, including communication and appropriate use of technology. If successful in the accompanying credit course, this satisfies a developmental math requirement.
Required Prerequisite(s): TSI MATH score of 340-349 or MATH 0361
Required Corequisite(s): MATH 1324

MATH 0361 - Developmental Mathematics I
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Topics in mathematics such as arithmetic operations, basic algebraic concepts and notation, geometry, and real and complex number systems. This is a developmental course and cannot be used to fulfill a degree requirement.
Required Prerequisite(s): Satisfactory score on TSI Assessment.

MATH 0362 - Developmental Mathematics II (Intermediate Algebra)
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
A study of relations and functions, inequalities, algebraic expressions and equations (absolute value, polynomial, radical, and rational), with a special emphasis on linear and quadratic expressions and equations. This is a developmental course and cannot be used to fulfill a degree requirement.
Required Prerequisite(s): MATH 0361 with a minimum grade of "C" or satisfactory score on TSI Assessment.

MATH 1314 - College Algebra +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 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.
Required Prerequisite(s):
1. TSI Met in Algebraic Math pathway **or**
2. TSI Met in Non-Algebraic Math pathway may take MATH 1314 with MATH 0214

MATH 1316 - Plane Trigonometry +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 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(s): MATH 1314 with a minimum grade of C or appropriate score on the college-level mathematics placement test.

MATH 1324 - Mathematics for Business and Social Sciences +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
The application of common algebraic functions, including polynomial, exponential, logarithmic, and rational, to problems in business, economics, and the social sciences are addressed. The applications include mathematics of finance, including simple and compound interest and annuities; systems of linear equations; matrices; linear programming; and probability, including expected value.
Required Prerequisite(s):
1. TSI Met in Algebraic Math pathway **or**
2. TSI Met in Non-Algebraic Math pathway may take MATH 1324 with MATH 0224

MATH 1325 - Calculus for Business and Social Sciences +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
This course is the basic study of limits and continuity, differentiation, optimization and graphing, and integration of elementary functions, with emphasis on applications in business, economics, and social sciences. This course is not a substitute for MATH 2413, Calculus I.
Required Prerequisite(s): MATH 1324 or MATH 1314 with minimum grade of "C".

MATH 1332 - Contemporary Mathematics (Quantitative Reasoning) +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Intended for non-STEM (Science, Technology, Engineering, and Mathematics) majors. Topics include introductory treatments of sets and logic, functions, financial mathematics, probability and statistics with appropriate applications. Number sense, proportional reasoning, estimation, technology, and communication should be embedded throughout the course. Additional topics may be covered.
Required Prerequisite(s):
1. TSI Met in Non-Algebraic Math pathway **or**

2. MATH 0090 completers may take MATH 1332 with MATH 0132

MATH 1342 - Elementary Statistical Methods +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Collection, analysis, presentation and interpretation of data, and probability. Analysis includes descriptive statistics, correlation and regression, confidence intervals and hypothesis testing. Use of appropriate technology is recommended.
Required Prerequisite(s):
1. TSI Met in Reading and Writing and TSI Met in Non-Algebraic Math pathway **or**
2. TSI Met in Reading and Writing and MATH 0090 completers may take Math 1342 with MATH 0142.

MATH 1350 - Mathematics for Teachers I +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
This course is intended to build or reinforce a foundation in fundamental mathematics concepts and skills. It includes the conceptual development of the following: sets, functions, numeration systems, number theory, and properties of the various number systems with an emphasis problem solving and critical thinking. This course is designed specifically for students who seek middle grade (4-8) teacher certification.
Required Prerequisite(s): MATH 1314 with minimum grade of C

MATH 1351 - Mathematics for Teachers II +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
This course is intended to build or reinforce a foundation in fundamental mathematics concepts and skills. It includes the concepts of geometry, measurement, probability and statistics 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(s): MATH 1350 and MATH 1314 with a minimum of C

MATH 2305 - Discrete Mathematics +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
A course designed to prepare math, computer science, and engineering majors for a background in abstraction, notation, and critical thinking for the mathematics most directly related to computer science. Topics include: logic, relations, functions, basic set theory, countability and counting arguments, proof techniques, mathematical induction, combinatorics, discrete probability, recursion, sequence and recurrence, elementary number theory, graph theory, and mathematical proof techniques.
Required Prerequisite(s): MATH 2413 with a minimum grade of C

MATH 2318 - Linear Algebra +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 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(s): MATH 2414 with minimum grade of "C".

MATH 2320 - Differential Equations +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 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(s): MATH 2414 with minimum grade of "C".

MATH 2412 - Pre-Calculus Math +
Semester Hours: 4 | **Lecture Hours:** 4 | **Laboratory Hours:** 1
In-depth combined study of algebra, trigonometry, and other topics for calculus readiness.
Required Prerequisite(s): MATH 1314 or MATH 1316 with a minimum grade of C or appropriate score on the college-level mathematics placement test.

MATH 2413 - Calculus I +
Semester Hours: 4 | **Lecture Hours:** 4 | **Laboratory Hours:** 1
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(s): MATH 2412 with a minimum grade of C or appropriate score on the college-level mathematics placement test.

MATH 2414 - Calculus II +
Semester Hours: 4 | **Lecture Hours:** 4 | **Laboratory Hours:** 0
Differentiation and integration of transcendental functions; parametric equations and polar coordinates; techniques of integration; sequences and series; and improper integrals.
Required Prerequisite(s): MATH 2413 with minimum grade of "C".

MATH 2415 - Calculus III +
Semester Hours: 4 | **Lecture Hours:** 4 | **Laboratory Hours:** 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(s): MATH 2414 with minimum grade of "C".

MCHN 1338 - Basic Machine Shop I
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 4
A course that introduces the student to machining fundamentals. The student will use basic machine tools including the lathe, milling machine, drill press, power saw, and bench grinder. Machine terminology, theory, math, part layout, and bench work using common measuring tools is included, Emphasis is placed on shop safety, housekeeping, and preventative maintenance.
Required Prerequisite(s): DFTG 1305 and DFTG 1409

MCHN 2303 - Fundamentals of Computer Numerical Controlled (CNC) Machine Controls
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 4
Programming and operation of Computer Numerical Controlled (CNC) machine shop equipment.
Required Prerequisite(s): DFTG 1305 and DFTG 1409

MCHN 2431 - Operation of CNC Turning Centers
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 3
A study of CNC operations with an emphasis on turning centers.
Required Prerequisite(s): DFTG 1305

MCHN 2434 - Operation of CNC Machining Centers
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 3
A study of CNC operations with an emphasis on vertical machining centers.
Required Prerequisite(s): DFTG 1305, DFTG 1409, and MCHN 2431

MCHN 2435 - Advanced CNC Machining
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 3
Advanced CNC operation with an emphasis on programming and operations of machining and turning centers.
Required Prerequisite(s): DFTG 1305 and DFTG 1409

MCHN 2444 - Computerized Numerical Control Programming
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 3
An introduction to G and M codes (RS274-D) necessary to program Computer Numerical Controlled (CNC) machines.

MCOD 1371 - Introduction to Mission Critical Operations
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
This course introduces the fundamental aspects of mission critical operations and describes the skills that technicians perform on the job and environments they work in. Topics include terminology, challenges in maintaining mission critical operations, mission critical operations technology, mission critical information technology, technology management and the mission critical mindset. Upon completion, students should be able to distinguish between mission critical and non-mission critical scenarios, describe mission critical applications in both operations technology and information technology, demonstrate an awareness of the threats to mission critical operations, and define key mission critical operations terminology.
Recommended Prerequisite(s): COSC 1301

MCOD 1372 - Mission Critical Operations Infrastructure
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
This course provides a survey of critical infrastructure and its impact on mission critical operations. Topics include an introduction to concepts, theory, terminology and best practices regarding critical infrastructure assets essential for the economy and the functioning of society. Upon completion, students should be able to name critical infrastructure sectors, explain relationships between infrastructure sectors, discuss the roles government and private entities play in maintaining critical infrastructure and their impact on daily life.
Recommended Prerequisite(s): MCOD 1371

MCOD 2371 - Critical Site Operations
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
This course introduces critical site operations and the multidisciplinary concepts and infrastructure involved in maintaining performance, security and safety in high uptime environment. Topics include safety, security, cybersecurity, operating procedures, operating processes, site-wide monitoring, utilities infrastructure and regulatory agency compliance. Upon completion, students should be able to identify infrastructure systems, discuss infrastructure performance, demonstrate an understanding of infrastructure system interoperability, apply safety and security principles, and generate a cybersecurity framework for critical sites.
Recommended Prerequisite(s): MCOD 1372

MDCA 1160 - Clinical Experience

Semester Hours: 1 | **Lecture Hours:** 0 | **Laboratory Hours:** 4
A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

MDCA 1161 - Clinical Experience
Semester Hours: 1 | **Lecture Hours:** 0 | **Laboratory Hours:** 4
A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

MDCA 1162 - Clinical - Medical/Clinical Assistant
Semester Hours: 1 | **Lecture Hours:** 0 | **Laboratory Hours:** 4
A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

MDCA 1254 - Medical Assistant Credentialing Exam Review
Semester Hours: 2 | **Lecture Hours:** 2 | **Laboratory Hours:** 0
A preparation for one of the National Commission for Certifying Agencies (NCCA) recognized credentialing exams.

MDCA 1302 - Human Disease and Pathophysiology
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
A study of anatomy and physiology with emphasis on human pathophysiology, including etiology, prognosis, medical treatment, signs and symptoms of common diseases of all body systems.

MDCA 1305 - Medical Law and Ethics
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Instruction in principles, procedures, and regulations involving legal and ethical relationships among physicians, patients, and medical assistants in ambulatory care settings.

MDCA 1310 - Medical Assistant Interpersonal and Communication Skills
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Emphasis on the application of basic psychological principles and the study of behavior as they apply to special populations. Topics include procedures for self-understanding and social adaptability in interpersonal communication with patients and co-workers in an ambulatory care setting.

MDCA 1321 - Administrative Procedures
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 2
Medical office procedures including appointment scheduling, medical records creation and maintenance, interpersonal communications, bookkeeping tasks, coding, billing, collecting, third party reimbursement, credit arrangements, and computer use in the medical office.

MDCA 1343 - Medical Insurance
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 2
Emphasizes medical office coding for payment and reimbursement by patient or third party payers for ambulatory care settings.

MDCA 1352 - Medical Assistant Lab Procedure
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 3
Application of governmental health care guidelines. Includes specimen collection and handling, quality assurance

and quality control in performance of Clinical Laboratory Improvement Amendments (CLIA)-waived laboratory testing.

MDCA 1409 - Anatomy & Physiology for Medical Assistant
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 2
Emphasis on structure and function of human cells, tissues, organs, and systems with overview of common pathophysiology.

MDCA 1417 - Procedures in a Clinical Setting
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 2
Emphasis on patient assessment, examination, and treatment as directed by physician. Includes vital signs, collection and documentation of patient information, asepsis, office clinical procedures, and other treatments as appropriate for ambulatory care settings.

MDCA 1448 - Pharmacology and Administration of Medications
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 2
Instruction in concepts and application of pharmacological principles. Focuses on drug classifications, principles and procedures of medication administration, mathematical systems and conversions, calculation of drug problems, and medico-legal responsibilities of the medical assistant.

METL 1301 - Introduction to Metalurgy
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
A comprehensive study of refining, mechanical, and physical properties of ferrous and non-ferrous materials including the theory of alloys, heat treatment and testing.

METL 2371 - Materials and Failure Analysis
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Analysis of metal structure failures. Topics include a study of aircraft corrosion, stress and fatigue under normal and abnormal operation and best practices in nondestructive testing and inspection techniques to identify defects.
Required Prerequisite(s): METL 1301

MILI 0001 - Leadership Laboratory
Semester Hours: 1 | **Lecture Hours:** 1 | **Laboratory Hours:** 0
Course taught in coordination with ROTC program at Texas Christian University.
Restricted course, approval required for enrollment.

MILI 0041 - Introduction to Leadership I
Semester Hours: 1 | **Lecture Hours:** 1 | **Laboratory Hours:** 0
Course taught in coordination with ROTC program at Texas Christian University.
Restricted course, approval required for enrollment.

MILI 0042 - Basic Leadership I
Semester Hours: 2 | **Lecture Hours:** 1 | **Laboratory Hours:** 0
Course taught in coordination with ROTC program at Texas Christian University.
Restricted course, approval required for enrollment.

MILI 0080 - Leadership Lab

Semester Hours: 1 | **Lecture Hours:** 0 | **Laboratory Hours:** 3
Course offered in coordination with ROTC Program at the University of Texas at Arlington. Special permission to enroll required.
Restricted course, approval required for enrollment.

MILI 0081 - Introduction to Leadership II
Semester Hours: 1 | **Lecture Hours:** 1 | **Laboratory Hours:** 0
Course offered in coordination with ROTC program at Texas Christian University.
Restricted course, approval required for enrollment.

MILI 1001 - Leadership Laboratory
Semester Hours: 1 | **Lecture Hours:** 1 | **Laboratory Hours:** 0
Course taught in coordination with ROTC program at Texas Christian University.
Restricted course, approval required for enrollment.

MILI 1041 - Foundations of Leadership
Semester Hours: 1 | **Lecture Hours:** 1 | **Laboratory Hours:** 0
Course offered in coordination with ROTC at the University of Texas at Arlington.
Restricted course, approval required for enrollment.

MILI 1042 - Introduction to Leadership
Semester Hours: 1 | **Lecture Hours:** 1 | **Laboratory Hours:** 3
Course offered in coordination with ROTC at the University of Texas at Arlington.
Restricted course, approval required for enrollment.

MILI 2004 - Basic Leadership II
Semester Hours: 2 | **Lecture Hours:** 1 | **Laboratory Hours:** 0
Course offered in coordination with ROTC program at Texas Christian University.
Restricted course, approval required for enrollment.

MILI 2051 - Individual/Team Development
Semester Hours: 2 | **Lecture Hours:** 2 | **Laboratory Hours:** 0
Course offered in coordination with ROTC at the University of Texas at Arlington.
Restricted course, approval required for enrollment.

MILI 2052 - Individual/Team Military Tactics
Semester Hours: 2 | **Lecture Hours:** 2 | **Laboratory Hours:** 3
Course offered in coordination with ROTC at the University of Texas at Arlington.
Restricted course, approval required for enrollment.

MRIT 1271 - Magnetic Resonance Imaging-Registry Review
Semester Hours: 2 | **Lecture Hours:** 2 | **Laboratory Hours:** 0
A continuation of magnetic resonance imaging principles, physics, techniques, equipment, methodology, and safety in preparation for licensure examination in MRI. Emphasis is placed on mastery of topics presented.
Required Prerequisite(s): Graduate of a 2-year accredited medical radiography program in ionizing radiation. Current, unsanctioned ARRT licensure in Radiography, Radiation Therapy, Nuclear Medicine Technology, or Sonography. Texas Medical Board - Medical Radiologic Technologist License (MRT).

MRIT 2330 - Principles of Magnetic Resonance Imaging
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
In-depth coverage of magnetic resonance imaging techniques. Image quality assurance and safety protocols are emphasized.

MRIT 2334 - Magnetic Resonance Equipment & Methodology
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Skill development in the operation of magnetic resonance imaging equipment, focusing on routine procedures and safety protocols, image quality, and quality assurance.

MRIT 2355 - Magnetic Resonance Imaging Physics
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
A study of Magnetic Resonance Imaging (MRI) physics which includes principles of electrodynamics, pulse sequences, sequence parameters and options, and spin echo and gradient echo techniques.

MRIT 2462 - Clinical III-Radiologic Technology/Science-Radiographer (MRI)
Semester Hours: 4 | **Lecture Hours:** 0 | **Laboratory Hours:** 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.

MRIT 2560 - Clinical I-Radiologic Technology/Science-Radiographer (MRI)
Semester Hours: 5 | **Lecture Hours:** 0 | **Laboratory Hours:** 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.

MRIT 2561 - Clinical II-Radiologic Technology/Science-Radiographer (MRI)
Semester Hours: 5 | **Lecture Hours:** 0 | **Laboratory Hours:** 24
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(s): MRIT 2330

MRKG 1301 - Customer Relationship Management
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
General principles of customer relationship management including skills, knowledge, attitudes, and behaviors.

MRKG 1302 - Principles of Retailing
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
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
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Introduction to the marketing mix functions and process. Includes identification of consumer and organizational needs and explanation of environmental issues.

MRKG 2312 - e-Commerce Marketing

Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Explore electronic tools utilized in marketing; focus on marketing communications in developing customer relationships.

MRKG 2333 - Principles of Selling
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 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 that affect salespeople.

MRKG 2348 - Marketing Research and Strategies
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Practical experiences in analyzing marketing studies using data-driven decision-making processes. Includes interrelationships among the components of the marketing mix.

MRKG 2349 - Advertising and Sales Promotion
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Integrated marketing communications. Includes advertising principles and practices. Emphasizes multimedia of persuasive communication including buyer behavior, budgeting, and regulatory constraints.

MUAP 1190 - Individual Instruction +
Semester Hours: 1 | **Lecture Hours:** 0.5 | **Laboratory Hours:** 0
Individual instruction in voice, instrument, composition, or conducting.

MUAP 1191 - Individual Instruction +
Semester Hours: 1 | **Lecture Hours:** 0.5 | **Laboratory Hours:** 0
Individual instruction in voice, instrument, composition, or conducting.

MUAP 1290 - Individual Instruction +
Semester Hours: 2 | **Lecture Hours:** 1 | **Laboratory Hours:** 0
Individual instruction in voice, instrument, composition, or conducting.

MUAP 1291 - Individual Instruction +
Semester Hours: 2 | **Lecture Hours:** 1 | **Laboratory Hours:** 0
Individual instruction in voice, instrument, composition, or conducting.

MUAP 1292 - Individual Instruction +
Semester Hours: 2 | **Lecture Hours:** 1 | **Laboratory Hours:** 0
Individual instruction in voice, instrument, composition, or conducting.
Recommended Prerequisite(s): MUAP 1291

MUAP 2291 - Individual Instruction +
Semester Hours: 2 | **Lecture Hours:** 1 | **Laboratory Hours:** 0
Individual instruction in voice, instrument, composition, or conducting.
Recommended Prerequisite(s): MUAP 1291

MUAP 2292 - Individual Instruction +

Semester Hours: 2 | **Lecture Hours:** 1 | **Laboratory Hours:** 0
Individual instruction in voice, instrument, composition, or conducting.
Recommended Prerequisite(s): MUAP 2291

MUEN 1122 - Jazz Ensembles +
Semester Hours: 1 | **Lecture Hours:** 0 | **Laboratory Hours:** 3
Large ensemble is comprised of instrumentation appropriate to designated ensemble styles. Ensemble will rehearse and perform music from literature of the appropriate styles.

MUEN 1123 - Band +
Semester Hours: 1 | **Lecture Hours:** 0 | **Laboratory Hours:** 3
Large ensemble is comprised of instrumentation appropriate to designated ensemble styles. Ensemble will rehearse and perform music from literature of the appropriate styles.

MUEN 1124 - Orchestra +
Semester Hours: 1 | **Lecture Hours:** 0 | **Laboratory Hours:** 3
Large ensemble is comprised of instrumentation appropriate to designated ensemble styles. Ensemble will rehearse and perform music from literature of the appropriate styles.

MUEN 1132 - Combo +
Semester Hours: 1 | **Lecture Hours:** 0 | **Laboratory Hours:** 3
Freshman Chamber Instrumental Ensemble to meet special needs with the nature of the ensemble determined by student interest and instrumentation.

MUEN 1133 - Chamber Winds +
Semester Hours: 1 | **Lecture Hours:** 0 | **Laboratory Hours:** 3
The Freshman Chamber Instrumental Ensemble to meet special needs with the nature of ensemble determined by student interest and instrumentation.

MUEN 1134 - Chamber Strings +
Semester Hours: 1 | **Lecture Hours:** 0 | **Laboratory Hours:** 3
Freshman Chamber Instrumental Ensemble to meet special needs with the nature of the ensemble determined by student interest and instrumentation.

MUEN 1135 - Guitar Ensemble +
Semester Hours: 1 | **Lecture Hours:** 0 | **Laboratory Hours:** 3
Freshman Chamber Instrumental Ensemble to meet special needs with the nature of the ensemble determined by student interest and instrumentation.

MUEN 1141 - Large Choral Ensembles +
Semester Hours: 1 | **Lecture Hours:** 0 | **Laboratory Hours:** 3
A wide variety of music representing literature of the great eras of music history is studied and performed.
Required Prerequisite(s): Demonstrated competence approved by the instructor.

MUEN 1151 - Chamber Singers +
Semester Hours: 1 | **Lecture Hours:** 0 | **Laboratory Hours:** 3
Activities include study and performance of specialized choral literature suitable for more advanced students. This

course may be repeated for credit.
Required Prerequisite(s): Demonstrated competence approved by the instructor.

MUEN 1152 - Chamber Opera +
Semester Hours: 1 | **Lecture Hours:** 0 | **Laboratory Hours:** 3
Activities include study and performance of specialized choral literature suitable for more advanced students. This course may be repeated for credit.
Required Prerequisite(s): Demonstrated competence approved by the instructor.

MUEN 2122 - Jazz Ensembles +
Semester Hours: 1 | **Lecture Hours:** 0 | **Laboratory Hours:** 3
Large ensemble is comprised of instrumentation appropriate to designated ensemble styles. Ensemble will rehearse and perform music from literature of the appropriate styles.

MUEN 2123 - Band +
Semester Hours: 1 | **Lecture Hours:** 0 | **Laboratory Hours:** 3
Large ensemble is comprised of instrumentation appropriate to designated ensemble styles. Ensemble will rehearse and perform music from literature of the appropriate styles.

MUEN 2124 - Orchestra +
Semester Hours: 1 | **Lecture Hours:** 0 | **Laboratory Hours:** 3
Large ensemble is comprised of instrumentation appropriate to designated ensemble styles. Ensemble will rehearse and perform music from literature of the appropriate styles.

MUEN 2132 - Combo +
Semester Hours: 1 | **Lecture Hours:** 0 | **Laboratory Hours:** 3
Freshman Chamber Instrumental Ensemble to meet special needs with the nature of the ensemble determined by student interest and instrumentation.

MUEN 2133 - Chamber Winds +
Semester Hours: 1 | **Lecture Hours:** 0 | **Laboratory Hours:** 3
Freshman Chamber Instrumental Ensemble to meet special needs with the nature of the ensemble determined by student interest and instrumentation.

MUEN 2134 - Chamber Strings +
Semester Hours: 1 | **Lecture Hours:** 0 | **Laboratory Hours:** 3
Freshman Chamber Instrumental Ensemble to meet special needs with the nature of the ensemble determined by student interest and instrumentation.

MUEN 2135 - Guitar Ensemble +
Semester Hours: 1 | **Lecture Hours:** 0 | **Laboratory Hours:** 3
Freshman Chamber Instrumental Ensemble to meet special needs with the nature of the ensemble determined by student interest and instrumentation.

MUEN 2141 - Large Choral +
Semester Hours: 1 | **Lecture Hours:** 0 | **Laboratory Hours:** 3
A wide variety of music representing literature of the great eras of music history is studied and performed.
Prerequisite: Demonstrated competence approved by the instructor.

MUEN 2151 - Chamber Singers +
Semester Hours: 1 | **Lecture Hours:** 0 | **Laboratory Hours:** 3
A wide variety of music representing literature of the great eras of music history is studied and performed.
Required Prerequisite(s): Demonstrated competence approved by the instructor.

MUSI 1116 - Sight Singing & Ear Training I +
Semester Hours: 1 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Singing tonal music in treble and bass clefs, and aural study of elements of music, such as scales, intervals and chords, and dictation of basic rhythm, melody and diatonic harmony.
Recommended Corequisite(s): MUSI 1311

MUSI 1117 - Sight Singing & Ear Training II +
Semester Hours: 1 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Singing tonal music in various clefs, continued aural study of the elements of music, and dictation of intermediate rhythm, melody and diatonic harmony.
Recommended Prerequisite(s): MUSI 1116
Recommended Corequisite(s): MUSI 1312

MUSI 1157 - Opera Workshop +
Semester Hours: 1 | **Lecture Hours:** 1 | **Laboratory Hours:** 2
A study of the synthesis of singing and acting through the performance of opera.

MUSI 1181 - Piano Class I +
Semester Hours: 1 | **Lecture Hours:** 2 | **Laboratory Hours:** 1
Beginning class instruction in the fundamentals of keyboard technique.

MUSI 1182 - Piano Class II +
Semester Hours: 1 | **Lecture Hours:** 2 | **Laboratory Hours:** 1
Advanced beginning class instruction in the fundamentals of keyboard technique.
Required Prerequisite(s): MUSI 1181

MUSI 1183 - Voice Class +
Semester Hours: 1 | **Lecture Hours:** 2 | **Laboratory Hours:** 1
Class instruction in the fundamentals of singing including breathing, tone production, and diction. Designed for students with little or no previous voice training. Does not apply to a music major degree.

MUSI 1192 - Guitar Class +
Semester Hours: 1 | **Lecture Hours:** 2 | **Laboratory Hours:** 1
Class instruction in fundamental guitar playing, including technique, music-reading, fretboard theory, melodic and harmonic realizations.

MUSI 1303 - Fundamentals of Music +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Introduction to the basic elements of music theory, including scales, intervals, keys, triads, elementary ear training, notation, meter, and rhythm. Course does not apply to a music major degree.

MUSI 1306 - Music Appreciation +

Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Understanding music through the study of cultural periods, major composers, and musical elements, illustrated with audio recordings and live performances. Course does not apply to a music major degree.

MUSI 1307 - Music Literature +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
A survey of the styles and forms of music as it developed from the middle ages to the present. This course will familiarize the student with cultural context, terminology, genres, and notation.

MUSI 1310 - American Music +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
A general survey of various styles of music of the Americas, including but not limited to jazz, folk, rock, and contemporary music.

MUSI 1311 - Music Theory I +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
The study of analysis and writing of tonal melody and diatonic harmony, including fundamental music concepts, scales, intervals, chords, 7th chords, and early four-part writing. Analysis of small compositional forms. Optional correlated study at the keyboard.
Recommended Corequisite(s): MUSI 1116

MUSI 1312 - Music Theory II +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
The study of analysis and writing of tonal melody and diatonic harmony, including all diatonic chords and seventh chords in root position and inversions, non-chord tones, and functional harmony. Introduction to more complex topics, such as modulation, may occur. Optional correlated study at the keyboard.
Recommended Prerequisite(s): MUSI 1311
Recommended Corequisite(s): MUSI 1117

MUSI 2116 - Sight Singing & Ear Training III +
Semester Hours: 1 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Singing more difficult tonal music in various clefs, aural study including dictation of more complex rhythm, melody, chromatic harmony, and extended tertian structures.
Recommended Prerequisite(s): MUSI 1117
Recommended Corequisite(s): MUSI 2311

MUSI 2117 - Sight Singing & Ear Training IV +
Semester Hours: 1 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Singing advanced tonal music and introduction of modal and post-tonal melodies. Aural study including dictation of advanced rhythm, melody, and harmony.
Recommended Prerequisite(s): MUSI 2116
Recommended Corequisite(s): MUSI 2312

MUSI 2181 - Piano Class III +
Semester Hours: 1 | **Lecture Hours:** 2 | **Laboratory Hours:** 1
Intermediate class instruction of keyboard technique.
Required Prerequisite(s): MUSI 1182

MUSI 2182 - Piano Class IV +
Semester Hours: 1 | **Lecture Hours:** 2 | **Laboratory Hours:** 1
Advanced class instruction of keyboard technique.
Required Prerequisite(s): MUSI 2181

MUSI 2311 - Music Theory III +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Advanced harmony voice leading, score analysis and writing of more advanced tonal harmony including chromaticism and extended-tertian structures. Optional correlated study at the keyboard.
Recommended Prerequisite(s): MUSI 1312
Recommended Corequisite(s): MUSI 2116

MUSI 2312 - Music Theory IV +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Continuation of advanced chromaticism and survey of analytical and compositional procedures in post-tonal music. Optional correlated study at the keyboard.
Recommended Prerequisite(s): MUSI 2311
Recommended Corequisite(s): MUSI 2117

NDTE 1340 - Eddy Current Testing
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 4
General principles of Eddy Current Testing including theory, knowledge and skills for basic examination; effects of material properties, probe types, calibration standards and equipment selection.

NDTE 1371 - Introduction to Radiation Safety
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 4
Overview on the theory and principles of NDT testing methods to include Liquid Penetrant, Magnetic Particle, Radiographic, Eddy Current, and Ultrasonic. An extensive review of the Codes & Standards that apply to aviation and other industries.

NDTE 1372 - Introduction to NDT/NAS Codes and Standards
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Overview on the theory and principles of NDT testing methods to include Liquid Penetrant, Magnetic Particle, Radiographic, Eddy Current, and Ultrasonic. An extensive review of the Codes & Standards that apply to aviation and other industries.

NDTE 1405 - Introduction to Ultrasonics
Semester Hours: 4 | **Lecture Hours:** 2 | **Laboratory Hours:** 6
Basic theory and applications of the ultrasonic techniques of materials testing covering the theoretical material from the certification test for Ultrasonic Level I American Society of Nondestructive Testing.

NDTE 1410 - Liquid Penetrant/Magnetic Particle Testing
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 3
Theoretical study and practical application of the nondestructive testing technique of penetrant and magnetic particle testing required by quality assurance and test personnel including proper test technique, or combination of techniques and interpretation, evaluation of test results.

NDTE 2401 - Advanced Ultrasonics

Semester Hours: 4 | **Lecture Hours:** 2 | **Laboratory Hours:** 6
Designed to strengthen the students' knowledge and skills in ultrasonic testing. Emphasis on examination of components and characterization of flaws using advanced techniques.
Required Prerequisite(s): NDTE 1405

NDTE 2473 - Industrial Radiography
Semester Hours: 4 | **Lecture Hours:** 2 | **Laboratory Hours:** 6
Advanced study of Radiography testing that provides the student classroom training and hands on applications. The student will progress through a series of lessons and gain demonstrated abilities comparable to a Level II technician. The classroom and lab training will meet the requirements for SNT-TC-1A and NAS-410.
Required Prerequisite(s): NDTE 1371

NDTE 2474 - Emerging Technologies in Nondestructive Techniques
Semester Hours: 4 | **Lecture Hours:** 2 | **Laboratory Hours:** 4
A study in advanced techniques for nondestructive testing and inspection of aircraft and components to include metallic and composite structures. Includes shearography, phased array and other emerging methods.
Required Corequisite(s): NDTE 2401 and NDTE 2572

NDTE 2572 - Advanced Eddy Current
Semester Hours: 5 | **Lecture Hours:** 3 | **Laboratory Hours:** 5
Advanced study of Eddy Current Testing that provides the student classroom training and hands on applications. The student will progress through a series of lessons and gain demonstrated abilities comparable to a Level II technician. The classroom and lab training will meet the requirements of SNT-TC-1A and NAS -410.
Required Prerequisite(s): NDTE 1340

NMTT 1266 - Practicum I-Nuclear Medicine Technology
Semester Hours: 2 | **Lecture Hours:** 0 | **Laboratory Hours:** 16
Practical general workplace training supported by an individualized learning plan develop by the employer, college and student.
Required Prerequisite(s): BIOL 2401, BIOL 2402, and MATH 1314

NMTT 1267 - Practicum II-Nuclear Medicine Technology
Semester Hours: 2 | **Lecture Hours:** 0 | **Laboratory Hours:** 20
Practical general workplace training supported by an individualized learning plan developed by the employer, college and student.
Required Prerequisite(s): BIOL 2401, BIOL 2402, and MATH 1314

NMTT 1301 - Introduction to Nuclear Medicine
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 3
Introduction to the field of nuclear medicine with emphasis on the principles of radiation safety, health physics, and the various studies performed in a nuclear medicine area.
Required Prerequisite(s): BIOL 2401

NMTT 1309 - Nuclear Medicine Instrumentation
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 2
Theory and application of electronic instrumentation used in the direction and analysis of ionizing radiation with special emphasis on gamma spectrometry and quality assurance relevant to nuclear medicine instruments.
Required Prerequisite(s): BIOL 2401, BIOL 2402, MATH 1314, and CHEM 1405

NMTT 1313 - Nuclear Medicine Physics
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
A comprehensive study of the physical principles associated with nuclear medicine and allied health physics. Identify atomic and nuclear structure; describe energy relationships; distinguish radioactivity as a consequence of nuclear instabilities, decay modes, radiations emitted, and interactions with matter; utilize mathematics for calculation of radioactivity and photon attenuation in matter; analyze statistical analyses related to nuclear medicine physics; and solve problems dealing with topics
such as force, work, energy, frequency, and wave length.
Required Prerequisite(s): SCIT 1320

NMTT 2209 - Nuclear Medicine Methodology I
Semester Hours: 2 | **Lecture Hours:** 1 | **Laboratory Hours:** 3
Focus on the basic principles involved in all diagnostic and therapeutic tests and procedures normally found in a nuclear medicine facility with emphasis on anatomy, physiology, pathology, radiopharmaceuticals, instrumentation, data analysis, and diagnostic value. Includes the cardiovascular, respiratory, and genitourinary systems; inflammatory processes; tumors; and radionuclide therapy; and miscellaneous procedures.
Required Prerequisite(s): BIOL 2401 and BIOL 2402

NMTT 2235 - Nuclear Medicine Seminar
Semester Hours: 2 | **Lecture Hours:** 1 | **Laboratory Hours:** 4
A capstone course focusing on the synthesis of professional knowledge, skills and attitudes in preparation for professional employment and lifelong learning.
Required Prerequisite(s): BIOL 2401, BIOL 2402, MATH 1314, and CHEM 1405

NMTT 2301 - Radiochemistry and Radiopharmacy
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 2
Basic concepts of radiochemistry and radiopharmacy including the atomic structure, radioactive decay, and production of various radionuclides. Emphasis on radiopharmaceuticals and their ideal characteristics, biodistribution, and clinical applications; the various dosage forms in which they may be dispensed; quality control test; and their formation an dispensing.

Required Prerequisite(s): BIOL 2401, BIOL 2402, CHEM 1405, and MATH 1314

NMTT 2313 - Nuclear Medicine Methodology II
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Focus on the basic principles involved in all diagnostic and therapeutic tests and procedures normally found in a nuclear medicine facility with emphasis on anatomy, physiology, pathology, radiopharmaceuticals, instrumentation, data analysis, and diagnostic value. Includes the cardiovascular, respiratory, and lymphatic systems; the adrenal and parathyroid glands; tumors; and inflammatory processes; and miscellaneous procedures.
Required Prerequisite(s): BIOL 2401, BIOL 2402, MATH 1314, and CHEM 1405

NMTT 2333 - Positron Emission Tomography (PET) and Fusion Technology
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Advanced study in the field of positron emission tomography and fusion technology.
Required Prerequisite(s): BIOL 2401, BIOL 2402, MATH 1314, and CHEM 1405
Recommended Prerequisite(s): NMTT 1309

NMTT 2366 - Practicum III (or Field Experience)-Nuclear Medical Technology

Semester Hours: 3 | **Lecture Hours:** 0 | **Laboratory Hours:** 24
Practical general workplace training supported by an individualized learning plan developed by the employer, college and student.
Required Prerequisite(s): BIOL 2401, BIOL 2402, and MATH 1314

NMTT 2467 - Practicum IV (or Field Experience)-Nuclear Medicine Technology
Semester Hours: 4 | **Lecture Hours:** 0 | **Laboratory Hours:** 32
Practical general workplace training supported by an individualized learning plan developed by the employer, college and student.
Required Prerequisite(s): BIOL 2401, BIOL 2402, and MATH 1314

OPTS 1266 - Clinic Practicum II
Semester Hours: 2 | **Lecture Hours:** 0 | **Laboratory Hours:** 15
Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student. This course will continue to introduce procedures for care of ophthalmology patients. Students will continue to observe techniques in various specialty clinics performed by clinical staff and begin to greet patients and start examinations by acquiring measurements and properly record results.
Required Prerequisite(s): OPTS 1366

OPTS 1305 - Geometric Optics
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Introduction to the history and physics of the electromagnetic spectrum with emphasis on the reflection and refraction on prisms, and single and compound lens systems. This course will also introduce principles of physical optics and the human eye as an optical system such as: object-image relationships, magnification, simple lens systems, optical relationships of eye structures, accommodation and effects of aging, refractive errors, astigmatism, prisms and Prentice's Rule.
Required Prerequisite(s): OPTS 1311

OPTS 1311 - The Visual System
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Overview of the visual system including the anatomy and physiology of the eye, related structures, and diseases.

OPTS 1315 - Basic Contact Lenses
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 1
Introduction to contact lens theory and practice. Topics include the history, development, and manufacture of contact lenses; lens materials, designs, fitting, and care techniques; as well as skills necessary for the accurate measurement of lens parameters. This course will also introduce and compare similar concepts of spectacles.
Required Prerequisite(s): OPTS 1311

OPTS 1319 - Vision Care Office Procedures
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Overview of procedures used in an optical, optometric, or ophthalmological, office. Instruction on government, third party, and other managed care insurance claim forms, maintenance of patient records, safety regulations, correspondences and ethics. An overview of procedures used in an eye clinic including pediatric vision screening will be covered.

OPTS 1366 - Clinic Practicum I

Semester Hours: 2 | **Lecture Hours:** 0 | **Laboratory Hours:** 21
Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student. This course will continue to introduce procedures for care of ophthalmology patients. Students will observe techniques in various specialty clinics performed by clinical staff. Many procedures will be observed, but emphasis will be on basic skills needed to begin patient examination.
Required Prerequisite(s): OPTS 2341

OPTS 1492 - Ophthalmic Seminar
Semester Hours: 4 | **Lecture Hours:** 4 | **Laboratory Hours:** 0
This course will address current special testing procedures not normally accomplished during routine ophthalmic examinations for common eye diseases and common ocular manifestations in systemic conditions. Introduction to billing and coding and new techniques, protocols, and emerging treatment will be reviewed.
Required Prerequisite(s): OPTS 1266 and OPTS 1366

OPTS 2335 - Advanced Contact Lenses
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 1
Emphasizes the knowledge and skills necessary to assist the practitioner in the dispensing, evaluation, and care of soft, rigid, toric, multi-focal, therapeutic, and other specialty contact lenses. Topics will also include keratometry, contact lenses and fitting for more advanced options for complex situations, and proper care systems. Surgical options to improve refractive status will also be reviewed.
Required Prerequisite(s): OPTS 1315

OPTS 2341 - Ophthalmic Techniques
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 1
Presentation of information and practical training in the techniques necessary to properly assist the eye practitioner. Topics include visual acuity assessments and performance of various preliminary diagnostic tests.

OPTS 2345 - Advanced Ophthalmic Techniques
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 3
Continuation of Ophthalmic Techniques. Introduction to principles and techniques of various diagnostic evaluations. Topics include refractometry and retinoscopy, ophthalmic photography, applanation tonometry, and advanced clinical assessments. An overview of standardized tools prevalent in the field will be covered.
Required Prerequisite(s): OPTS 2341

OPTS 2350 - Ophthalmic Surgical Techniques
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 1
A continuation of Ophthalmic Techniques. Introduces the student to aseptic and non-aseptic sterilization techniques used in the surgical field and provides knowledge and practice in scrubbing techniques used when assisting during ophthalmic surgical procedures. Students will learn about various ophthalmic procedures in the minor and major operating room.
Required Prerequisite(s): OPTS 2366

OPTS 2366 - Clinic Practicum III
Semester Hours: 3 | **Lecture Hours:** 0 | **Laboratory Hours:** 21
Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student. This course will develop and enhance clinical skills focusing on tonometry, retinoscopy, refraction, and automated visual fields. The student will also continue to refine patient histories, basic eye exam

workup, and workplace communication skills.
Required Prerequisite(s): OPTS 1366

OPTS 2367 - Clinic Practicum IV
Semester Hours: 3 | **Lecture Hours:** 0 | **Laboratory Hours:** 21
Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student. This course will be a continuation of previous clinical experiences in patient care. Students will begin to develop autonomy in patient care, and basic skills will become more advanced. Additional training and observation in the following skill areas will also include: contact lens fitting & evaluation, ophthalmic photography & imaging, biometry, ocular motility, and minor procedures.
Required Prerequisite(s): OPTS 2366

OSHT 1305 - OSHA Regulations -Construction Industry
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
A study of Occupational Safety and Health Administration (OSHA) regulations pertinent to the construction industry.

OSHT 1313 - Accident Prevention, Inspection and Investigation
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Provides a basis for understanding the nature of occupational hazard recognition, accident prevention, loss reduction, inspection techniques, and accident investigation analysis.

OSHT 2309 - Safety Program Management
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Examine the major safety management issues that affect the workplace including safety awareness, loss control, regulatory issues, and human behavior modification.

OSHT 2388 - Internship -Occupational Safety and Health Technology/Technician
Semester Hours: 3 | **Lecture Hours:** 0 | **Laboratory Hours:** 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
Semester Hours: 4 | **Lecture Hours:** 4 | **Laboratory Hours:** 0
A study of Occupational Safety and Health Administration (OSHA) regulations pertinent to general industry.

PFPB 1305 - Basic Blueprint Reading for Pipefitters
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 2
Reading, interpreting, and sketching piping drawings. Includes isometric and orthographic views.

PFPB 1408 - Basic Pipefitting Skills
Semester Hours: 4 | **Lecture Hours:** 2 | **Laboratory Hours:** 4
Mathematical operations necessary to calculate laying lengths of pipe fittings for fabrication. Identification and use of hand tools and power tools. Identification of pipe, pipefittings, flanges, and fasteners used in the trade.

PFPB 1450 - Plumbing and Pipefitting Equipment and Safety

Semester Hours: 4 | **Lecture Hours:** 2 | **Laboratory Hours:** 4
Safe use of hand tools, power tools, rigging, and power equipment used in the plumbing trade for installation of different plumbing systems.

PFPB 2407 - Pipe Fabrication and Installation I
Semester Hours: 4 | **Lecture Hours:** 2 | **Laboratory Hours:** 4
Pipe fabrication and various materials and installation of pipe supports.

PFPB 2408 - Piping Standards and Materials
Semester Hours: 4 | **Lecture Hours:** 2 | **Laboratory Hours:** 4
Identification, description, and application of piping standards and specifications. Includes identification and use of various metallic and non-metallic piping materials, identification and installation of valves, and material take-offs.

PFPB 2432 - Advanced Pipefitting Standards, Specifications, and Installation
Semester Hours: 4 | **Lecture Hours:** 2 | **Laboratory Hours:** 4
Skill development in motorized equipment, above-ground pipe installation valves, field routing and vessel trim, spring can supports, testing piping systems and equipment, basic plumbing, planning work activities, and Non-Destructive Testing (NDT).

PFPB 2433 - Pipefitting: Advanced Fabrication and Installation
Semester Hours: 4 | **Lecture Hours:** 2 | **Laboratory Hours:** 4
Advanced pipe fabrication and pipe alignment for rotating equipment. Includes identifying, describing, applying, and maintaining steam traps, in-line specialties, special piping, hot taps, and valves.

PFPB 2441 - Pipe Fabrication and Installation II
Semester Hours: 4 | **Lecture Hours:** 2 | **Laboratory Hours:** 4
Advanced pipe fabrication of various materials with emphasis on vertical, horizontal, and rolling off-sets using 45-degree fittings and odd-angle fittings.

PHIL 1301 - Introduction to Philosophy +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
A study of major issues in philosophy and/or the work of major philosophical figures in philosophy. Topics in philosophy may include theories of reality, theories of knowledge, theories of value, and their practical applications.
Required Prerequisite(s): TSI Met in Reading and Writing

PHIL 1304 - Introduction to World Religions +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
A comparative study of world religions, including but not limited to Hinduism, Buddhism, Judaism, Christianity, and Islam. A one semester survey course.

PHIL 2303 - Introduction to Formal Logic +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
The purpose of the course is to introduce the student to symbolic logic, including syllogisms, propositional and predicate logic, and logical proofs in a system of rules.

PHIL 2306 - Introduction to Ethics +

Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
The systematic evaluation of classical and/or contemporary ethical theories concerning the good life, human conduct in society, morals, and standards of values.

PHIL 2316 - Classical Philosophy +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Study of major philosophers and philosophical themes from ancient through medieval periods.

PHTC 1300 - Photo Digital Imaging I
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 4
An introduction to computer and software instruction for imaging. Includes color, gray scale, image conversion, presentation, and ethics.
Recommended Prerequisite(s): ARTS 2356

PHTC 1343 - Expressive Photography
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 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 are also covered.
Recommended Prerequisite(s): ARTS 2356 or consent of instructor

PHTC 1353 - Portraiture I
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 4
Skill development in the photographic principles of portrait lighting, posing, and subject rapport.
Required Prerequisite(s): ARTS 2356 or consent of the instructor

PHTC 2331 - Architectural Photography
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 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.
Required Prerequisite(s): ARTS 2356 or consent of the instructor

PHTC 2343 - Portfolio Development
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 4
A culmination experience for the evaluation of the student's photographic competencies. Includes association with a professional photographic organization, completion of portfolio, professional self-presentation, comprehensive exam, and seminars in areas of photographic interest.

PHTC 2349 - Photo Digital Imaging II
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 4
Advanced concepts in the use of the computer and software for photographic manipulation and output.

PHYS 1401 - College Physics I (Lecture + Lab) +
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 3
Fundamental principles of physics, using algebra and trigonometry; the principles and applications of classical mechanics and thermodynamics, including harmonic motion, mechanical waves and sound, physical systems, Newton's Laws of Motion, and gravitation and other fundamental forces; with emphasis on problem solving. Laboratory activities will reinforce fundamental principles of physics, using algebra and trigonometry; the principles

and applications of classical mechanics and thermodynamics, including harmonic motion, mechanical waves and sound, physical systems, Newton's Laws of Motion, and gravitation and other fundamental forces; emphasis will be on problem solving.
Required Prerequisite(s): MATH 1314 and MATH 1316 or MATH 2412

PHYS 1402 - College Physics II (Lecture + Lab) +
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 3
Fundamental principles of physics, using algebra and trigonometry; the principles and applications of electricity and magnetism, including circuits, electrostatics, electromagnetism, waves, sound, light, optics, and modern physics topics; with emphasis on problem solving. Laboratory activities will reinforce fundamental principles of physics, using algebra and trigonometry; the principles and applications of electricity and magnetism, including circuits, electrostatics, electromagnetism, waves, sound, light, optics, and modern physics topics; with emphasis on problem solving.
Required Prerequisite(s): PHYS 1401

PHYS 1403 - Stars and Galaxies (Lecture + Lab) +
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 3
Study of stars, galaxies, and the universe outside our solar system. Laboratory requires night observations.

PHYS 1404 - Solar System (Lecture + Lab) +
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 3
Study of the sun and its solar system, including its origin. Laboratory requires night observations.

PHYS 1405 - Elementary Physics I (Lecture + Lab) +
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 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 Prerequisite(s): TSI Met in Algebraic Math pathway

PHYS 1407 - Elementary Physics II (Lecture + Lab) +
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 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(s): PHYS 1405

PHYS 1415 - Physical Science I (Lecture + Lab) +
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 3
Course, designed for non-science majors, that surveys topics from physics, chemistry, geology, astronomy, and meteorology.

PHYS 2425 - University Physics I (Lecture + Lab) +
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 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. Basic laboratory experiments supporting theoretical principles presented in lecture involving the principles and applications of classical mechanics, including harmonic motion and

physical systems; experimental design, data collection and analysis, and preparation of laboratory reports.
Required Prerequisite(s): MATH 2413

PHYS 2426 - University Physics II (Lecture + Lab) +
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 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. Laboratory experiments supporting theoretical principles presented in the lecture involving the principles of electricity and magnetism, including circuits, electromagnetism, waves, sound, light, and optics; experimental design, data collection and analysis, and preparation of laboratory reports.
Required Prerequisite(s): PHYS 2425 and MATH 2414

PLTC 1271 - Composite Bonding
Semester Hours: 2 | **Lecture Hours:** 1 | **Laboratory Hours:** 2
A skills oriented course covering composite safety, composite fabrication/bonding practices, repairing damaged structures and inspection techniques.
Recommended Prerequisite(s): AERM 1254 and PLTC 1303

PLTC 1303 - Plastics Composites
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 2
An introductory course in techniques of combining various types of reinforcing elements with a polymer resin to yield specific characteristics and properties.
Recommended Prerequisite(s): AERM 1254

POFI 1449 - Spreadsheets
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 2
Skill development in concepts, procedures, and application of spreadsheets. This course is designed to be repeated multiple times to improve student proficiency.
Recommended Prerequisite(s): POFT 1127 or equivalent

POFI 2401 - Word Processing
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 2
Word processing software focusing on business applications. This course is designed to be repeated multiple times to improve student proficiency.
Recommended Prerequisite(s): POFT 1127 or equivalent

POFI 2431 - Desktop Publishing
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 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. This course is designed to be repeated multiple times to improve student proficiency.
Recommended Prerequisite(s): POFT 1329 or proficiency in word processing software

POFT 1127 - Introduction to Keyboarding
Semester Hours: 1 | **Lecture Hours:** 0 | **Laboratory Hours:** 3
Skill development in keyboarding techniques. Emphasis on the development of acceptable speed and accuracy.

POFT 1301 - Business English

Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Introduction to a practical application of basic language usage skills with emphasis on fundamentals of writing and editing for business.

POFT 1319 - Records and Information Management
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Introduction to basic records information management systems including manual and electronic filing.

POFT 1321 - Business Mathematics
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Fundamentals of business mathematics including analytical and critical thinking skills.

POFT 1329 - Beginning Keyboarding
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 2
Skill development keyboarding techniques. Emphasis on development of acceptable speed and accuracy levels and formatting basic documents. Placement test available.

POFT 1409 - Administrative Office Procedures
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 2
Study of current office procedures, duties, and responsibilities applicable to an office environment.
Recommended Prerequisite(s): Basic Keyboarding Skills

POFT 2301 - Intermediate Keyboarding
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 2
A continuation of keyboarding skills emphasizing acceptable speed, and accuracy levels and formatting documents.
Recommended Prerequisite(s): POFT 1329

POFT 2312 - Business Correspondence and Communication
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 2
Development of writing and presentation skills to produce effective business communications.

PSTR 1206 - Cake Decorating I
Semester Hours: 2 | **Lecture Hours:** 1 | **Laboratory Hours:** 2
Introduction to skills, concepts and techniques of cake decorating.

PSTR 1301 - Fundamentals of Baking
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 4
Fundamentals of baking including dough, quick breads, pies, cakes, cookies, and tarts. Instruction 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 1305 - Breads and Rolls
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 4
Concentration on fundamentals of chemically and yeast raised breads and rolls. Instruction on commercial preparation of a wide variety of products. Identify and explain baking terms, ingredients, equipment, and tools; scale and measure ingredients; convert and cost recipes; safely operate baking equipment and tools; and prepare yeast and quick breads and rolls to a commercially acceptable standard.
Required Prerequisite(s): PSTR 1301 and CHEF 1305 with a "C" or better.

PSTR 1310 - Pies, Tarts, Teacakes and Cookies
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 4
Focus on preparation of American and European style pie and tart fillings and dough, cookies, teacakes, custard and batters. Instruction of finishing and presentation techniques. Produce a variety of commercially acceptable pies, tarts, teacakes and cookies; identify and produce finishing and presentation techniques.
Required Prerequisite(s): PSTR 1301 and CHEF 1305 with a minimum grade of C.

PSTR 1442 - Quantity Bakeshop Production
Semester Hours: 4 | **Lecture Hours:** 2 | **Laboratory Hours:** 4
Advanced baking techniques to include volume production of a variety of breads and desserts. Demonstrate advanced baking techniques in the quantity production of breads and desserts to meet commercially acceptable standards. Licensing/Certification Agency: American Culinary Federation Educational Institute
Required Prerequisite(s): PSTR 1301 and CHEF 1305 with a minimum grade of C.

PSTR 2207 - Cake Decorating II
Semester Hours: 2 | **Lecture Hours:** 1 | **Laboratory Hours:** 2
A course in decoration of specialized and seasonal products.
Required Prerequisite(s): PSTR 1206

PSTR 2331 - Advanced Pastry Shop
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 4
A study of classical desserts, French and international pastries, hot and cold desserts, ice creams and ices, chocolate work, and decorations. Apply pastry shop techniques including recipe modifications; prepare laminated dough's, choux, pastries, meringues, creams, custards, puddings, and related sauces; and prepare a variety of hot soufflés, fritters, crepes, cobblers, crisps and assorted inlays to include sugars and chocolates. Emphasis on advanced techniques.
Required Prerequisite(s): PSTR 1301 and CHEF 1305 with a minimum grade of C.

PSYC 1300 - Learning Framework +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 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 ultimately expected to integrate and apply the learning skills discussed across their own academic programs and become effective and efficient learners. Students developing these skills should be able to continually draw from the theoretical models they have learned. (A student may NOT earn credit for both EDUC 1300 and PSYC-1300)
NOTE: While traditional study skills courses include some of the same learning strategies - e.g., note-taking, reading, test preparation etc. - as learning framework courses, the focus of study skills courses is solely or primarily on skill acquisition. Study skills courses, which are not under-girded by scholarly models of the learning process, are not considered college-level, and, therefore, are distinguishable from Learning Framework courses.

PSYC 2301 - General Psychology +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
A survey of the major psychological topics, theories and approaches to the scientific study of behavior and mental processes.
Required Prerequisite(s): TSI Met in Reading and Writing

PSYC 2306 - Human Sexuality +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
This course will provide an overview of the broad field of human sexuality. Topics will be covered from various perspectives – biological, sociological, anthropological, etc., but will focus primarily on the psychological perspective. The goal is for each student to learn factual, scientifically-based information that will provoke thought and contribute to his/her own decision-making on sexual issues outside of the classroom.

PSYC 2308 - Child Psychology +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
This course will address psychological development from conception through middle childhood with references to physical, cognitive, social and personality changes. Students will examine the interplay of biological factors, human interaction, social structures and cultural forces in development.
Recommended Prerequisite(s): PSYC 2301

PSYC 2314 - Life Span Growth and Development +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Life-Span Growth and Development is a study of social, emotional, cognitive and physical factors and influences of a developing human from conception to death.
Recommended Prerequisite(s): PSYC 2301

PSYC 2315 - Psychology of Adjustment +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Study of the processes involved in adjustment of individuals to their personal and social environments.

PSYC 2316 - Psychology of Personality +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 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(s): PSYC 2301

PSYC 2317 - Statistical Methods in Psychology +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
This course covers descriptive and inferential statistics used in psychological research and assessment. It includes measurement, characteristics of distributions; measures of central tendency and variability; transformed scores; correlation and regression; probability theory; and hypotheses testing and inference. (PSYC 2317 is included in the Psychology Field of Study.)
Required Prerequisite(s): PSYC 2301 and MATH 1314

PSYC 2319 - Social Psychology +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Study of individual behavior within the social environment. Topics may include socio-psychological processes, attitude formation and change, interpersonal relations, group processes, self, social cognition, and research methods. (PSYC 2319 is included in the Psychology Field of Study.) A student may NOT earn credit for both PSYC-2319 and SOCI 2326 .
Required Prerequisite(s): PSYC 2301

PSYC 2320 - Abnormal Psychology +

Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
This course provides an introduction to the psychological, biological, and socio-cultural factors involved in the development, diagnosis, and treatment of psychological disorders. It includes a review of the historical understanding of abnormal behavior and the development of modern diagnostic systems. It includes discussion of psychological research and practice as it relates to mental health and psychological functioning, as well as legal and ethical issues. (PSYC 2320 is included in the Psychology Field of Study.)
Required Prerequisite(s): PSYC 2301

PSYC 2330 - Biological Psychology +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
An introduction to the biological bases of behavior. Topics include evolution, genetics, research methods in behavioral neuroscience, motivation and emotion, sensation and perception, learning and memory, lifespan development, cognition, psychological disorders, and other complex behaviors. (PSYC 2330 is included in the Psychology Field of Study.)
Required Prerequisite(s): PSYC 2301

PSYT 1313 - Psychology of Personal Adjustment
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Overview of personal, social, and work adjustment skills.

PSYT 2339 - Counseling Theories
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 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
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
An analysis of behavior management and cognitive theories and techniques with emphasis on their applications.

PTHA 1201 - The Profession of Physical Therapy
Semester Hours: 2 | **Lecture Hours:** 2 | **Laboratory Hours:** 0
Introduction to the profession of physical therapy and the role of the physical therapist assistant.

PTHA 1225 - Communication in Health Care
Semester Hours: 2 | **Lecture Hours:** 2 | **Laboratory Hours:** 1
Communication theories and principles for optimal delivery of health care.

PTHA 1321 - Pathophysiology for the PTA
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Study of the pathophysiology of diseases/conditions encountered in physical therapy. (Enrollment in this course is restricted to students who have been accepted to the Physical Therapist Assistant program. This course does not replace HPRS 2201.)

PTHA 1405 - Basic Patient Care Skills
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 4
The application of basic patient handling, functional skills, communication, and selected data collection techniques.

PTHA 1413 - Functional Anatomy

Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 4
The relationship of the musculoskeletal and neuromuscular systems to normal and abnormal movement.

PTHA 1431 - Physical Agents
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 4
Biophysical principles, physiological effects, efficacy, and application of physical agents.

PTHA 2201 - Essentials of Data Collection
Semester Hours: 2 | **Lecture Hours:** 1 | **Laboratory Hours:** 4
Data collection techniques used to assist in patient/client management.

PTHA 2239 - Professional Issues
Semester Hours: 2 | **Lecture Hours:** 2 | **Laboratory Hours:** 0
Discussion of professional issues and behaviors related to clinical practice; preparation for transition into the workforce.

PTHA 2360 - Clinical – Physical Therapist Assistant
Semester Hours: 3 | **Lecture Hours:** 0 | **Laboratory Hours:** 15
A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

PTHA 2361 - Clinical – Physical Therapist Assistant
Semester Hours: 3 | **Lecture Hours:** 0 | **Laboratory Hours:** 15
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
Semester Hours: 3 | **Lecture Hours:** 0 | **Laboratory Hours:** 15
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
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 4
Concepts, principles, and application of techniques related to therapeutic exercise and functional training.

PTHA 2431 - Management of Neurological Disorders
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 4
Comprehensive rehabilitation techniques of selected neurological disorders. An advanced course.

PTHA 2435 - Rehabilitation Techniques
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 4
Comprehensive rehabilitation of selected diseases and disorders. An advanced course integrating previously learned and new skills and techniques.

PTRT 1313 - Industrial Safety
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 2
An overview for petroleum and manufacturing workers of state/federal regulations and guidelines which require

industrial safety training. Topics include the 29 C.F.R. 1910, 1926 standards, such as confined space entry, emergency action, lock out/tag out, and other work related subjects.

PTRT 1407 - Recovery and Production Methods
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 3
Petroleum recovery and production methods.

PTRT 1417 - Natural Gas Processing I
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 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 1424 - Petroleum Instrumentation
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 3
Study of instruments, instrument systems, terminology, process variables, and control loops as used in a petroleum environment.

PTRT 2423 - Natural Gas Production
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 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 1201 - Introduction to Radiography
Semester Hours: 2 | **Lecture Hours:** 2 | **Laboratory Hours:** 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
Semester Hours: 2 | **Lecture Hours:** 2 | **Laboratory Hours:** 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
Semester Hours: 2 | **Lecture Hours:** 0 | **Laboratory Hours:** 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
Semester Hours: 2 | **Lecture Hours:** 0 | **Laboratory Hours:** 16
Practical, general workplace training supported by an individualized learning plan developed by the employer, College, and student.

RADR 1311 - Basic Radiographic Procedures
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 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
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Radiographic image quality and the effects of exposure variables. X-ray beam and image formation are emphasized.

RADR 1366 - Practicum - Radiologic Technology/Science -Radiographer
Semester Hours: 3 | **Lecture Hours:** 0 | **Laboratory Hours:** 22
Practical, general workplace training supported by an individualized learning plan developed by the employer, College, and student.

RADR 2209 - Radiographic Imaging Equipment
Semester Hours: 2 | **Lecture Hours:** 2 | **Laboratory Hours:** 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 2213 - Radiation Biology and Protection
Semester Hours: 2 | **Lecture Hours:** 2 | **Laboratory Hours:** 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 2233 - Advanced Medical Imaging
Semester Hours: 2 | **Lecture Hours:** 2 | **Laboratory Hours:** 0
An exploration of specialized imaging modalities. Includes concepts and theories of equipment operations and their integration for medical diagnosis.

RADR 2235 - Radiologic Technology Seminar
Semester Hours: 2 | **Lecture Hours:** 2 | **Laboratory Hours:** 0
A capstone course focusing on the synthesis of professional knowledge, skills, and attitudes in preparation for professional employment and lifelong learning. Intermediate level information on pharmacology/drug administration/venipuncture included.

RADR 2301 - Intermediate Radiographic Procedures
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 3
A continuation of the study of the proper manipulation of radiographic equipment, positioning and alignment of the anatomic structure and equipment, and evaluation of images for proper demonstration of anatomy.

RADR 2305 - Principles of Radiographic Imaging II
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Continuation of radiographic image quality and the effects of exposure variables, and the synthesis of all variables in image production. Includes equipment quality control and image quality assurance.

RADR 2331 - Advanced Radiographic Procedures
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 3
Continuation of positioning; alignment of the anatomic structure and equipment, evaluation of images for proper demonstration of anatomy and related pathology.

RADR 2340 - Sectional Anatomy for Medical Imaging
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Anatomic relationships present under various sectional orientations.

RADR 2366 - Practicum – Radiologic Technology/Science Radiographer
Semester Hours: 3 | **Lecture Hours:** 0 | **Laboratory Hours:** 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
Semester Hours: 3 | **Lecture Hours:** 0 | **Laboratory Hours:** 24
Practical, general workplace training supported by an individualized learning plan developed by the employer, College, and student.

RBTC 1351 - Robotic Mechanisms
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 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(s): MATH 1332

RBTC 1401 - Programmable Logic Controllers
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 3
A study in programmable logic controllers (PLC). Topics include processor units, numbering systems, memory organization, relay type devices, timers, counters, data manipulators, and programming.

RBTC 1447 - Electro-Mechanical Devices
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 3
A study of electro-mechanical devices found in robotic systems. Includes transformers, switches, and solid-state relays.
Recommended Prerequisite(s): CETT 1409

RBTC 2445 - Robot Application, Set-Up and Testing
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 3
A Capstone course that provides the student with laboratory experience in the installation, set-up, and testing of robotic cells. Topics include maintenance.

RELE 1300 - Contract Forms and Addenda
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Promulgated Contract Forms, shall include but is not limited to unauthorized practice of law, broker-lawyer committee, current promulgated and approved forms, commission rules governing use forms and case studies involving use of forms.

RELE 1303 - Real Estate Appraisal
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 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
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 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
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 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
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 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
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 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
Semester Hours: 4 | **Lecture Hours:** 4 | **Laboratory Hours:** 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 four semester hour requirement of Principles of Real Estate for the salesperson license.

RELE 2301 - Law of Agency
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 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 1105 - Nursing Skills I
Semester Hours: 1 | **Lecture Hours:** 0 | **Laboratory Hours:** 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. Content includes knowledge, judgment, skills, and professional values within a legal/ethical framework. This course lends itself to a blocked approach. Focus is on holistic human needs. Associate degree nurse role assimilation is facilitated through the development of identified major concepts. Credit by Examination is available for Fast Track Option. Enrollment requires official acceptance into the Nursing Program.
Required Prerequisite(s): BIOL 2401, BIOL 2402, BIOL 2420, and appropriate TSI Math placement score
Required Prerequisite/Corequisite(s): RNSG 1413 and RNSG 1360 (if it is the second attempt at passing this course, then the co-requisite may be waived)

RNSG 1360 - Clinical - Registered Nursing/Registered Nurse
Semester Hours: 3 | **Lecture Hours:** 0 | **Laboratory Hours:** 9
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. Focus is on holistic human needs. Associate degree nurse role assimilation is facilitated through the development of identified major concepts. Credit

by Examination is available for Fast Track Option. Enrollment requires official acceptance into the Nursing Program.
Required Prerequisite(s): BIOL 2401, BIOL 2402, BIOL 2420, and TSI Math placement score
Required Corequisite(s): RNSG 1105 and RNSG 1413 (if it is the second attempt at passing this course, then the co-requisite may be waived)

RNSG 1413 - Foundations for Nursing Practice
Semester Hours: 4 | **Lecture Hours:** 4 | **Laboratory Hours:** 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, and a systematic framework for decision-making and critical thinking. Emphasis on knowledge, judgment, skills and professional values within a legal/ethical framework. This course lends itself to a blocked approach. Focus is on holistic human needs. Associate degree nurse role assimilation is facilitated through the development of identified major concepts. Credit by Examination is available for Fast Track Option. Enrollment requires official acceptance into the Nursing Program.
Required Prerequisite(s): BIOL 2401, BIOL 2402, BIOL 2420, and TSI Math placement score
Required Corequisite(s): RNSG 1105 and RNSG 1360 (if it is the second attempt at passing this course, then the co-requisite may be waived)

RNSG 1441 - Common Concepts of Adult Health
Semester Hours: 4 | **Lecture Hours:** 4 | **Laboratory Hours:** 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. This course lends itself to a blocked approach. Focus is on holistic human needs. Associate degree nurse role assimilation is facilitated through the development of identified major concepts.
Required Prerequisite(s): RNSG 1413, RNSG 1360, and RNSG 1105
Required Corequisite(s): RNSG 1461 (if it is the second attempt at passing this course, then the co-requisite may be waived)

RNSG 1443 - Complex Concepts of Adult Health
Semester Hours: 4 | **Lecture Hours:** 4 | **Laboratory Hours:** 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. This course lends itself to a blocked approach. Focus is on holistic human needs. Associate degree nurse role assimilation is facilitated through the development of identified major concepts.
Required Prerequisite(s): RNSG 2213, RNSG 2263, RNSG 2208, RNSG 2260, RNSG 2201, RNSG 2261, or Administrative Approval
Required Corequisite(s): RNSG 2461 (if it is the second attempt at passing this course, then the co-requisite may be waived)

RNSG 1461 - Clinical - Registered Nursing/Registered Nurse
Semester Hours: 4 | **Lecture Hours:** 0 | **Laboratory Hours:** 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. Focus is on holistic human needs.

Associate degree nurse role assimilation is facilitated through the development of identified major concepts.
Required Prerequisite(s): RNSG 1413, RNSG 1360, and RNSG 1105
Required Corequisite(s): RNSG 1441 (if it is the second attempt at passing this course, then the co-requisite may be waived)

RNSG 2201 - Care of Children and Families
Semester Hours: 2 | **Lecture Hours:** 2 | **Laboratory Hours:** 0
Study of concepts related to the provision of nursing care for children and their families, emphasizing judgment and professional values within a legal/ethical framework. This course lends itself to a blocked approach. Focus is on holistic human needs. Associate degree nurse role assimilation is facilitated through the development of major concepts.
Required Prerequisite(s): RNSG 1441, RNSG 1461, RNSG 2213, RNSG 2263 , PSYC 2314, or Administrative Approval
Required Corequisite(s): RNSG 2261 (if it is the second attempt at passing this course, then the co-requisite may be waived)

RNSG 2208 - Maternal and Newborn Nursing and Women's Health
Semester Hours: 2 | **Lecture Hours:** 2 | **Laboratory Hours:** 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. This course lends itself to a blocked approach. Focus is on holistic human needs. Associate degree nurse role assimilation is facilitated through the development of identified major concepts.
Required Prerequisite(s): RNSG 1441, RNSG 1461, RNSG 2213, RNSG 2263, PSYC 2314, or Administrative Approval
Required Corequisite(s): RNSG 2260 (if it is the second attempt at passing this course, then the co-requisite may be waived)

RNSG 2213 - Mental Health Nursing
Semester Hours: 2 | **Lecture Hours:** 2 | **Laboratory Hours:** 0
Principles and concepts of mental health, psychopathology, and treatment modalities related to the nursing care of patients and their families. This course lends itself to a blocked approach. Focus is on holistic human needs. Associate degree nurse role assimilation is facilitated through the development of identified major concepts.
Required Prerequisite(s): RNSG 1413, RNSG 1360, RNSG 1105, PSYC 2301, or Administrative Approval
Required Corequisite(s): RNSG 2263 (if it is the second attempt at passing this course, then the co-requisite may be waived)

RNSG 2260 - Clinical-Registered Nursing/Registered Nurse
Semester Hours: 2 | **Lecture Hours:** 0 | **Laboratory Hours:** 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. Focus is on holistic human needs. Associate degree nurse role assimilation is facilitated through the development of identified major concepts.
Required Prerequisite(s): RNSG 1441, RNSG 1461, RNSG 2213, RNSG 2263, PSYC 2314, or Administrative Approval
Required Corequisite(s): RNSG 2208 (if it is the second attempt at passing this course, then the co-requisite may be waived)

RNSG 2261 - Clinical-Registered Nursing/Registered Nurse

Semester Hours: 2 | **Lecture Hours:** 0 | **Laboratory Hours:** 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. Focus is on holistic human needs. Associate degree nurse role assimilation is facilitated through the development of major concepts.
Required Prerequisite(s): RNSG 1441, RNSG 1461, RNSG 2213, RNSG 2263, PSYC 2314, or Administrative Approval
Required Corequisite(s): RNSG 2201 (if it is the second attempt at passing this course, then the co-requisite may be waived)

RNSG 2263 - Clinical-Registered Nursing/Registered Nurse
Semester Hours: 2 | **Lecture Hours:** 0 | **Laboratory Hours:** 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. Focus is on holistic human needs. Associate degree nurse role assimilation is facilitated through the development of identified major concepts.
Required Prerequisite(s): RNSG 1413, RNSG 1360, RNSG 1105, PSYC 2301, or Administrative Approval
Required Corequisite(s): RNSG 2213 (if it is the second attempt at passing this course, then the co-requisite may be waived)

RNSG 2461 - Clinical-Registered Nursing/Registered Nurse
Semester Hours: 4 | **Lecture Hours:** 0 | **Laboratory Hours:** 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. Focus is on holistic human needs. Associate degree nurse role assimilation is facilitated through the development of identified major concepts.
Required Prerequisite(s): RNSG 2213, RNSG 2263, RNSG 2208, RNSG 2260, RNSG 2201, RNSG 2261, or Administrative Approval
Required Corequisite(s): RNSG 1443 (if it is the second attempt at passing this course, then the co-requisite may be waived)

RSPT 1101 - Introduction to Respiratory Care
Semester Hours: 1 | **Lecture Hours:** 0 | **Laboratory Hours:** 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 Corequisite(s): RSPT 1166

RSPT 1113 - Respiratory Care Pharmacology
Semester Hours: 1 | **Lecture Hours:** 1 | **Laboratory Hours:** 0
A study of basic pharmacological principles/practices of cardiopulmonary drugs. Emphasis on classification, routes of administration, dosages/calculations, and physiological interaction.
Recommended Corequisite(s): RSPT 1101 and RSPT 1310

RSPT 1141 - Respiratory Home Care/Rehabilitation
Semester Hours: 1 | **Lecture Hours:** 1 | **Laboratory Hours:** 0
A study of respiratory home care/rehabilitation equipment, procedures, and patient education.
Recommended Prerequisite(s): RSPT 2210 and RSPT 2425

RSPT 1166 - Practicum (or Field Experience) - Respiratory Care Therapy/Therapist

Semester Hours: 1 | **Lecture Hours:** 0 | **Laboratory Hours:** 7
Practical, general workplace training supported by an individualized learning plan developed by the employer, College, and student.
Recommended Corequisite(s): RSPT 1101

RSPT 1240 - Advanced Cardiopulmonary Anatomy and Physiology
Semester Hours: 2 | **Lecture Hours:** 2 | **Laboratory Hours:** 0
Provides an advanced presentation of anatomy and physiology of the cardiovascular and pulmonary system.
Recommended Prerequisite(s): RSPT 1101

RSPT 1266 - Practicum (or Field Experience) - Respiratory Care Therapy/Therapist
Semester Hours: 2 | **Lecture Hours:** 0 | **Laboratory Hours:** 14
Practical, general workplace training supported by an individualized learning plan developed by the employer, College, and student.
Recommended Prerequisite(s): RSPT 1101 and RSPT 1166

RSPT 1267 - Practicum -Respiratory Care Therapy/Therapist
Semester Hours: 2 | **Lecture Hours:** 0 | **Laboratory Hours:** 14
Practical, general workplace training supported by an individualized learning plan developed by the employer, College, and student.
Recommended Prerequisite(s): RSPT 1266

RSPT 1310 - Respiratory Care Procedures I
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 3
Essential knowledge of the equipment and techniques used in the treatment of cardiopulmonary disease.
Recommended Corequisite(s): RSPT 1101 and HPRS 1206

RSPT 1311 - Respiratory Care Procedures II
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 3
Develops essential knowledge and skills of airway care and mechanical ventilation.
Recommended Prerequisite(s): RSPT 1310

RSPT 2131 - Simulations in Respiratory Care
Semester Hours: 1 | **Lecture Hours:** 1 | **Laboratory Hours:** 0
Theory of clinical simulation examinations. Includes construction types, scoring, and mechanics of taking the computerized simulation examination.
Recommended Prerequisite(s): RSPT 2210 and RSPT 2425

RSPT 2139 - Advanced Cardiac Life Support
Semester Hours: 1 | **Lecture Hours:** 1 | **Laboratory Hours:** 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 based on American Heart Association standards.
Recommended Prerequisite(s): RSPT 1240

RSPT 2147 - Specialties in Respiratory Care

Semester Hours: 1 | **Lecture Hours:** 1 | **Laboratory Hours:** 0
Emerging and specialty practices in respiratory care.
Recommended Prerequisite(s): RSPT 2210 and RSPT 2425

RSPT 2210 - Cardiopulmonary Disease
Semester Hours: 2 | **Lecture Hours:** 2 | **Laboratory Hours:** 0
Etiology, pathogenesis, pathology, diagnosis, history, prognosis, manifestations, treatment, and detection of cardiopulmonary diseases.
Recommended Prerequisite(s): RSPT 2139 and RSPT 2414

RSPT 2233 - Respiratory Care Case Management
Semester Hours: 2 | **Lecture Hours:** 2 | **Laboratory Hours:** 0
Investigation, organization, and presentation of case studies.

RSPT 2266 - Practicum (or Field Experience) - Respiratory Care Therapy/Therapist
Semester Hours: 2 | **Lecture Hours:** 0 | **Laboratory Hours:** 14
Practical, general workplace training supported by an individualized learning plan developed by the employer, College, and student.
Recommended Prerequisite(s): RSPT 1267

RSPT 2267 - Practicum -Respiratory Care Therapy/Therapist
Semester Hours: 2 | **Lecture Hours:** 0 | **Laboratory Hours:** 14
Practical, general workplace training supported by an individualized learning plan developed by the employer, College, and student.
Recommended Prerequisite(s): RSPT 2266

RSPT 2353 - Neonatal and Pediatric Cardiopulmonary Care
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 3
A study of neonatal and pediatric cardiopulmonary care.
Recommended Prerequisite(s): RSPT 2210 and RSPT 2425

RSPT 2414 - Mechanical Ventilation
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 3
The study of mechanical ventilation with emphasis on ventilator classification, methods, principles, and operational characteristics.
Recommended Prerequisite(s): RSPT 1240

RSPT 2425 - Cardiopulmonary Diagnostics
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 3
A study of physical, radiological, hemodynamic, laboratory, nutritional, and cardiopulmonary diagnostic assessments.
Recommended Prerequisite(s): RSPT 2139 and RSPT 2414

RSTO 1304 - Dining Room Service
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 2
Introduces the principles, concepts, and systems of professional table service. Topics include dining room organization, scheduling, and management of food-service personnel.

RSTO 1313 - Hospitality Supervision
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Fundamentals of recruiting, selection, and training of food service and hospitality personnel. Topics include job descriptions, schedules, work improvement, motivation, applicable personnel laws and regulations. Emphasis on leadership development.

RSTO 1319 - Viticulture and Enology
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
A study of the growing regions, production, processing, and distribution of domestic and international wines. Topics include types of wine grapes, varieties of wine, proper storage procedures, and the techniques of proper wine service.

RSTO 1325 - Purchasing for Hospitality Operations
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 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 1302 - Computer Applications Media Production
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 4
Computer applications for audio, video, graphics, budgets, and scripts in media productions.

RTVB 1321 - TV/Video Field Production
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 4
Video field camera set up and operation for broadcast and digital media. Incorporates basic editing and field audio techniques.

RTVB 1347 - Audio/Radio Production II
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 4
Audio production theories regarding multitrack recording, studio live production, and equipment operation.
Required Prerequisite(s): COMM 2303

RTVB 1355 - Radio and Television Announcing
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Radio and television announcing skills such as voice quality, articulation, enunciation, and pronunciation. Includes preparation for on air and voice over positions.

RTVB 2330 - Film and Video Editing
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 4
Digital media editing for the preparation and completion of shorts, trailers, documentaries, and features.
Required Prerequisite(s): RTVB 1302

RTVB 2343 - Commercial Recording Techniques
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 1
Advanced concepts and practice in multi-track recording production for the commercial audio industry.

A granted petition is required for registration.

Required Prerequisite(s): COMM 2303 and RTVB 1347

RTVB 2347 - Electronic Media Business Management
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Analysis of management principles and development of business plans for media enterprises.

RTVB 2387 - Internship-Radio and Television
Semester Hours: 3 | **Lecture Hours:** 0 | **Laboratory Hours:** 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(s): Consent of Program Coordinator

SCIT 1320 - Physics for Allied Health
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
An introduction to physics with emphasis on applications to health related fields of study. Topics include forces, motion, work and energy, fluids, heat, electricity and magnetism, wave motion, sound, electromagnetic radiation, and nuclear radiation.
Required Prerequisite(s): MATH 1314

SCWK 1303 - Ethics for Social Services Professionals
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Ethical considerations based on social and human services standards. Includes comparison of ethical codes, confidentiality, dual relationships, guidelines for web counseling, ethical considerations dealing with broadcast media, diversity and multiculturalism.

SCWK 2305 - Special Problems of Youth
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Examination of the special needs of youth and their implications for social service workers delivering services to this population.

SGNL 1401 - Beginning American Sign Language I +
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 2
Introduction to American Sign Language covering finger spelling, vocabulary, and basic sentence structure in preparing individuals to interpret oral speech for the hearing impaired.

SGNL 1402 - Beginning American Sign Language II +
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 2
Introduction to American Sign Language covering finger spelling, vocabulary, and basic sentence structure in preparing individuals to interpret oral speech for the hearing impaired.

SGNL 2301 - Intermediate American Sign Language I +
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 3
Review and application of conversational skills in American Sign Language; interpreting from signing to voice as well as from voice to signing. Introduction to American Sign Language literature and folklore.

SGNL 2302 - Intermediate American Sign Language II +
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 3
Review and application of conversational skills in American Sign Language; interpreting from signing to voice as well as from voice to signing. Introduction to American Sign Language literature and folklore.

SLNG 1202 - Conversational Sign Language in the Workplace II
Semester Hours: 2 | **Lecture Hours:** 1 | **Laboratory Hours:** 2
Development of basic conversational skills through practice designed to improve communication with clients/co-workers who are deaf.
Required Prerequisite(s): SGNL 1401 and SGNL 1402

SLNG 1207 - Intra-lingual Skills Development for Interpreters
Semester Hours: 2 | **Lecture Hours:** 1 | **Laboratory Hours:** 2
Development of intra-lingual (English to English) skills necessary for future development of intra-lingual (English to American Sign Language [ASL/ASL to English) skills. Focus on linguistics and cognitive skills development in areas of paraphrasing, summarizing, main idea identification, comprehension, memory, delayed repetition, multi-tasking, vocabulary, and cultural literacy.

SLNG 1211 - Fingerspelling and Numbers
Semester Hours: 2 | **Lecture Hours:** 1 | **Laboratory Hours:** 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.
Required Prerequisite(s): SGNL 1401 or equivalent

SLNG 1215 - Visual and Gestural Communication
Semester Hours: 2 | **Lecture Hours:** 2 | **Laboratory Hours:** 0
Development of skills in non-verbal communications. Emphasizes the use and understanding of facial expression, gestures, pantomime, and body language.

SLNG 1321 - Introduction to the Interpreting Profession
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 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
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 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
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 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 2267 - Practicum II
Semester Hours: 2 | **Lecture Hours:** 0 | **Laboratory Hours:** 14
Practical, general workplace training supported by an individualized learning plan developed by the employer, the College, and the student.

SLNG 2288 - Internship - Sign Language Interpretation and Translation
Semester Hours: 2 | **Lecture Hours:** 2 | **Laboratory Hours:** 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.

SLNG 2301 - Interpreting I
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 3
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 2302 - Interpreting II
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 3
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 2303 - Transliterating
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 1
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 2311 - Interpreting in Specialized Courses
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 2
Overview of interpreting/transliterating with special populations (e.g., deaf/blind, high visual, oral) and/or special settings (e.g., religious, artistic, medical, legal, mental health). Reinforce interpreting theories and techniques in relation to special population(s) and/or setting(s). This course will focus on interpreting in K-12 settings with an additional study of the dynamics of mainstream vs. inclusion classes as well as unique settings in Post-Secondary Education such as study aboard, and internship settings.
Recommended Prerequisite(s): SLNG 2431 or higher and/or proof of state or national certification or current employment as an interpreter in an educational setting.

SLNG 2315 - Interpreting in Educational Settings
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 1
Overview of education programs (K-12 and post secondary), focusing on the roles and skills of the interpreter as a member of the educational team. Includes current practices, communication methods, legislation, trends, and ethical issues. Introduces resources for content-specific vocabulary.
Recommended Prerequisite(s): SLNG 2431 or hold a current state or national certification.

SLNG 2431 - Interpreting III
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 2
A practice-oriented course to strengthen skills in the integration and application of interpreting using complex source materials. Continued exposure to simulated interpreting/transliterating experiences.

SLNG 2436 - Interpreting IV
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 2
Advanced development in interpreting/ transliterating skills. Emphasizes achieving the nuances of interpretation in terms of lexical choices, speaker's goal, register, and affect. Designed to help prepare students for advanced certification at the state and national levels.

SLPS 1371 - Introduction to Security Management
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 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 1372 - Security and Loss Prevention
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 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. This course covers a select group of topics confronting security management personnel and the public they serve.
Recommended Prerequisite(s): CRIJ 1301 and SLPS 1371

SLPS 2371 - Fundamentals of Physical Security
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 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 1301 - Introduction to Sociology +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
The scientific study of human society, including ways in which groups, social institutions, and individuals affect each other. Causes of social stability and social change are explored through the application of various theoretical perspectives, key concepts, and related research methods of sociology. Analysis of social issues in their institutional context may include topics such as social stratification, gender, race/ethnicity, and deviance.
Required Prerequisite(s): ENGL 1301 with minimum grade of C or TSI Met in Reading and Writing

SOCI 1306 - Social Problems +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Application of sociological principles and theoretical perspectives to major social problems in contemporary society such as inequality, crime and violence, substance abuse, environmental issues, deviance, or family problems.

SOCI 2301 - Marriage and the Family +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Sociological and theoretical analysis of the structures and functions of the family, the varied cultural patterns of the American family, and the relationships that exist among the individuals within the family, as well as the relationships that exist between the family and other institutions in society.

SOCI 2319 - Minority Studies +

Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
This course studies minority-majority group relations, addressing their historical, cultural, social, economic, and institutional development in the United States. Both sociological and social psychological levels of analysis will be employed to discuss issues including experiences of minority groups within the context of their cultural heritage and tradition, as well as that of the dominant culture. Core concepts to be examined include (but are not limited to) social inequality, dominance/subordination, prejudice, and discrimination. Particular minority groups discussed may include those based on poverty, race/ethnicity, gender, sexual orientation, age, disability, or religion.

SOCI 2336 - Criminology +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
The course surveys various theories of crime, with an emphasis on understanding the social causes of criminal behavior. The techniques for measuring crime as a social phenomenon and the characteristics of criminals are examined. This course addresses crime types (such as consensual or white-collar crimes), the criminal justice system, and other social responses to crime.

SOCW 2361 - Introduction to Social Work +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
An overview of the history and development of social work as a profession. The course is designed to foster a philosophical, historical, and critical understanding of the social work profession, including social work values, ethics, and areas of practice utilized under a Generalist Intervention Model. (SOCW 2361 is included in the Social Work Field of Study.)

SOCW 2362 - Social Welfare as a Social Institution +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
This course offers a historical and contemporary examination of legislation and resulting programs, policies, and services in the context of the social welfare system in the United States. Special attention is given to the political, economic, environmental, and social conditions that prompted the development of legislation to meet the needs of vulnerable populations. Societal responses to legislation are also considered. (SOCW 2362 is included in the Social Work Field of Study.)
Required Prerequisite(s): SOCW 2361

SOCW 2389 - Academic Cooperative +
Semester Hours: 3 | **Lecture Hours:** 1 | **Laboratory Hours:** 8
A supervised experiential learning course designed to integrate program study with introductory exposure to the field of social work. In conjunction with individual study and/or seminars, the student will set specific goals and objectives in the study of social work and/or social institutions. The academic cooperative is not a social work skills-based practice experience, but instead, an observational volunteer experience. The course must include a minimum of 80 contact hours (48 hours in a social service setting). (SOCW 2389 is included in the Social Work Field of Study.)
Required Prerequisite(s): SOCW 2361
Recommended Prerequisite(s): SOCW 2362

SPAN 1300 - Beginning Spanish Conversation I +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Basic practice in comprehension and production of the spoken language.

SPAN 1411 - Beginning Spanish I +

Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 2
Basic Spanish language skills in listening, speaking, reading, and writing within a cultural framework. Students will acquire the vocabulary and grammatical structures necessary to communicate and comprehend at the beginner level. Includes acquisition of language functions, basic vocabulary, and culture through contextualized presentations, interactive activities, and extensive laboratory practice.

SPAN 1412 - Beginning Spanish II +
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 2
Continued development of basic Spanish language skills in listening, speaking, reading, and writing within a cultural framework. Students will acquire the vocabulary and grammatical structures necessary to communicate and comprehend at the high beginner to low intermediate level. Emphasis on conversation.
Recommended Prerequisite(s): SPAN 1411

SPAN 2311 - Intermediate Spanish I +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Continuation of SPAN 1412. The consolidation of skills acquired at the introductory level. Further development of proficiency in listening, speaking, reading and writing. Emphasis on comprehension, appreciation, and interpretation of the cultures of the Spanish-speaking world. Conversational practice based on selected readings and dialogues. Directed composition. Class conducted largely in Spanish.
Recommended Prerequisite(s): SPAN 1412

SPAN 2312 - Intermediate Spanish II +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Continuation of SPAN 2311. The consolidation of skills acquired at the introductory level. Further development of proficiency in listening, speaking, reading and writing. Emphasis on comprehension, appreciation, and interpretation of the cultures of the Spanish-speaking world.
Recommended Prerequisite(s): SPAN 2311

SPAN 2313 - Spanish for Native/Heritage Speakers I +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Builds upon existing oral proficiencies of heritage speakers of Spanish. Enhances proficiencies in the home-based language by developing a full range of registers including public speaking and formal written discourse. Emphasis on comprehension, appreciation, and interpretation of the cultures of the Spanish-speaking world. Review and application of skills in reading and writing. Emphasizes vocabulary acquisition, reading, composition, and culture. Designed for individuals with oral proficiency in Spanish, this course is considered equivalent to SPAN 2311.
Recommended Prerequisite(s): SPAN 1411 and SPAN 1412

SPCH 1311 - Introduction to Speech Communication +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Introduces basic human communication principles and theories embedded in a variety of contexts including interpersonal, small group, and public speaking.

SPCH 1315 - Public Speaking +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Application of communication theory and practice to the public speaking context, with emphasis on audience analysis, speaker delivery, ethics of communication, cultural diversity, and speech organizational techniques to develop students' speaking abilities, as well as ability to effectively evaluate oral presentations.

SPCH 1318 - Interpersonal Communication +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Application of communication theory to interpersonal relationship development, maintenance, and termination in relationship contexts including friendships, romantic partners, families, and relationships with co-workers and supervisors.

SPCH 1321 - Business and Professional Communication +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Study and application of communication within the business and professional context. Special emphasis will be given to communication competencies in presentations, dyads, teams and technologically mediated formats.

SPCH 2335 - Argumentation and Debate +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Theories and practice in argumentation and debate including analysis, reasoning, organization, evidence, and refutation.

SRGT 1266 - Practicum-Surgical Technology/Technologist
Semester Hours: 2 | **Lecture Hours:** 0 | **Laboratory Hours:** 14
Practical, general workplace training supported by an individualized learning plan developed by the employer, College, and student.

SRGT 1366 - Practicum-Surgical Technology/Technologist
Semester Hours: 3 | **Lecture Hours:** 0 | **Laboratory Hours:** 21
Practical, general workplace training supported by an individualized learning plan developed by the employer, College, and student.

SRGT 1367 - Practicum-Surgical Technology/Technologist
Semester Hours: 3 | **Lecture Hours:** 0 | **Laboratory Hours:** 24
Practical, general workplace training supported by an individualized learning plan developed by the employer, College, and student.

SRGT 1405 - Introduction to Surgical Technology
Semester Hours: 4 | **Lecture Hours:** 4 | **Laboratory Hours:** 0
Orientation to surgical technology theory, surgical pharmacology and anesthesia, technological sciences, and patient-care concepts.

SRGT 1409 - Fundamentals of Perioperative Concepts and Techniques
Semester Hours: 4 | **Lecture Hours:** 4 | **Laboratory Hours:** 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
Semester Hours: 4 | **Lecture Hours:** 4 | **Laboratory Hours:** 0
Introduction to surgical pathology and its relationship to surgical procedures. Emphasis on surgical procedures related to general, OB/GYN, genitourinary, otorhinolaryngology, and orthopedic surgical specialties incorporating instruments, equipment, and supplies required for safe patient care.
Required Prerequisite(s): SRGT 1405, SRGT 1409, and SRGT 1266

SRGT 1442 - Surgical Procedures II
Semester Hours: 4 | **Lecture Hours:** 4 | **Laboratory Hours:** 0
Introduction to surgical pathology and its relationship to surgical procedures. Emphasis on surgical procedures related to the cardiothoracic, peripheral vascular, plastic/reconstructive, ophthalmology, oral/maxillofacial, and neurological surgical specialties incorporating instruments, equipment, and supplies required for safe patient care.
Required Prerequisite(s): SRGT 1405, SRGT 1409, and SRGT 1266

SRGT 2270 - Professional Readiness
Semester Hours: 2 | **Lecture Hours:** 2 | **Laboratory Hours:** 0
Overview of professional readiness for employment, attaining certification, and maintaining certification status. A Capstone experience may be included.

SRGT 2466 - Practicum-Surgical Technology/Technologist
Semester Hours: 4 | **Lecture Hours:** 0 | **Laboratory Hours:** 28
Practical, general workplace training supported by an individualized learning plan developed by the employer, College, and student.

SRVY 1301 - Introduction to Surveying
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 3
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 0111 - Transition to College Success
Semester Hours: 1 | **Lecture Hours:** 1 | **Laboratory Hours:** 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. Includes courses in college orientation and developments of students' academic skills that apply to all disciplines. This is a developmental course and cannot be used to fulfill degree requirements.

TECA 1303 - Families, School and Community +
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 2
A study of the child, family, community, and schools, including parent education and involvement, family and community lifestyles, child abuse, and current family life issues. Course content must be aligned as applicable with State Board for Educator Certification Pedagogy and Professional Responsibilities Standards and coincide with the National Association for the Education of Young Children position statement related to developmentally appropriate practices for children from birth through age eight. Requires students to participate in field experiences with children from infancy through age 12 in a variety of settings with varied and diverse populations. Course includes a minimum of 16 hours of field experiences.

TECA 1311 - Educating Young Children +
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 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

must be aligned with State Board for Educator Certification Pedagogy and Professional Responsibilities Standards and coincide with the National Association for the Education of Young Children position statement related to developmentally appropriate practices for children from birth through age eight. Requires students to participate in field experiences with children from infancy through age 12 in a variety of settings with varied and diverse populations. Course includes a minimum of 16 hours of field experiences.

TECA 1318 - Wellness of the Young Child +
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 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 must be aligned with State Board for Educator Certification Pedagogy and Professional Responsibilities Standards and coincide with the National Association for the Education of Young Children position statement related to developmentally appropriate practices for children from birth to age eight. Requires students to participate in field experiences with children from infancy through age 12 in a variety of settings with varied and diverse populations. Course includes a minimum of 16 hours of field experiences.

TECA 1354 - Child Growth and Development +
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
A study of the physical, emotional, social, language, and cognitive factors impacting growth and development of children through adolescence.

TECM 1301 - Industrial Mathematics
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 2
Math skills applicable to industry occupations. Includes fraction and decimal manipulation, measurement, percentage, and problem solving techniques for equations and ratio/proportion applications.

TECM 1303 - Technical Calculations
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Specific mathematical calculations required by business, industry, and health occupations.

TRVM 1201 - Customer Sales and Service
Semester Hours: 2 | **Lecture Hours:** 2 | **Laboratory Hours:** 0
Practical information and techniques to create excellent customer sales and service unique to the travel public.

TRVM 1300 - Introduction to Travel & Tourism
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
An overview of the travel and tourism industry. Emphasis on travel careers and the impact on society.

TRVM 1327 - Special Events Design
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 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.

TRVM 2301 - Introduction to Convention/Meeting Management
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Overview of the meetings and convention industry and the various aspects and skills involved in planning and managing meetings, conventions, and expositions. Emphasis on types of meetings, markets, industry suppliers,

budget and program planning, site selection and contract negotiations, registration and housing, food and beverage requirements, function and meeting room setup, and audiovisual requirement.

TRVM 2345 - Advanced Topics in Tourism
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Provides the students with an in-depth look into the aspects of concierge, destination management companies, incentives meeting and travel planning, attractions management, special event, festival planning, and eco-tourism. Included are field trips, guest speakers, and case studies.

VIRT 1310 - Principles of Interventional Radiology I
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 2
Introduction to the diagnostic procedures used in the interventional lab including patient preparation and monitoring, angiographic equipment set-up, and vascular procedures.

VIRT 1320 - Interventional Radiology Equipment and Methodology
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 2
The operation of interventional radiology equipment, focusing on routine protocols, basic principles, theory, electronics, and instrumentation.

VIRT 2264 - Practicum - Vascular Interventional Technology Science
Semester Hours: 2 | **Lecture Hours:** 0 | **Laboratory Hours:** 15
Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

VIRT 2310 - Principles of Interventional Radiology II
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 2
Continuing coverage of interventional radiology imaging techniques, focusing on more advanced angiographic procedures. Image quality assurance and radiation protection are emphasized.
Required Prerequisite(s): VIRT 1310

VIRT 2330 - Advanced Vascular Interventional Procedures
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 2
Exploration of advanced interventional radiology procedures and emerging applications.
Required Prerequisite(s): VIRT 1310 and VIRT 2310

VIRT 2340 - Advanced Patient Care and Pathophysiology for Interventional Radiology
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 2
Study of advanced and independent patient care skills, to include management of tubes and lines, advanced pharmacology interactions, and evaluation of the overall pathophysiological process of the patient.

VIRT 2364 - Practicum - Vascular Interventional Technology Science
Semester Hours: 3 | **Lecture Hours:** 0 | **Laboratory Hours:** 24
Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

VIRT 2365 - Practicum - Vascular Interventional Technology Science

Semester Hours: 3 | **Lecture Hours:** 0 | **Laboratory Hours:** 24
Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

VNSG 1116 - Nutrition
Semester Hours: 1 | **Lecture Hours:** 1 | **Laboratory Hours:** 0
Introduction to nutrients and the role of diet therapy in growth and development and in the maintenance of health.
Required Prerequisite(s): BIOL 2401
Recommended Prerequisite(s): PSYC 2301
Recommended Corequisite(s): VNSG 1304, VNSG 1323, and VNSG 1360

VNSG 1219 - Leadership and Professional Development
Semester Hours: 2 | **Lecture Hours:** 2 | **Laboratory Hours:** 0
Study of the importance of professional growth. Topics include the role of the licensed vocational nurse in the multi-disciplinary health care team, professional organizations, and continuing education.
Required Prerequisite(s): VNSG 1429, VNSG 1331, VNSG 1461, and VNSG 1301
Recommended Corequisite(s): VNSG 1432, VNSG 1234, VNSG 1462, and VNSG 1230

VNSG 1230 - Maternal-Neonatal Nursing
Semester Hours: 2 | **Lecture Hours:** 2 | **Laboratory Hours:** 0
A study of the biological, psychological, and sociological concepts applicable to basic needs of the family including childbearing and neonatal care. Utilization of the nursing process in the assessment and management of the childbearing family. Topics include physiological changes related to pregnancy, fetal development, and nursing care of the family during labor and delivery and the puerperium.
Required Prerequisite(s): VNSG 1429, VNSG 1331, VNSG 1461, and VNSG 1301
Recommended Corequisite(s): VNSG 1432, VNSG 1234, VNSG 1462, and VNSG 1219

VNSG 1234 - Pediatrics
Semester Hours: 2 | **Lecture Hours:** 2 | **Laboratory Hours:** 0
Study of the care of the pediatric patient and family during health and disease. Emphasis on growth and developmental needs utilizing the nursing process.
Required Prerequisite(s): VNSG 1429, VNSG 1331, VNSG 1461, and VNSG 1301
Recommended Corequisite(s): VNSG 1432, VNSG 1462, and VNSG 1219

VNSG 1301 - Mental Health and Mental Illness
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Personality development, human needs, common mental mechanisms, and factors influencing mental health and mental illness. Includes common mental disorders an related therapy.
Required Prerequisite(s): VNSG 1304, VNSG 1323, VNSG 1360, VNSG 1116, and PSYC 2301
Recommended Corequisite(s): VNSG 1432, VNSG 1234, VNSG 1219, and VNSG 1462

VNSG 1304 - Foundations of Nursing
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 3
Introduction to the nursing profession including history, standards of practice, legal and ethical issues, and role of the vocational nurse. Topics include mental health, therapeutic communication, cultural and spiritual diversity, nursing process, and holistic awareness.
Required Prerequisite(s): BIOL 2401

Recommended Prerequisite(s): PSYC 2301
Recommended Corequisite(s): VNSG 1323, VNSG 1360, and VNSG 1116

VNSG 1323 - Basic Nursing Skills
Semester Hours: 3 | **Lecture Hours:** 1 | **Laboratory Hours:** 7
Mastery of basic nursing skills and competencies for a variety of health care settings using the nursing process as the foundation of all nursing interventions.
Required Prerequisite(s): BIOL 2401
Recommended Prerequisite(s): PSYC 2301
Recommended Corequisite(s): VNSG 1304, VNSG 1360, and VNSG 1116

VNSG 1331 - Pharmacology
Semester Hours: 3 | **Lecture Hours:** 3 | **Laboratory Hours:** 0
Fundamentals of medications and their diagnostic, therapeutic, and curative effects. Includes nursing interventions utilizing the nursing process.
Required Prerequisite(s): VNSG 1304, VNSG 1323, VNSG 1116, and PSYC 2301
Recommended Corequisite(s): VNSG 1461, VNSG 1429, and VNSG 1301

VNSG 1360 - Clinical-Licensed Practical/Vocational Nurse Training
Semester Hours: 3 | **Lecture Hours:** 0 | **Laboratory Hours:** 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.
Required Prerequisite(s): BIOL 2401
Recommended Prerequisite(s): PSYC 2301
Recommended Corequisite(s): VNSG 1323, VNSG 1304, and VNSG 1116

VNSG 1429 - Medical-Surgical Nursing I
Semester Hours: 4 | **Lecture Hours:** 4 | **Laboratory Hours:** 1
Application of the nursing process to the care of the adult patient experiencing medical-surgical conditions along the health illness continuum in a variety of health care settings.
Required Prerequisite(s): VNSG 1304, VNSG 1323, VNSG 1360, VNSG 1116, and PSYC 2301
Recommended Corequisite(s): VNSG 1331, VNSG 1461, and VNSG 1301

VNSG 1432 - Medical-Surgical Nursing II
Semester Hours: 4 | **Lecture Hours:** 4 | **Laboratory Hours:** 1
Continuation of Medical-Surgical Nursing I with application of the nursing process to the care of the adult patient experiencing medical-surgical conditions along the health-illness continuum in a variety of health care settings.
Required Prerequisite(s): VNSG 1429, VNSG 1331, VNSG 1461, and VNSG 1301
Recommended Corequisite(s): VNSG 1234, VNSG 1230, VNSG 1219, and VNSG 1462

VNSG 1461 - Clinical-Licensed Practical/Vocational Nurse Training
Semester Hours: 4 | **Lecture Hours:** 0 | **Laboratory Hours:** 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.
Required Prerequisite(s): VNSG 1304, VNSG 1323, VNSG 1360, VNSG 1116, and PSYC 2301
Recommended Corequisite(s): VNSG 1331, VNSG 1429, and VNSG 1301

VNSG 1462 - Clinical-Licensed Practical/Vocational Nurse Training

Semester Hours: 4 | **Lecture Hours:** 0 | **Laboratory Hours:** 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.
Required Prerequisite(s): VNSG 1429, VNSG 1331, VNSG 1461, and VNSG 1301
Recommended Corequisite(s): VNSG 1432, VNSG 1234, VNSG 1230, and VNSG 1219

WIND 2459 - Wind Power Delivery System
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 3
Components, equipment, and infrastructure used in the production and transmission of electricity as related to wind turbine power.

WLDG 1312 - Introduction to Flux Cored Arc Welding (FCAW)
Semester Hours: 3 | **Lecture Hours:** 2 | **Laboratory Hours:** 3
An overview of terminology, safety procedures, and equipment set-up. Practice in performing various joints using Flux Cored Arc Welding (FCAW) equipment.
Required Prerequisite(s): WLDG 1430 or approval of Program Coordinator

WLDG 1417 - Introduction to Layout and Fabrication
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 3
A fundamental course in layout and fabrication related to the welding industry. Major emphasis on structural shapes and use in construction.
Required Prerequisite/Corequisite(s): WLDG 1428 or WLDG 1430 or approval of Program Coordinator

WLDG 1421 - Welding Fundamentals
Semester Hours: 4 | **Lecture Hours:** 2 | **Laboratory Hours:** 4
An introduction to the fundamentals of equipment used in oxy-fuel and arc welding, including welding and cutting safety, basic oxy-fuel welding and cutting, basic arc welding processes and basic metallurgy.

WLDG 1428 - Introduction to Shielded Metal Arc Welding (SMAW)
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 3
An introduction to the shielded metal arc welding process. Emphasis placed on power sources, electrode selection, and various joint designs.

WLDG 1430 - Introduction to Gas Metal Arc Welding (GMAW)
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 3
Principles of gas metal arc welding, set-up and use of Gas Metal Arc Welding (GMAW) equipment, and safe use of tools and equipment. Instruction in various joint designs.

WLDG 1434 - Introduction to Gas Tungsten Arc Welding (GTAW)
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 3
Principles of gas tungsten arc welding (GTAW), including setup, GTAW equipment. Instruction in various positions and joint designs.

WLDG 1435 - Introduction to Pipe Welding
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 3
An introduction to welding of pipe using the shielded metal arc welding process (SMAW), including electrode selection, equipment setup, and safe shop practices. Emphasis on various welding positions and electrodes.
Required Prerequisite(s): WLDG 1428 or Program Coordinator approval

WLDG 1453 - Intermediate Layout and Fabrication
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 3
An intermediate course in layout and fabrication. Includes design and production of shop layout and fabrication. Emphasis placed on symbols, blueprints, and written specifications.
Required Prerequisite(s): WLDG 1417 or approval of Program Coordinator

WLDG 2413 - Intermediate Welding Using Multiple Processes
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 3
Instruction using layout tools and blueprint reading with demonstration and guided practices with some of the following welding processes: oxy-fuel gas cutting and welding, shield metal arc welding(SMAW), gas metal arc welding (GMAW), flux-cored arc welding(FCAW), gas tungsten arc welding(GTAW).
Required Prerequisite(s): WLDG 1312, WLDG 1417, WLDG 1428, WLDG 1430, and WLDG 1434 or approval of Program Coordinator

WLDG 2451 - Advanced Gas Tungsten Arc Welding (GTAW)
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 3
Advanced topics in GTAW welding, including welding in various positions and directions.
Required Prerequisite(s): WLDG 1434 or approval of Program Coordinator

WLDG 2453 - Advanced Pipe Welding
Semester Hours: 4 | **Lecture Hours:** 3 | **Laboratory Hours:** 3
Advanced topics involving welding of pipe using the shielding 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.
Required Prerequisite(s): WLDG 1428 or approval of Program Coordinator