# CTE Course Catalog

## Career and Technical Education

### With Texas Student Data System PEIMS Codes and Descriptions

College, Career and Military Preparation Division
Texas Education Agency

*Revised September 2025*

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# Sources for Course Catalog

Sources for this course catalog:
1. Texas Student Data System[1]

2. Texas Administrative Code
    a. Chapter 127[2]

3. TEA Curriculum Standards and Student Support Division
    a. Innovative courses for CTE[3]

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[1] https://www.texasstudentdatasystem.org/

[2] https://texas-sos.appianportalsgov.com/rules-and-meetings?chapter=127&interface=VIEW_TAC&part=2&title=19

[3] https://tea.texas.gov/academics/learning-support-and-programs/innovative-courses/innovative-courses-career-and-technical-education

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*Regional program of study

# Career Development for Secondary Students

## Standards

Chapter 127 of the TAC outlines the Texas Essential Knowledge and Skills (TEKS) for career development and career and technical education (CTE) courses.

1. **Middle School Career and College Exploration TEKS**
   - The goal of Career and College Exploration TEKS[4] are to help students build career awareness and engage in deep exploration of the Texas CTE career clusters to create a foundation for success in high school, possible postsecondary studies, and careers. The career development process is unique to every student and evolves throughout one's life.
   - The Career and College Exploration TEKS, expects students to use decision-making and problem-solving skills for individual career and academic planning. Students explore valid, reliable educational and career information to learn more about themselves and their interests and abilities.
   - These TEKS are designed to guide students through the process of investigating and developing a college and career readiness plan.
   - Students use aptitude and interest inventory assessments, labor market information (LMI), software, or other available tools to explore a variety of career paths, especially those in demand. Students will begin mapping their anticipated secondary coursework and potential postsecondary experiences that align with their goals.
   - The Texas Education Code (TEC) requires local education agencies (LEAs) to provide instruction to students in grades 7 or 8 to prepare for high school, college, and future careers. The following expectations can be found in Chapter 28 of the TEC[5].
     - The instruction must include information regarding the:
       - Creation of a high school personal graduation plan under TEC §28.02121
       - Distinguished level of achievement described by TEC §28.025
       - Endorsements, described by TEC §28.025
       - College and career readiness standards
       - Potential career choices and the education needed to enter chosen careers
     - An LEA may:
       - Provide the instruction as part of an existing course in the required curriculum
       - Provide the instruction as part of an existing CTE course designated by the State Board of Education (SBOE) as appropriate for that purpose
       - Establish a new elective course through which to provide the instruction
   - Each LEA shall ensure that at least once in grade seven or eight each student receives the instruction under this section.

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[4] https://tea.texas.gov/about-tea/laws-and-rules/sboe-rules-tac/sboe-tac-currently-in-effect/ch127a.pdf
[5] https://statutes.capitol.texas.gov/Docs/ED/htm/ED.28.htm

2. **CTE Standards in Occupational Safety and Health**
   - The [Occupational Safety and Health standards](#)[6] outline how students develop safety consciousness in the workplace. Students build a strong foundation in the occupational safety and health concepts that are critical to protecting individuals in the workplace, increasing safety and health, and reducing the occurrence of job-related injuries and fatalities. These standards are required to be addressed in their entirety as part of each of the following CTE courses:
     - Construction Technology I
     - Electrical Technology I
     - Plumbing Technology I
     - HVAC Technology I
     - Masonry Technology I
     - Agriculture Mechanics and Metal Technology
     - Welding I
     - Metal Fabrication and Machining I
     - Oil and Gas Production II
     - Introduction to Culinary Arts
   - These standards may not be offered as a standalone course
   - Successful completion of the standards may lead to a student earning a 10-hour general industry OSHA card. To earn the 10-hour Occupational Safety and Health Administration (OSHA) card, the content must be taught by an authorized OSHA outreach program trainer.

*Note*: LEAs wishing to offer innovative courses must have the approval of their board of trustees and implement the course as written ([19 TAC §74.27](#))[7].

# CTE Employability Skills

## Employability Skills for Effective Workplace

The Texas State Board of Education approved in June 2025 the establishment of TEKS in employability skills for effective workplace performance. The employability skills standards are required to be taught as part of each CTE course beginning in the 2025-26 school year. The TEKS can be found in 19 Texas Administrative Code (TAC) Chapter 127, Subchapter B, §127.15.

There is one universal set of employability skills standards for courses identified as Level 1 and 2 in a CTE program of study and a second universal set of advanced employability skills standards for courses identified as Level 3 and 4 in a CTE program of study.

Link to the TAC[8] to find the employability skills standards.

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[6] https://texas-sos.appianportalsgov.com/rules-and-meetings?$locale=en_US&interface=VIEW_TAC_SUMMARY&queryAsDate=04%2F03%2F2025&recordId=214977

[7] https://texas-sos.appianportalsgov.com/rules-and-meetings?$locale=en_US&interface=VIEW_TAC_SUMMARY&queryAsDate=04%2F03%2F2025&recordId=221391

[8] https://texas-sos.appianportalsgov.com/rules-and-meetings?$locale=en_US&interface=VIEW_TAC_SUMMARY&queryAsDate=08%2F06%2F2025&recordId=225408

# Key Information and Definitions

## CTE Course Funding

Based on [House Bill (HB) 1525](#)[9], LEAs receive weighted funding for each full-time equivalent student in average daily attendance (ADA) in an approved CTE programs in grades 7 through 12:

- 1.1 for CTE courses not in an approved program of study
- 1.28 for levels one and two CTE courses in an approved program of study, as identified by TEA
- 1.47 for levels three and four CTE courses in an approved program of study, as identified by TEA

An alphabetical list of current CTE courses and their designated weights is available at the [TEA CTE program of study website](#)[10].

## CTE Courses not Included in a Program of Study

CTE courses that are not included in CTE programs of study are available to provide additional choices for students as they progress through a program of study. Specific information about each course can be found in the alphabetical section of this course catalog. Courses include:

| | |
|---|---|
| 13011600 | Business English |
| 12701111 | Career Preparation General (First Time Taken) |
| 12701131 | Career Preparation General + Extended (First Time Taken) |
| 12701112 | Career Preparation General (Second Time Taken) |
| 12701132 | Career Preparation General + Extended (Second Time Taken) |
| 12701122 | Career Preparation for Programs of Study (Second Time Taken) |
| 12701142 | Career Preparation for Programs of Study + Extended (Second Time Taken) |
| 12701102 | Career and Technical Education Project-Based Capstone (Second Time Taken) |
| 12701103 | Career and Technical Education Project-Based Capstone (Third Time Taken) |
| N1303766 | Digital Image Processing |
| 13018900 | Foreign Service and Diplomacy |
| N1270153 | General Employability Skills |
| 03581600 | Independent Study in Evolving/Emerging Technologies (Second Time Taken) |
| 03581700 | Independent Study in Evolving/Emerging Technologies (Third Time Taken) |
| 03581000 | Independent Study in Technology Applications (Second Time Taken) |
| 03581100 | Independent Study in Technology Applications (Third Time Taken) |
| I3580500 | International Baccalaureate (IB) Digital Society Higher Level |
| I3580400 | International Baccalaureate (IB) Digital Society Standard Level |
| 13001255 | Oil and Gas Production I + Agricultural Laboratory and Field Experience |
| 13001265 | Oil and Gas Production II + Agricultural Laboratory and Field Experience |
| N1302536 | Parenting Education I |
| N1302537 | Parenting Education II |
| 13011112 | Practicum in Entrepreneurship (Second Time Taken) |
| 13011122 | Practicum in Entrepreneurship + Extended (Second Time Taken) |
| 13037210 | Scientific Research and Design II |
| 13037220 | Scientific Research and Design III |
| N1270154 | Student to Industry Connection |
| N1303753 | Texas Pre-Freshman Engineering Program II |
| N1303754 | Texas Pre-Freshman Engineering Program III |
| N1303755 | Texas Pre-Freshman Engineering Program IV |
| 13011300 | Touch System Data Entry |

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[9] https://capitol.texas.gov/tlodocs/87R/billtext/pdf/HB01525F.pdf#navpanes=0

[10] https://tea.texas.gov/academics/college-career-and-military-prep/career-and-technical-education/cte-programs-of-study

## Definitions

- **Career cluster** – A career cluster is defined by the Strengthening Career and Technical Education for the 21st Century Act (Perkins V) as a group of related to occupations and industries that share foundational knowledge and skills.

- **Corequisite** – A corequisite is a course that must be taken at the same time as another course. Students must be enrolled in both the corequisite course and the target course during the same academic term.

- **Course level** – A course level is based on their complexity, depth of knowledge, and skill development. CTE courses in this catalog are listed as either Level 1, 2, 3, or 4.

- **Course code** – A course code is a unique identifier assigned to each individual CTE course. A course code is crucial for accurate data reporting and tracking of student enrollment, progress, and achievement in CTE courses. Course codes listed in this catalog are taken from the Texas Education Data Standards and are required for participation in the Texas Records Exchange (TREx) system. Course codes were previously referred to as "Service IDs."

- **Course abbreviation** – Course abbreviations may be used within individual LEAs for internal purposes, such as scheduling systems, transcripts, or other administrative purposes. Course abbreviations listed in this course catalog are taken from the Texas Education Data Standards and are required for participation in the Texas Records Exchange (TREx) system.

- **Course credit** – A course credit generally represents the successful completion of a unit of instruction. This catalog outlines the credit values for each course offered – either 0.5, 1, 2, or 3 credits.

- **Course title** – A course title listed in this course catalog is taken from the Texas Education Data Standards and is required for participation in the Texas Records Exchange (TREx) system.

- **Innovative Course** - An innovative course is a state-approved course designed to help students master knowledge, skills, and competencies that are not included in the essential knowledge and skills of the required curriculum. The State Board of Education (SBOE) may approve innovative courses in the foundation or enrichment curriculum and courses that do not fall within any of these subject areas when the applying school district or organization demonstrates that the proposed course is academically rigorous, addresses documented student needs, and is non-duplicative of an existing TEKS based course. These courses are governed by TAC §74.27.

- **Prerequisite** – A prerequisite is a course or that must be successfully completed before a student can enroll in a specific course. A prerequisite ensures that students have the necessary foundational knowledge and skills to succeed in a subsequent course.

- **Program of study** – A program of study is defined by Perkins V as a coordinated, non-duplicative sequence of academic and technical courses that align with industry needs and lead to a recognized postsecondary credential.

- **Recommended corequisite** – A recommended corequisite is a course that is strongly suggested for students to take concurrently with another course.

- **Recommended prerequisite** – A course that is strongly suggested for students to have completed before enrolling in a specific course.

# CTE Courses by Career Cluster/Programs of Study

## Agriculture, Food, and Natural Resources Career Cluster

The Agriculture, Food, and Natural Resources (AFNR) career cluster focuses on the essential elements of life, food, water, land, and air. This career cluster includes occupations ranging from farmer, rancher, and veterinarian to geologist, land conservationist, and florist.

### Programs of Study
- Agriculture Business, Leadership, and Communications
- Agricultural Technology and Mechanical Systems
- Animal Science
- Environmental and Natural Resources
- Food Science and Technology
- Plant Science

### Courses Listed in Texas Administrative Code (Title 19, Chapter 127, Subchapter C)

| | |
|---|---|
| §127.30 | Principles of Agriculture, Food, and Natural Resources (One Credit), Adopted 2024 |
| §127.31 | Mathematical Applications in Agriculture, Food, and Natural Resources (One Credit), Adopted 2015 |
| §127.32 | Energy and Natural Resource Technology (One Credit), Adopted 2015 |
| §127.33 | Advanced Energy and Natural Resource Technology (One Credit), Adopted 2015 |
| §127.34 | Food Technology and Safety (One Credit), Adopted 2015 |
| §127.35 | Food Processing (One Credit), Adopted 2015 |
| §127.36 | Wildlife, Fisheries, and Ecology Management (One Credit), Adopted 2015 |
| §127.37 | Forestry and Woodland Ecosystems (One Credit), Adopted 2015 |
| §127.38 | Range Ecology and Management (One Credit), Adopted 2015 |
| §127.39 | Landscape Design and Management (One-Half Credit), Adopted 2015 |
| §127.40 | Turf Grass Management (One-Half Credit), Adopted 2015 |
| §127.41 | Agricultural Mechanics and Metal Technologies (One Credit), Adopted 2015 |
| §127.42 | Agricultural Structures Design and Fabrication (One Credit), Adopted 2015 |
| §127.43 | Agricultural Equipment Design and Fabrication (One Credit), Adopted 2015 |
| §127.44 | Agricultural Power Systems (Two Credits), Adopted 2015 |
| §127.45 | Professional Standards and Communication in Agribusiness (One Credit), Adopted 2024 |
| §127.46 | Agribusiness Management and Marketing (One Credit), Adopted 2024 |
| §127.47 | Agricultural Leadership, Research, and Communications (One Credit), Adopted 2024 |
| §127.48 | Equine Science (One-Half Credit), Adopted 2024 |
| §127.49 | Livestock and Poultry Production (One Credit), Adopted 2024 |
| §127.50 | Small Animal Management (One-Half Credit), Adopted 2024 |
| §127.51 | Veterinary Science (One Credit), Adopted 2024 |
| §127.52 | Advanced Animal Science (One Credit), Adopted 2024 |
| §127.53 | Floral Design (One Credit), Adopted 2024 |
| §127.54 | Horticultural Science (One Credit), Adopted 2024 |
| §127.55 | Greenhouse Operation and Production (One Credit), Adopted 2024 |
| §127.56 | Viticulture (One Credit), Adopted 2024 |
| §127.57 | Advanced Floral Design (One Credit), Adopted 2024 |
| §127.58 | Advanced Plant and Soil Science (One Credit), Adopted 2024 |
| §127.59 | Geographic Information Systems for Agriculture (One Credit), Adopted 2025 |
| §127.61 | Beekeeping and Honey Processing (One Credit), Adopted 2025 |
| §127.85 | Agricultural Laboratory and Field Experience (One Credit), Adopted 2015 |
| §127.86 | Practicum in Agriculture, Food, and Natural Resources (Two Credits), Adopted 2024 |
| §127.87 | Extended Practicum in Agriculture, Food, and Natural Resources (One Credit), Adopted 2024 |

## Agriculture Business, Leadership, and Communications

The Agriculture Business, Leadership, and Communications program of study focuses on occupational and educational opportunities associated with farming and agriculturally related businesses that supply farm inputs, such as machinery and seeds. This program of study includes an exploration of farm product marketing, the purchase of farm products either for processing or resale, and the process of grading or classifying unprocessed food or other agricultural products.

| Level | Course Title | Course Code | Course Abbreviation | Credits |
|---|---|---|---|---|
| 1 | Principles of Agriculture, Food, and Natural Resources* | 13000200 | PRINAFNR | 1 |
| 1 | Professional Communications* | 13009900 | PROFCOMM | .5 |
| | | | | |
| 2 | Professional Standards and Communication in Agribusiness | 13000800 | PROSAFNR | 1 |
| 2 | Mathematical Applications in Agriculture, Food, and Natural Resources | 13001000 | MATHAFNR | 1 |
| 2 | Entrepreneurship I* | 13011101 | ENTPR1 | 1 |
| | | | | |
| 3 | Agribusiness Management and Marketing | 13000900 | AGRBUSMM | 1 |
| 3 | Agribusiness Management and Marketing + Agricultural Laboratory and Field Experience | 13000910 | AGRBUSLAB | 2 |
| | | | | |
| 4 | Agricultural Leadership, Research, and Communications | 13000950 | AGLEAD | 1 |
| 4 | Career and Technical Education Project-Based Capstone* <br> *First Time Taken* | 12701101 | CTEPBC1 | 1 |
| 4 | Practicum in Agriculture, Food, and Natural Resources* <br> *First Time Taken* <br> *Second Time Taken* | 13002500 <br> 13002510 | PRACAFNR1 <br> PRACAFNR2 | 2 <br> 2 |
| 4 | Practicum in Agriculture, Food, and Natural Resources + Extended Practicum in Agriculture, Food, and Natural Resources* <br> *First Time Taken* <br> *Second Time Taken* | 13002505 <br> 13002515 | EXPRAFNR1 <br> EXPRAFNR2 | 3 <br> 3 |
| 4 | Practicum in Entrepreneurship* <br> *First Time Taken* | 13011111 | PRACENT1 | 2 |
| 4 | Practicum in Entrepreneurship + Extended Practicum in Entrepreneurship* <br> *First Time Taken* | 13011121 | EXPRACENT1 | 3 |
| 4 | Career Preparation for Programs of Study* <br> *First Time Taken* | 12701121 | CPPS1 | 2 |
| 4 | Career Preparation for Programs of Study + Extended Career Preparation* <br> *First Time Taken* | 12701141 | EXCPPS1 | 3 |

*Courses in multiple programs of study

## Agricultural Technology and Mechanical Systems

The Agricultural Technology and Mechanical Systems program of study focuses on occupational and educational opportunities associated with applying engineering technology and biological science to agricultural problems related to power and machinery, electrification, structures, soil and water use, and processing agricultural products. This program of study includes diagnosing, repairing, or overhauling farm machinery and vehicles, such as tractors, harvesters, dairy equipment, and irrigation systems.

| Level | Course Title | Course Code | Course Abbreviation | Credits |
|---|---|---|---|---|
| 1 | Principles of Agriculture, Food, and Natural Resources* | 13000200 | PRINAFNR | 1 |
| | | | | |
| 2 | Agricultural Mechanics and Metal Technologies* | 13002200 | AGMECHMT | 1 |
| 2 | Agricultural Mechanics and Metal Technologies + Agricultural Laboratory and Field Experience* | 13002210 | AGMECMTLAB | 2 |
| | | | | |
| 3 | Agricultural Structures Design and Fabrication | 13002300 | AGSDF | 1 |
| 3 | Agricultural Structures Design and Fabrication + Agricultural Laboratory and Field Experience | 13002310 | AGSDFLAB | 2 |
| 3 | Agricultural Power Systems | 13002400 | AGPOWSYS | 2 |
| 3 | Agricultural Power Systems + Agricultural Laboratory and Field Experience | 13002410 | AGPOWSLAB | 3 |
| 3 | Geographic Information Systems (GIS) for Agriculture | 13002450 | GISAGRI | 1 |
| | | | | |
| 4 | Agricultural Equipment Design and Fabrication | 13002350 | AGEQDF | 1 |
| 4 | Agricultural Equipment Design and Fabrication + Agricultural Laboratory and Field Experience | 13002360 | AGEQDFLAB | 2 |
| 4 | Career and Technical Education Project-Based Capstone* <br> *First Time Taken* | 12701101 | CTEPBC1 | 1 |
| 4 | Practicum in Agriculture, Food, and Natural Resources* <br> *First Time Taken* <br> *Second Time Taken* | 13002500 <br> 13002510 | PRACAFNR1 <br> PRACAFNR2 | 2 <br> 2 |
| 4 | Practicum in Agriculture, Food, and Natural Resources + Extended Practicum in Agriculture, Food, and Natural Resources* <br> *First Time Taken* <br> *Second Time Taken* | 13002505 <br> 13002515 | EXPRAFNR1 <br> EXPRAFNR2 | 3 <br> 3 |
| 4 | Career Preparation for Programs of Study* <br> *First Time Taken* | 12701121 | CPPS1 | 2 |
| 4 | Career Preparation for Programs of Study + Extended Career Preparation* <br> *First Time Taken* | 12701141 | EXCPPS1 | 3 |
| 4 | Scientific Research and Design* | 13037200 | SCIRD | 1 |

*Courses in multiple programs of study*

## Animal Science

The Animal Science program of study focuses on occupational and educational opportunities associated with the science, research, and business of animals and other living organisms. This program of study includes applying biology and life science to real-world life processes of animals and wildlife, either in laboratories or in the field, which could include a veterinary office, a farm or ranch, or any outdoor area harboring animal life. Students will research and analyze the growth and destruction of species and research or diagnose diseases and injuries of animals.

| Level | Course Title | Course Code | Course Abbreviation | Credits |
|-------|--------------|-------------|---------------------|---------|
| 1 | Principles of Agriculture, Food, and Natural Resources* | 13000200 | PRINAFNR | 1 |
| | | | | |
| 2 | Small Animal Management | 13000400 | SMANIMGT | .5 |
| 2 | Equine Science | 13000500 | EQUINSCI | .5 |
| 2 | Entrepreneurship I* | 13011101 | ENTPR1 | 1 |
| | | | | |
| 3 | Livestock and Poultry Production | 13000300 | LIVEPROD | 1 |
| 3 | Livestock and Poultry Production + Agricultural Laboratory and Field Experience | 13000310 | LIVPROLAB | 2 |
| | | | | |
| 4 | Advanced Animal Science | 13000700 | ADVANSCI | 1 |
| 4 | Veterinary Science | 13000600 | VETSCI | 1 |
| 4 | Veterinary Science + Agricultural Laboratory and Field Experience | 13000610 | VETSCILAB | 2 |
| 4 | Career and Technical Education Project-Based Capstone* <br> *First Time Taken* | 12701101 | CTEPBC1 | 1 |
| 4 | Practicum in Agriculture, Food, and Natural Resources* <br> *First Time Taken* <br> *Second Time Taken* | 13002500 <br> 13002510 | PRACAFNR1 <br> PRACAFNR2 | 2 <br> 2 |
| 4 | Practicum in Agriculture, Food, and Natural Resources + Extended Practicum in Agriculture, Food, and Natural Resources* <br> *First Time Taken* <br> *Second Time Taken* | 13002505 <br> 13002515 | EXPRAFNR1 <br> EXPRAFNR2 | 3 <br> 3 |
| 4 | Practicum in Entrepreneurship* <br> *First Time Taken* | 13011111 | PRACENT1 | 2 |
| 4 | Practicum in Entrepreneurship + Extended Practicum in Entrepreneurship* <br> *First Time Taken* | 13011121 | EXPRACENT1 | 3 |
| 4 | Career Preparation for Programs of Study* <br> *First Time Taken* | 12701121 | CPPS1 | 2 |
| 4 | Career Preparation for Programs of Study + Extended Career Preparation* <br> *First Time Taken* | 12701141 | EXCPPS1 | 3 |
| 4 | Scientific Research and Design* | 13037200 | SCIRD | 1 |

*Courses in multiple programs of study

## Environmental and Natural Resources

The Environmental and Natural Resources program of study focuses on occupational and educational opportunities associated with the research, design, and engineering of plans for prevention and control of environmental hazards. This program of study includes conducting research for the purpose of identifying, abating, or eliminating sources of pollutants or hazards that affect either the environment or the health of the population.

| Level | Course Title | Course Code | Course Abbreviation | Credits |
|---|---|---|---|---|
| 1 | Principles of Agriculture, Food, and Natural Resources* | 13000200 | PRINAFNR | 1 |
| | | | | |
| 2 | Beekeeping and Honey Processing | 13002110 | BEEHONPR | 1 |
| 2 | Wildlife, Fisheries, and Ecology Management | 13001500 | WFECGT | 1 |
| 2 | Wildlife, Fisheries, and Ecology Management + Agricultural Laboratory and Field Experience | 13001510 | WFECGTLAB | 2 |
| 2 | Forestry and Woodland Ecosystems | 13001700 | FWECO | 1 |
| 2 | Forestry and Woodland Ecosystems + Agricultural Laboratory and Field Experience | 13001710 | FWECOLAB | 2 |
| | | | | |
| 3 | Energy and Natural Resource Technology* | 13001100 | ENGNRT | 1 |
| 3 | Energy and Natural Resource Technology + Agricultural Laboratory and Field Experience | 13001110 | ENGNRTLAB | 2 |
| 3 | Range Ecology and Management | 13001600 | RECOMGT | 1 |
| 3 | Range Ecology and Management + Agricultural Laboratory and Field Experience | 13001610 | RECOMGLAB | 2 |
| | | | | |
| 4 | Advanced Energy and Natural Resource Technology | 13001200 | ADENRT | 1 |
| 4 | Advanced Energy and Natural Resource Technology + Agricultural Laboratory and Field Experience | 13001210 | ADENRTLAB | 2 |
| 4 | Career and Technical Education Project-Based Capstone* <br> *First Time Taken* | 12701101 | CTEPBC1 | 1 |
| 4 | Practicum in Agriculture, Food, and Natural Resources* <br> *First Time Taken* <br> *Second Time Taken* | 13002500 <br> 13002510 | PRACAFNR1 <br> PRACAFNR2 | 2 <br> 2 |
| 4 | Practicum in Agriculture, Food, and Natural Resources + Extended Practicum in Agriculture, Food, and Natural Resources* <br> *First Time Taken* <br> *Second Time Taken* | 13002505 <br> 13002515 | EXPRAFNR1 <br> EXPRAFNR2 | 3 <br> 3 |
| 4 | Career Preparation for Programs of Study* <br> *First Time Taken* | 12701121 | CPPS1 | 2 |
| 4 | Career Preparation for Programs of Study + Extended Career Preparation* <br> *First Time Taken* | 12701141 | EXCPPS1 | 3 |
| 4 | Scientific Research and Design* | 13037200 | SCIRD | 1 |

*Courses in multiple programs of study*

## Food Science and Technology

The Food Science and Technology program of study focuses on the occupational and educational opportunities associated with the research, production, and processing of food from plants and animals. This program of study includes exploration of safety, processing, preserving, packaging, and storing food for human consumption.

| Level | Course Title | Course Code | Course Abbreviation | Credits |
|---|---|---|---|---|
| 1 | Principles of Agriculture, Food, and Natural Resources* | 13000200 | PRINAFNR | 1 |
| | | | | |
| 2 | Food Technology and Safety* | 13001300 | FOODTS | 1 |
| 2 | Food Technology and Safety + Agricultural Laboratory and Field Experience | 13001310 | FOODTLAB | 2 |
| | | | | |
| 3 | Food Processing* | 13001400 | FOODPRO | 1 |
| 3 | Food Processing + Agricultural Laboratory and Field Experience* | 13001410 | FOODPRLAB | 2 |
| | | | | |
| 4 | Food Science* | 13023000 | FOODSCI | 1 |
| 4 | Career and Technical Education Project-Based Capstone* <br> *First Time Taken* | 12701101 | CTEPBC1 | 1 |
| 4 | Practicum in Agriculture, Food, and Natural Resources* <br> *First Time Taken* <br> *Second Time Taken* | 13002500 <br> 13002510 | PRACAFNR1 <br> PRACAFNR2 | 2 <br> 2 |
| 4 | Practicum in Agriculture, Food, and Natural Resources + Extended Practicum in Agriculture, Food, and Natural Resources* <br> *First Time Taken* <br> *Second Time Taken* | 13002505 <br> 13002515 | EXPRAFNR1 <br> EXPRAFNR2 | 3 <br> 3 |
| 4 | Career Preparation for Programs of Study* <br> *First Time Taken* | 12701121 | CPPS1 | 2 |
| 4 | Career Preparation for Programs of Study + Extended Career Preparation* <br> *First Time Taken* | 12701141 | EXCPPS1 | 3 |
| 4 | Scientific Research and Design* | 13037200 | SCIRD | 1 |

*Courses in multiple programs of study*

## Plant Science

The Plant Science program of study focuses on occupational and educational opportunities associated with the science, research, and business of plants and other living organisms. This program of study includes the application of biology and life science to real-world life processes of plants and vegetation, either in laboratories or in the field.

| Level | Course Title | Course Code | Course Abbreviation | Credits |
|---|---|---|---|---|
| 1 | Principles of Agriculture, Food, and Natural Resources* | 13000200 | PRINAFNR | 1 |
| | | | | |
| 2 | Landscape Design and Management | 13001900 | LNDMGT | .5 |
| 2 | Turf Grass Management | 13001950 | TGMGT | .5 |
| 2 | Greenhouse Operation and Production | 13002050 | GREOP | 1 |
| 2 | Greenhouse Operation and Production + Agricultural Laboratory and Field Experience | 13002060 | GREOPLAB | 2 |
| 2 | Entrepreneurship I* | 13011101 | ENTPR1 | 1 |
| | | | | |
| 3 | Viticulture | 13002080 | VITICUL | 1 |
| 3 | Horticultural Science | 13002000 | HORTISCI | 1 |
| 3 | Horticultural Science + Agricultural Laboratory and Field Experience | 13002010 | HORSCILAB | 2 |
| 3 | Floral Design | 13001800 | FLORAL | 1 |
| 3 | Floral Design + Agricultural Laboratory and Field Experience | 13001810 | FLORALAB | 2 |
| | | | | |
| 4 | Advanced Plant and Soil Science | 13002100 | ADVPSSCI | 1 |
| 4 | Advanced Floral Design | 13001850 | ADVFLOR | 1 |
| 4 | Career and Technical Education Project-Based Capstone* <br> *First Time Taken* | 12701101 | CTEPBC1 | 1 |
| 4 | Practicum in Agriculture, Food, and Natural Resources* <br> *First Time Taken* <br> *Second Time Taken* | 13002500 <br> 13002510 | PRACAFNR1 <br> PRACAFNR2 | 2 <br> 2 |
| 4 | Practicum in Agriculture, Food, and Natural Resources + Extended Practicum in Agriculture, Food, and Natural Resources* <br> *First Time Taken* <br> *Second Time Taken* | 13002505 <br> 13002515 | EXPRAFNR1 <br> EXPRAFNR2 | 3 <br> 3 |
| 4 | Practicum in Entrepreneurship* <br> *First Time Taken* | 13011111 | PRACENT1 | 2 |
| 4 | Practicum in Entrepreneurship + Extended Practicum in Entrepreneurship* <br> *First Time Taken* | 13011121 | EXPRACENT1 | 3 |
| 4 | Career Preparation for Programs of Study* <br> *First Time Taken* | 12701121 | CPPS1 | 2 |
| 4 | Career Preparation for Programs of Study + Extended Career Preparation* <br> *First Time Taken* | 12701141 | EXCPPS1 | 3 |
| 4 | Scientific Research and Design* | 13037200 | SCIRD | 1 |

*Courses in multiple programs of study*

# Architecture and Construction Career Cluster

The Architecture and Construction career cluster focuses on designing, planning, managing, building, and maintaining the built environment. This career cluster includes occupations ranging from architect, carpenter, and construction manager to electrician, plumber and heating, air conditioning, and refrigeration technician.

## Programs of Study
•Architectural Drafting and Design
•Carpentry
•Construction Management and Inspection
•Electrical
•HVAC and Sheet Metal
•Masonry
•Plumbing and Pipefitting

## Courses Listed in Texas Administrative Code (Title 19, Chapter 127, Subchapter D)
§127.94     Principles of Architecture (One Credit), Adopted 2015
§127.95     Principles of Construction (One Credit), Adopted 2015
§127.96     Building Maintenance Technology I (Two Credits), Adopted 2015
§127.97     Building Maintenance Technology II (Two Credits), Adopted 2015
§127.98     Construction Management I (Two Credits), Adopted 2015
§127.99     Construction Management II (Two Credits), Adopted 2015
§127.100    Construction Technology I (Two Credits), Adopted 2015
§127.101    Construction Technology II (Two Credits), Adopted 2015
§127.102    Mill and Cabinetmaking Technology (Two Credits), Adopted 2015
§127.103    Masonry Technology I (Two Credits), Adopted 2015
§127.104    Masonry Technology II (Two Credits), Adopted 2015
§127.105    Architectural Design I (One Credit), Adopted 2015
§127.106    Architectural Design II (Two Credits), Adopted 2015
§127.107    Interior Design I (One Credit), Adopted 2015
§127.108    Interior Design II (Two Credits), Adopted 2015
§127.109    Electrical Technology I (One Credit), Adopted 2015
§127.110    Electrical Technology II (Two Credits), Adopted 2015
§127.111    Heating, Ventilation, and Air Conditioning (HVAC) and Refrigeration Technology I (One Credit), Adopted 2015
§127.112    Heating, Ventilation, and Air Conditioning (HVAC) and Refrigeration Technology II (Two Credits), Adopted 2015
§127.113    Plumbing Technology I (One Credit), Adopted 2015
§127.114    Plumbing Technology II (Two Credits), Adopted 2015
§127.145    Practicum in Construction Management (Two Credits), Adopted 2015
§127.146    Extended Practicum in Construction Management (One Credit), Adopted 2015
§127.147    Practicum in Construction Technology (Two Credits), Adopted 2015
§127.148    Extended Practicum in Construction Technology (One Credit), Adopted 2015
§127.149    Practicum in Masonry Technology (Two Credits), Adopted 2015
§127.150    Extended Practicum in Masonry Technology (One Credit), Adopted 2015
§127.151    Practicum in Architectural Design (Two Credits), Adopted 2015
§127.152    Extended Practicum in Architectural Design (One Credit), Adopted 2015
§127.153    Practicum in Interior Design (Two Credits), Adopted 2015
§127.154    Extended Practicum in Interior Design (One Credit), Adopted 2015

## Innovative Courses
•Computer-Aided Drafting for Architecture
•Pipefitting Technology I
•Pipefitting Technology I + Pipefitting Technology I Lab
•Pipefitting Technology II
•Pipefitting Technology II + Pipefitting Technology II Lab
•Sheet Metal Technology
•Topographical Drafting

## Architectural Drafting and Design

The Architectural Drafting and Design program of study focuses on occupational and educational opportunities associated with developing, engineering, and designing building structures and facilities. This program of study includes reading, interpreting, and drawing blueprints for interior and exterior construction projects.

| Level | Course Title | Course Code | Course Abbreviation | Credits |
|---|---|---|---|---|
| 1 | Principles of Architecture* | 13004210 | PRINARC | 1 |
| 1 | Principles of Construction* | 13004220 | PRINCON | 1 |
| | | | | |
| 2 | Architectural Design I | 13004600 | ARCHDSN1 | 1 |
| 2 | Interior Design I* | 13004300 | INTERDS1 | 1 |
| 2 | Computer-Aided Drafting for Architecture | N1300429 | CAD4ARCH | 1 |
| | | | | |
| 3 | Architectural Design II | 13004700 | ARCHDSN2 | 2 |
| 3 | Interior Design II | 13004400 | INTERDS2 | 2 |
| 3 | Architectural Engineering* | 12756065 | ARCHENGR | 2 |
| | | | | |
| 4 | Career and Technical Education Project-Based Capstone*<br>*First Time Taken* | 12701101 | CTEPBC1 | 1 |
| 4 | Practicum in Architectural Design<br>*First Time Taken*<br>*Second Time Taken* | 13004800<br>13004810 | PRACADS1<br>PRACADS2 | 2<br>2 |
| 4 | Practicum in Architectural Design + Extended Practicum in Architectural Design<br>*First Time Taken*<br>*Second Time Taken* | 13004805<br>13004815 | EXPRADS1<br>EXPRADS2 | 3<br>3 |
| 4 | Practicum in Interior Design<br>*First Time Taken*<br>*Second Time Taken* | 13004500<br>13004510 | PRACIDS1<br>PRACIDS2 | 2<br>2 |
| 4 | Practicum in Interior Design + Extended Practicum in Interior Design<br>*First Time Taken*<br>*Second Time Taken* | 13004505<br>13004515 | EXPRIDS1<br>EXPRIDS2 | 3<br>3 |
| 4 | Practicum in Construction Technology*<br>*First Time Taken*<br>*Second Time Taken* | 13005250<br>13005260 | PRACCT1<br>PRACCT2 | 2<br>2 |
| 4 | Practicum in Construction Technology + Extended Practicum in Construction Technology*<br>*First Time Taken*<br>*Second Time Taken* | 13005255<br>13005265 | EXPRCT1<br>EXPRCT2 | 3<br>3 |
| 4 | Career Preparation for Programs of Study*<br>*First Time Taken* | 12701121 | CPPS1 | 2 |
| 4 | Career Preparation for Programs of Study + Extended Career Preparation*<br>*First Time Taken* | 12701141 | EXCPPS1 | 3 |

*Courses in multiple programs of study*

## Carpentry

The Carpentry program of study focuses on occupational and educational opportunities related to constructing, installing, and repairing structures and fixtures made of wood (including frameworks, partitions, joists, studding, rafters, and stairways). The program of study includes installing, dismantling, or moving machinery and heavy equipment according to layout plans, blueprints, or other drawings.

| Level | Course Title | Course Code | Course Abbreviation | Credits |
|---|---|---|---|---|
| 1 | Principles of Construction* | 13004220 | PRINCON | 1 |
| 1 | Principles of Architecture* | 13004210 | PRINARC | 1 |
| | | | | |
| 2 | Construction Technology I* | 13005100 | CONTECH1 | 2 |
| 2 | Entrepreneurship I* | 13011101 | ENTPR1 | 1 |
| | | | | |
| 3 | Construction Technology II | 13005200 | CONTECH2 | 2 |
| 3 | Mill and Cabinetmaking Technology | 13005300 | MACTECH | 2 |
| | | | | |
| 4 | Practicum in Construction Technology* <br> *First Time Taken* <br> *Second Time Taken* | <br> 13005250 <br> 13005260 | <br> PRACCT1 <br> PRACCT2 | <br> 2 <br> 2 |
| 4 | Practicum in Construction Technology + Extended Practicum in Construction Technology* <br> *First Time Taken* <br> *Second Time Taken* | <br><br> 13005255 <br> 13005265 | <br><br> EXPRCT1 <br> EXPRCT2 | <br><br> 3 <br> 3 |
| 4 | Practicum in Entrepreneurship* <br> *First Time Taken* | <br> 13011111 | <br> PRACENT1 | <br> 2 |
| 4 | Practicum in Entrepreneurship + Extended Practicum in Entrepreneurship* <br> *First Time Taken* | <br><br> 13011121 | <br><br> EXPRACENT1 | <br><br> 3 |
| 4 | Career Preparation for Programs of Study* <br> *First Time Taken* | <br> 12701121 | <br> CPPS1 | <br> 2 |
| 4 | Career Preparation for Programs of Study + Extended Career Preparation* <br> *First Time Taken* | <br><br> 12701141 | <br><br> EXCPPS1 | <br><br> 3 |

*Courses in multiple programs of study*

## Construction Management and Inspection

The Construction Management and Inspection program of study focuses on occupational and educational opportunities associated with producing cost estimates for construction projects to support bidding on or determining the price of products or services. The program of study includes inspecting structures using engineering skills to determine structural soundness and compliance with specifications, building codes, and other regulations.

| Level | Course Title | Course Code | Course Abbreviation | Credits |
|---|---|---|---|---|
| 1 | Principles of Construction* | 13004220 | PRINCON | 1 |
| 1 | Principles of Architecture* | 13004210 | PRINARC | 1 |
| | | | | |
| 2 | Construction Management I | 13004900 | CONSMGT1 | 2 |
| 2 | Building Maintenance Technology I* | 13005400 | BUILDMA1 | 2 |
| | | | | |
| 3 | Construction Management II | 13005000 | CONSGMGT2 | 2 |
| 3 | Building Maintenance Technology II | 13005500 | BUILDMA2 | 2 |
| | | | | |
| 4 | Practicum in Construction Management<br>*First Time Taken*<br>*Second Time Taken* | <br>13006200<br>13006210 | <br>PRACCM1<br>PRACCM2 | <br>2<br>2 |
| 4 | Practicum in Construction Management + Extended Practicum in Construction Management<br>*First Time Taken*<br>*Second Time Taken* | <br><br>13006205<br>13006215 | <br><br>EXPRCM1<br>EXPRCM2 | <br><br>3<br>3 |
| 4 | Practicum in Construction Technology*<br>*First Time Taken*<br>*Second Time Taken* | <br>13005250<br>13005260 | <br>PRACCT1<br>PRACCT2 | <br>2<br>2 |
| 4 | Practicum in Construction Technology + Extended Practicum in Construction Technology*<br>*First Time Taken*<br>*Second Time Taken* | <br><br>13005255<br>13005265 | <br><br>EXPRCT1<br>EXPRCT2 | <br><br>3<br>3 |
| 4 | Career Preparation for Programs of Study*<br>*First Time Taken* | <br>12701121 | <br>CPPS1 | <br>2 |
| 4 | Career Preparation for Programs of Study + Extended Career Preparation*<br>*First Time Taken* | <br>12701141 | <br>EXCPPS1 | <br>3 |

*Courses in multiple programs of study*

## Electrical

The Electrical program of study focuses on occupational and educational opportunities associated with installing, maintaining, and repairing electrical wiring, equipment, and fixtures. The program of study also addresses installing and repairing telecommunications cable including fiber optics.

| Level | Course Title | Course Code | Course Abbreviation | Credits |
|---|---|---|---|---|
| 1 | Principles of Architecture* | 13004210 | PRINARC | 1 |
| 1 | Principles of Construction* | 13004220 | PRINCON | 1 |
| | | | | |
| 2 | Electrical Technology I* | 13005600 | ELECTEC1 | 1 |
| 2 | Entrepreneurship I* | 13011101 | ENTPR1 | 1 |
| | | | | |
| 3 | Electrical Technology II | 13005700 | ELECTEC2 | 2 |
| | | | | |
| 4 | Practicum in Entrepreneurship* <br> *First Time Taken* | 13011111 | PRACENT1 | 2 |
| 4 | Practicum in Entrepreneurship + Extended Practicum in Entrepreneurship* <br> *First Time Taken* | 13011121 | EXPRACENT1 | 3 |
| 4 | Practicum in Construction Technology* <br> *First Time Taken* <br> *Second Time Taken* | 13005250 <br> 13005260 | PRACCT1 <br> PRACCT2 | 2 <br> 2 |
| 4 | Practicum in Construction Technology + Extended Practicum in Construction Technology* <br> *First Time Taken* <br> *Second Time Taken* | 13005255 <br> 13005265 | EXPRCT1 <br> EXPRCT2 | 3 <br> 3 |
| 4 | Career Preparation for Programs of Study* <br> *First Time Taken* | 12701121 | CPPS1 | 2 |
| 4 | Career Preparation for Programs of Study + Extended Career Preparation* <br> *First Time Taken* | 12701141 | EXCPPS1 | 3 |

*Courses in multiple programs of study*

## HVAC and Sheet Metal

The HVAC and Sheet Metal program of study focuses on occupational and educational opportunities associated with installing, servicing, or repairing heating and air conditioning systems. The program of study addresses fabrication, assembly, installation, and repair of sheet metal products and equipment, such as ducts, control boxes, drainpipes, and furnace casings.

| Level | Course Title | Course Code | Course Abbreviation | Credits |
|---|---|---|---|---|
| 1 | Principles of Architecture* | 13004210 | PRINARC | 1 |
| 1 | Principles of Construction* | 13004220 | PRINCON | 1 |
| | | | | |
| 2 | Heating, Ventilation, and Air Conditioning (HVAC) and Refrigeration Technology I* | 13005800 | HVACREF1 | 1 |
| 2 | Building Maintenance Technology I* | 13005400 | BUILDMA1 | 2 |
| 2 | Entrepreneurship I* | 13011101 | ENTPR1 | 1 |
| | | | | |
| 3 | Sheet Metal Technology | N1300430 | SHTMTL | 1 |
| 3 | Heating, Ventilation, and Air Conditioning (HVAC) and Refrigeration Technology II | 13005900 | HVACREF2 | 2 |
| | | | | |
| 4 | Practicum in Construction Technology* *First Time Taken* *Second Time Taken* | 13005250 13005260 | PRACCT1 PRACCT2 | 2 2 |
| 4 | Practicum in Construction Technology + Extended Practicum in Construction Technology* *First Time Taken* *Second Time Taken* | 13005255 13005265 | EXPRCT1 EXPRCT2 | 3 3 |
| 4 | Practicum in Entrepreneurship* *First Time Taken* | 13011111 | PRACENT1 | 2 |
| 4 | Practicum in Entrepreneurship + Extended Practicum in Entrepreneurship* *First Time Taken* | 13011121 | EXPRACENT1 | 3 |
| 4 | Career Preparation for Programs of Study* *First Time Taken* | 12701121 | CPPS1 | 2 |
| 4 | Career Preparation for Programs of Study + Extended Career Preparation* *First Time Taken* | 12701141 | EXCPPS1 | 3 |

*Courses in multiple programs of study*

## Masonry

The Masonry program of study focuses on occupational and educational opportunities related to laying and binding materials such as brick, structural tile, concrete block, and other types of substances to construct or repair walls and other structures. The program of study includes raising and uniting iron or steel to form completed structures or structural frameworks and building structures using stone.

| Level | Course Title | Course Code | Course Abbreviation | Credits |
|---|---|---|---|---|
| 1 | Principles of Architecture* | 13004210 | PRINARC | 1 |
| 1 | Principles of Construction* | 13004220 | PRINCON | 1 |
| | | | | |
| 2 | Masonry Technology I | 13006300 | MASTECH1 | 2 |
| 2 | Entrepreneurship I* | 13011101 | ENTPR1 | 1 |
| | | | | |
| 3 | Masonry Technology II | 13006400 | MASTECH2 | 2 |
| | | | | |
| 4 | Practicum in Masonry Technology<br>*First Time Taken*<br>*Second Time Taken* | <br>13006450<br>13006460 | <br>PRACMAS1<br>PRACMAS2 | <br>2<br>2 |
| 4 | Practicum in Masonry Technology + Extended Practicum in Masonry Technology<br>*First Time Taken*<br>*Second Time Taken* | <br><br>13006455<br>13006465 | <br><br>EXPRMAS1<br>EXPRMAS2 | <br><br>3<br>3 |
| 4 | Practicum in Construction Technology*<br>*First Time Taken*<br>*Second Time Taken* | <br>13005250<br>13005260 | <br>PRACCT1<br>PRACCT2 | <br>2<br>2 |
| 4 | Practicum in Construction Technology + Extended Practicum in Construction Technology*<br>*First Time Taken*<br>*Second Time Taken* | <br><br>13005255<br>13005265 | <br><br>EXPRCT1<br>EXPRCT2 | <br><br>3<br>3 |
| 4 | Practicum in Entrepreneurship*<br>*First Time Taken* | <br>13011111 | <br>PRACENT1 | <br>2 |
| 4 | Practicum in Entrepreneurship + Extended Practicum in Entrepreneurship*<br>*First Time Taken* | <br><br>13011121 | <br><br>EXPRACENT1 | <br><br>3 |
| 4 | Career Preparation for Programs of Study*<br>*First Time Taken* | <br>12701121 | <br>CPPS1 | <br>2 |
| 4 | Career Preparation for Programs of Study + Extended Career Preparation*<br>*First Time Taken* | <br><br>12701141 | <br><br>EXCPPS1 | <br><br>3 |

*Courses in multiple programs of study*

## Plumbing and Pipefitting

The Plumbing and Pipefitting program of study focuses on occupational and educational opportunities related to assembling, installing, and repairing pipes, fittings, or fixtures of heating, water, and drainage systems. The program of study includes maintaining pipe supports and related hydraulic or pneumatic equipment for steam, hot water, heating, cooling, lubricating, and sprinkling.

| Level | Course Title | Course Code | Course Abbreviation | Credits |
|---|---|---|---|---|
| 1 | Principles of Architecture* | 13004210 | PRINARC | 1 |
| 1 | Principles of Construction* | 13004220 | PRINCON | 1 |
| 1 | Introduction to Welding* | 13032250 | INTRWELD | 1 |
| | | | | |
| 2 | Pipefitting Technology I | N1300425 | PIPETEC1 | 1 |
| 2 | Pipefitting Technology I + Pipefitting Technology I Lab | N1300427 | PIPETECL1 | 2 |
| 2 | Plumbing Technology I | 13006000 | PLTECH1 | 1 |
| 2 | Building Maintenance Technology I* | 13005400 | BUILDMA1 | 2 |
| 2 | Entrepreneurship I* | 13011101 | ENTPR1 | 1 |
| | | | | |
| 3 | Pipefitting Technology II | N1300426 | PIPETEC2 | 1 |
| 3 | Pipefitting Technology II + Pipefitting Technology II Lab | N1300428 | PIPETECL2 | 2 |
| 3 | Plumbing Technology II | 13006100 | PLTECH2 | 2 |
| | | | | |
| 4 | Practicum in Construction Technology*<br>*First Time Taken*<br>*Second Time Taken* | 13005250<br>13005260 | PRACCT1<br>PRACCT2 | 2<br>2 |
| 4 | Practicum in Construction Technology + Extended Practicum in Construction Technology*<br>*First Time Taken*<br>*Second Time Taken* | 13005255<br>13005265 | EXPRCT1<br>EXPRCT2 | 3<br>3 |
| 4 | Practicum in Entrepreneurship*<br>*First Time Taken* | 13011111 | PRACENT1 | 2 |
| 4 | Practicum in Entrepreneurship + Extended Practicum in Entrepreneurship*<br>*First Time Taken* | 13011121 | EXPRACENT1 | 3 |
| 4 | Career Preparation for Programs of Study*<br>*First Time Taken* | 12701121 | CPPS1 | 2 |
| 4 | Career Preparation for Programs of Study + Extended Career Preparation*<br>*First Time Taken* | 12701141 | EXCPPS1 | 3 |

*Courses in multiple programs of study*

# Arts, Audio Visual Technology, and Communications

The Arts, Audio Visual Technology, and Communication (AAVTC) career cluster focuses on designing, producing, exhibiting, performing, writing, and publishing multimedia content requiring creative aptitude, fluency in computer and technology applications, and proficiency in oral and written communication. This career cluster includes occupations ranging from camera operator, audio and video technician, director, and producer to graphic designer and web and digital interface designer.

## Programs of Study
•Digital Communications
•Graphic Design and Interactive Media
•Printing and Imaging (Regional Program of Study)

## Courses Listed in Texas Administrative Code (Title 19, Chapter 127, Subchapter E)

§127.160  Principles of Arts, Audio/Video Technology, and Communications (One Credit), Adopted 2015
§127.161  Animation I (One Credit), Adopted 2015
§127.162  Animation I Lab (One Credit), Adopted 2015
§127.163  Animation II (One Credit), Adopted 2015
§127.164  Animation II Lab (One Credit), Adopted 2015
§127.165  Audio/Video Production I (One Credit), Adopted 2015
§127.166  Audio/Video Production I Lab (One Credit), Adopted 2015
§127.167  Audio/Video Production II (One Credit), Adopted 2015
§127.168  Audio/Video Production II Lab (One Credit), Adopted 2015
§127.169  Digital Audio Technology I (One Credit), Adopted 2015
§127.170  Digital Audio Technology II (One Credit), Adopted 2015
§127.171  Video Game Design (One Credit), Adopted 2015
§127.172  Printing and Imaging Technology I (One Credit), Adopted 2015
§127.173  Printing and Imaging Technology I Lab (One Credit), Adopted 2015
§127.174  Printing and Imaging Technology II (One Credit), Adopted 2015
§127.175  Printing and Imaging Technology II Lab (One Credit), Adopted 2015
§127.176  Commercial Photography I (One Credit), Adopted 2015
§127.177  Commercial Photography I Lab (One Credit), Adopted 2015
§127.178  Commercial Photography II (One Credit), Adopted 2015
§127.179  Commercial Photography II Lab (One Credit), Adopted 2015
§127.180  Fashion Design I (One Credit), Adopted 2015
§127.181  Fashion Design I Lab (One Credit), Adopted 2015
§127.182  Fashion Design II (One Credit), Adopted 2015
§127.183  Fashion Design II Lab (One Credit), Adopted 2015
§127.184  Graphic Design and Illustration I (One Credit), Adopted 2015
§127.185  Graphic Design and Illustration I Lab (One Credit), Adopted 2015
§127.186  Graphic Design and Illustration II (One Credit), Adopted 2015
§127.187  Graphic Design and Illustration II Lab (One Credit), Adopted 2015
§127.188  Professional Communications (One-Half Credit), Adopted 2015
§127.189  Digital Design and Media Production (One Credit)
§127.190  Digital Art and Animation (One Credit)
§127.191  3-D Modeling and Animation (One Credit)
§127.192  Digital Communications in the 21st Century (One Credit)
§127.193  Web Game Development (One Credit)
§127.224  Practicum in Animation (Two Credits), Adopted 2015
§127.225  Extended Practicum in Animation (One Credit), Adopted 2015
§127.226  Practicum in Audio/Video Production (Two Credits), Adopted 2015
§127.227  Extended Practicum in Audio/Video Production (One Credit), Adopted 2015
§127.228  Practicum in Printing and Imaging Technology (Two Credits), Adopted 2015
§127.229  Extended Practicum in Printing and Imaging Technology (One Credit), Adopted 2015
§127.230  Practicum in Commercial Photography (Two Credits), Adopted 2015

§127.231    Extended Practicum in Commercial Photography (One Credit), Adopted 2015
§127.232    Practicum in Fashion Design (Two Credits), Adopted 2015
§127.233    Extended Practicum in Fashion Design (One Credit), Adopted 2015
§127.234    Practicum in Graphic Design and Illustration (Two Credits), Adopted 2015
§127.235    Extended Practicum in Graphic Design and Illustration (One Credit), Adopted 2015

## Innovative Courses

•Advanced Video Game Programming
•Practicum in Digital Audio Technology
•Video Game Programming

## Digital Communications

The Digital Communications program of study focuses on occupational and educational opportunities associated with the production of audio and visual media formats for various purposes, such as TV broadcasts, advertising, video production, or motion pictures. The program of study includes operating machines and equipment such as microphones, sound speakers, video screens, projectors, video monitors, sound and mixing boards, and related electronic equipment to record sound and images.

| Level | Course Title | Course Code | Course Abbreviation | Credits |
|---|---|---|---|---|
| 1 | Principles of Arts, Audio/Video Technology, and Communications* | 13008200 | PRINAAVTC | 1 |
| 1 | Digital Communications in the 21st Century | 03580610 | TADGC | 1 |
| 1 | Professional Communications* | 13009900 | PROFCOMM | .5 |
| 1 | Web Communications* | 03580810 | TAWEBCM | .5 |
| | | | | |
| 2 | Audio/Video Production I | 13008500 | AVPROD1 | 1 |
| 2 | Audio/Video Production I + Audio/Video Production I Lab | 13008510 | AVPLAB1 | 2 |
| 2 | Digital Audio Technology I | 13009950 | DATECH1 | 1 |
| 2 | Digital Design and Media Production* | 03580400 | TADGDMP | 1 |
| 2 | Entrepreneurship I* | 13011101 | ENTPR1 | 1 |
| | | | | |
| 3 | Audio/Video Production II | 13008600 | AVPROD2 | 1 |
| 3 | Audio/Video Production II + Audio/Video Production II Lab | 13008610 | AVPLAB2 | 2 |
| 3 | Digital Audio Technology II | 13009960 | DATECH2 | 1 |
| | | | | |
| 4 | Practicum in Audio/Video Production*<br>*First Time Taken*<br>*Second Time Taken* | <br>13008700<br>13008710 | <br>PRACAVP1<br>PRACAVP2 | <br>2<br>2 |
| 4 | Practicum in Audio/Video Production + Extended Practicum in Audio/Video Production*<br>*First Time Taken*<br>*Second Time Taken* | <br><br>13008705<br>13008715 | <br><br>EXPRAVP1<br>EXPRAVP2 | <br><br>3<br>3 |
| 4 | Practicum in Digital Audio Technology | N1300996 | PRACDAT | 2 |
| 4 | Practicum in Entrepreneurship*<br>*First Time Taken* | <br>13011111 | <br>PRACENT1 | <br>2 |
| 4 | Practicum in Entrepreneurship + Extended Practicum in Entrepreneurship*<br>*First Time Taken* | <br><br>13011121 | <br><br>EXPRACENT1 | <br><br>3 |
| 4 | Career Preparation for Programs of Study*<br>*First Time Taken* | <br>12701121 | <br>CPPS1 | <br>2 |
| 4 | Career Preparation for Programs of Study + Extended Career Preparation*<br>*First Time Taken* | <br><br>12701141 | <br><br>EXCPPS1 | <br><br>3 |

*Courses in multiple programs of study*

## Graphic Design and Interactive Media

The Graphic Design and Interactive Media program of study focuses on occupational and educational opportunities associated with designing or creating graphics to meet specific commercial or promotional needs, such as packaging, displays, or logos. The program of study includes designing clothing and accessories and creating special effects, animation, or other visual images using film, video, computers, or other electronic tools and media for use in computer games, movies, music videos, and commercials.

| Level | Course Title | Course Code | Course Abbreviation | Credits |
|---|---|---|---|---|
| 1 | Principles of Arts, Audio/Video Technology, and Communications * | 13008200 | PRINAAVTC | 1 |
| 1 | Video Game Design | 13009970 | VIDGD | 1 |
| 1 | Digital Media* | 13027800 | DIMEDIA | 1 |
| 1 | Web Communications* | 03580810 | TAWEBCM | .5 |
| | | | | |
| 2 | Graphic Design and Illustration I* | 13008800 | GRAPHDI1 | 1 |
| 2 | Graphic Design and Illustration I + Graphic Design and Illustration I Lab* | 13008810 | GRDLAB1 | 2 |
| 2 | Animation I | 13008300 | ANIMAT1 | 1 |
| 2 | Animation I + Animation I Lab | 13008310 | ANILAB1 | 2 |
| 2 | Commercial Photography I | 13009100 | CPHOTO1 | 1 |
| 2 | Commercial Photography I + Commercial Photography I Lab | 13009110 | CPHLAB1 | 2 |
| 2 | Fashion Design I | 13009300 | FASHDSN1 | 1 |
| 2 | Fashion Design I + Fashion Design I Lab | 13009310 | FASLAB1 | 2 |
| 2 | Foundations of User Experience* | 13027525 | FNDUX | 1 |
| 2 | Video Game Programming | N1300994 | VIDEOPR | 1 |
| 2 | Game Programming and Design* | 03580380 | TAGMPD | 1 |
| 2 | Digital Design and Media Production* | 03580400 | TADGDMP | 1 |
| 2 | Entrepreneurship I* | 13011101 | ENTPR1 | 1 |
| | | | | |
| 3 | Graphic Design and Illustration II | 13008900 | GRAPHDI2 | 1 |
| 3 | Graphic Design and Illustration II + Graphic Design and Illustration II Lab | 13008910 | GRDLAB2 | 2 |
| 3 | Animation II | 13008400 | ANIMAT2 | 1 |
| 3 | Animation II + Animation II Lab | 13008410 | ANILAB2 | 2 |
| 3 | Commercial Photography II | 13009200 | CPHOTO2 | 1 |
| 3 | Commercial Photography II + Commercial Photography II Lab | 13009210 | CPHLAB2 | 2 |
| 3 | Fashion Design II | 13009400 | FASHDSN2 | 1 |
| 3 | Fashion Design II + Fashion Design II Lab | 13009410 | FASLAB2 | 2 |
| 3 | Advanced User Experience Design* | 13027530 | ADVUXDES | 1 |
| 3 | Advanced Video Game Programming | N1300995 | ADVIDEOGP | 1 |
| 3 | Digital Art and Animation | 03580500 | TADGAA | 1 |
| 3 | 3-D Modeling and Animation | 03580510 | TA3DMA | 1 |
| 3 | Web Game Development* | 03580830 | TAWEBGD | 1 |
| | | | | |
| 4 | Independent Study in Technology Applications* <br> *First Time Taken* | 03580900 | TAIND1 | 1 |
| 4 | Independent Study in Evolving/Emerging Technologies* <br> *First Time Taken* | 03581500 | TAINDET1 | 1 |
| 4 | Practicum in Graphic Design and Illustration <br> *First Time Taken* <br> *Second Time Taken* | 13009000 <br> 13009010 | PRACGRD1 <br> PRACGRD2 | 2 <br> 2 |

| Level | Course Title | Course Code | Course Abbreviation | Credits |
|---|---|---|---|---|
| 4 | Practicum in Graphic Design and Illustration + Extended Practicum in Graphic Design and Illustration<br>*First Time Taken*<br>*Second Time Taken* | <br><br>13009005<br>13009015 | <br><br>EXPRGRD1<br>EXPRGRD2 | <br><br>3<br>3 |
| 4 | Practicum in Animation<br>*First Time Taken*<br>*Second Time Taken* | <br>13008450<br>13008460 | <br>PRACANI1<br>PRACANI2 | <br>2<br>2 |
| 4 | Practicum in Animation + Extended Practicum in Animation<br>*First Time Taken*<br>*Second Time Taken* | <br>13008455<br>13008465 | <br>EXPRANI1<br>EXPRANI2 | <br>3<br>3 |
| 4 | Practicum in Commercial Photography<br>*First Time Taken*<br>*Second Time Taken* | <br>13009250<br>13009260 | <br>PRACCPH1<br>PRACCPH2 | <br>2<br>2 |
| 4 | Practicum in Commercial Photography + Extended Practicum in Commercial Photography<br>*First Time Taken*<br>*Second Time Taken* | <br><br>13009255<br>13009265 | <br><br>EXPRCPH1<br>EXPRCPH2 | <br><br>3<br>3 |
| 4 | Practicum in Fashion Design<br>*First Time Taken*<br>*Second Time Taken* | <br>13009500<br>13009510 | <br>PRACFAS1<br>PRACFAS2 | <br>2<br>2 |
| 4 | Practicum in Fashion Design + Extended Practicum in Fashion Design<br>*First Time Taken*<br>*Second Time Taken* | <br><br>13009505<br>13009515 | <br><br>EXPRFAS1<br>EXPRFAS2 | <br><br>3<br>3 |
| 4 | Practicum in Entrepreneurship*<br>*First Time Taken* | <br>13011111 | <br>PRACENT1 | <br>2 |
| 4 | Practicum in Entrepreneurship + Extended Practicum in Entrepreneurship*<br>*First Time Taken* | <br><br>13011121 | <br><br>EXPRACENT1 | <br><br>3 |
| 4 | Career Preparation for Programs of Study*<br>*First Time Taken* | <br>12701121 | <br>CPPS1 | <br>2 |
| 4 | Career Preparation for Programs of Study + Extended Career Preparation*<br>*First Time Taken* | <br><br>12701141 | <br><br>EXCPPS1 | <br><br>3 |

*Courses in multiple programs of study*

## Printing and Imaging (Regional Program of Study)
*Approved in ESC Regions 2, 4, 5, 7, 9, 10, 11, 13, 18 and 20*
**\*The list of approved ESC regions is updated every school year. Be sure to check the CTE regional program of study website for updates.**

The Printing and Imaging regional program of study focuses on occupational and educational opportunities associated with designing packaging, displays, or logos to meet specific commercial or promotional needs. This program of study includes the foundations of business management, customer service, graphic design, graphic production, and large-format printing.

| Level | Course Title | Course Code | Course Abbreviation | Credits |
|---|---|---|---|---|
| 1 | Principles of Arts, Audio/Video Technology, and Communications* | 13008200 | PRINAAVTC | 1 |
| | | | | |
| 2 | Printing and Imaging Technology I | 13009600 | PRIMTEC1 | 1 |
| 2 | Printing and Imaging Technology I + Printing and Imaging Technology I Lab | 13009610 | PRILAB1 | 2 |
| 2 | Graphic Design and Illustration I* | 13008800 | GRAPHDI1 | 1 |
| 2 | Graphic Design and Illustration I + Graphic Design and Illustration I Lab* | 13008810 | GRDLAB1 | 2 |
| 2 | Entrepreneurship I* | 13011101 | ENTPR1 | 1 |
| | | | | |
| 3 | Printing and Imaging Technology II | 13009700 | PRIMTEC2 | 1 |
| 3 | Printing and Imaging Technology II + Printing and Imaging Technology II Lab | 13009710 | PRILAB2 | 2 |
| | | | | |
| 4 | Practicum in Printing and Imaging Technology<br>*First Time Taken*<br>*Second Time Taken* | 13009800<br>13009810 | PRACPRI1<br>PRACPRI2 | 2<br>2 |
| 4 | Practicum in Printing and Imaging Technology + Extended Practicum in Printing and Imaging Technology<br>*First Time Taken*<br>*Second Time Taken* | 13009805<br>13009815 | EXPRPRI1<br>EXPRPRI2 | 3<br>3 |
| 4 | Practicum in Entrepreneurship*<br>*First Time Taken* | 13011111 | PRACENT1 | 2 |
| 4 | Practicum in Entrepreneurship + Extended Practicum in Entrepreneurship*<br>*First Time Taken* | 13011121 | EXPRACENT1 | 3 |
| 4 | Career Preparation for Programs of Study*<br>*First Time Taken* | 12701121 | CPPS1 | 2 |
| 4 | Career Preparation for Programs of Study + Extended Career Preparation*<br>*First Time Taken* | 12701141 | EXCPPS1 | 3 |

*Courses in multiple programs of study*

# Business, Marketing, and Finance

The Business, Marketing, and Finance career cluster focuses on careers in planning, organizing, directing, and evaluating business functions essential to efficient and productive business operations. This career cluster includes occupations ranging from business owner and entrepreneur to accountant, retail manager, and market analyst.
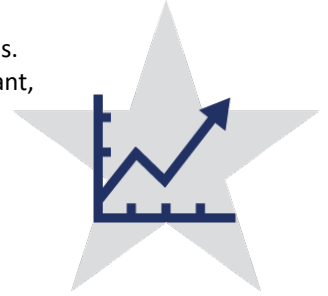
## Programs of Study
- Accounting and Financial Services
- Business Management
- Entrepreneurship
- Marketing and Sales
- Real Estate
- Retail Management (Regional Program of Study)

## Courses Listed in Texas Administrative Code (Title 19, Chapter 127, Subchapter F)

§127.241    Principles of Business, Marketing, and Finance (One Credit), Adopted 2015
§127.242    Touch System Data Entry (One-Half Credit), Adopted 2015
§127.243    Business Law (One Credit), Adopted 2015
§127.244    Business English (One Credit), Adopted 2015
§127.245    Foundations of Business Communication and Technologies (One Credit), Adopted 2015
§127.246    Business Communication and Technologies (One Credit), Adopted 2015
§127.247    Business Management (One Credit), Adopted 2015
§127.248    Global Business (One-Half Credit), Adopted 2015
§127.249    Virtual Business (One-Half Credit), Adopted 2015
§127.250    Human Resources Management (One-Half Credit), Adopted 2015
§127.251    Financial Mathematics (One Credit), Adopted 2015
§127.252    Money Matters (One Credit), Adopted 2015
§127.253    Securities and Investments (One Credit), Adopted 2015
§127.254    Insurance Operations (One Credit), Adopted 2015
§127.255    Banking and Financial Services (One-Half Credit), Adopted 2015
§127.256    Accounting I (One Credit), Adopted 2015
§127.257    Accounting II (One Credit), Adopted 2015
§127.258    Financial Analysis (One Credit), Adopted 2015
§127.259    Statistics and Business Decision Making (One Credit), Adopted 2015
§127.260    Advertising (One-Half Credit), Adopted 2015
§127.262    Marketing (One Credit), Adopted 2025
§127.263    Retail Management (One Credit), Adopted 2025
§127.264    Fashion Marketing (One-Half Credit), Adopted 2015
§127.265    Social Media Marketing (One-Half Credit), Adopted 2015
§127.266    Sports and Entertainment Marketing (One-Half Credit), Adopted 2015
§127.268    Advanced Marketing (Two Credits), Adopted 2015
§127.275    Entrepreneurship I (One Credit), Adopted 2023
§127.276    Entrepreneurship II (One Credit), Adopted 2023
§127.294    Business Lab (One Credit), Adopted 2015
§127.295    Practicum in Business Management (Two Credits), Adopted 2015
§127.296    Extended Practicum in Business Management (One Credit), Adopted 2015
§127.297    Practicum in Marketing (Two Credits), Adopted 2015
§127.298    Extended Practicum in Marketing (One Credit), Adopted 2015
§127.299    Practicum in Entrepreneurship (Two Credits), Adopted 2023
§127.300    Extended Practicum in Entrepreneurship (One Credit), Adopted 2023

## Innovative Courses
- Fundamentals of Real Estate
- Sports and Entertainment Marketing II

## Accounting and Financial Services

The Accounting and Financial Services program of study focuses on occupational and educational opportunities associated with examining, analyzing, and interpreting financial records. It includes exploration of financial services, preparing financial statements, auditing financial statements prepared by others, and interpreting accounting records. This program of study also introduces students to mathematical modeling tools.

| Level | Course Title | Course Code | Course Abbreviation | Credits |
|---|---|---|---|---|
| 1 | Principles of Business, Marketing, and Finance* | 13011200 | PRINBMF | 1 |
| 1 | Foundations of Business Communication and Technologies* | 13011400 | FDNBUSI | 1 |
| 1 | Foundations of Business Communication and Technologies + Business Lab* | 13011410 | FDNBULAB | 2 |
| 1 | Money Matters | 13016200 | MONEYM | 1 |
| | | | | |
| 2 | Accounting I | 13016600 | ACCOUNT1 | 1 |
| 2 | Banking and Financial Services | 13016300 | BANKFIN | .5 |
| 2 | Financial Mathematics* | 13018000 | FINMATH | 1 |
| 2 | Entrepreneurship I* | 13011101 | ENTPR1 | 1 |
| | | | | |
| 3 | Accounting II | 13016700 | ACCOUNT2 | 1 |
| 3 | Insurance Operations* | 13016500 | INSOPS | 1 |
| 3 | Financial Analysis* | 13016800 | FINANAL | 1 |
| | | | | |
| 4 | Securities and Investments | 13016400 | SECINV | 1 |
| 4 | Practicum in Business Management* <br> *First Time Taken* <br> *Second Time Taken* | <br> 13012200 <br> 13012210 | <br> PRACBM <br> PRACBM2 | <br> 2 <br> 2 |
| 4 | Practicum in Business Management + Extended Practicum in Business Management* <br> *First Time Taken* <br> *Second Time Taken* | <br><br> 13012205 <br> 13012215 | <br><br> EXPRBM <br> EXPRBM2 | <br><br> 3 <br> 3 |
| 4 | Practicum in Entrepreneurship* <br> *First Time Taken* | <br> 13011111 | <br> PRACENT1 | <br> 2 |
| 4 | Practicum in Entrepreneurship + Extended Practicum in Entrepreneurship* <br> *First Time Taken* | <br><br> 13011121 | <br><br> EXPRACENT1 | <br><br> 3 |
| 4 | Career Preparation for Programs of Study* <br> *First Time Taken* | <br> 12701121 | <br> CPPS1 | <br> 2 |
| 4 | Career Preparation for Programs of Study + Extended Career Preparation* <br> *First Time Taken* | <br><br> 12701141 | <br><br> EXCPPS1 | <br><br> 3 |

*Courses in multiple programs of study*

## Business Management

The Business Management program of study focuses on occupational and educational opportunities associated with planning, directing, and coordinating the administrative services and operations of an organization. It includes formulating policies, managing daily operations, and allocating the use of materials and human resources. This program of study also introduces students to mathematical modeling tools and organizational evaluation methods.

| Level | Course Title | Course Code | Course Abbreviation | Credits |
|---|---|---|---|---|
| 1 | Principles of Business, Marketing, and Finance* | 13011200 | PRINBMF | 1 |
| 1 | Foundations of Business Communication and Technologies* | 13011400 | FDNBUSI | 1 |
| 1 | Foundations of Business Communication and Technologies + Business Lab* | 13011410 | FDNBULAB | 2 |
| | | | | |
| 2 | Virtual Business* | 13012000 | VIRTBUS | .5 |
| 2 | Business Law* | 13011700 | BUSLAW | 1 |
| 2 | Business Communication and Technologies | 13011500 | BUSICT | 1 |
| 2 | Business Communication and Technologies + Business Lab | 13011510 | BUSICTLAB | 2 |
| 2 | Entrepreneurship I* | 13011101 | ENTPR1 | 1 |
| | | | | |
| 3 | Business Management* | 13012100 | BUSMGT | 1 |
| 3 | Global Business* | 13011800 | GLOBBUS | .5 |
| 3 | Human Resources Management* | 13011900 | HRMGT | .5 |
| | | | | |
| 4 | Statistics and Business Decision Making* | 13016900 | STATBDM | 1 |
| 4 | Practicum in Business Management* <br> *First Time Taken* <br> *Second Time Taken* | <br> 13012200 <br> 13012210 | <br> PRACBM <br> PRACBM2 | <br> 2 <br> 2 |
| 4 | Practicum in Business Management + Extended Practicum in Business Management* <br> *First Time Taken* <br> *Second Time Taken* | <br><br> 13012205 <br> 13012215 | <br><br> EXPRBM <br> EXPRBM2 | <br><br> 3 <br> 3 |
| 4 | Practicum in Entrepreneurship* <br> *First Time Taken* | <br> 13011111 | <br> PRACENT1 | <br> 2 |
| 4 | Practicum in Entrepreneurship + Extended Practicum in Entrepreneurship* <br> *First Time Taken* | <br><br> 13011121 | <br><br> EXPRACENT1 | <br><br> 3 |
| 4 | Career Preparation for Programs of Study* <br> *First Time Taken* | <br> 12701121 | <br> CPPS1 | <br> 2 |
| 4 | Career Preparation for Programs of Study + Extended Career Preparation* <br> *First Time Taken* | <br><br> 12701141 | <br><br> EXCPPS1 | <br><br> 3 |

*Courses in multiple programs of study

## Entrepreneurship

The Entrepreneurship program of study focuses on occupational and educational opportunities associated with planning, launching, directing, and coordinating public or private sector ventures. This program of study includes formulating policies, launching businesses or organizations, managing daily operations, analyzing management structures, and planning for the use of materials and human resources.

| Level | Course Title | Course Code | Course Abbreviation | Credits |
|---|---|---|---|---|
| 1 | Principles of Business, Marketing, and Finance* | 13011200 | PRINBMF | 1 |
| 1 | Foundations of Business Communication and Technologies* | 13011400 | FDNBUSI | 1 |
| 1 | Foundations of Business Communication and Technologies + Business Lab* | 13011410 | FDNBULAB | 2 |
| | | | | |
| 2 | Entrepreneurship I* | 13011101 | ENTPR1 | 1 |
| 2 | Foundations of User Experience* | 13027525 | FNDUX | 1 |
| | | | | |
| 3 | Entrepreneurship II | 13011102 | ENTPR2 | 1 |
| 3 | Mobile Application Development* | 03580390 | TAMBAD | 1 |
| | | | | |
| 4 | Statistics and Business Decision Making* | 13016900 | STATBDM | 1 |
| 4 | Career and Technical Education Project-Based Capstone* <br> *First Time Taken* | 12701101 | CTEPBC1 | 1 |
| 4 | Practicum in Entrepreneurship* <br> *First Time Taken* | 13011111 | PRACENT1 | 2 |
| 4 | Practicum in Entrepreneurship + Extended Practicum in Entrepreneurship* <br> *First Time Taken* | 13011121 | EXPRACENT1 | 3 |
| 4 | Practicum in Business Management* <br> *First Time Taken* <br> *Second Time Taken* | 13012200 <br> 13012210 | PRACBM <br> PRACBM2 | 2 <br> 2 |
| 4 | Practicum in Business Management + Extended Practicum in Business Management* <br> *First Time Taken* <br> *Second Time Taken* | 13012205 <br> 13012215 | EXPRBM <br> EXPRBM2 | 3 <br> 3 |
| 4 | Practicum in Marketing* <br> *First Time Taken* <br> *Second Time Taken* | 13034800 <br> 13034810 | PRACMKT1 <br> PRACMKT2 | 2 <br> 2 |
| 4 | Practicum in Marketing + Extended Practicum in Marketing* <br> *First Time Taken* <br> *Second Time Taken* | 13034805 <br> 13034815 | EXPRMKT1 <br> EXPRMKT2 | 3 <br> 3 |
| 4 | Career Preparation for Programs of Study* <br> *First Time Taken* | 12701121 | CPPS1 | 2 |
| 4 | Career Preparation for Programs of Study + Extended Career Preparation* <br> *First Time Taken* | 12701141 | EXCPPS1 | 3 |

*Courses in multiple programs of study*

## Marketing and Sales

The Marketing and Sales program of study focuses on occupational and educational opportunities associated with collecting information to estimate potential sales of a product or service and create campaigns to market or distribute goods and services. It includes applying data related to customer demographics, preferences, needs, and buying habits.

| Level | Course Title | Course Code | Course Abbreviation | Credits |
|-------|-------------|-------------|---------------------|---------|
| 1 | Principles of Business, Marketing, and Finance* | 13011200 | PRINBMF | 1 |
| 1 | Digital Media* | 13027800 | DIMEDIA | 1 |
| | | | | |
| 2 | Marketing* | 13011131 | MRKTNG | 1 |
| 2 | Sports and Entertainment Marketing* | 13034600 | SPORTSEM | .5 |
| 2 | Fashion Marketing | 13034300 | FASHMKTG | .5 |
| 2 | Virtual Business* | 13012000 | VIRTBUS | .5 |
| 2 | Digital Design and Media Production* | 03580400 | TADGDMP | 1 |
| 2 | Entrepreneurship I* | 13011101 | ENTPR1 | 1 |
| | | | | |
| 3 | Event and Meeting Planning* | 13022730 | INTMTGPL | 1 |
| 3 | Fundamentals of Real Estate* | N1301120 | FUNDRE | 2 |
| 3 | Sports and Entertainment Marketing II | N1303422 | SPORTEM2 | .5 |
| 3 | Advertising* | 13034200 | ADVERTIS | .5 |
| 3 | Social Media Marketing | 13034650 | SMEDMKTG | .5 |
| 3 | Insurance Operations* | 13016500 | INSOPS | 1 |
| 3 | Retail Management* | 13011133 | RTLMGMT | 1 |
| | | | | |
| 4 | Advanced Marketing | 13034700 | ADVMKTG | 2 |
| 4 | Statistics and Business Decision Making* | 13016900 | STATBDM | 1 |
| 4 | Practicum in Marketing* *First Time Taken* *Second Time Taken* | 13034800 13034810 | PRACMKT1 PRACMKT2 | 2 2 |
| 4 | Practicum in Marketing + Extended Practicum in Marketing* *First Time Taken* *Second Time Taken* | 13034805 13034815 | EXPRMKT1 EXPRMKT2 | 3 3 |
| 4 | Practicum in Entrepreneurship* *First Time Taken* | 13011111 | PRACENT1 | 2 |
| 4 | Practicum in Entrepreneurship + Extended Practicum in Entrepreneurship* *First Time Taken* | 13011121 | EXPRACENT1 | 3 |
| 4 | Career Preparation for Programs of Study* *First Time Taken* | 12701121 | CPPS1 | 2 |
| 4 | Career Preparation for Programs of Study + Extended Career Preparation* *First Time Taken* | 12701141 | EXCPPS1 | 3 |

*Courses in multiple programs of study*

## Real Estate

The Real Estate program of study focuses on occupational and educational opportunities associated with financing, selling, and contracting real estate. This program of study includes management, economics, marketing, and financial principles of real estate evaluation. It also addresses commercial real estate including lending, developing, brokering, and financing.

| Level | Course Title | Course Code | Course Abbreviation | Credits |
|---|---|---|---|---|
| 1 | Principles of Business, Marketing, and Finance* | 13011200 | PRINBMF | 1 |
| 1 | Professional Communications* | 13009900 | PROFCOMM | .5 |
| | | | | |
| 2 | Interior Design I* | 13004300 | INTERDS1 | 1 |
| 2 | Entrepreneurship I* | 13011101 | ENTPR1 | 1 |
| 2 | Business Law* | 13011700 | BUSLAW | 1 |
| 2 | Financial Mathematics* | 13018000 | FINMATH | 1 |
| 2 | Marketing* | 13011131 | MRKTNG | 1 |
| | | | | |
| 3 | Fundamentals of Real Estate* | N1301120 | FUNDRE | 2 |
| 3 | Insurance Operations* | 13016500 | INSOPS | 1 |
| 3 | Financial Analysis* | 13016800 | FINANAL | 1 |
| | | | | |
| 4 | Practicum in Business Management* <br> *First Time Taken* <br> *Second Time Taken* | <br> 13012200 <br> 13012210 | <br> PRACBM <br> PRACBM2 | <br> 2 <br> 2 |
| 4 | Practicum in Business Management + Extended Practicum in Business Management* <br> *First Time Taken* <br> *Second Time Taken* | <br><br> 13012205 <br> 13012215 | <br><br> EXPRBM <br> EXPRBM2 | <br><br> 3 <br> 3 |
| 4 | Practicum in Entrepreneurship* <br> *First Time Taken* | <br> 13011111 | <br> PRACENT1 | <br> 2 |
| 4 | Practicum in Entrepreneurship + Extended Practicum in Entrepreneurship* <br> *First Time Taken* | <br><br> 13011121 | <br><br> EXPRACENT1 | <br><br> 3 |
| 4 | Career Preparation for Programs of Study* <br> *First Time Taken* | <br> 12701121 | <br> CPPS1 | <br> 2 |
| 4 | Career Preparation for Programs of Study + Extended Career Preparation* <br> *First Time Taken* | <br><br> 12701141 | <br><br> EXCPPS1 | <br><br> 3 |

*Courses in multiple programs of study*

## Retail Management (Regional Program of Study)
*Approved in ESC Regions 4, 19, and 20*
*\* The list of approved ESC regions is updated every school year. Be sure to check the CTE regional program of study website for updates.*

The Retail Management regional program of study focuses on occupational and educational opportunities associated with driving sales through innovative approaches and strategic planning. It includes product development, customer intercepts, package engineering, and organizational development. This program of study also addresses human resources, advertising, social media, logistics, and employee relationships.

| Level | Course Title | Course Code | Course Abbreviation | Credits |
|---|---|---|---|---|
| 1 | Principles of Business, Marketing, and Finance* | 13011200 | PRINBMF | 1 |
| | | | | |
| 2 | Foundations of User Experience* | 13027525 | FNDUX | 1 |
| | | | | |
| 3 | Retail Management* | 13011133 | RTLMGMT | 1 |
| 3 | Human Resources Management* | 13011900 | HRMGT | .5 |
| 3 | Advertising* | 13034200 | ADVERTIS | .5 |
| | | | | |
| 4 | Practicum in Business Management*<br>*First Time Taken*<br>*Second Time Taken* | 13012200<br>13012210 | PRACBM<br>PRACBM2 | 2<br>2 |
| 4 | Practicum in Business Management + Extended Practicum in Business Management*<br>*First Time Taken*<br>*Second Time Taken* | 13012205<br>13012215 | EXPRBM<br>EXPRBM2 | 3<br>3 |
| 4 | Career Preparation for Programs of Study*<br>*First Time Taken* | 12701121 | CPPS1 | 2 |
| 4 | Career Preparation for Programs of Study + Extended Career Preparation*<br>*First Time Taken* | 12701141 | EXCPPS1 | 3 |

*\*Courses in multiple programs of study*

# Education and Training

The Education and Training career cluster focuses on planning, managing, and providing education and training services and related learning support services. This career cluster includes occupations ranging from teaching assistant and classroom teacher to school administrator.

**Programs of Study**
•Early Learning
•Teaching and Training

**Courses Listed in Texas Administrative Code (Title 19, Chapter 127, Subchapter G)**

§127.309    Principles of Education and Training (One Credit), Adopted 2021
§127.310    Human Growth and Development (One Credit), Adopted 2021
§127.311    Child Development (One Credit), Adopted 2021
§127.312    Child Guidance (Two Credits), Adopted 2021
§127.313    Child Development Associate Foundations (One Credit), Adopted 2021
§127.314    Communication and Technology in Education (One Credit), Adopted 2021
§127.315    Instructional Practices (Two Credits), Adopted 2021
§127.343    Practicum in Early Learning (Two Credits), Adopted 2021
§127.344    Extended Practicum in Early Learning (One Credit), Adopted 2021
§127.345    Practicum in Education and Training (Two Credits), Adopted 2021
§127.346    Extended Practicum in Education and Training (One Credit), Adopted 2015

## Early Learning

The Early Learning program of study focuses on occupational and educational opportunities associated with instructing and supporting preschool and early elementary school students. This program of study addresses social, physical, and intellectual growth and skills necessary for planning, directing, and coordinating activities for young children.

| Level | Course Title | Course Code | Course Abbreviation | Credits |
|---|---|---|---|---|
| 1 | Principles of Education and Training* | 13014200 | PRINEDTR | 1 |
| 1 | Principles of Human Services* | 13024200 | PRINHUSR | 1 |
| | | | | |
| 2 | Child Development* | 13024700 | CHILDDEV | 1 |
| 2 | Child Development Associate Foundations* | 13024710 | CDAFND | 1 |
| 2 | Speech and Language Development* | 13021291 | SPCHLDEV | 1 |
| | | | | |
| 3 | Child Guidance | 13024800 | CHILDGUI | 2 |
| 3 | Speech Communication Disorders* | 13021292 | SPCOMDIS | 1 |
| | | | | |
| 4 | Career and Technical Education Project-Based Capstone*<br>*First Time Taken* | 12701101 | CTEPBC1 | 1 |
| 4 | Practicum in Early Learning<br>*First Time Taken*<br>*Second Time Taken* | 13014520<br>13014530 | PRACEL1<br>PRACEL2 | 2<br>2 |
| 4 | Practicum in Early Learning + Extended Practicum in Early Learning<br>*First Time Taken*<br>*Second Time Taken* | 13014525<br>13014535 | EXPREL1<br>EXPREL2 | 3<br>3 |
| 4 | Career Preparation for Programs of Study*<br>*First Time Taken* | 12701121 | CPPS1 | 2 |
| 4 | Career Preparation for Programs of Study + Extended Career Preparation*<br>*First Time Taken* | 12701141 | EXCPPS1 | 3 |

*Courses in multiple programs of study

## Teaching and Training

The Teaching and Training program of study focuses on occupational and educational opportunities associated with careers related to teaching, instructing, and creating instructional and enrichment materials. The program of study includes recognizing a variety of student groups and their corresponding needs, identifying processes for developing curriculum and coordinating educational content, and coaching groups and individuals.

| Level | Course Title | Course Code | Course Abbreviation | Credits |
|---|---|---|---|---|
| 1 | Principles of Education and Training* | 13014200 | PRINEDTR | 1 |
| 1 | Principles of Human Services* | 13024200 | PRINHUSR | 1 |
| | | | | |
| 2 | Communication and Technology in Education | 13014310 | CMTED | 1 |
| 2 | Human Growth and Development* | 13014300 | HUGRDEV | 1 |
| 2 | Child Development* | 13024700 | CHILDDEV | 1 |
| | | | | |
| 3 | Instructional Practices | 13014400 | INPRAC | 2 |
| | | | | |
| 4 | Career and Technical Education Project-Based Capstone*<br>*First Time Taken* | 12701101 | CTEPBC1 | 1 |
| 4 | Practicum in Education and Training<br>*First Time Taken*<br>*Second Time Taken* | 13014500<br>13014510 | PRACEDT1<br>PRACEDT2 | 2<br>2 |
| 4 | Practicum in Education and Training + Extended Practicum in Education and Training<br>*First Time Taken*<br>*Second Time Taken* | 13014505<br>13014515 | EXPREDT1<br>EXPREDT2 | 3<br>3 |
| 4 | Career Preparation for Programs of Study*<br>*First Time Taken* | 12701121 | CPPS1 | 2 |
| 4 | Career Preparation for Programs of Study + Extended Career Preparation*<br>*First Time Taken* | 12701141 | EXCPPS1 | 3 |

*Courses in multiple programs of study*

# Energy

The Energy career cluster prepares individuals for careers in the designing, processing, planning, maintaining, generating, transmission, and distribution of traditional and alternative energy. This career cluster includes occupations ranging from petroleum engineers, rotary drill operators, chemical technicians and, power plant operators to solar photovoltaic installers and wind turbine service technicians.

## Programs of Study
•Oil and Gas Exploration and Production
•Refining and Chemical Processes
•Renewable Energy

## Courses Listed in Texas Administrative Code (Title 19, Chapter 127, Subchapter H)

§127.351    Foundations of Energy (One Credit), Adopted 2020
§127.352    Oil and Gas Production I (One Credit), Adopted 2020
§127.353    Oil and Gas Production II (One Credit), Adopted 2020
§127.354    Oil and Gas Production III (One Credit), Adopted 2020
§127.355    Oil and Gas Production IV (One Credit), Adopted 2020
§127.356    Introduction to Process Technology (One Credit), Adopted 2020
§127.357    Petrochemical Safety, Health, and Environment (One Credit), Adopted 2020

## Innovative Courses
•Advanced Instrument and Electrical
•Introduction to Instrumentation and Electrical
•Practicum in Energy

## Oil and Gas Exploration and Production

The Oil and Gas Exploration and Production program of study focuses on occupational and educational opportunities associated with processing, refining, and distributing petroleum and gas. This program of study includes the process of regulating the flow of oil into pipelines, controlling pumping systems, and operating and maintaining machinery to generate electric power.

| Level | Course Title | Course Code | Course Abbreviation | Credits |
|---|---|---|---|---|
| 1 | Oil and Gas Production I | 13001250 | OILGP1 | 1 |
| 1 | Foundations of Energy* | 13040503 | FOUNDEN | 1 |
| | | | | |
| 2 | Oil and Gas Production II | 13001260 | OILGP2 | 1 |
| 2 | Occupational Safety and Environmental Technology I* | N1303680 | OSET1 | 1 |
| | | | | |
| 3 | Oil and Gas Production III | 13040500 | OGPROD3 | 1 |
| 3 | Occupational Safety and Environmental Technology II* | N1303681 | OSET2 | 1 |
| | | | | |
| 4 | Oil and Gas Production IV | 13040501 | OGPROD4 | 1 |
| 4 | Applied Mathematics for Technical Professionals* | 12701410 | APMATHTP | 1 |
| 4 | Career and Technical Education Project-Based Capstone* <br> *First Time Taken* | 12701101 | CTEPBC1 | 1 |
| 4 | Practicum in Energy* | N1303910 | PRACENRG | 2 |
| 4 | Career Preparation for Programs of Study* <br> *First Time Taken* | 12701121 | CPPS1 | 2 |
| 4 | Career Preparation for Programs of Study + Extended Career Preparation* <br> *First Time Taken* | 12701141 | EXCPPS1 | 3 |

*Courses in multiple programs of study*

## Refining and Chemical Processes

The Refining and Chemical Processes program of study focuses on occupational and educational opportunities associated with how to monitor, adjust, and operate equipment housed in petrochemical plants and refineries. This program of study includes exploration of computer technology and instrumentation used to operate a variety of systems and industrial processes.

| Level | Course Title | Course Code | Course Abbreviation | Credits |
|---|---|---|---|---|
| 1 | Foundations of Energy* | 13040503 | FOUNDEN | 1 |
| 1 | Principles of Distribution and Logistics* | 13039260 | PRINDILG | 1 |
| | | | | |
| 2 | Introduction to Process Technology | 13040502 | INTRPT | 1 |
| 2 | Introduction to Instrumentation and Electrical | N1303900 | INSTELEC | 1 |
| | | | | |
| 3 | Petrochemical Safety, Health, and Environment | 13040504 | PSHAE | 1 |
| 3 | Advanced Instrument and Electrical | N1303901 | ADVINELEC | 1 |
| | | | | |
| 4 | Applied Mathematics for Technical Professionals* | 12701410 | APMATHTP | 1 |
| 4 | Career and Technical Education Project-Based Capstone* <br> *First Time Taken* | 12701101 | CTEPBC1 | 1 |
| 4 | Practicum in Energy* | N1303910 | PRACENRG | 2 |
| 4 | Career Preparation for Programs of Study* <br> *First Time Taken* | 12701121 | CPPS1 | 2 |
| 4 | Career Preparation for Programs of Study + Extended Career Preparation* <br> *First Time Taken* | 12701141 | EXCPPS1 | 3 |

*Courses in multiple programs of study*

**Renewable Energy**

The Renewable Energy program of study focuses on occupational and educational opportunities associated with assembling, inspecting, maintaining, and repairing different equipment required for renewable energy. This program of study includes exploration of solar photovoltaic equipment and wind turbines and the systems and processes used to maintain and manage these types of equipment.

| Level | Course Title | Course Code | Course Abbreviation | Credits |
|---|---|---|---|---|
| 1 | Foundations of Energy* | 13040503 | FOUNDEN | 1 |
| 1 | Principles of Applied Engineering* | 13036200 | PRAPPENG | 1 |
| | | | | |
| 2 | Electrical Technology I* | 13005600 | ELECTEC1 | 1 |
| 2 | AC/DC Electronics* | 13036800 | ACDCELEC | 1 |
| | | | | |
| 3 | Energy and Natural Resource Technology* | 13001100 | ENGNRT | 1 |
| 3 | Solid State Electronics* | 13036900 | SOSTELEC | 1 |
| 3 | Digital Electronics* | 13037600 | DIGELC | 1 |
| 3 | Environmental Engineering* | 12756010 | ENVRENGR | 1 |
| 3 | Electrical Technology II | 13005700 | ELECTEC2 | 2 |
| | | | | |
| 4 | Engineering Design and Problem Solving* | 13037300 | ENGDPRS | 1 |
| 4 | Applied Mathematics for Technical Professionals* | 12701410 | APMATHTP | 1 |
| 4 | Career and Technical Education Project-Based Capstone* <br> *First Time Taken* | 12701101 | CTEPBC1 | 1 |
| 4 | Practicum in Energy* | N1303910 | PRACENRG | 2 |
| 4 | Practicum in Engineering* <br> *First Time Taken* <br> *Second Time Taken* | 12756080 <br> 12756090 | PRCENGR1 <br> PRCENGR2 | 2 <br> 2 |
| 4 | Practicum in Engineering + Extended Practicum in Engineering* <br> *First Time Taken* <br> *Second Time Taken* | 12756085 <br> 12756095 | EXPRENG1 <br> EXPRENG2 | 3 <br> 3 |
| 4 | Career Preparation for Programs of Study* <br> *First Time Taken* | 12701121 | CPPS1 | 2 |
| 4 | Career Preparation for Programs of Study + Extended Career Preparation* <br> *First Time Taken* | 12701141 | EXCPPS1 | 3 |
| 4 | Scientific Research and Design* | 13037200 | SCIRD | 1 |

*Courses in multiple programs of study

# Engineering

The Engineering career cluster focuses on planning, designing, testing, building, and maintaining of machines, structures, materials, systems, and processes using empirical evidence and science, technology, and math principles. This career cluster includes occupations ranging from mechanical engineer and drafter to electrical engineer and to mapping technician.

## Programs of Study
- Civil Engineering
- Drone (Unmanned Vehicle) (Regional Program of Study)
- Electrical Engineering
- Engineering Foundations
- Geospatial Engineering and Land Surveying (Regional Program of Study)
- Mechanical and Aerospace Engineering

## Courses Listed in Texas Administrative Code (Title 19, Chapter 127, Subchapter I)

§127.391 Principles of Applied Engineering (One Credit), Adopted 2021
§127.392 AC/DC Electronics (One Credit), Adopted 2015
§127.393 Solid State Electronics (One Credit), Adopted 2015
§127.394 Digital Electronics (One Credit), Adopted 2015
§127.395 Robotics I (One Credit), Adopted 2015
§127.396 Robotics II (One Credit), Adopted 2015
§127.397 Engineering Science (One Credit), Adopted 2021
§127.398 Engineering Mathematics (One Credit), Adopted 2015
§127.399 Introduction to Computer-Aided Design and Drafting (One Credit), Adopted 2021
§127.400 Intermediate Computer-Aided Design and Drafting (One Credit), Adopted 2021
§127.401 Physics for Engineering (One Credit), Adopted 2024
§127.402 Engineering Design Process (One Credit), Adopted 2025
§127.403 Programming for Engineers (One Credit), Adopted 2025
§127.404 Engineering Design and Presentation (One Credit), Adopted 2025
§127.405 Advanced Engineering Design and Presentation (Two Credits), Adopted 2025
§127.406 Engineering Design and Problem Solving (One Credit), Adopted 2025
§127.407 Environmental Engineering (One Credit), Adopted 2025
§127.408 Fluid Mechanics (One Credit), Adopted 2025
§127.409 Mechanics of Materials (One Credit), Adopted 2025
§127.410 Statics (One Credit), Adopted 2025
§127.411 Mechanical Design I (One Credit), Adopted 2025
§127.412 Mechanical Design II (Two Credits), Adopted 2025
§127.413 Aerospace Design I (One Credit), Adopted 2025
§127.414 Aerospace Design II (Two Credits), Adopted 2025
§127.415 Civil Engineering I (One Credit), Adopted 2025
§127.416 Civil Engineering II (Two Credits), Adopted 2025
§127.417 Engineering Project Management (One Credit), Adopted 2025
§127.418 Architectural Engineering (Two Credits), Adopted 2025
§127.419 Surveying and Geomatics (Two Credits), Adopted 2025
§127.452 Practicum in Engineering (Two Credits), Adopted 2025
§127.453 Extended Practicum in Engineering (One Credit), Adopted 2025

## Civil Engineering

The Civil Engineering program of study focuses on occupational and educational opportunities associated with the design, build, operation, and maintenance of infrastructure related to roads, buildings, airports, bridges, and transportation systems. This program of study includes exploration of infrastructure, site inspections, feasibility assessments and scope, and cost estimates. It addresses applying scientific, mathematical, and empirical evidence to solve problems in construction, infrastructure, and the environment.

| Level | Course Title | Course Code | Course Abbreviation | Credits |
|---|---|---|---|---|
| 1 | Principles of Applied Engineering* | 13036200 | PRAPPENG | 1 |
| 1 | Physics for Engineering* | 13037150 | PHYSENGR | 1 |
| 1 | Introduction to Computer-Aided Design and Drafting* | 13037350 | INTRCADD | 1 |
| | | | | |
| 2 | Intermediate Computer-Aided Design and Drafting* | 13037360 | INTMCADD | 1 |
| 2 | Geographic Information Systems (GIS)* | 13027545 | GISYS | 1 |
| 2 | Civil Engineering I | 12756050 | CVENGR1 | 1 |
| 2 | Surveying and Geomatics | 12756070 | SURVGEO | 2 |
| 2 | Engineering Project Management* | 12756060 | ENGRMGMT | 1 |
| | | | | |
| 3 | Engineering Design and Presentation* | 13036500 | ENGRDP | 1 |
| 3 | Engineering Mathematics* | 13036700 | ENGMATH | 1 |
| 3 | Topographical Drafting | N1300421 | TOPDR | 1 |
| 3 | Spatial Technology and Remote Sensing* | 13027555 | SPTECHRS | 1 |
| 3 | Architectural Engineering* | 12756065 | ARCHENGR | 2 |
| 3 | Civil Engineering II | 12756055 | CVENGR2 | 2 |
| 3 | Programming for Engineers* | 12756005 | PROGENGR | 1 |
| | | | | |
| 4 | Advanced Engineering Design and Presentation* | 13036600 | ADENGRDP | 2 |
| 4 | Engineering Design and Problem Solving* | 13037300 | ENGDPRS | 1 |
| 4 | Career and Technical Education Project-Based Capstone* <br> *First Time Taken* | 12701101 | CTEPBC1 | 1 |
| 4 | Practicum in Engineering* <br> *First Time Taken* <br> *Second Time Taken* | 12756080 <br> 12756090 | PRCENGR1 <br> PRCENGR2 | 2 <br> 2 |
| 4 | Practicum in Engineering + Extended Practicum in Engineering* <br> *First Time Taken* <br> *Second Time Taken* | 12756085 <br> 12756095 | EXPRENG1 <br> EXPRENG2 | 3 <br> 3 |
| 4 | Career Preparation for Programs of Study* <br> *First Time Taken* | 12701121 | CPPS1 | 2 |
| 4 | Career Preparation for Programs of Study + Extended Career Preparation* <br> *First Time Taken* | 12701141 | EXCPPS1 | 3 |
| 4 | Scientific Research and Design* | 13037200 | SCIRD | 1 |

*Courses in multiple programs of study*

## Drone (Unmanned Vehicle) (Regional Program of Study)
*Approved in ESC Regions 2, 4, 5, 6, 9, 10, 11, 12, 13, 14, 16, 17, 18, 19, and 20*
*\*The list of approved ESC regions is updated every school year. Be sure to check the CTE regional program of study website for updates.*

The Drone (Unmanned Vehicle) regional program of study focuses on the occupational and educational opportunities associated with operating or designing an unmanned aircraft using a ground-based controller. This program of study includes understanding and designing systems of communications between the controller and the aircraft to ensure compliance with federal aviation safety regulations.

| Level | Course Title | Course Code | Course Abbreviation | Credits |
|---|---|---|---|---|
| 1 | Introduction to Aerospace and Aviation* | N1304672 | INTAEAVI | 1 |
| | | | | |
| 2 | Introduction to Unmanned Aerial Vehicles (UAV)* | N1304670 | PRINUAV | 1 |
| 2 | Robotics I* | 13037000 | ROBOTIC1 | 1 |
| | | | | |
| 3 | Engineering Science* | 13037500 | ENGSCIEN | 1 |
| 3 | Digital Electronics* | 13037600 | DIGELC | 1 |
| 3 | Robotics II* | 13037050 | ROBOTIC2 | 1 |
| | | | | |
| 4 | Career and Technical Education Project-Based Capstone*<br>*First Time Taken* | 12701101 | CTEPBC1 | 1 |
| 4 | Practicum in Manufacturing*<br>*First Time Taken*<br>*Second Time Taken* | 13033000<br>13033010 | PRACMAN1<br>PRACMAN2 | 2<br>2 |
| 4 | Practicum in Manufacturing + Extended Practicum in Manufacturing*<br>*First Time Taken*<br>*Second Time Taken* | 13033005<br>13033015 | EXPRMAN1<br>EXPRMAN2 | 3<br>3 |
| 4 | Career Preparation for Programs of Study*<br>*First Time Taken* | 12701121 | CPPS1 | 2 |
| 4 | Career Preparation for Programs of Study + Extended Career Preparation*<br>*First Time Taken* | 12701141 | EXCPPS1 | 3 |
| 4 | Scientific Research and Design* | 13037200 | SCIRD | 1 |

*\*Courses in multiple programs of study*

## Electrical Engineering

The Electrical Engineering program of study focuses on occupational and educational opportunities associated with the design, development, testing, and supervision of electrical equipment and systems. Students will design, test, and evaluate projects related to electrical motors, radar, navigation systems, and communication systems. This program of study includes applying scientific, mathematical, and empirical evidence to solve problems in electrical systems associated with instruments, facilities, components, and equipment.

| Level | Course Title | Course Code | Course Abbreviation | Credits |
|---|---|---|---|---|
| 1 | Principles of Applied Engineering* | 13036200 | PRAPPENG | 1 |
| 1 | Physics for Engineering* | 13037150 | PHYSENGR | 1 |
| 1 | Introduction to Computer-Aided Design and Drafting* | 13037350 | INTRCADD | 1 |
| 1 | Engineering Design Process* | 12756001 | ENGRDSP | 1 |
| | | | | |
| 2 | Intermediate Computer-Aided Design and Drafting* | 13037360 | INTMCADD | 1 |
| 2 | Robotics I* | 13037000 | ROBOTIC1 | 1 |
| 2 | Programmable Logic Controller I* | N1303689 | PROLGCNT1 | 1 |
| 2 | Manufacturing Engineering Technology I* | 13032900 | MANENGT1 | 1 |
| 2 | AC/DC Electronics* | 13036800 | ACDCELEC | 1 |
| | | | | |
| 3 | Engineering Design and Presentation* | 13036500 | ENGRDP | 1 |
| 3 | Robotics II* | 13037050 | ROBOTIC2 | 1 |
| 3 | Programmable Logic Controller II* | N1303690 | PROLGCNT2 | 1 |
| 3 | Engineering Mathematics* | 13036700 | ENGMATH | 1 |
| 3 | Solid State Electronics* | 13036900 | SOSTELEC | 1 |
| 3 | Engineering Science* | 13037500 | ENGSCIEN | 1 |
| 3 | Digital Electronics* | 13037600 | DIGELC | 1 |
| 3 | Computer Integrated Manufacturing (PLTW)* | N1303748 | CIM | 1 |
| | | | | |
| 4 | Advanced Engineering Design and Presentation* | 13036600 | ADENGRDP | 2 |
| 4 | Engineering Design and Problem Solving* | 13037300 | ENGDPRS | 1 |
| 4 | Career and Technical Education Project-Based Capstone* <br> *First Time Taken* | 12701101 | CTEPBC1 | 1 |
| 4 | Practicum in Engineering* <br> *First Time Taken* <br> *Second Time Taken* | 12756080 <br> 12756090 | PRCENGR1 <br> PRCENGR2 | 2 <br> 2 |
| 4 | Practicum in Engineering + Extended Practicum in Engineering* <br> *First Time Taken* <br> *Second Time Taken* | 12756085 <br> 12756095 | EXPRENG1 <br> EXPRENG2 | 3 <br> 3 |
| 4 | Career Preparation for Programs of Study* <br> *First Time Taken* | 12701121 | CPPS1 | 2 |
| 4 | Career Preparation for Programs of Study + Extended Career Preparation* <br> *First Time Taken* | 12701141 | EXCPPS1 | 3 |
| 4 | Scientific Research and Design* | 13037200 | SCIRD | 1 |

*Courses in multiple programs of study*

## Engineering Foundations

The Engineering Foundations program of study focuses on occupational and educational opportunities associated with a wide range of skills applied in the Engineering industry. Students will design, test, and evaluate projects related to engines, machines, and structures. This program of study incudes applying scientific, mathematical, and empirical evidence to solve problems through innovation, design, construction, operation, and maintenance of different engineering systems.

| Level | Course Title | Course Code | Course Abbreviation | Credits |
|---|---|---|---|---|
| 1 | Principles of Applied Engineering* | 13036200 | PRAPPENG | 1 |
| 1 | Physics for Engineering* | 13037150 | PHYSENGR | 1 |
| 1 | Introduction to Computer-Aided Design and Drafting* | 13037350 | INTRCADD | 1 |
| 1 | Engineering Design Process* | 12756001 | ENGRDSP | 1 |
| | | | | |
| 2 | Intermediate Computer-Aided Design and Drafting* | 13037360 | INTMCADD | 1 |
| 2 | Manufacturing Engineering Technology I* | 13032900 | MANENGT1 | 1 |
| 2 | Robotics I* | 13037000 | ROBOTIC1 | 1 |
| 2 | Engineering Project Management* | 12756060 | ENGRMGMT | 1 |
| 2 | Aerospace Design I* | 12756040 | AERODES1 | 1 |
| | | | | |
| 3 | Engineering Design and Presentation* | 13036500 | ENGRDP | 1 |
| 3 | Robotics II* | 13037050 | ROBOTIC2 | 1 |
| 3 | Engineering Mathematics* | 13036700 | ENGMATH | 1 |
| 3 | Engineering Science* | 13037500 | ENGSCIEN | 1 |
| 3 | Digital Electronics* | 13037600 | DIGELC | 1 |
| 3 | Environmental Engineering * | 12756010 | ENVRENGR | 1 |
| 3 | Architectural Engineering* | 12756065 | ARCHENGR | 2 |
| 3 | Computer Integrated Manufacturing (PLTW)* | N1303748 | CIM | 1 |
| 3 | Fluid Mechanics | 12756015 | FLMECH | 1 |
| 3 | Mechanics of Materials | 12756020 | MECHMAT | 1 |
| 3 | Statics | 12756025 | STATICS | 1 |
| 3 | Programming for Engineers* | 12756005 | PROGENGR | 1 |
| 3 | Aerospace Design II* | 12756045 | AERODES2 | 2 |
| | | | | |
| 4 | Advanced Engineering Design and Presentation* | 13036600 | ADENGRDP | 2 |
| 4 | Engineering Design and Problem Solving* | 13037300 | ENGDPRS | 1 |
| 4 | Career and Technical Education Project-Based Capstone*<br>*First Time Taken* | 12701101 | CTEPBC1 | 1 |
| 4 | Practicum in Engineering*<br>*First Time Taken*<br>*Second Time Taken* | 12756080<br>12756090 | PRCENGR1<br>PRCENGR2 | 2<br>2 |
| 4 | Practicum in Engineering + Extended Practicum in Engineering*<br>*First Time Taken*<br>*Second Time Taken* | 12756085<br>12756095 | EXPRENG1<br>EXPRENG2 | 3<br>3 |
| 4 | Career Preparation for Programs of Study*<br>*First Time Taken* | 12701121 | CPPS1 | 2 |
| 4 | Career Preparation for Programs of Study + Extended Career Preparation*<br>*First Time Taken* | 12701141 | EXCPPS1 | 3 |
| 4 | Scientific Research and Design* | 13037200 | SCIRD | 1 |

*Courses in multiple programs of study*

## Geospatial Engineering and Land Surveying (Regional Program of Study)
*Approved in ESC Regions 2, 4, 10, 11, 13, and 20*
*\*The list of approved ESC regions is updated every school year. Be sure to check the CTE regional program of study website for updates.*

The Geospatial Engineering and Land Surveying regional program of study focuses on occupational and educational opportunities associated with surveying, automated computer-aided drafting, geographical information systems and raster-based geographic information systems. This program of study includes the exploration of remote sensing, geoscience, and mapping.

| Level | Course Title | Course Code | Course Abbreviation | Credits |
|---|---|---|---|---|
| 1 | Principles of Applied Engineering* | 13036200 | PRAPPENG | 1 |
| 1 | Principles of Architecture* | 13004210 | PRINARC | 1 |
| | | | | |
| 2 | Geographic Information Systems (GIS)* | 13027545 | GISYS | 1 |
| 2 | Raster-Based Geographic Information Systems* | 13027550 | RASGIS | 1 |
| | | | | |
| 3 | *(Not Identified)* | | | |
| | | | | |
| 4 | Career and Technical Education Project-Based Capstone* <br> *First Time Taken* | 12701101 | CTEPBC1 | |
| 4 | Practicum in Engineering* <br> *First Time Taken* <br> *Second Time Taken* | 12756080 <br> 12756090 | PRCENGR1 <br> PRCENGR2 | 2 <br> 2 |
| 4 | Practicum in Engineering + Extended Practicum in Engineering* <br> *First Time Taken* <br> *Second Time Taken* | 12756085 <br> 12756095 | EXPRENG1 <br> EXPRENG2 | 3 <br> 3 |
| 4 | Career Preparation for Programs of Study* <br> *First Time Taken* | 12701121 | CPPS1 | 2 |
| 4 | Career Preparation for Programs of Study + Extended Career Preparation* <br> *First Time Taken* | 12701141 | EXCPPS1 | 3 |
| 4 | Scientific Research and Design* | 13037200 | SCIRD | 1 |

*\*Courses in multiple programs of study*

## Mechanical and Aerospace Engineering

The Mechanical and Aerospace Engineering program of study focuses on occupational and educational opportunities associated with the design, development, maintenance, and testing of engines, machines, and structures related to aircraft and spacecraft. Students will design, test, and evaluate projects related to aerodynamics, structural, and mechanical design. This program of study includes applying scientific, mathematical, and empirical evidence to solve problems related to navigation, mechanics, robotics, propulsion, and combustion.

| Level | Course Title | Course Code | Course Abbreviation | Credits |
|---|---|---|---|---|
| 1 | Principles of Applied Engineering* | 13036200 | PRAPPENG | 1 |
| 1 | Physics for Engineering* | 13037150 | PHYSENGR | 1 |
| 1 | Introduction to Aerospace and Aviation* | N1304672 | INTAEAVI | 1 |
| 1 | Introduction to Computer-Aided Design and Drafting* | 13037350 | INTRCADD | 1 |
| 1 | Engineering Design Process* | 12756001 | ENGRDSP | 1 |
|  |  |  |  |  |
| 2 | Intermediate Computer-Aided Design and Drafting* | 13037360 | INTMCADD | 1 |
| 2 | Aerospace Design I* | 12756040 | AERODES1 | 1 |
|  |  |  |  |  |
| 3 | Engineering Design and Presentation* | 13036500 | ENGRDP | 1 |
| 3 | Engineering Mathematics* | 13036700 | ENGMATH | 1 |
| 3 | Engineering Science* | 13037500 | ENGSCIEN | 1 |
| 3 | Mechanical Design I | 12756030 | MECHDES1 | 1 |
| 3 | Aerospace Design II* | 12756045 | AERODES2 | 2 |
|  |  |  |  |  |
| 4 | Engineering Design and Problem Solving* | 13037300 | ENGDPRS | 1 |
| 4 | Advanced Engineering Design and Presentation* | 13036600 | ADENGRDP | 2 |
| 4 | Mechanical Design II | 12756035 | MECHDES2 | 2 |
| 4 | Career and Technical Education Project-Based Capstone*<br>*First Time Taken* | 12701101 | CTEPBC1 | 1 |
| 4 | Practicum in Engineering*<br>*First Time Taken*<br>*Second Time Taken* | 12756080<br>12756090 | PRCENGR1<br>PRCENGR2 | 2<br>2 |
| 4 | Practicum in Engineering + Extended Practicum in Engineering*<br>*First Time Taken*<br>*Second Time Taken* | 12756085<br>12756095 | EXPRENG1<br>EXPRENG2 | 3<br>3 |
| 4 | Career Preparation for Programs of Study*<br>*First Time Taken* | 12701121 | CPPS1 | 2 |
| 4 | Career Preparation for Programs of Study + Extended Career Preparation*<br>*First Time Taken* | 12701141 | EXCPPS1 | 3 |
| 4 | Scientific Research and Design* | 13037200 | SCIRD | 1 |

*Courses in multiple programs of study*

# Health Science

The Health Science career cluster focuses on planning, managing, and providing therapeutic services, diagnostics services, health informatics, support services, and biotechnology research and development. This career cluster includes occupations ranging from medical assistant, registered nurse, and physical therapist to forensic science technician and athletic trainer.

## Programs of Study
•Biomedical Science
•Diagnostic and Therapeutic Services
•Exercise Science, Wellness, and Restoration
•Health Informatics
•Nursing Science

## Courses Listed in Texas Administrative Code (Title 19, Chapter 127, Subchapter J)

§127.461    Principles of Health Science (One Credit), Adopted 2015
§127.462    Principles of Bioscience (One Credit), Adopted 2021
§127.474    Mathematics for Medical Professionals (One Credit), Adopted 2015
§127.475    Biotechnology I (One Credit), Adopted 2021
§127.476    Biotechnology II (One Credit), Adopted 2021
§127.477    Medical Terminology (One Credit), Adopted 2021
§127.478    Health Science Theory (One Credit), Adopted 2021
§127.479    Health Science Clinical (One Credit), Adopted 2015
§127.480    World Health and Emerging Technologies (One Credit), Adopted 2021
§127.481    Anatomy and Physiology (One Credit), Adopted 2021
§127.482    Pathophysiology (One Credit), Adopted 2021
§127.483    Pharmacy I (One Credit), Adopted 2021
§127.484    Pharmacy II (Two Credits), Adopted 2021
§127.485    Pharmacology (One Credit), Adopted 2021
§127.486    Medical Microbiology (One Credit), Adopted 2021
§127.487    Health Informatics (One Credit), Adopted 2021
§127.488    Medical Billing and Coding (One Credit), Adopted 2021
§127.489    Medical Assistant (One Credit), Adopted 2021
§127.490    Respiratory Therapy I (One Credit), Adopted 2021
§127.491    Respiratory Therapy II (One Credit), Adopted 2021
§127.492    Healthcare Administration and Management (One Credit), Adopted 2021
§127.493    Leadership and Management in Nursing (One Credit), Adopted 2021
§127.510    Speech and Language Development (One Credit), Adopted 2025
§127.511    Speech Communication Disorders (One Credit), Adopted 2025
§127.553    Practicum in Health Science (Two Credits), Adopted 2015
§127.554    Extended Practicum in Health Science (One Credit), Adopted 2015
§127.555    Practicum in Nursing (Two Credits), Adopted 2021

## Innovative Courses
•Allied Health Therapeutic Services
•Biomedical Innovation (PLTW)
•Clinical Ethics
•Dental Anatomy and Physiology
•Dental Equipment and Procedures
•Human Body Systems (PLTW)
•Imaging Technology I
•Imaging Technology II
•Introduction to Dental Science
•Introduction to Imaging Technology
•Introduction to Pharmacy Science

**Innovative Courses, cont.**
- Introduction to Speech Pathology and Audiology
- Kinesiology I
- Kinesiology II
- Medical Intervention Evaluation and Research
- Medical Interventions (PTLW)
- Occupational Therapy I
- Occupational Therapy II
- Optical Technician
- Physical Therapy I
- Physical Therapy II
- Principles of Allied Health
- Principles of Biomedical Science (PLTW)
- Principles of Diagnostic Healthcare
- Principles of Exercise Science and Wellness
- Principles of Health Informatics
- Principles of Nursing Science
- Principles of Therapeutic Healthcare
- Quality Assurance for Biosciences
- Science of Nursing

## Biomedical Science

The Biomedical Science program of study focuses on occupational and educational opportunities associated with the study of biology and medicine. This program of study includes researching and diagnosing diseases, pre-existing conditions, and other determinants of health. Students will also practice patient care and communication.

| Level | Course Title | Course Code | Course Abbreviation | Credits |
|---|---|---|---|---|
| 1 | Principles of Health Science* | 13020200 | PRINHLSC | 1 |
| 1 | Principles of Bioscience | 13036300 | PRBIOSCI | 1 |
| 1 | Principles of Biomedical Science (PLTW) | N1302092 | PRBIOSCI | 1 |
| | | | | |
| 2 | Medical Terminology* | 13020300 | MEDTERM | 1 |
| 2 | Biotechnology I | 13036400 | BIOTECH1 | 1 |
| 2 | Human Body Systems (PLTW) | N1302093 | HUMBODSY | 1 |
| | | | | |
| 3 | Medical Microbiology* | 13020700 | MICRO | 1 |
| 3 | Biotechnology II | 13036450 | BIOTECH2 | 1 |
| 3 | Clinical Ethics* | N1302121 | CLINETH | 1 |
| 3 | Quality Assurance for Biosciences | N1303771 | QABIOS | 1 |
| 3 | Anatomy and Physiology* | 13020600 | ANATPHYS | 1 |
| 3 | Medical Interventions (PLTW) | N1302094 | MEDINT | 1 |
| | | | | |
| 4 | Pathophysiology* | 13020800 | PATHO | 1 |
| 4 | Biomedical Innovation (PLTW) | N1302095 | BIOINN | 1 |
| 4 | Career and Technical Education Project-Based Capstone*<br>*First Time Taken* | 12701101 | CTEPBC1 | 1 |
| 4 | Practicum in Health Science*<br>*First Time Taken*<br>*Second Time Taken* | 13020500<br>13020510 | PRACHLS1<br>PRACHLS2 | 2<br>2 |
| 4 | Practicum in Health Science + Extended Practicum in Health Science*<br>*First Time Taken*<br>*Second Time Taken* | 13020505<br>13020515 | EXPRHLS1<br>EXPRHLS2 | 3<br>3 |
| 4 | Practicum in Engineering*<br>*First Time Taken*<br>*Second Time Taken* | 12756080<br>12756090 | PRCENGR1<br>PRCENGR2 | 2<br>2 |
| 4 | Practicum in Engineering + Extended Practicum in Engineering*<br>*First Time Taken*<br>*Second Time Taken* | 12756085<br>12756095 | EXPRENG1<br>EXPRENG2 | 3<br>3 |
| 4 | Career Preparation for Programs of Study*<br>*First Time Taken* | 12701121 | CPPS1 | 2 |
| 4 | Career Preparation for Programs of Study + Extended Career Preparation*<br>*First Time Taken* | 12701141 | EXCPPS1 | 3 |
| 4 | Scientific Research and Design* | 13037200 | SCIRD | 1 |

*Courses in multiple programs of study

## Diagnostic and Therapeutic Services

The Diagnostic and Therapeutic Services program of study focuses on occupational and educational opportunities associated with diagnosing and treating acute, episodic, or chronic illness independently or as part of a healthcare team. This program of study includes exploration of patient treatment and rehabilitative programs that help build or restore daily living skills to persons with disabilities or developmental delays.

| Level | Course Title | Course Code | Course Abbreviation | Credits |
|---|---|---|---|---|
| 1 | Principles of Health Science* | 13020200 | PRINHLSC | 1 |
| 1 | Principles of Diagnostic Healthcare | N1302106 | DIGHLTH | 1 |
| 1 | Principles of Therapeutic Healthcare | N1302110 | THERHLTH | 1 |
| 1 | Principles of Allied Health* | N1302105 | ALLHLTH | 1 |
| 1 | Introduction to Dental Science | N1302101 | DNTSCI | 1 |
| 1 | Introduction to Imaging Technology | N1302102 | IMGTECH | 1 |
| 1 | Introduction to Pharmacy Science | N1302103 | PHARSCI | 1 |
| | | | | |
| 2 | Medical Terminology* | 13020300 | MEDTERM | 1 |
| 2 | Allied Health Therapeutic Services* | N1302120 | ALLHTS | 1 |
| 2 | Dental Anatomy and Physiology | N1302122 | DENAP | 1 |
| 2 | Disaster Response* | N1303011 | DISRESP | 1 |
| 2 | Imaging Technology I | N1302123 | IMGTEC1 | 1 |
| 2 | Pharmacy I | 13021020 | PHARMI | 1 |
| | | | | |
| 3 | Anatomy and Physiology* | 13020600 | ANATPHYS | 1 |
| 3 | Medical Microbiology* | 13020700 | MICRO | 1 |
| 3 | Medical Assistant | 13021015 | MEDASST | 1 |
| 3 | Emergency Medical Technician–Basic* | N1303015 | EMTB | 2 |
| 3 | Clinical Ethics* | N1302121 | CLINETH | 1 |
| 3 | Dental Equipment and Procedures | N1302130 | DENTEP | 1 |
| 3 | Health Science Theory* | 13020400 | HLTHSCI | 1 |
| 3 | Health Science Theory + Health Science Clinical* | 13020410 | HLSCLIN | 2 |
| 3 | Respiratory Therapy I | 13021120 | RESPTHI | 1 |
| 3 | Imaging Technology II | N1302131 | IMGTEC2 | 2 |
| 3 | Pharmacy II | 13021030 | PHARMII | 2 |
| | | | | |
| 4 | Mathematics for Medical Professionals* | 13020970 | MTHMEDPR | 1 |
| 4 | Pathophysiology* | 13020800 | PATHO | 1 |
| 4 | Pharmacology* | 13020950 | PHARMC | 1 |
| 4 | Respiratory Therapy II | 13021122 | RESPTHII | 1 |
| 4 | Optical Technician | N1302126 | OPTTEC | 1 |
| 4 | Practicum in Health Science* <br> *First Time Taken* <br> *Second Time Taken* | <br> 13020500 <br> 13020510 | <br> PRACHLS1 <br> PRACHLS2 | <br> 2 <br> 2 |
| 4 | Practicum in Health Science + Extended Practicum in Health Science* <br> *First Time Taken* <br> *Second Time Taken* | <br><br> 13020505 <br> 13020515 | <br><br> EXPRHLS1 <br> EXPRHLS2 | <br><br> 3 <br> 3 |
| 4 | Career Preparation for Programs of Study* <br> *First Time Taken* | <br> 12701121 | <br> CPPS1 | <br> 2 |
| 4 | Career Preparation for Programs of Study + Extended Career Preparation* <br> *First Time Taken* | <br><br> 12701141 | <br><br> EXCPPS1 | <br><br> 3 |

*Courses in multiple programs of study*

## Exercise Science, Wellness, and Restoration

The Exercise Science, Wellness, and Restoration program of study focuses on occupational and educational opportunities associated with assisting patients with maintaining physical, mental, and emotional health. This program of study includes researching diet and exercise needed to maintain a healthy, balanced lifestyle and exploring techniques to help patients recover from injury, illness, or disease.

| Level | Course Title | Course Code | Course Abbreviation | Credits |
|---|---|---|---|---|
| 1 | Principles of Health Science* | 13020200 | PRINHLSC | 1 |
| 1 | Principles of Allied Health* | N1302105 | ALLHLTH | 1 |
| 1 | Principles of Exercise Science and Wellness | N1302107 | EXSCIWL | 1 |
| 1 | Principles of Community Services* | N1302542 | COMMSERV | 1 |
| 1 | Introduction to Speech Pathology and Audiology | N1302100 | INTSPA | 1 |
| | | | | |
| 2 | Interpersonal Studies* | 13024400 | INTERSTU | .5 |
| 2 | Lifetime Nutrition and Wellness* | 13024500 | LNURTWEL | .5 |
| 2 | Medical Terminology* | 13020300 | MEDTERM | 1 |
| 2 | Speech and Language Development* | 13021291 | SPCHLDEV | 1 |
| 2 | Kinesiology I | N1302104 | KINES1 | 1 |
| 2 | Allied Health Therapeutic Services* | N1302120 | ALLHTS | 1 |
| 2 | Entrepreneurship I* | 13011101 | ENTPR1 | 1 |
| | | | | |
| 3 | Health Science Theory* | 13020400 | HLTHSCI | 1 |
| 3 | Health Science Theory + Health Science Clinical* | 13020410 | HLSCLIN | 2 |
| 3 | Anatomy and Physiology* | 13020600 | ANATPHYS | 1 |
| 3 | Speech Communication Disorders* | 13021292 | SPCOMDIS | 1 |
| 3 | Kinesiology II | N1302124 | KINES2 | 1 |
| 3 | Physical Therapy I | N1302128 | PHYTHER1 | 1 |
| 3 | Occupational Therapy I | N1302132 | OCCHLTH1 | 1 |
| 3 | Applied Nutrition and Dietetics* | N1302541 | APPNUTR | 1 |
| | | | | |
| 4 | Occupational Therapy II | N1302133 | OCCHLTH2 | 1 |
| 4 | Physical Therapy II | N1302134 | PHYTHER2 | 1 |
| 4 | Career and Technical Education Project-Based Capstone* <br> *First Time Taken* | 12701101 | CTEPBC1 | 1 |
| 4 | Practicum in Entrepreneurship* <br> *First Time Taken* | 13011111 | PRACENT1 | 2 |
| 4 | Practicum in Entrepreneurship + Extended Practicum in Entrepreneurship* <br> *First Time Taken* | 13011121 | EXPRACENT1 | 3 |
| 4 | Practicum in Health Science* <br> *First Time Taken* <br> *Second Time Taken* | 13020500 <br> 13020510 | PRACHLS1 <br> PRACHLS2 | 2 <br> 2 |
| 4 | Practicum in Health Science + Extended Practicum in Health Science* <br> *First Time Taken* <br> *Second Time Taken* | 13020505 <br> 13020515 | EXPRHLS1 <br> EXPRHLS2 | 3 <br> 3 |
| 4 | Career Preparation for Programs of Study* <br> *First Time Taken* | 12701121 | CPPS1 | 2 |
| 4 | Career Preparation for Programs of Study + Extended Career Preparation* <br> *First Time Taken* | 12701141 | EXCPPS1 | 3 |

*Courses in multiple programs of study*

## Health Informatics

The Health Informatics program of study focuses on occupational and educational opportunities associated with the management and use of patient information in the healthcare field. This program of study includes exploration of computerized healthcare systems and the process of creating and maintaining hospital and patient records in accordance with regulatory requirements of the healthcare system. Students will also practice writing and interpreting medical reports.

| Level | Course Title | Course Code | Course Abbreviation | Credits |
|---|---|---|---|---|
| 1 | Principles of Health Science* | 13020200 | PRINHLSC | 1 |
| 1 | Principles of Health Informatics | N1302108 | HLTHINF | 1 |
| 1 | Foundations of Business Communication and Technologies* | 13011400 | FDNBUSI | 1 |
| 1 | Foundations of Business Communication and Technologies + Business Lab* | 13011410 | FDNBULAB | 2 |
| | | | | |
| 2 | Medical Terminology* | 13020300 | MEDTERM | 1 |
| 2 | Medical Intervention Evaluation and Research | N1302125 | MEDINEV | 1 |
| | | | | |
| 3 | Health Informatics | 13020960 | HLTHINF | 1 |
| 3 | Healthcare Administration and Management | 13020962 | HLTHAM | 1 |
| 3 | Health Science Theory* | 13020400 | HLTHSCI | 1 |
| 3 | Health Science Theory + Health Science Clinical* | 13020410 | HLSCLIN | 2 |
| | | | | |
| 4 | World Health and Emerging Technologies | 13020900 | WORLDHT | 1 |
| 4 | Mathematics for Medical Professionals* | 13020970 | MTHMEDPR | 1 |
| 4 | Medical Billing and Coding | 13020964 | MEDBC | 1 |
| 4 | Career and Technical Education Project-Based Capstone* <br> *First Time Taken* | 12701101 | CTEPBC1 | 1 |
| 4 | Practicum in Health Science* <br> *First Time Taken* <br> *Second Time Taken* | 13020500 <br> 13020510 | PRACHLS1 <br> PRACHLS2 | 2 <br> 2 |
| 4 | Practicum in Health Science + Extended Practicum in Health Science* <br> *First Time Taken* <br> *Second Time Taken* | 13020505 <br> 13020515 | EXPRHLS1 <br> EXPRHLS2 | 3 <br> 3 |
| 4 | Career Preparation for Programs of Study* <br> *First Time Taken* | 12701121 | CPPS1 | 2 |
| 4 | Career Preparation for Programs of Study + Extended Career Preparation* <br> *First Time Taken* | 12701141 | EXCPPS1 | 3 |

*Courses in multiple programs of study*

## Nursing Science

The Nursing Science program of study focuses on occupational and educational opportunities associated with patient care. This program of study includes the practice of caring for patients, performing routine procedures such as monitoring vital signs, developing, and implementing care plans, maintaining medical records, and managing disease or pain.

| Level | Course Title | Course Code | Course Abbreviation | Credits |
|---|---|---|---|---|
| 1 | Principles of Health Science* | 13020200 | PRINHLSC | 1 |
| 1 | Principles of Nursing Science | N1302109 | NURSSCI | 1 |
| | | | | |
| 2 | Science of Nursing | N1302129 | SCINURS | 1 |
| 2 | Medical Terminology* | 13020300 | MEDTERM | 1 |
| | | | | |
| 3 | Health Science Theory* | 13020400 | HLTHSCI | 1 |
| 3 | Health Science Theory + Health Science Clinical* | 13020410 | HLSCLIN | 2 |
| 3 | Anatomy and Physiology* | 13020600 | ANATPHYS | 1 |
| 3 | Medical Microbiology* | 13020700 | MICRO | 1 |
| 3 | Leadership and Management in Nursing | 13021225 | LMNURS | 1 |
| 3 | Clinical Ethics* | N1302121 | CLINETH | 1 |
| | | | | |
| 4 | Pathophysiology* | 13020800 | PATHO | 1 |
| 4 | Pharmacology* | 13020950 | PHARMC | 1 |
| 4 | Practicum in Nursing | 13021230 | PRACNRS | 2 |
| 4 | Practicum in Health Science* <br> *First Time Taken* <br> *Second Time Taken* | 13020500 <br> 13020510 | PRACHLS1 <br> PRACHLS2 | 2 <br> 2 |
| 4 | Practicum in Health Science + Extended Practicum in Health Science* <br> *First Time Taken* <br> *Second Time Taken* | 13020505 <br> 13020515 | EXPRHLS1 <br> EXPRHLS2 | 3 <br> 3 |
| 4 | Career Preparation for Programs of Study* <br> *First Time Taken* | 12701121 | CPPS1 | 2 |
| 4 | Career Preparation for Programs of Study + Extended Career Preparation* <br> *First Time Taken* | 12701141 | EXCPPS1 | 3 |

*Courses in multiple programs of study

# Hospitality and Tourism

The Hospitality and Tourism career cluster focuses on the management, marketing, and operations of restaurants, lodging, attractions, recreation events, and travel-related services. This career cluster includes occupations ranging from reservation and transportation ticket agent to event planner and general manager.

## Programs of Study
•Culinary Arts
•Lodging and Resort Management
•Travel, Tourism, and Attractions

## Courses Listed in Texas Administrative Code (Title 19, Chapter 127, Subchapter K)
§127.561   Principles of Hospitality and Tourism (One Credit), Adopted 2015
§127.562   Introduction to Culinary Arts (One Credit), Adopted 2015
§127.563   Culinary Arts (Two Credits), Adopted 2015
§127.564   Advanced Culinary Arts (Two Credits), Adopted 2015
§127.565   Food Science (One Credit), Adopted 2021
§127.566   Travel and Tourism Management (One Credit), Adopted 2015
§127.567   Hotel Management (One Credit), Adopted 2015
§127.568   Hospitality Services (Two Credits), Adopted 2015
§127.569   Foundations of Restaurant Management (One Credit), Adopted 2025
§127.571   Event and Meeting Planning (One Credit), Adopted 2025
§127.600   Practicum in Culinary Arts (Two Credits), Adopted 2015
§127.601   Extended Practicum in Culinary Arts (One Credit), Adopted 2015
§127.602   Practicum in Hospitality Services (Two Credits), Adopted 2015
§127.603   Extended Practicum in Hospitality Services (One Credit), Adopted 2015
§127.604   Practicum in Event and Meeting Planning (Two Credits), Adopted 2025

## Innovative Courses
•Tourism Marketing Concepts and Applications

## Culinary Arts

The Culinary Arts program of study focuses on occupational and educational opportunities associated with the planning, directing, or coordinating activities of a food and beverage organization or department. This program of study includes opportunities involved in directing and participating in the preparation of food.

| Level | Course Title | Course Code | Course Abbreviation | Credits |
|---|---|---|---|---|
| 1 | Principles of Hospitality and Tourism* | 13022200 | PRINHOSP | 1 |
| 1 | Introduction to Culinary Arts* | 13022550 | INCULART | 1 |
| | | | | |
| 2 | Culinary Arts | 13022600 | CULARTS | 2 |
| 2 | Entrepreneurship I* | 13011101 | ENTPR1 | 1 |
| 2 | Food Technology and Safety* | 13001300 | FOODTS | 1 |
| 2 | Foundations of Restaurant Management* | 13022720 | RSTMGMT | 1 |
| | | | | |
| 3 | Advanced Culinary Arts | 13022650 | ADCULART | 2 |
| 3 | Event and Meeting Planning* | 13022730 | INTMTGPL | 1 |
| 3 | Tourism Marketing Concepts and Applications* | N1302270 | TOURMRKT | 1 |
| 3 | Food Processing* | 13001400 | FOODPRO | 1 |
| 3 | Food Processing + Agricultural Laboratory and Field Experience* | 13001410 | FOODPRLAB | 2 |
| | | | | |
| 4 | Food Science* | 13023000 | FOODSCI | 1 |
| 4 | Practicum in Culinary Arts<br>*First Time Taken*<br>*Second Time Taken* | <br>13022700<br>13022710 | <br>PRACCUL1<br>PRACCUL2 | <br>2<br>2 |
| 4 | Practicum in Culinary Arts + Extended Practicum in Culinary Arts<br>*First Time Taken*<br>*Second Time Taken* | <br><br>13022705<br>13022715 | <br><br>EXPRCUL1<br>EXPRCUL2 | <br><br>3<br>3 |
| 4 | Practicum in Event and Meeting Planning*<br>*First Time Taken*<br>*Second Time Taken* | <br>13022920<br>13022930 | <br>PRACEMP1<br>PRACEMP2 | <br>2<br>2 |
| 4 | Practicum in Event and Meeting Planning + Extended Practicum in Hospitality Services*<br>*First Time Taken*<br>*Second Time Taken* | <br><br>13022925<br>13022935 | <br><br>EXPREMP1<br>EXPREMP2 | <br><br>3<br>3 |
| 4 | Practicum in Hospitality Services*<br>*First Time Taken*<br>*Second Time Taken* | <br>13022900<br>13022910 | <br>PRACHOS1<br>PRACHOS2 | <br>2<br>2 |
| 4 | Practicum in Hospitality Services + Extended Practicum in Hospitality Services*<br>*First Time Taken*<br>*Second Time Taken* | <br><br>13022905<br>13022915 | <br><br>EXPRHOS1<br>EXPRHOS2 | <br><br>3<br>3 |
| 4 | Practicum in Entrepreneurship*<br>*First Time Taken* | <br>13011111 | <br>PRACENT1 | <br>2 |
| 4 | Practicum in Entrepreneurship + Extended Practicum in Entrepreneurship*<br>*First Time Taken* | <br><br>13011121 | <br><br>EXPRACENT1 | <br><br>3 |
| 4 | Career Preparation for Programs of Study*<br>*First Time Taken* | <br>12701121 | <br>CPPS1 | <br>2 |

| Level | Course Title | Course Code | Course Abbreviation | Credits |
|---|---|---|---|---|
| 4 | Career Preparation for Programs of Study + Extended Career Preparation* <br> *First Time Taken* | 12701141 | EXCPPS1 | 3 |

*Courses in multiple programs of study

## Lodging and Resort Management

The Lodging and Resort Management program of study focuses on occupational and educational opportunities associated with the logistical and operational management of lodging and resorts. This program of study addresses human resources, financial analysis, and marketing.

| Level | Course Title | Course Code | Course Abbreviation | Credits |
|---|---|---|---|---|
| 1 | Principles of Hospitality and Tourism* | 13022200 | PRINHOSP | 1 |
| 1 | Principles of Business, Marketing, and Finance* | 13011200 | PRINBMF | 1 |
| | | | | |
| 2 | Hotel Management* | 13022300 | HOTELMGT | 1 |
| 2 | Travel and Tourism Management* | 13022500 | TRTORMGT | 1 |
| 2 | Entrepreneurship I* | 13011101 | ENTPR1 | 1 |
| | | | | |
| 3 | Event and Meeting Planning* | 13022730 | INTMTGPL | 1 |
| 3 | Business Management* | 13012100 | BUSMGT | 1 |
| 3 | Tourism Marketing Concepts and Applications* | N1302270 | TOURMRKT | 1 |
| 3 | Hospitality Services* | 13022800 | HOSPSRVS | 2 |
| | | | | |
| 4 | Practicum in Event and Meeting Planning*<br>*First Time Taken*<br>*Second Time Taken* | <br>13022920<br>13022930 | <br>PRACEMP1<br>PRACEMP2 | <br>2<br>2 |
| 4 | Practicum in Event and Meeting Planning + Extended Practicum in Hospitality Services*<br>*First Time Taken*<br>*Second Time Taken* | <br><br>13022925<br>13022935 | <br><br>EXPREMP1<br>EXPREMP2 | <br><br>3<br>3 |
| 4 | Practicum in Hospitality Services*<br>*First Time Taken*<br>*Second Time Taken* | <br>13022900<br>13022910 | <br>PRACHOS1<br>PRACHOS2 | <br>2<br>2 |
| 4 | Practicum in Hospitality Services + Extended Practicum in Hospitality Services*<br>*First Time Taken*<br>*Second Time Taken* | <br><br>13022905<br>13022915 | <br><br>EXPRHOS1<br>EXPRHOS2 | <br><br>3<br>3 |
| 4 | Practicum in Entrepreneurship*<br>*First Time Taken* | <br>13011111 | <br>PRACENT1 | <br>2 |
| 4 | Practicum in Entrepreneurship + Extended Practicum in Entrepreneurship*<br>*First Time Taken* | <br><br>13011121 | <br><br>EXPRACENT1 | <br><br>3 |
| 4 | Career Preparation for Programs of Study*<br>*First Time Taken* | <br>12701121 | <br>CPPS1 | <br>2 |
| 4 | Career Preparation for Programs of Study + Extended Career Preparation*<br>*First Time Taken* | <br><br>12701141 | <br><br>EXCPPS1 | <br><br>3 |

*Courses in multiple programs of study*

## Travel, Tourism, and Attractions

The Travel, Tourism, and Attractions program of study focuses on occupational and educational opportunities associated with the marketing and sales of travel and tourism services. This program of study includes planning, directing, and coordinating marketing or business policies and programs. Students will identify potential customers and determine demand and promotional strategies for products and services.

| Level | Course Title | Course Code | Course Abbreviation | Credits |
|---|---|---|---|---|
| 1 | Principles of Hospitality and Tourism* | 13022200 | PRINHOSP | 1 |
| 1 | Introduction to Culinary Arts* | 13022550 | INCULART | 1 |
| | | | | |
| 2 | Travel and Tourism Management* | 13022500 | TRTORMGT | 1 |
| 2 | Foundations of Restaurant Management* | 13022720 | RSTMGMT | 1 |
| 2 | Sports and Entertainment Marketing* | 13034600 | SPORTSEM | .5 |
| 2 | Hotel Management* | 13022300 | HOTELMGT | 1 |
| 2 | Entrepreneurship I* | 13011101 | ENTPR1 | 1 |
| | | | | |
| 3 | Global Business* | 13011800 | GLOBBUS | .5 |
| 3 | Tourism Marketing Concepts and Applications* | N1302270 | TOURMRKT | 1 |
| 3 | Hospitality Services* | 13022800 | HOSPSRVS | 2 |
| | | | | |
| 4 | Practicum in Event and Meeting Planning* *First Time Taken* *Second Time Taken* | 13022920 13022930 | PRACEMP1 PRACEMP2 | 2 2 |
| 4 | Practicum in Event and Meeting Planning + Extended Practicum in Hospitality Services* *First Time Taken* *Second Time Taken* | 13022925 13022935 | EXPREMP1 EXPREMP2 | 3 3 |
| 4 | Practicum in Hospitality Services* *First Time Taken* *Second Time Taken* | 13022900 13022910 | PRACHOS1 PRACHOS2 | 2 2 |
| 4 | Practicum in Hospitality Services + Extended Practicum in Hospitality Services* *First Time Taken* *Second Time Taken* | 13022905 13022915 | EXPRHOS1 EXPRHOS2 | 3 3 |
| 4 | Practicum in Entrepreneurship* *First Time Taken* | 13011111 | PRACENT1 | 2 |
| 4 | Practicum in Entrepreneurship + Extended Practicum in Entrepreneurship* *First Time Taken* | 13011121 | EXPRACENT1 | 3 |
| 4 | Career Preparation for Programs of Study* *First Time Taken* | 12701121 | CPPS1 | 2 |
| 4 | Career Preparation for Programs of Study + Extended Career Preparation* *First Time Taken* | 12701141 | EXCPPS1 | 3 |

*Courses in multiple programs of study*

# Human Services

The Human Services career cluster focuses on preparing individuals for employment in career pathways that relate to families and human needs, such as counseling and mental health services, family and community services, personal care services, and consumer services. This career cluster includes occupations ranging from community health workers to cosmetologists and nutritionists.

## Programs of Study
- Cosmetology and Personal Care Services (Regional Program of Study)
- Family and Community Services
- Health and Wellness

## Courses Listed in Texas Administrative Code (Title 19, Chapter 127, Subchapter L)

§127.611    Principles of Human Services (One Credit), Adopted 2015
§127.612    Principles of Cosmetology Design and Color Theory (One Credit), Adopted 2015
§127.613    Dollars and Sense (One-Half Credit), Adopted 2015
§127.614    Lifetime Nutrition and Wellness (One-Half Credit), Adopted 2015
§127.615    Interpersonal Studies (One-Half Credit), Adopted 2015
§127.616    Counseling and Mental Health (One Credit), Adopted 2015
§127.617    Family and Community Services (One Credit), Adopted 2015
§127.618    Introduction to Cosmetology (One Credit), Adopted 2015
§127.619    Cosmetology I (Two Credits), Adopted 2015
§127.620    Cosmetology I Lab (One Credit), Adopted 2018
§127.621    Cosmetology II (Two Credits), Adopted 2015
§127.622    Cosmetology II Lab (One Credit), Adopted 2018
§127.665    Practicum in Human Services (Two Credits), Adopted 2015
§127.666    Extended Practicum in Human Services (One Credit), Adopted 2015

## Innovative Courses
- Applied Nutrition and Dietetics
- Barbering I
- Barbering II
- Esthetics
- Microbiology and Safety for Cosmetology Careers
- Nail Care, Enhancements and Spa Services
- Principles of Community Services
- Social and Community Services

## Cosmetology and Personal Care Services (Regional Program of Study)
*Approved in ESC Regions 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 16, 17, 18, 19, and 20*
*The list of approved ESC regions is updated every school year. Be sure to check the CTE regional program of study website for updates.*

The Cosmetology and Personal Care Services regional program of study focuses on occupational and educational opportunities associated with providing beauty and personal care services. This program of study includes managing personal care facilities and coordinating or supervising personal service workers.

| Level | Course Title | Course Code | Course Abbreviation | Credits |
|-------|--------------|-------------|---------------------|---------|
| 1 | Principles of Cosmetology Design and Color Theory | 13025050 | PRICOSMO | 1 |
| 1 | Microbiology and Safety for Cosmetology Careers | N1302540 | MICRCOS | 1 |
| | | | | |
| 2 | Introduction to Cosmetology | 13025100 | INTCOSMO | 1 |
| 2 | Nail Care, Enhancements and Spa Services | N1302531 | NCESS | 2 |
| 2 | Esthetics | N1302533 | ESTHE | 2 |
| 2 | Entrepreneurship I* | 13011101 | ENTPR1 | 1 |
| | | | | |
| 3 | Cosmetology I | 13025200 | COSMET1 | 2 |
| 3 | Cosmetology I + Cosmetology I Lab | 13025210 | COSLAB1 | 3 |
| 3 | Barbering I | N1302534 | BARBER1 | 3 |
| | | | | |
| 4 | Cosmetology II | 13025300 | COSMET2 | 2 |
| 4 | Cosmetology II + Cosmetology II Lab | 13025310 | COSLAB2 | 3 |
| 4 | Barbering II | N1302535 | BARBER2 | 3 |
| 4 | Practicum in Entrepreneurship* <br> *First Time Taken* | 13011111 | PRACENT1 | 2 |
| 4 | Practicum in Entrepreneurship + Extended Practicum in Entrepreneurship* <br> *First Time Taken* | 13011121 | EXPRACENT1 | 3 |
| 4 | Career Preparation for Programs of Study* <br> *First Time Taken* | 12701121 | CPPS1 | 2 |
| 4 | Career Preparation for Programs of Study + Extended Career Preparation* <br> *First Time Taken* | 12701141 | EXCPPS1 | 3 |

*Courses in multiple programs of study*

## Family and Community Services

The Family and Community Services program of study focuses on occupational and educational opportunities associated with social services, including child and human development and consumer sciences. This program of study includes managing social and community services, managing family and consumer sciences, and understanding career paths in social work or therapy for children, families, or school communities.

| Level | Course Title | Course Code | Course Abbreviation | Credits |
|---|---|---|---|---|
| 1 | Principles of Human Services* | 13024200 | PRINHUSR | 1 |
| 1 | Principles of Community Services* | N1302542 | COMMSERV | 1 |
| 1 | Professional Communications* | 13009900 | PROFCOMM | .5 |
| 1 | Dollars and Sense* | 13024300 | DOLLARSE | .5 |
| | | | | |
| 2 | Human Growth and Development* | 13014300 | HUGRDEV | 1 |
| 2 | Child Development* | 13024700 | CHILDDEV | 1 |
| 2 | Child Development Associate Foundations* | 13024710 | CDAFND | 1 |
| 2 | Lifetime Nutrition and Wellness* | 13024500 | LNURTWEL | .5 |
| 2 | Interpersonal Studies* | 13024400 | INTERSTU | .5 |
| 2 | Social and Community Services | N1302543 | SOCCOM | 1 |
| 2 | Entrepreneurship I* | 13011101 | ENTPR1 | 1 |
| | | | | |
| 3 | Family and Community Services* | 13024900 | FAMCOSRV | 1 |
| 3 | Counseling and Mental Health* | 13024600 | COUNSMH | 1 |
| | | | | |
| 4 | Career and Technical Education Project-Based Capstone* <br> *First Time Taken* | 12701101 | CTEPBC1 | 1 |
| 4 | Practicum in Human Services* <br> *First Time Taken* <br> *Second Time Taken* | 13025000 <br> 13025010 | PRACHUS1 <br> PRACHUS2 | 2 <br> 2 |
| 4 | Practicum in Human Services + Extended Practicum in Human Services* <br> *First Time Taken* <br> *Second Time Taken* | 13025005 <br> 13025015 | EXPRHUS1 <br> EXPRHUS2 | 3 <br> 3 |
| 4 | Practicum in Entrepreneurship* <br> *First Time Taken* | 13011111 | PRACENT1 | 2 |
| 4 | Practicum in Entrepreneurship + Extended Practicum in Entrepreneurship* <br> *First Time Taken* | 13011121 | EXPRACENT1 | 3 |
| 4 | Career Preparation for Programs of Study* <br> *First Time Taken* | 12701121 | CPPS1 | 2 |
| 4 | Career Preparation for Programs of Study + Extended Career Preparation* <br> *First Time Taken* | 12701141 | EXCPPS1 | 3 |

*Courses in multiple programs of study*

## Health and Wellness

The Health and Wellness program of study focuses on occupational and educational opportunities associated with promoting physical, emotional, and mental health and wellness. This program of study incudes assisting patients in planning for their health and wellness, responding to crises, providing education or counseling, making referrals, and addressing barriers to accessing health and wellness services.

| Level | Course Title | Course Code | Course Abbreviation | Credits |
|---|---|---|---|---|
| 1 | Principles of Human Services* | 13024200 | PRINHUSR | 1 |
| 1 | Principles of Community Services* | N1302542 | COMMSERV | 1 |
| 1 | Dollars and Sense* | 13024300 | DOLLARSE | .5 |
| | | | | |
| 2 | Human Growth and Development* | 13014300 | HUGRDEV | 1 |
| 2 | Child Development* | 13024700 | CHILDDEV | 1 |
| 2 | Lifetime Nutrition and Wellness* | 13024500 | LNURTWEL | .5 |
| 2 | Interpersonal Studies* | 13024400 | INTERSTU | .5 |
| 2 | Entrepreneurship I* | 13011101 | ENTPR1 | 1 |
| | | | | |
| 3 | Applied Nutrition and Dietetics* | N1302541 | APPNUTR | 1 |
| 3 | Family and Community Services* | 13024900 | FAMCOSRV | 1 |
| 3 | Counseling and Mental Health* | 13024600 | COUNSMH | 1 |
| | | | | |
| 4 | Food Science* | 13023000 | FOODSCI | 1 |
| 4 | Practicum in Human Services*<br>*First Time Taken*<br>*Second Time Taken* | <br>13025000<br>13025010 | <br>PRACHUS1<br>PRACHUS2 | <br>2<br>2 |
| 4 | Practicum in Human Services + Extended Practicum in Human Services*<br>*First Time Taken*<br>*Second Time Taken* | <br><br>13025005<br>13025015 | <br><br>EXPRHUS1<br>EXPRHUS2 | <br><br>3<br>3 |
| 4 | Practicum in Entrepreneurship*<br>*First Time Taken* | <br>13011111 | <br>PRACENT1 | <br>2 |
| 4 | Practicum in Entrepreneurship + Extended Practicum in Entrepreneurship*<br>*First Time Taken* | <br><br>13011121 | <br><br>EXPRACENT1 | <br><br>3 |
| 4 | Career Preparation for Programs of Study*<br>*First Time Taken* | <br>12701121 | <br>CPPS1 | <br>2 |
| 4 | Career Preparation for Programs of Study + Extended Career Preparation*<br>*First Time Taken* | <br><br>12701141 | <br><br>EXCPPS1 | <br><br>3 |

*Courses in multiple programs of study

# Information Technology

The Information Technology (IT) career cluster focuses on the design, development, support, and management of hardware, software, multimedia, and systems integration services. This career cluster includes occupations ranging from Software Developer and Programmer to Cybersecurity Specialists and Network Analysts.

**Programs of Study**
- Cybersecurity
- Information Technology Support and Services
- Networking Systems
- Programming and Software Development
- Web Development

**Courses Listed in Texas Administrative Code (Title 19, Chapter 127, Subchapter M)**

§127.671   Principles of Information Technology (One Credit), Adopted 2015
§127.672   Fundamentals of Computer Science (One Credit), Adopted 2022
§127.673   Computer Science I (One Credit), Adopted 2022
§127.674   Computer Science II (One Credit), Adopted 2022
§127.675   Computer Science III (One Credit), Adopted 2022
§127.676   Foundations of Cybersecurity (One Credit), Adopted 2022
§127.677   Digital Forensics (One Credit), Adopted 2022
§127.678   Cybersecurity Capstone (One Credit), Adopted 2022
§127.679   Computer Maintenance (One Credit), Adopted 2015
§127.680   Computer Maintenance Lab (One Credit), Adopted 2015
§127.681   Networking (One Credit), Adopted 2015
§127.682   Networking Lab (One Credit), Adopted 2015
§127.683   Digital Media (One Credit), Adopted 2015
§127.684   Web Communications (One-Half Credit)
§127.685   Web Design (One Credit)
§127.686   Discrete Mathematics for Computer Science (One Credit), Beginning with School Year 2012-2013
§127.687   Game Programming and Design (One Credit)
§127.688   Mobile Application Development (One Credit)
§127.689   Advanced Cloud Computing (One Credit), Adopted 2025
§127.690   Foundations of User Experience (One Credit), Adopted 2025
§127.691   Advanced User Experience Design (One Credit), Adopted 2025
§127.695   Information Technology Troubleshooting (One Credit), Adopted 2025
§127.696   Engineering Applications of Computer Science Principles (One Credit), Adopted 2025
§127.697   Geographic Information Systems (One Credit), Adopted 2025
§127.698   Raster-Based Geographic Information Systems (One Credit), Adopted 2025
§127.699   Spatial Technology and Remote Sensing (One Credit), Adopted 2025
§127.720   Independent Study in Technology Applications (One Credit), Beginning with School Year 2012-2013
§127.721   Independent Study in Evolving/Emerging Technologies (One Credit)
§127.722   Advanced Placement (AP) Computer Science A (Two Credits)
§127.723   Advanced Placement (AP) Computer Science Principles (One Credit)
§127.724   International Baccalaureate (IB) Computer Science Standard Level (Two Credits)
§127.725   International Baccalaureate (IB) Computer Science Higher Level (Two Credits)
§127.726   International Baccalaureate (IB) Digital Society Standard Level (Two Credits)
§127.727   International Baccalaureate (IB) Digital Society Higher Level (Two Credits)
§127.735   Practicum in Information Technology (Two Credits), Adopted 2015
§127.736   Extended Practicum in Information Technology (One Credit), Adopted 2015
§127.737   Computer Technician Practicum (Two Credits), Adopted 2015
§127.738   Extended Computer Technician Practicum (One Credit), Adopted 2015

**Innovative Courses**
•Internetworking Technologies I (Cisco)
•Internetworking Technologies II (Cisco)
•Introduction to C# Programming Applications

## Cybersecurity

The Cybersecurity program of study focuses on occupational and educational opportunities associated with planning, implementing, upgrading, or monitoring security measures for the protection of computer networks and information. This program of study includes responding to computer security breaches and viruses and administering network security measures.

| Level | Course Title | Course Code | Course Abbreviation | Credits |
|---|---|---|---|---|
| 1 | Principles of Information Technology* | 13027200 | PRINIT | 1 |
| 1 | Fundamentals of Computer Science* | 03580140 | TAFCS | 1 |
| 1 | Foundations of Cybersecurity | 03580850 | TAFCYB | 1 |
| | | | | |
| 2 | Computer Science I* | 03580200 | TACS1 | 1 |
| 2 | Internetworking Technologies I (Cisco)* | N1302803 | INTNET1 | 1 |
| 2 | Computer Maintenance* | 13027300 | COMPMTN | 1 |
| 2 | Computer Maintenance + Computer Maintenance Lab* | 13027310 | COMMTLAB | 2 |
| 2 | Advanced Placement (AP) Computer Science Principles* | A3580300 | APCSPRIN | 1 |
| | | | | |
| 3 | Engineering Applications of Computer Science Principles | 13027540 | ENGRAPCS | 1 |
| 3 | Internetworking Technologies II (Cisco)* | N1302804 | INTNET2 | 1 |
| 3 | Advanced Cloud Computing* | 13027520 | ADVCLOUD | 1 |
| 3 | Digital Forensics | 03580360 | TADGFR | 1 |
| 3 | Discrete Mathematics for Computer Science* | 03580370 | TADISMA | 1 |
| 3 | Networking* | 13027400 | NETWRK | 1 |
| 3 | Networking + Networking Lab* | 13027410 | NETWRLAB | 2 |
| 3 | Advanced Placement (AP) Computer Science A* <br> *AP Computer Science A - MATH* <br> *AP Computer Science A - LOTE* | <br> A3580110 <br> A3580120 | <br> APTACSAM <br> APTACSAL | <br> 1 <br> 1 |
| 3 | International Baccalaureate (IB) Computer Science Standard Level* | I3580200 | IBTACSSL | 2 |
| 3 | International Baccalaureate (IB) Computer Science Higher Level* <br> *IB Computer Science Higher Level - MATH* <br> *IB Computer Science Higher Level - LOTE* | <br> I3580310 <br> I3580320 | <br> IBTACSHLM <br> IBTACSHLL | <br> 1 <br> 1 |
| | | | | |
| 4 | Independent Study in Technology Applications* <br> *First Time Taken* | 03580900 | TAIND1 | 1 |
| 4 | Independent Study in Evolving/Emerging Technologies* <br> *First Time Taken* | 03581500 | TAINDET1 | 1 |
| 4 | Cybersecurity Capstone | 03580855 | TACYBCAP | 1 |
| 4 | Career and Technical Education Project-Based Capstone* <br> *First Time Taken* | 12701101 | CTEPBC1 | 1 |
| 4 | Practicum in Information Technology* <br> *First Time Taken* <br> *Second Time Taken* | <br> 13028000 <br> 13028010 | <br> PRACIT1 <br> PRACIT2 | <br> 2 <br> 2 |
| 4 | Practicum in Information Technology + Extended Practicum in Information Technology* <br> *First Time Taken* <br> *Second Time Taken* | <br> 13028005 <br> 13028015 | <br> EXPRIT1 <br> EXPRIT2 | <br> 3 <br> 3 |
| 4 | Practicum in Engineering* <br> *First Time Taken* <br> *Second Time Taken* | <br> 12756080 <br> 12756090 | <br> PRCENGR1 <br> PRCENGR2 | <br> 2 <br> 2 |

| Level | Course Title | Course Code | Course Abbreviation | Credits |
|---|---|---|---|---|
| | | | | |
| 4 | Practicum in Engineering + Extended Practicum in Engineering*<br>*First Time Taken*<br>*Second Time Taken* | <br>12756085<br>12756095 | <br>EXPRENG1<br>EXPRENG2 | <br>3<br>3 |
| 4 | Career Preparation for Programs of Study*<br>*First Time Taken* | <br>12701121 | <br>CPPS1 | <br>2 |
| 4 | Career Preparation for Programs of Study + Extended Career Preparation*<br>*First Time Taken* | <br><br>12701141 | <br><br>EXCPPS1 | <br><br>3 |

*Courses in multiple programs of study*

## Information Technology Support and Services

The Information Technology Support and Services program of study focuses on occupational and educational opportunities associated with administering, testing, and implementing computer databases and applying knowledge of database management systems. This program of study includes analyzing user requirements, automating or improving existing systems, and reviewing computer system capabilities. It also includes research, design, and testing of computer or computer-related equipment for commercial, industrial, military, or scientific use.

| Level | Course Title | Course Code | Course Abbreviation | Credits |
|---|---|---|---|---|
| 1 | Principles of Information Technology* | 13027200 | PRINIT | 1 |
| 1 | Fundamentals of Computer Science* | 03580140 | TAFCS | 1 |
| | | | | |
| 2 | Internetworking Technologies I (Cisco)* | N1302803 | INTNET1 | 1 |
| 2 | Geographic Information Systems (GIS)* | 13027545 | GISYS | 1 |
| 2 | Raster-Based Geographic Information Systems* | 13027550 | RASGIS | 1 |
| 2 | Computer Maintenance* | 13027300 | COMPMTN | 1 |
| 2 | Computer Maintenance + Computer Maintenance Lab* | 13027310 | COMMTLAB | 2 |
| 2 | Entrepreneurship I* | 13011101 | ENTPR1 | 1 |
| | | | | |
| 3 | Internetworking Technologies II (Cisco)* | N1302804 | INTNET2 | 1 |
| 3 | Spatial Technology and Remote Sensing* | 13027555 | SPTECHRS | 1 |
| 3 | Advanced Cloud Computing* | 13027520 | ADVCLOUD | 1 |
| 3 | Information Technology Troubleshooting | 13027535 | INFOTRBL | 1 |
| | | | | |
| 4 | Independent Study in Technology Applications*<br>*First Time Taken* | 03580900 | TAIND1 | 1 |
| 4 | Independent Study in Evolving/Emerging Technologies*<br>*First Time Taken* | 03581500 | TAINDET1 | 1 |
| 4 | Career and Technical Education Project-Based Capstone*<br>*First Time Taken* | 12701101 | CTEPBC1 | 1 |
| 4 | Computer Technician Practicum<br>*First Time Taken*<br>*Second Time Taken* | <br>13027500<br>13027510 | <br>COMPT1<br>COMPT2 | <br>2<br>2 |
| 4 | Computer Technician Practicum + Extended Computer Technician Practicum<br>*First Time Taken*<br>*Second Time Taken* | <br><br>13027505<br>13027515 | <br><br>EXCOMPT1<br>EXCOMPT2 | <br><br>3<br>3 |
| 4 | Practicum in Information Technology*<br>*First Time Taken*<br>*Second Time Taken* | <br>13028000<br>13028010 | <br>PRACIT1<br>PRACIT2 | <br>2<br>2 |
| 4 | Practicum in Information Technology + Extended Practicum in Information Technology*<br>*First Time Taken*<br>*Second Time Taken* | <br><br>13028005<br>13028015 | <br><br>EXPRIT1<br>EXPRIT2 | <br><br>3<br>3 |
| 4 | Practicum in Entrepreneurship*<br>*First Time Taken* | 13011111 | PRACENT1 | 2 |
| 4 | Practicum in Entrepreneurship + Extended Practicum in Entrepreneurship*<br>*First Time Taken* | 13011121 | EXPRACENT1 | 3 |
| 4 | Career Preparation for Programs of Study*<br>*First Time Taken* | 12701121 | CPPS1 | 2 |

| Level | Course Title | Course Code | Course Abbreviation | Credits |
|---|---|---|---|---|
| 4 | Career Preparation for Programs of Study + Extended Career Preparation*<br>*First Time Taken* | 12701141 | EXCPPS1 | 3 |

*Courses in multiple programs of study*

## Networking Systems

The Networking Systems program of study focuses on occupations and educational opportunities associated with designing and implementing computer and information networks, such as local area networks (LAN), wide area networks (WAN), intranets, extranets, and other data communications networks. This program of study includes analysis of data processing challenges to implementing and improving computer systems.

| Level | Course Title | Course Code | Course Abbreviation | Credits |
|---|---|---|---|---|
| 1 | Principles of Information Technology* | 13027200 | PRINIT | 1 |
| 1 | Fundamentals of Computer Science* | 03580140 | TAFCS | 1 |
| | | | | |
| 2 | Computer Science I* | 03580200 | TACS1 | 1 |
| 2 | Internetworking Technologies I (Cisco)* | N1302803 | INTNET1 | 1 |
| 2 | Computer Maintenance* | 13027300 | COMPMTN | 1 |
| 2 | Computer Maintenance + Computer Maintenance Lab* | 13027310 | COMMTLAB | 2 |
| 2 | Advanced Placement (AP) Computer Science Principles* | A3580300 | APCSPRIN | 1 |
| 2 | Entrepreneurship I* | 13011101 | ENTPR1 | 1 |
| | | | | |
| 3 | Internetworking Technologies II (Cisco)* | N1302804 | INTNET2 | 1 |
| 3 | Advanced Cloud Computing* | 13027520 | ADVCLOUD | 1 |
| 3 | Networking* | 13027400 | NETWRK | 1 |
| 3 | Networking + Networking Lab* | 13027410 | NETWRLAB | 2 |
| | | | | |
| 4 | Independent Study in Technology Applications*<br>*First Time Taken* | 03580900 | TAIND1 | 1 |
| 4 | Independent Study in Evolving/Emerging Technologies*<br>*First Time Taken* | 03581500 | TAINDET1 | 1 |
| 4 | Career and Technical Education Project-Based Capstone*<br>*First Time Taken* | 12701101 | CTEPBC1 | 1 |
| 4 | Practicum in Information Technology*<br>*First Time Taken*<br>*Second Time Taken* | 13028000<br>13028010 | PRACIT1<br>PRACIT2 | 2<br>2 |
| 4 | Practicum in Information Technology + Extended Practicum in Information Technology*<br>*First Time Taken*<br>*Second Time Taken* | 13028005<br>13028015 | EXPRIT1<br>EXPRIT2 | 3<br>3 |
| 4 | Practicum in Entrepreneurship*<br>*First Time Taken* | 13011111 | PRACENT1 | 2 |
| 4 | Practicum in Entrepreneurship + Extended Practicum in Entrepreneurship*<br>*First Time Taken* | 13011121 | EXPRACENT1 | 3 |
| 4 | Career Preparation for Programs of Study*<br>*First Time Taken* | 12701121 | CPPS1 | 2 |
| 4 | Career Preparation for Programs of Study + Extended Career Preparation*<br>*First Time Taken* | 12701141 | EXCPPS1 | 3 |

*Courses in multiple programs of study

## Programming and Software Development

The Programming and Software Development program of study focuses on occupational and educational opportunities associated with researching, designing, developing, testing, and operating systems-level software, compilers, and network distribution software for medical, industrial, military, communications, aerospace, business, scientific, and general computer applications. This program of study includes creating, modifying, and testing the codes, forms, and script that allow computer applications to run.

| Level | Course Title | Course Code | Course Abbreviation | Credits |
|---|---|---|---|---|
| 1 | Principles of Information Technology* | 13027200 | PRINIT | 1 |
| 1 | Fundamentals of Computer Science* | 03580140 | TAFCS | 1 |
| | | | | |
| 2 | Computer Science I* | 03580200 | TACS1 | 1 |
| 2 | Game Programming and Design* | 03580380 | TAGMPD | 1 |
| 2 | Advanced Placement (AP) Computer Science Principles* | A3580300 | APCSPRIN | 1 |
| 2 | Entrepreneurship I* | 13011101 | ENTPR1 | 1 |
| | | | | |
| 3 | Introduction to C# Programming Applications | N1302812 | INTCPA | 1 |
| 3 | Computer Science II | 03580300 | TACS2 | 1 |
| 3 | Advanced Cloud Computing* | 13027520 | ADVCLOUD | 1 |
| 3 | Discrete Mathematics for Computer Science* | 03580370 | TADISMA | 1 |
| 3 | Mobile Application Development* | 03580390 | TAMBAD | 1 |
| 3 | Advanced Placement (AP) Computer Science A*<br>*AP Computer Science A - MATH*<br>*AP Computer Science A - LOTE* | A3580110<br>A3580120 | APTACSAM<br>APTACSAL | 1<br>1 |
| 3 | International Baccalaureate (IB)<br>Computer Science Standard Level* | I3580200 | IBTACSSL | 2 |
| 3 | International Baccalaureate (IB)<br>Computer Science Higher Level*<br>*IB Computer Science Higher Level - MATH*<br>*IB Computer Science Higher Level - LOTE* | I3580310<br>I3580320 | IBTACSHLM<br>IBTACSHLL | 1<br>1 |
| | | | | |
| 4 | Computer Science III | 03580350 | TACS3 | 1 |
| 4 | Independent Study in Technology Applications*<br>*First Time Taken* | 03580900 | TAIND1 | 1 |
| 4 | Independent Study in Evolving/Emerging Technologies*<br>*First Time Taken* | 03581500 | TAINDET1 | 1 |
| 4 | Career and Technical Education Project-Based Capstone*<br>*First Time Taken* | 12701101 | CTEPBC1 | 1 |
| 4 | Practicum in Audio/Video Production*<br>*First Time Taken*<br>*Second Time Taken* | 13008700<br>13008710 | PRACAVP1<br>PRACAVP2 | 2<br>2 |
| 4 | Practicum in Audio/Video Production + Extended Practicum in Audio/Video Production*<br>*First Time Taken*<br>*Second Time Taken* | 13008705<br>13008715 | EXPRAVP1<br>EXPRAVP2 | 3<br>3 |
| 4 | Practicum in Information Technology*<br>*First Time Taken*<br>*Second Time Taken* | 13028000<br>13028010 | PRACIT1<br>PRACIT2 | 2<br>2 |
| 4 | Practicum in Information Technology + Extended Practicum in Information Technology*<br>*First Time Taken* | 13028005 | EXPRIT1 | 3 |

| Level | Course Title | Course Code | Course Abbreviation | Credits |
|-------|--------------|-------------|---------------------|---------|
|  | *Second Time Taken* | 13028015 | EXPRIT2 | 3 |
| 4 | Practicum in Engineering*<br>*First Time Taken*<br>*Second Time Taken* | <br>12756080<br>12756090 | <br>PRCENGR1<br>PRCENGR2 | <br>2<br>2 |
| 4 | Practicum in Engineering + Extended Practicum in Engineering*<br>*First Time Taken*<br>*Second Time Taken* | <br>12756085<br>12756095 | <br>EXPRENG1<br>EXPRENG2 | <br>3<br>3 |
| 4 | Practicum in Entrepreneurship*<br>*First Time Taken* | <br>13011111 | <br>PRACENT1 | <br>2 |
| 4 | Practicum in Entrepreneurship + Extended Practicum in Entrepreneurship*<br>*First Time Taken* | <br><br>13011121 | <br><br>EXPRACENT1 | <br><br>3 |
| 4 | Career Preparation for Programs of Study*<br>*First Time Taken* | <br>12701121 | <br>CPPS1 | <br>2 |
| 4 | Career Preparation for Programs of Study + Extended Career Preparation*<br>*First Time Taken* | <br><br>12701141 | <br><br>EXCPPS1 | <br><br>3 |
| 4 | Scientific Research and Design* | 13037200 | SCIRD | 1 |

*Courses in multiple programs of study*

## Web Development

The Web Development program of study focuses on occupational and educational opportunities associated with designing, creating, and modifying websites. It includes integration of websites with other computer applications and conversion of written, graphic, audio, and video components to compatible web formats using software designed to facilitate the creation of web and multimedia content.

| Level | Course Title | Course Code | Course Abbreviation | Credits |
|-------|-------------|-------------|---------------------|---------|
| 1 | Principles of Information Technology* | 13027200 | PRINIT | 1 |
| 1 | Fundamentals of Computer Science* | 03580140 | TAFCS | 1 |
| 1 | Digital Media* | 13027800 | DIMEDIA | 1 |
| 1 | Web Communications* | 03580810 | TAWEBCM | .5 |
| | | | | |
| 2 | Computer Science I* | 03580200 | TACS1 | 1 |
| 2 | Foundations of User Experience* | 13027525 | FNDUX | 1 |
| 2 | Entrepreneurship I* | 13011101 | ENTPR1 | 1 |
| | | | | |
| 3 | Web Design | 03580820 | TAWEBDN | 1 |
| 3 | Web Game Development* | 03580830 | TAWEBGD | 1 |
| 3 | Advanced User Experience Design* | 13027530 | ADVUXDES | 1 |
| | | | | |
| 4 | Independent Study in Technology Applications*<br>*First Time Taken* | 03580900 | TAIND1 | 1 |
| 4 | Independent Study in Evolving/Emerging Technologies*<br>*First Time Taken* | 03581500 | TAINDET1 | 1 |
| 4 | Career and Technical Education Project-Based Capstone*<br>*First Time Taken* | 12701101 | CTEPBC1 | 1 |
| 4 | Practicum in Information Technology*<br>*First Time Taken*<br>*Second Time Taken* | 13028000<br>13028010 | PRACIT1<br>PRACIT2 | 2<br>2 |
| 4 | Practicum in Information Technology + Extended Practicum in Information Technology*<br>*First Time Taken*<br>*Second Time Taken* | 13028005<br>13028015 | EXPRIT1<br>EXPRIT2 | 3<br>3 |
| 4 | Practicum in Entrepreneurship*<br>*First Time Taken* | 13011111 | PRACENT1 | 2 |
| 4 | Practicum in Entrepreneurship + Extended Practicum in Entrepreneurship*<br>*First Time Taken* | 13011121 | EXPRACENT1 | 3 |
| 4 | Career Preparation for Programs of Study*<br>*First Time Taken* | 12701121 | CPPS1 | 2 |
| 4 | Career Preparation for Programs of Study + Extended Career Preparation*<br>*First Time Taken* | 12701141 | EXCPPS1 | 3 |

*Courses in multiple programs of study*

# Law and Public Service

The Law and Public Service career cluster focuses on planning, managing, and providing legal services, public safety, protective services, and homeland security, including professional and technical support services. This career cluster includes occupations ranging from all aspects of the military, police officer and firefighter to political scientist and lawyer.

## Programs of Study
•Fire Science
•Government and Public Administration
•Law Enforcement
•Legal Studies
•Junior Reserve Officers' Training Corps (JROTC)

## Courses Listed in Texas Administrative Code (Title 19, Chapter 127, Subchapter N)
§127.746   Principles of Law, Public Safety, Corrections, and Security (One Credit), Adopted 2015
§127.747   Correctional Services (One Credit), Adopted 2015
§127.748   Firefighter I (Two Credits), Adopted 2015
§127.749   Firefighter II (Three Credits), Adopted 2015
§127.750   Law Enforcement I (One Credit), Adopted 2015
§127.751   Law Enforcement II (One Credit), Adopted 2015
§127.758   Criminal Investigation (One Credit), Adopted 2015
§127.759   Court Systems and Practices (One Credit), Adopted 2015
§127.760   Federal Law Enforcement and Protective Services (One Credit), Adopted 2015
§127.761   Principles of Government and Public Administration (One Credit), Adopted 2015
§127.762   Political Science I (One Credit), Adopted 2015
§127.763   Political Science II (One Credit), Adopted 2015
§127.764   Foreign Service and Diplomacy (One Credit), Adopted 2015
§127.765   Planning and Governance (One Credit), Adopted 2015
§127.766   National Security (One Credit), Adopted 2015
§127.767   Public Management and Administration (One Credit), Adopted 2015
§127.768   Revenue, Taxation, and Regulation (One Credit), Adopted 2015
§127.769   Forensic Science (One Credit), Adopted 2021
§127.773   Legal Research and Writing (One Credit), Adopted 2025
§127.800   Practicum in Law, Public Safety, Corrections, and Security (Two Credits), Adopted 2015
§127.801   Extended Practicum in Law, Public Safety, Corrections, and Security (One Credit), Adopted 2015
§127.802   Practicum in Local, State, and Federal Government (Two Credits), Adopted 2015
§127.803   Extended Practicum in Local, State, and Federal Government (One Credit), Adopted 2015

## Innovation Courses
•Advanced Legal Skills and Professions
•Dimensions of Diplomacy
•Disaster Response
•Emergency Medical Technician–Basic
•Forensic Psychology
•Foundations of Court Reporting

## Fire Science

The Fire Science program of study focuses on occupational and educational opportunities associated with fire prevention, protection, and firefighting. This program of study includes firefighter safety, building codes, and the necessary physical skills to perform rescues. Students will learn about preparedness, basic fire suppression techniques, basic arson investigation, hazardous material management, and educating the public about fire safety.

| Level | Course Title | Course Code | Course Abbreviation | Credits |
|-------|-------------|-------------|---------------------|---------|
| 1 | Principles of Law, Public Safety, Corrections, and Security* | 13029200 | PRINLPCS | 1 |
| | | | | |
| 2 | Disaster Response* | N1303011 | DISRESP | 1 |
| | | | | |
| 3 | Firefighter I | 13029900 | FIRE1 | 2 |
| 3 | National Security | 13018800 | NATLSEC | 1 |
| 3 | Emergency Medical Technician–Basic* | N1303015 | EMTB | 2 |
| 3 | Anatomy and Physiology* | 13020600 | ANATPHYS | 1 |
| 3 | Counseling and Mental Health* | 13024600 | COUNSMH | 1 |
| | | | | |
| 4 | Firefighter II | 13030000 | FIRE2 | 3 |
| 4 | Career and Technical Education Project-Based Capstone* <br> *First Time Taken* | 12701101 | CTEPBC1 | 1 |
| 4 | Practicum in Law, Public Safety, Corrections, and Security* <br> *First Time Taken* <br> *Second Time Taken* | 13030100 <br> 13030110 | PRACLPS1 <br> PRACLPS2 | 2 <br> 2 |
| 4 | Practicum in Law, Public Safety, Corrections, and Security + Extended Practicum in Law, Public Safety, Corrections, and Security* <br> *First Time Taken* <br> *Second Time Taken* | 13030105 <br> 13030115 | EXPRLPS1 <br> EXPRLPS2 | 3 <br> 3 |
| 4 | Career Preparation for Programs of Study* <br> *First Time Taken* | 12701121 | CPPS1 | 2 |
| 4 | Career Preparation for Programs of Study + Extended Career Preparation* <br> *First Time Taken* | 12701141 | EXCPPS1 | 3 |

*Courses in multiple programs of study*

## Government and Public Administration

The Government and Public Administration program of study focuses on occupational and educational opportunities associated with examining, evaluating, and investigating compliance with laws and regulations. This program of study includes planning and governance, analysis of revenue and taxation, and processes for communicating with the public.

| Level | Course Title | Course Code | Course Abbreviation | Credits |
|---|---|---|---|---|
| 1 | Principles of Government and Public Administration | 13018200 | PRINGPA | 1 |
| 1 | Principles of Law, Public Safety, Corrections, and Security* | 13029200 | PRINLPCS | 1 |
| | | | | |
| 2 | Political Science I* | 13018300 | POLISCI1 | 1 |
| 2 | Federal Law Enforcement and Protective Services* | 13029800 | FEDLEPS | 1 |
| | | | | |
| 3 | Political Science II* | 13018400 | POLISCI2 | 1 |
| 3 | Planning and Governance | 13018700 | PLANGOV | 1 |
| 3 | Dimensions of Diplomacy | N1301820 | DIDIPL | 1 |
| | | | | |
| 4 | Revenue, Taxation, and Regulation | 13018500 | REVTAXRE | 1 |
| 4 | Public Management and Administration | 13018600 | PUBMANAD | 1 |
| 4 | Practicum in Local, State, and Federal Government<br>*First Time Taken*<br>*Second Time Taken* | 13019000<br>13019010 | PRACLSF1<br>PRACLSF2 | 2<br>2 |
| 4 | Practicum in Local, State, and Federal Government + Extended Practicum in Local, State, and Federal Government<br>*First Time Taken*<br>*Second Time Taken* | 13019005<br>13019015 | EXPRLSF1<br>EXPRLSF2 | 3<br>3 |
| 4 | Career Preparation for Programs of Study*<br>*First Time Taken* | 12701121 | CPPS1 | 2 |
| 4 | Career Preparation for Programs of Study + Extended Career Preparation*<br>*First Time Taken* | 12701141 | EXCPPS1 | 3 |

*Courses in multiple programs of study

## Law Enforcement

The Law Enforcement program of study focuses on occupational and educational opportunities associated with the development and enforcement of laws by various branches of law enforcement. This program of study includes the history, organization, and functions of local, state, and federal law enforcement. Students will understand the role of constitutional law at local, state, and federal levels; the U.S. legal system; criminal law; and law enforcement terminology and the classification and elements of crime.

| Level | Course Title | Course Code | Course Abbreviation | Credits |
|-------|-------------|-------------|---------------------|---------|
| 1 | Principles of Law, Public Safety, Corrections, and Security* | 13029200 | PRINLPCS | 1 |
| | | | | |
| 2 | Law Enforcement I | 13029300 | LAWENF1 | 1 |
| 2 | Criminal Investigation | 13029550 | CRINVEST | 1 |
| 2 | Federal Law Enforcement and Protective Services* | 13029800 | FEDLEPS | 1 |
| | | | | |
| 3 | Law Enforcement II | 13029400 | LAWENF2 | 1 |
| 3 | Correctional Services | 13029700 | CORRSRVS | 1 |
| 3 | Forensic Psychology | N1303012 | FORENSPSY | 1 |
| 3 | Counseling and Mental Health* | 13024600 | COUNSMH | 1 |
| | | | | |
| 4 | Forensic Science* | 13029500 | FORENSCI | 1 |
| 4 | Practicum in Law, Public Safety, Corrections, and Security* <br> *First Time Taken* <br> *Second Time Taken* | <br> 13030100 <br> 13030110 | <br> PRACLPS1 <br> PRACLPS2 | <br> 2 <br> 2 |
| 4 | Practicum in Law, Public Safety, Corrections, and Security + Extended Practicum in Law, Public Safety, Corrections, and Security* <br> *First Time Taken* <br> *Second Time Taken* | <br><br><br> 13030105 <br> 13030115 | <br><br><br> EXPRLPS1 <br> EXPRLPS2 | <br><br><br> 3 <br> 3 |
| 4 | Career Preparation for Programs of Study* <br> *First Time Taken* | <br> 12701121 | <br> CPPS1 | <br> 2 |
| 4 | Career Preparation for Programs of Study + Extended Career Preparation* <br> *First Time Taken* | <br><br> 12701141 | <br><br> EXCPPS1 | <br><br> 3 |

*Courses in multiple programs of study*

## Legal Studies

The Legal Studies program of study focuses on topics such as legal research, legal writing, rules of procedure, case management, law office technology, and legal ethics. Areas of the legal system studied include aspects of family law, criminal law, and contract law.

| Level | Course Title | Course Code | Course Abbreviation | Credits |
|---|---|---|---|---|
| 1 | Principles of Law, Public Safety, Corrections, and Security* | 13029200 | PRINLPCS | 1 |
| | | | | |
| 2 | Political Science I* | 13018300 | POLISCI1 | 1 |
| 2 | Business Law* | 13011700 | BUSLAW | 1 |
| 2 | Court Systems and Practices | 13029600 | COURTSP | 1 |
| 2 | Foundations of Court Reporting | N1303017 | FDCRTREP | 1 |
| | | | | |
| 3 | Political Science II* | 13018400 | POLISCI2 | 1 |
| 3 | Legal Research and Writing | 13018610 | LEGALRW | 1 |
| 3 | Advanced Legal Skills and Professions | N1303016 | ADVLSP | 1 |
| | | | | |
| 4 | Forensic Science* | 13029500 | FORENSCI | 1 |
| 4 | Career and Technical Education Project-Based Capstone*<br>*First Time Taken* | 12701101 | CTEPBC1 | 1 |
| 4 | Practicum in Law, Public Safety, Corrections, and Security*<br>*First Time Taken*<br>*Second Time Taken* | 13030100<br>13030110 | PRACLPS1<br>PRACLPS2 | 2<br>2 |
| 4 | Practicum in Law, Public Safety, Corrections, and Security + Extended Practicum in Law, Public Safety, Corrections, and Security*<br>*First Time Taken*<br>*Second Time Taken* | 13030105<br>13030115 | EXPRLPS1<br>EXPRLPS2 | 3<br>3 |
| 4 | Career Preparation for Programs of Study*<br>*First Time Taken* | 12701121 | CPPS1 | 2 |
| 4 | Career Preparation for Programs of Study + Extended Career Preparation*<br>*First Time Taken* | 12701141 | EXCPPS1 | 3 |

*Courses in multiple programs of study*

## Junior Reserve Officers' Training Corps

The JROTC program of study emphasizes leadership development, civic responsibility, and personal growth through a structured military framework. Students explore the history, organization, and purpose of military service at local, state, and federal levels, while gaining a foundational understanding of the U.S. Constitution and the role it plays in shaping civic life. The courses foster discipline, teamwork, and decision-making, encouraging students to become engaged citizens and future leaders in their communities.

| Level | Course Title | Course Code | Course Abbreviation | Credits |
|---|---|---|---|---|
| 1 | Junior Reserve Officers' Training Corps (JROTC) I | 03160100 | JROTC1 | 1 |
| | | | | |
| 2 | Junior Reserve Officers' Training Corps (JROTC) II | 03160200 | JROTC2 | 1 |
| | | | | |
| 3 | Junior Reserve Officers' Training Corps (JROTC) III | 03160300 | JROTC3 | 1 |
| | | | | |
| 4 | Junior Reserve Officers' Training Corps (JROTC) IV | 03160400 | JROTC4 | 1 |

Note: JROTC I-IV may be used to satisfy one PE credit. PES00004 – PE Substitution, will earn 1.28 CTE weighted funding.

# Manufacturing

The Manufacturing career cluster focuses on planning, managing, and performing the processing of materials into intermediate or final products and related professional and technical support activities such as production planning and control, maintenance, and process engineering. This career cluster includes occupations ranging from welder and machinist to industrial engineering technician and semi-conductor processing technician.

## Programs of Study
•Advanced Manufacturing and Industrial Technology (Regional Program of Study)
•Electronics Technology (Regional Program of Study)
•Industrial Maintenance
•Manufacturing Technology
•Robotics and Automation Technology
•Welding

## Courses Listed in Texas Administrative Code (Title 19, Chapter 127, Subchapter O)
§127.810    Principles of Manufacturing (One Credit), Adopted 2015
§127.811    Diversified Manufacturing I (One Credit), Adopted 2015
§127.812    Diversified Manufacturing II (One Credit), Adopted 2015
§127.813    Manufacturing Engineering Technology I (One Credit), Adopted 2015
§127.814    Manufacturing Engineering Technology II (One Credit), Adopted 2015
§127.815    Metal Fabrication and Machining I (Two Credits), Adopted 2015
§127.816    Metal Fabrication and Machining II (Two Credits), Adopted 2015
§127.817    Precision Metal Manufacturing I (Two Credits), Adopted 2015
§127.818    Precision Metal Manufacturing II (Two Credits), Adopted 2015
§127.819    Precision Metal Manufacturing II Lab (One Credit), Adopted 2015
§127.820    Introduction to Welding (One Credit), Adopted 2015
§127.821    Welding I (Two Credits), Adopted 2015
§127.822    Welding II (Two Credits), Adopted 2015
§127.823    Welding II Lab (One Credit), Adopted 2015
§127.865    Practicum in Manufacturing (Two Credits), Adopted 2015
§127.866    Extended Practicum in Manufacturing (One Credit), Adopted 2015

## Innovative Courses
•Basic Fluid Power
•Blueprint Reading for Manufacturing Applications
•Computer Integrated Manufacturing (PLTW)
•Introduction to Film Interpretation of Weldments
•Occupational Safety and Environmental Technology I
•Occupational Safety and Environmental Technology II
•Occupational Safety and Environmental Technology III
•Programmable Logic Controller I
•Programmable Logic Controller II

## Advanced Manufacturing and Industrial Technology (Regional Program of Study)
### Approved in ESC Region 7
*The list of approved ESC regions is updated every school year. Be sure to check the CTE regional program of study website for updates.*

The Advanced Manufacturing and Industrial Technology regional program of study focuses on occupational and educational opportunities associated with the development of electrical, mechanical, and machining components of manufacturing processing, automated systems, blueprint and sketching reading, and welding. It includes exploration of a variety of tools including, Computer Numerical Controlled (CNC) machines, hydraulics, and programmable logic controllers for students to learn to fabricate and maintain to processes and move through manufacturing production.

| Level | Course Title | Course Code | Course Abbreviation | Credits |
|---|---|---|---|---|
| 1 | Principles of Manufacturing* | 13032200 | PRINMAN | 1 |
| 1 | Blueprint Reading for Manufacturing Applications* | N1303684 | BRFMA | 1 |
| | | | | |
| 2 | Agricultural Mechanics and Metal Technologies* | 13002200 | AGMECHMT | 1 |
| 2 | Agricultural Mechanics and Metal Technologies + Agricultural Laboratory and Field Experience* | 13002210 | AGMECMTLAB | 2 |
| 2 | Welding I* | 13032300 | WELD1 | 2 |
| 2 | Diversified Manufacturing I* | 13032650 | DIMANU1 | 1 |
| | | | | |
| 3 | Digital Electronics* | 13037600 | DIGELC | 1 |
| 3 | Solid State Electronics* | 13036900 | SOSTELEC | 1 |
| | | | | |
| 4 | Practicum in Manufacturing*<br>*First Time Taken*<br>*Second Time Taken* | 13033000<br>13033010 | PRACMAN1<br>PRACMAN2 | 2<br>2 |
| 4 | Practicum in Manufacturing + Extended Practicum in Manufacturing*<br>*First Time Taken*<br>*Second Time Taken* | 13033005<br>13033015 | EXPRMAN1<br>EXPRMAN2 | 3<br>3 |
| 4 | Career Preparation for Programs of Study*<br>*First Time Taken* | 12701121 | CPPS1 | 2 |
| 4 | Career Preparation for Programs of Study + Extended Career Preparation*<br>*First Time Taken* | 12701141 | EXCPPS1 | 3 |

*Courses in multiple programs of study*

## Electronics Technology (Regional Program of Study)

*Approved in ESC Regions 6, 10, 11, 12, and 13*
*\*The list of approved ESC regions is updated every school year. Be sure to check the CTE regional program of study website for updates.*

The Electronics Technology regional program of study focuses on occupational and education opportunities associated with the development of engineered products, voltage installation and testing, electrical schematics, semiconductors, millwrights, avionics, and electrical repairers. It includes exploration of a variety of electrical uses throughout residential and commercial applications such as chip making troubleshooting electrical lines from audio video production to commercial buildings.  This program of study addresses how to troubleshoot, create, repair, and read electrical blueprints, technical drafting, and the applied mathematics of electricity throughout industry.

| Level | Course Title | Course Code | Course Abbreviation | Credits |
|---|---|---|---|---|
| 1 | Principles of Manufacturing* | 13032200 | PRINMAN | 1 |
| 1 | Principles of Applied Engineering* | 13036200 | PRAPPENG | 1 |
| 1 | Blueprint Reading for Manufacturing Applications* | N1303684 | BRFMA | 1 |
| | | | | |
| 2 | AC/DC Electronics* | 13036800 | ACDCELEC | 1 |
| | | | | |
| 3 | Digital Electronics* | 13037600 | DIGELC | 1 |
| 3 | Solid State Electronics* | 13036900 | SOSTELEC | 1 |
| | | | | |
| 4 | Applied Mathematics for Technical Professionals* | 12701410 | APMATHTP | 1 |
| 4 | Practicum in Manufacturing*<br>*First Time Taken*<br>*Second Time Taken* | 13033000<br>13033010 | PRACMAN1<br>PRACMAN2 | 2<br>2 |
| 4 | Practicum in Manufacturing + Extended Practicum in Manufacturing*<br>*First Time Taken*<br>*Second Time Taken* | 13033005<br>13033015 | EXPRMAN1<br>EXPRMAN2 | 3<br>3 |
| 4 | Career Preparation for Programs of Study*<br>*First Time Taken* | 12701121 | CPPS1 | 2 |
| 4 | Career Preparation for Programs of Study + Extended Career Preparation*<br>*First Time Taken* | 12701141 | EXCPPS1 | 3 |

*\*Courses in multiple programs of study*

## Industrial Maintenance

The Industrial Maintenance program of study focuses on occupational and educational opportunities associated with maintaining and repairing manufacturing equipment and facilities. This program of study includes exploration of facility systems including electrical, welding, hydraulics, plumbing, heating, and air conditioning.

| Level | Course Title | Course Code | Course Abbreviation | Credits |
|---|---|---|---|---|
| 1 | Principles of Manufacturing* | 13032200 | PRINMAN | 1 |
| 1 | Introduction to Welding* | 13032250 | INTRWELD | 1 |
| 1 | Introduction to Small Engine Technology | 13040000 | INTSET | 1 |
| | | | | |
| 2 | Construction Technology I* | 13005100 | CONTECH1 | 2 |
| 2 | Electrical Technology I* | 13005600 | ELECTEC1 | 1 |
| 2 | Heating, Ventilation, and Air Conditioning (HVAC) and Refrigeration Technology I* | 13005800 | HVACREF1 | 1 |
| | | | | |
| 3 | Basic Fluid Power | N1303683 | BASICFP | 1 |
| | | | | |
| 4 | Practicum in Manufacturing* <br> *First Time Taken* <br> *Second Time Taken* | <br> 13033000 <br> 13033010 | <br> PRACMAN1 <br> PRACMAN2 | <br> 2 <br> 2 |
| 4 | Practicum in Manufacturing + Extended Practicum in Manufacturing* <br> *First Time Taken* <br> *Second Time Taken* | <br><br> 13033005 <br> 13033015 | <br><br> EXPRMAN1 <br> EXPRMAN2 | <br><br> 3 <br> 3 |
| 4 | Career Preparation for Programs of Study* <br> *First Time Taken* | <br> 12701121 | <br> CPPS1 | <br> 2 |
| 4 | Career Preparation for Programs of Study + Extended Career Preparation* <br> *First Time Taken* | <br> 12701141 | <br> EXCPPS1 | <br> 3 |

*Courses in multiple programs of study*

## Manufacturing Technology

The Manufacturing Technology program of study focuses on occupational and educational opportunities associated with the development and use of automatic and computer-controlled machines, tools, and robots that perform work on metal or plastic. It includes exploration of a variety of machine tools that are used to produce precision parts and instruments. This program of study addresses how to modify parts to make or repair machine tools or maintain individual machines, and how to use hand-welding or flame-cutting equipment.

| Level | Course Title | Course Code | Course Abbreviation | Credits |
|---|---|---|---|---|
| 1 | Principles of Manufacturing* | 13032200 | PRINMAN | 1 |
| 1 | Principles of Applied Engineering* | 13036200 | PRAPPENG | 1 |
| 1 | Blueprint Reading for Manufacturing Applications | N1303684 | BRFMA | 1 |
| | | | | |
| 2 | Diversified Manufacturing I | 13032650 | DIMANU1 | 1 |
| 2 | Occupational Safety and Environmental Technology I* | N1303680 | OSET1 | 1 |
| 2 | Metal Fabrication and Machining I | 13032700 | MTFBMCH1 | 2 |
| 2 | Entrepreneurship I | 13011101 | ENTPR1 | 1 |
| | | | | |
| 3 | Diversified Manufacturing II | 13032660 | DIMANU2 | 1 |
| 3 | Occupational Safety and Environmental Technology II* | N1303681 | OSET2 | 1 |
| 3 | Metal Fabrication and Machining II | 13032800 | MTFBMCH2 | 2 |
| 3 | Precision Metal Manufacturing I | 13032500 | PREMMAN1 | 2 |
| 3 | Computer Integrated Manufacturing (PLTW) | N1303748 | CIM | 1 |
| | | | | |
| 4 | Occupational Safety and Environmental Technology III | N1303682 | OSET3 | 2 |
| 4 | Precision Metal Manufacturing II | 13032600 | PREMMAN2 | 2 |
| 4 | Precision Metal Manufacturing II + Precision Metal Manufacturing II Lab | 13032610 | PRMMLAB2 | 3 |
| 4 | Practicum in Manufacturing*<br>*First Time Taken*<br>*Second Time Taken* | 13033000<br>13033010 | PRACMAN1<br>PRACMAN2 | 2<br>2 |
| 4 | Practicum in Manufacturing + Extended Practicum in Manufacturing*<br>*First Time Taken*<br>*Second Time Taken* | 13033005<br>13033015 | EXPRMAN1<br>EXPRMAN2 | 3<br>3 |
| 4 | Practicum in Entrepreneurship*<br>*First Time Taken* | 13011111 | PRACENT1 | 2 |
| 4 | Practicum in Entrepreneurship + Extended Practicum in Entrepreneurship*<br>*First Time Taken* | 13011121 | EXPRACENT1 | 3 |
| 4 | Career Preparation for Programs of Study*<br>*First Time Taken* | 12701121 | CPPS1 | 2 |
| 4 | Career Preparation for Programs of Study + Extended Career Preparation*<br>*First Time Taken* | 12701141 | EXCPPS1 | 3 |

*Courses in multiple programs of study*

## Robotics and Automation Technology

The Robotics and Automation Technology program of study focuses on occupational and educational opportunities associated with the assembly, operation, maintenance, and repair of electromechanical equipment or devices. This program of study includes exploration of a variety of mechanical fields, including robotics, refinery and pipeline systems, deep ocean exploration, and hazardous waste removal.

| Level | Course Title | Course Code | Course Abbreviation | Credits |
|---|---|---|---|---|
| 1 | Principles of Manufacturing* | 13032200 | PRINMAN | 1 |
| 1 | Principles of Applied Engineering* | 13036200 | PRAPPENG | 1 |
| | | | | |
| 2 | Robotics I* | 13037000 | ROBOTIC1 | 1 |
| 2 | Manufacturing Engineering Technology I* | 13032900 | MANENGT1 | 1 |
| 2 | Occupational Safety and Environmental Technology I* | N1303680 | OSET1 | 1 |
| 2 | Programmable Logic Controller I* | N1303689 | PROLGCNT1 | 1 |
| | | | | |
| 3 | Robotics II* | 13037050 | ROBOTIC2 | 1 |
| 3 | Manufacturing Engineering Technology II | 13032950 | MANENGT2 | 1 |
| 3 | Occupational Safety and Environmental Technology II* | N1303681 | OSET2 | 1 |
| 3 | Programmable Logic Controller II* | N1303690 | PROLGCNT2 | 1 |
| 3 | Engineering Design and Presentation* | 13036500 | ENGRDP | 1 |
| | | | | |
| 4 | Practicum in Manufacturing*<br>*First Time Taken*<br>*Second Time Taken* | <br>13033000<br>13033010 | <br>PRACMAN1<br>PRACMAN2 | <br>2<br>2 |
| 4 | Practicum in Manufacturing + Extended Practicum in Manufacturing*<br>*First Time Taken*<br>*Second Time Taken* | <br><br>13033005<br>13033015 | <br><br>EXPRMAN1<br>EXPRMAN2 | <br><br>3<br>3 |
| 4 | Career Preparation for Programs of Study*<br>*First Time Taken* | <br>12701121 | <br>CPPS1 | <br>2 |
| 4 | Career Preparation for Programs of Study + Extended Career Preparation*<br>*First Time Taken* | <br>12701141 | <br>EXCPPS1 | <br>3 |

*Courses in multiple programs of study*

## Welding

The Welding program of study focuses on the development and use of automatic and computer-controlled machines, tools, and robots that perform work on metal or plastic. CTE learners will learn how to modify parts to make or repair machine tools or maintain individual machines and how to use hand-welding or flame-cutting equipment.

| Level | Course Title | Course Code | Course Abbreviation | Credits |
|---|---|---|---|---|
| 1 | Principles of Manufacturing* | 13032200 | PRINMAN | 1 |
| 1 | Introduction to Welding* | 13032250 | INTRWELD | 1 |
| | | | | |
| 2 | Introduction to Film Interpretation of Weldments | N1303687 | INTFMWLD | 1 |
| 2 | Welding I* | 13032300 | WELD1 | 2 |
| 2 | Occupational Safety and Environmental Technology I* | N1303680 | OSET1 | 1 |
| 2 | Entrepreneurship I | 13011101 | ENTPR1 | 1 |
| | | | | |
| 3 | Welding II | 13032400 | WELD2 | 2 |
| 3 | Welding II + Welding II Lab | 13032410 | WELDLAB2 | 3 |
| | | | | |
| 4 | Practicum in Manufacturing* <br> *First Time Taken* <br> *Second Time Taken* | <br> 13033000 <br> 13033010 | <br> PRACMAN1 <br> PRACMAN2 | <br> 2 <br> 2 |
| 4 | Practicum in Manufacturing + Extended Practicum in Manufacturing* <br> *First Time Taken* <br> *Second Time Taken* | <br> <br> 13033005 <br> 13033015 | <br> <br> EXPRMAN1 <br> EXPRMAN2 | <br> <br> 3 <br> 3 |
| 4 | Practicum in Entrepreneurship* <br> *First Time Taken* | <br> 13011111 | <br> PRACENT1 | <br> 2 |
| 4 | Practicum in Entrepreneurship + Extended Practicum in Entrepreneurship* <br> *First Time Taken* | <br> <br> 13011121 | <br> <br> EXPRACENT1 | <br> <br> 3 |
| 4 | Career Preparation for Programs of Study* <br> *First Time Taken* | <br> 12701121 | <br> CPPS1 | <br> 2 |
| 4 | Career Preparation for Programs of Study + Extended Career Preparation* <br> *First Time Taken* | <br> <br> 12701141 | <br> <br> EXCPPS1 | <br> <br> 3 |

*Courses in multiple programs of study*

# Transportation, Distribution, and Logistics

The Transportation, Distribution, and Logistics career cluster focuses on planning, management, and movement of people, materials, and goods by road, pipeline, air, rail, and water. It also includes transportation infrastructure planning and management, logistics services, and mobile equipment and facility maintenance. This career cluster includes occupations ranging from automotive mechanic, avionics technician, and automotive entrepreneur to pilots and logistics planning professionals.
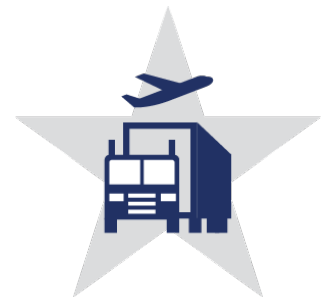
## Programs of Study
•Automotive and Collision Repair
•Aviation Maintenance
•Aviation (Pilots)
•Diesel and Heavy Equipment Maintenance and Commercial Driver
•Distribution, Logistics, and Warehousing
•Maritime (Regional program of study)

## Courses Listed in Texas Administrative Code (Title 19, Chapter 127, Subchapter P)
§127.871    Principles of Transportation Systems (One Credit), Adopted 2015
§127.872    Principles of Distribution and Logistics (One Credit), Adopted 2015
§127.873    Introduction to Transportation Technology (One-Half Credit), Adopted 2015
§127.874    Introduction to Small Engine Technology (One Credit), Adopted 2015
§127.875    Small Engine Technology (Two Credits), Adopted 2015
§127.876    Automotive Basics (One Credit), Adopted 2015
§127.877    Automotive Technology I: Maintenance and Light Repair (Two Credits), Adopted 2015
§127.878    Automotive Technology II: Automotive Service (Two Credits), Adopted 2015
§127.879    Basic Collision Repair and Refinishing (One Credit), Adopted 2015
§127.880    Collision Repair (Two Credits), Adopted 2015
§127.881    Paint and Refinishing (Two Credits), Adopted 2015
§127.882    Diesel Equipment Technology I (Two Credits), Adopted 2015
§127.883    Diesel Equipment Technology II (Two Credits), Adopted 2015
§127.884    Energy and Power of Transportation Systems (One Credit), Adopted 2015
§127.885    Management of Transportation Systems (One Credit), Adopted 2015
§127.886    Distribution and Logistics (One Credit), Adopted 2015
§127.887    Introduction to Aircraft Technology (One Credit), Adopted 2024
§127.888    Aircraft Airframe Technology (Two Credits), Adopted 2024
§127.889    Aircraft Powerplant Technology (Two Credits), Adopted 2024
§127.890    Aircraft Maintenance Technology (One Credit), Adopted 2024
§127.920    Advanced Transportation Systems Laboratory (One Credit), Adopted 2024
§127.921    Practicum in Transportation Systems (Two Credits), Adopted 2015
§127.922    Extended Practicum in Transportation Systems (One Credit), Adopted 2015.
§127.923    Practicum in Distribution and Logistics (Two Credits), Adopted 2015
§127.924    Extended Practicum in Distribution and Logistics (One Credit), Adopted 2015.

## Innovative Courses
•Advanced Shipboard Engineering
•Aviation Ground School
•Concepts of Distribution and Logistics Technology
•Introduction to Aerospace and Aviation
•Introduction to Shipboard Engineering
•Introduction to Unmanned Aerial Vehicles (UAV)
•Logistics Engineering
•Maritime Science I
•Maritime Science II
•Principles of Maritime Science

## Automotive and Collision Repair

The Automotive and Collision Repair program of study focuses on the occupational and educational opportunities associated with servicing, repairing, and refinishing various types of vehicles. This program of study includes diagnosing and servicing vehicles and learning about processes, technologies, and materials used in reconstructing vehicles.

| Level | Course Title | Course Code | Course Abbreviation | Credits |
|---|---|---|---|---|
| 1 | Principles of Transportation Systems* | 13039250 | PRINTRSY | 1 |
| 1 | Basic Collision Repair and Refinishing | 13039750 | BASCOLRR | 1 |
| 1 | Introduction to Small Engine Technology* | 13040000 | INTSET | 1 |
| | | | | |
| 2 | Introduction to Transportation Technology* | 13039270 | INTRTEC | .5 |
| 2 | Small Engine Technology | 13040100 | SETEC | 2 |
| 2 | Occupational Safety and Environmental Technology I* | N1303680 | OSET1 | 1 |
| 2 | Automotive Basics | 13039550 | AUTOBASC | 1 |
| 2 | Collision Repair | 13039800 | COLLISR | 2 |
| 2 | Collision Repair + Advanced Transportation Systems Laboratory | 13039810 | COLLRLAB | 3 |
| 2 | Entrepreneurship I* | 13011101 | ENTPR1 | 1 |
| | | | | |
| 3 | Energy and Power of Transportation Systems | 13039300 | EPTSYS | 1 |
| 3 | Automotive Technology I: Maintenance and Light Repair | 13039600 | AUTOTEC1 | 2 |
| 3 | Paint and Refinishing | 13039900 | PAINTREF | 2 |
| 3 | Paint and Refinishing + Advanced Transportation Systems Laboratory | 13039910 | PTREFLAB | 3 |
| | | | | |
| 4 | Automotive Technology II: Automotive Service | 13039700 | AUTOTEC2 | 2 |
| 4 | Automotive Technology II: Automotive Service + Advanced Transportation Systems Laboratory | 13039710 | AUTOLAB2 | 3 |
| 4 | Practicum in Transportation Systems* *First Time Taken* *Second Time Taken* | 13040450 13040460 | PRACTRS1 PRACTRS2 | 2 2 |
| 4 | Practicum in Transportation Systems + Extended Practicum in Transportation Systems* *First Time Taken* *Second Time Taken* | 13040455 13040465 | EXPRTRS1 EXPRTRS2 | 3 3 |
| 4 | Practicum in Entrepreneurship* *First Time Taken* | 13011111 | PRACENT1 | 2 |
| 4 | Practicum in Entrepreneurship + Extended Practicum in Entrepreneurship* *First Time Taken* | 13011121 | EXPRACENT1 | 3 |
| 4 | Career Preparation for Programs of Study* *First Time Taken* | 12701121 | CPPS1 | 2 |
| 4 | Career Preparation for Programs of Study + Extended Career Preparation* *First Time Taken* | 12701141 | EXCPPS1 | 3 |

*Courses in multiple programs of study*

## Aviation Maintenance

The Aviation Maintenance program of study focuses on occupational and educational opportunities associated with maintenance and repair of airframe structures, systems, and components of an aircraft. This program of study includes exploration of aircraft maintenance procedures, air navigational aids, air traffic controls, and communication equipment to ensure compliance with federal safety regulations.

| Level | Course Title | Course Code | Course Abbreviation | Credits |
|---|---|---|---|---|
| 1 | Principles of Transportation Systems* | 13039250 | PRINTRSY | 1 |
| | Introduction to Aircraft Technology* | 13039350 | INAIRTEC | 1 |
| | | | | |
| 2 | Occupational Safety and Environmental Technology I * | N1303680 | OSET1 | 1 |
| 2 | Aircraft Maintenance Technology | 13039360 | AIRMTECH | 1 |
| 2 | Aircraft Maintenance Technology + Advanced Transportation Systems Laboratory | 13039370 | AIRMTLAB | 2 |
| | | | | |
| 3 | Aircraft Airframe Technology | 13039400 | AIRAFTEC | 2 |
| 3 | Aircraft Airframe Technology + Advanced Transportation Systems Laboratory | 13039410 | AIRAFLAB | 3 |
| | | | | |
| 4 | Aircraft Powerplant Technology | 13039500 | AIRPPTEC | 2 |
| 4 | Aircraft Powerplant Technology + Advanced Transportation Systems Laboratory | 13039510 | AIRPPLAB | 3 |
| 4 | Practicum in Transportation Systems* <br> *First Time Taken* <br> *Second Time Taken* | <br> 13040450 <br> 13040460 | <br> PRACTRS1 <br> PRACTRS2 | <br> 2 <br> 2 |
| 4 | Practicum in Transportation Systems + Extended Practicum in Transportation Systems* <br> *First Time Taken* <br> *Second Time Taken* | <br><br> 13040455 <br> 13040465 | <br><br> EXPRTRS1 <br> EXPRTRS2 | <br><br> 3 <br> 3 |
| 4 | Career Preparation for Programs of Study* <br> *First Time Taken* | <br> 12701121 | <br> CPPS1 | <br> 2 |
| 4 | Career Preparation for Programs of Study + Extended Career Preparation* <br> *First Time Taken* | <br><br> 12701141 | <br><br> EXCPPS1 | <br><br> 3 |

*Courses in multiple programs of study*

## Aviation (Pilots)

The Pilots and Aviation Operations program of study focuses on occupational and educational opportunities associated with the principles and science of flight. This program of study includes the exploration and understanding of aviation engineering, air navigational aids, air traffic controls, and communications equipment to ensure conformance with federal safety regulations.

| Level | Course Title | Course Code | Course Abbreviation | Credits |
|---|---|---|---|---|
| 1 | Principles of Transportation Systems* | 13039250 | PRINTRSY | 1 |
| 1 | Introduction to Aircraft Technology* | 13039350 | INAIRTEC | 1 |
| 1 | Introduction to Aerospace and Aviation* | N1304672 | INTAEAVI | 1 |
| | | | | |
| 2 | Introduction to Unmanned Aerial Vehicles (UAV)* | N1304670 | PRINUAV | 1 |
| 2 | Aerospace Design I* | 12756040 | AERODES1 | 1 |
| | | | | |
| 3 | Aviation Ground School | N1304675 | AVIAGS | 1 |
| 3 | Aerospace Design II* | 12756045 | AERODES2 | 2 |
| | | | | |
| 4 | Practicum in Transportation Systems* <br> *First Time Taken* <br> *Second Time Taken* | <br> 13040450 <br> 13040460 | <br> PRACTRS1 <br> PRACTRS2 | <br> 2 <br> 2 |
| 4 | Practicum in Transportation Systems + Extended Practicum in Transportation Systems* <br> *First Time Taken* <br> *Second Time Taken* | <br><br> 13040455 <br> 13040465 | <br><br> EXPRTRS1 <br> EXPRTRS2 | <br><br> 3 <br> 3 |
| 4 | Career Preparation for Programs of Study* <br> *First Time Taken* | <br> 12701121 | <br> CPPS1 | <br> 2 |
| 4 | Career Preparation for Programs of Study + Extended Career Preparation* <br> *First Time Taken* | <br><br> 12701141 | <br><br> EXCPPS1 | <br><br> 3 |
| 4 | Scientific Research and Design* | 13037200 | SCIRD | 1 |

*Courses in multiple programs of study

## Diesel and Heavy Equipment Maintenance and Commercial Driver

The Diesel, Heavy Equipment Maintenance, and Commercial Drivers program of study focuses on occupational and educational opportunities associated with the function, operations, diagnosis, and service of diesel and heavy equipment systems. This program of study includes driving, inspecting, diagnosing, and repairing off-highway and on-highway vehicles and equipment.

| Level | Course Title | Course Code | Course Abbreviation | Credits |
|---|---|---|---|---|
| 1 | Principles of Transportation Systems* | 13039250 | PRINTRSY | 1 |
| 1 | Introduction to Small Engine Technology* | 13040000 | INTSET | 1 |
| | | | | |
| 2 | Introduction to Transportation Technology* | 13039270 | INTRTEC | .5 |
| 2 | Occupational Safety and Environmental Technology I* | N1303680 | OSET1 | 1 |
| 2 | Diesel Equipment Technology I | 13040150 | DIEQTEC1 | 2 |
| 2 | Entrepreneurship I* | 13011101 | ENTPR1 | 1 |
| | | | | |
| 3 | Diesel Equipment Technology II | 13040160 | DIEQTEC2 | 2 |
| 3 | Diesel Equipment Technology II + Advanced Transportation Systems Laboratory | 13040170 | DIEQLAB2 | 3 |
| | | | | |
| 4 | Practicum in Transportation Systems* <br> *First Time Taken* <br> *Second Time Taken* | <br> 13040450 <br> 13040460 | <br> PRACTRS1 <br> PRACTRS2 | <br> 2 <br> 2 |
| 4 | Practicum in Transportation Systems + Extended Practicum in Transportation Systems* <br> *First Time Taken* <br> *Second Time Taken* | <br><br> 13040455 <br> 13040465 | <br><br> EXPRTRS1 <br> EXPRTRS2 | <br><br> 3 <br> 3 |
| 4 | Practicum in Entrepreneurship* <br> *First Time Taken* | <br> 13011111 | <br> PRACENT1 | <br> 2 |
| 4 | Practicum in Entrepreneurship + Extended Practicum in Entrepreneurship* <br> *First Time Taken* | <br><br> 13011121 | <br><br> EXPRACENT1 | <br><br> 3 |
| 4 | Career Preparation for Programs of Study* <br> *First Time Taken* | <br> 12701121 | <br> CPPS1 | <br> 2 |
| 4 | Career Preparation for Programs of Study + Extended Career Preparation* <br> *First Time Taken* | <br><br> 12701141 | <br><br> EXCPPS1 | <br><br> 3 |

*Courses in multiple programs of study*

## Distribution, Logistics, and Warehousing

The Distribution, Logistics, and Warehousing program of study focuses on educational and occupational opportunities associated with business planning and management aspects of distribution, logistics, and warehousing. This program of study includes exploration of the history, laws, regulations, and common practices used in the logistics of warehousing and distribution systems.

| Level | Course Title | Course Code | Course Abbreviation | Credits |
|---|---|---|---|---|
| 1 | Principles of Transportation Systems* | 13039250 | PRINTRSY | 1 |
| 1 | Principles of Distribution and Logistics* | 13039260 | PRINDILG | 1 |
| | | | | |
| 2 | Concepts of Distribution and Logistics Technology | N1303800 | DISTLOG | 1 |
| 2 | Management of Transportation Systems | 13040200 | MNGTRSY | 1 |
| 2 | Raster-Based Geographic Information Systems* | 13027550 | RASGIS | 1 |
| 2 | Occupational Safety and Environmental Technology I* | N1303680 | OSET1 | 1 |
| | | | | |
| 3 | Distribution and Logistics | 13040300 | DISTLGS | 1 |
| 3 | Logistics Engineering | N1303801 | LOGENG | 1 |
| | | | | |
| 4 | Practicum in Transportation Systems* *First Time Taken* *Second Time Taken* | 13040450 13040460 | PRACTRS1 PRACTRS2 | 2 2 |
| 4 | Practicum in Transportation Systems + Extended Practicum in Transportation Systems* *First Time Taken* *Second Time Taken* | 13040455 13040465 | EXPRTRS1 EXPRTRS2 | 3 3 |
| 4 | Practicum in Distribution and Logistics* *First Time Taken* *Second Time Taken* | 13040470 13040480 | PRACDLG1 PRACDLG2 | 2 2 |
| 4 | Practicum in Distribution and Logistics + Extended Practicum in Distribution and Logistics* *First Time Taken* *Second Time Taken* | 13040475 13040485 | EXPRDLG1 EXPRDLG2 | 3 3 |
| 4 | Career Preparation for Programs of Study* *First Time Taken* | 12701121 | CPPS1 | 2 |
| 4 | Career Preparation for Programs of Study + Extended Career Preparation* *First Time Taken* | 12701141 | EXCPPS1 | 3 |

*Courses in multiple programs of study*

## Maritime (Regional Program of Study)

*Approved in ESC Regions 2, 4, and 5*
**\*The list of approved ESC regions is updated every school year, be sure to check the CTE regional program of study website for updates.**

The Maritime regional program of study focuses on educational and occupational opportunities associated with the operation of water vessels. This program of study includes maintenance procedures and operation of maritime navigational aids, maritime traffic controls, and communications equipment to ensure conformance with federal safety regulations.

| Level | Course Title | Course Code | Course Abbreviation | Credits |
|---|---|---|---|---|
| 1 | Principles of Maritime Science | N1304661 | PRMSCI | 1 |
| 1 | Principles of Transportation Systems* | 13039250 | PRINTRSY | 1 |
| 1 | Principles of Distribution and Logistics* | 13039260 | PRINDILG | 1 |
| | | | | |
| 2 | Introduction to Shipboard Engineering | N1304666 | INTSE | 1 |
| 2 | Maritime Science I | N1304662 | MSCI1 | 1 |
| 2 | Occupational Safety and Environmental Technology I* | N1303680 | OSET1 | 1 |
| | | | | |
| 3 | Maritime Science II | N1304663 | MSCI2 | 1 |
| 3 | Advanced Shipboard Engineering | N1304667 | ADVSE | 1 |
| | | | | |
| 4 | Practicum in Transportation Systems*<br>*First Time Taken*<br>*Second Time Taken* | <br>13040450<br>13040460 | <br>PRACTRS1<br>PRACTRS2 | <br>2<br>2 |
| 4 | Practicum in Transportation Systems + Extended Practicum in Transportation Systems*<br>*First Time Taken*<br>*Second Time Taken* | <br><br>13040455<br>13040465 | <br><br>EXPRTRS1<br>EXPRTRS2 | <br><br>3<br>3 |
| 4 | Practicum in Distribution and Logistics*<br>*First Time Taken*<br>*Second Time Taken* | <br>13040470<br>13040480 | <br>PRACDLG1<br>PRACDLG2 | <br>2<br>2 |
| 4 | Practicum in Distribution and Logistics + Extended Practicum in Distribution and Logistics*<br>*First Time Taken*<br>*Second Time Taken* | <br><br>13040475<br>13040485 | <br><br>EXPRDLG1<br>EXPRDLG2 | <br><br>3<br>3 |
| 4 | Career Preparation for Programs of Study*<br>*First Time Taken* | <br>12701121 | <br>CPPS1 | <br>2 |
| 4 | Career Preparation for Programs of Study + Extended Career Preparation*<br>*First Time Taken* | <br>12701141 | <br>EXCPPS1 | <br>3 |

*Courses in multiple programs of study*

# CTE Courses in Alphabetical Order

## 3-D Modeling and Animation

**Course Code**: 03580510
**Credit**: 1
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: Art, Level I
**Recommended Corequisite**: None

**Course Abbreviation**: TA3DMA
**Level**: 3

3-D Modeling and Animation consists of computer images created in a virtual three-dimensional (3-D) environment. 3-D Modeling and Animation has applications in many careers, including criminal justice, crime scene, and legal applications; construction and architecture; engineering and design; and the movie and game industries. Students in this course will produce various 3-D models of real-world objects. The strands include creativity and innovation; communication and collaboration; research and information fluency; critical thinking; problem solving, and decision making; digital citizenship; and technology operations and concepts.
*Note: This course satisfies the high school fine arts graduation requirement.*
**Program of Study: Graphic Design and Interactive Media**

## AC/DC Electronics

**Course Code**: 13036800
**Credit**: 1
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: Principles of Applied Engineering
**Recommended Corequisite**: None

**Course Abbreviation**: ACDCELEC
**Level**: 2

AC/DC Electronics focuses on the basic electricity principles of alternating current/direct current (AC/DC) circuits. Students will demonstrate knowledge and applications of circuits, electronic measurement, and electronic implementation. Through use of the design process, students will transfer academic skills to component designs in a project-based environment. Students will use a variety of computer hardware and software applications to complete assignments and projects. Additionally, students will explore career opportunities, employer expectations, and educational needs in the electronics industry.
**Programs of Study: Electrical Engineering, Electronics Technology (Regional), and Renewable Energy**

## Accounting I

**Code**: 13016600
**Credit**: 1
**Prerequisite**: None
**Corequisites**: None
**Recommended Prerequisite**: Principles of Business, Marketing, and Finance
**Recommended Corequisite**: None

**Course Abbreviation**: ACCOUNT1
**Level**: 2

In Accounting I, students will investigate the field of accounting, including how it is impacted by industry standards as well as economic, financial, technological, international, social, legal, and ethical factors. Students will reflect on this knowledge as they engage in the process of recording, classifying, summarizing, analyzing, and communicating accounting information. Students will formulate and interpret financial information for use in management decision making.
**Program of Study: Accounting and Financial Services**

## Accounting II

**Course Code:** 13016700      **Course Abbreviation:** ACCOUNT2
**Credit**: 1      **Level**: 3
**Prerequisite**: Accounting I
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

In Accounting II, students will continue the investigation of the field of accounting, including how it is impacted by industry standards as well as economic, financial, technological, international, social, legal, and ethical factors. Students will reflect on this knowledge as they engage in various managerial, financial, and operational accounting activities. Students will formulate, interpret, and communicate financial information for use in management decision making. Students will use equations, graphical representations, accounting tools, spreadsheet software, and accounting systems in real-world situations to maintain, monitor, control, and plan the use of financial resources.
*Note: This course satisfies a high school mathematics graduation requirement.*
**Programs of Study: Accounting and Financial Services**

## Advanced Animal Science

**Course Code**: 13000700      **Course Abbreviation**: ADVANSCI
**Credit**: 1      **Level**: 4
**Prerequisites**: Biology and chemistry or Integrated Physics and Chemistry (IPC); Algebra l and Geometry; and either Small Animal Management, Equine Science, or Livestock Production
**Corequisite**: None
**Recommended Prerequisite**: Veterinary Science
**Recommended Corequisite**: None

Advanced Animal Science examines the interrelatedness of human, scientific, and technological dimensions of animal production, including canine, feline, bovine, equine, caprine, porcine, ovine, poultry, and lagomorpha production. Instruction is designed to allow for the application of scientific and technological aspects of animal science through field and laboratory experiences. To prepare for careers in the field of animal science, students must attain academic knowledge and skills, acquire knowledge and skills related to animal systems, and develop knowledge and skills regarding career opportunities, entry requirements, and industry standards. Students must meet the 40% laboratory and fieldwork requirement.
*Note: This course satisfies a high school science graduation requirement.*
**Program of Study: Animal Science**

## Advanced Cloud Computing

**Course Code**: 13027520      **Course Abbreviation**: ADVCLOUD
**Credit**: 1      **Level**: 3
**Prerequisite**: At least one credit from a course in computer science, programming, software development, or networking systems
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

The Advanced Cloud Computing course is an exploration of cloud computing. In this course, students explore cloud computing services, applications, and use cases. Students study cloud computing best practices and learn how cloud computing helps users develop a global infrastructure to support use case at scale while also developing and using innovative technologies.
**Programs of Study: Cybersecurity, Information Technology Support and Services, Networking Systems, and Programming and Software Development**

## Advanced Culinary Arts

**Course Code**: 13022650  
**Course Abbreviation**: ADCULART  
**Credits**: 2  
**Level**: 3  
**Prerequisite**: Culinary Arts  
**Corequisite**: None  
**Recommended Prerequisite**: None  
**Recommended Corequisite**: None

Advanced Culinary Arts will extend content and enhance skills introduced in Culinary Arts by in-depth instruction of industry-driven standards in order to prepare students for success in higher education, certifications, and/or immediate employment.  
**Program of Study: Culinary Arts**

## Advanced Energy and Natural Resource Technology

**Course Code**: 13001200  
**Course Abbreviation**: ADENRT  
**Credit**: 1  
**Level**: 4  
**Prerequisite**: None  
**Corequisite**: None  
**Recommended Prerequisite**: A minimum of one credit from the courses in the Agriculture, Food, and Natural Resources career cluster and Energy and Natural Resource Technology  
**Recommended Corequisite**: None

Advanced Energy and Natural Resource Technology is designed to explore the interdependency of the public and natural resource systems related to energy production. In addition, renewable, sustainable, and environmentally friendly practices will be explored. To prepare for careers in the field of energy and natural resource systems, students must attain academic skills and knowledge, acquire technical knowledge and skills related to energy and natural resources and the workplace, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations.  
**Programs of Study: Environmental and Natural Resources**

## Advanced Energy and Natural Resource Technology + Agricultural Laboratory and Field Experience

**Course Code**: 13001210  
**Course Abbreviation**: ADENRTLAB  
**Credits**: 2  
**Level**: 4  
**Prerequisite**: None  
**Corequisite**: None  
**Recommended Prerequisite**: A minimum of one credit from the courses in the Agriculture, Food, and Natural Resources career cluster and Energy and Natural Resource Technology  
**Recommended Corequisite**: None

Advanced Energy and Natural Resource Technology is designed to explore the interdependency of the public and natural resource systems related to energy production. In addition, renewable, sustainable, and environmentally friendly practices will be explored. To prepare for careers in the field of energy and natural resource systems, students must attain academic skills and knowledge, acquire technical knowledge and skills related to energy and natural resources and the workplace, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations.  
**Program of Study: Environmental and Natural Resources**

## Advanced Engineering Design and Presentation

**Course Code**: 13036600      **Course Abbreviation**: ADENGRDP
**Credits**: 2      **Level**: 4
**Prerequisites**: Algebra I, Geometry, and Engineering Design and Presentation
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

Advanced Engineering Design and Presentation is a continuation of knowledge and skills learned in Engineering Design and Presentation. Students enrolled in this course demonstrate advanced knowledge and skills of a system design process as it applies to engineering fields and project management using multiple software applications and tools necessary to produce and present working drawings, solid model renderings, and prototypes. Students expand on the use of a variety of computer hardware and software applications to complete assignments and projects. Through implementation of a system design process, students transfer advanced academic skills to component designs and engineering systems. Emphasis is placed on transdisciplinary and integrative approaches using skills from ideation, prototyping, and project management methods.

**Programs of Study: Civil Engineering, Electrical Engineering, Engineering Foundations, and Mechanical and Aerospace Engineering**

## Advanced Floral Design

**Course Code**: 13001850      **Course Abbreviation**: ADVFLOR
**Credit**: 1      **Level**: 4
**Prerequisite**: Floral Design
**Corequisite**: None
**Recommended Prerequisite**: Principles of Agriculture, Food, and Natural Resources
**Recommended Corequisite**: None

In Advanced Floral Design, students gain advanced knowledge and skills specifically needed to enter the workforce as floral designers or as freelance floral event designers, with an emphasis on specialty designs and occasion-specific designs and planning. Students are also prepared to enter postsecondary certification or degree programs in floral design or special events design. Students build on the knowledge base from Floral Design and are introduced to more advanced floral design concepts. In addition, students gain knowledge of the design elements and planning techniques used to produce unique specialty floral designs that support the goals and objectives of an occasion or event.

**Program of Study: Plant Science**

## Advanced Instrument and Electrical

**Course Code**: N1303901      **Course Abbreviation**: ADVINELEC
**Credit**: 1      **Level**: 3
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisites**: Algebra I and Introduction to Instrumentation and Electrical
**Recommended Corequisite**: None

Advanced Instrument and Electrical is a course designed for students to develop and build on knowledge and skills from the Introduction to Instrumentation and Electrical course. The learning objectives prepare students with the skills essential for electrical and instrument work environment for construction and maintenance in the petrochemical and manufacturing industry. Students will learn the electrical theories and calculations needed to troubleshoot electrical circuits and the tools and instruments used to fix or replace the electrical components including switches, relays, capacitors, resistors, and motors. Students will also learn how to identify, fabricate, and replace tubing and piping used in refining and chemical processes.

**Program of Study: Refining and Chemical Processes**

## Advanced Legal Skills and Professions

**Course Code**: N1303016      **Course Abbreviation**: ADVLSP
**Credit**: 1      **Level**: 3
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: Principles of Law, Public Safety, Corrections and Security, Court Systems and Practices, Business Law, Debate I, or Political Science I
**Recommended Corequisite**: None

Advanced Legal Systems and Professions provides students with a foundation to understand the basic mechanics of the U.S. legal system. Building on prior instruction in constitutional issues and the basics of American court systems, this course provides insight into the practical application of the law, as well as civil and criminal procedure, giving students a hands-on opportunity to experience a variety of legal professions. Students will gain an understanding of the attorney-client relationship and the importance of confidentiality, discovery, pretrial motions, jury selection, opening statements, direct and cross examinations, proper use of objections and the rules of evidence, and closing arguments. By conducting elements of a full trial in a mock setting, students will also increase their ability to extemporize appropriately by thinking on their feet. Students will learn how to evaluate a set of facts and mold it into a coherent trial strategy, learning trial practice from the ground floor.
**Program of Study: Legal Studies**

## Advanced Marketing

**Course Code**: 13034700      **Course Abbreviation:** ADVMKTG
**Credits**: 2      **Level**: 4
**Prerequisite**: One credit from the courses in the Business, Marketing, and Finance career cluster
**Corequisite**: None
**Recommended Prerequisite**: Practicum in Marketing
**Recommended Corequisite**: None

In Advanced Marketing, students will gain knowledge and skills that help them become proficient in one or more of the marketing functional areas. Students will illustrate appropriate management and research skills to solve problems related to marketing. This course covers technology, communication, and customer-service skills.
**Program of Study: Marketing and Sales**

## Advanced Placement (AP) Computer Science A

**Course Code**:      **Course Abbreviation:**
A3580110 (Math)      APTACSAM
A3580120 (LOTE)      APTACSAL
**Credits**: 2: A3580110 (1) A3580120 (1)      **Level**: 3
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: Algebra I or a student should be comfortable with functions and the concepts found in the uses of functional notation such as $f(x) = x + 2$ and $f(x) = g(h(x))$
**Recommended Corequisite**: None

Content requirements for Advanced Placement (AP) Computer Science A are prescribed in the College Board Publication Advanced Placement Course Description: Computer Science A, published by The College Board.
*Note: This course satisfies a high school mathematics graduation and a LOTE graduation requirement.*
**Programs of Study: Cybersecurity, and Programming and Software Development**

## Advanced Placement (AP) Computer Science Principles

**Course Code**: A3580300      **Course Abbreviation:** APCSPRIN
**Credit**: 1      **Level**: 2
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: Algebra I
**Recommended Corequisite**: None

Content requirements for Advanced Placement (AP) Computer Science Principles are prescribed in the College Board Publication Advanced Placement® Curriculum Framework: AP Computer Science Principles, published by The College Board.
**Programs of Study: Cybersecurity, Networking Systems, and Programming and Software Development**

## Advanced Plant and Soil Science

**Course Code**: 13002100      **Course Abbreviation**: ADVPSSCI
**Credit**: 1      **Level**: 4
**Prerequisites**: Biology; either chemistry or Integrated Physics and Chemistry (IPC); Algebra I; Geometry; and either Horticultural Science, Greenhouse Operation and Production, or Floral Design
**Corequisite**: None
**Recommended Prerequisite**: Principles of Agriculture, Food, and Natural Resources
**Recommended Corequisite**: None

Advanced Plant and Soil Science provides a way of learning about the natural world. In this course, students learn how plant and soil science has influenced a vast body of knowledge, that there are still applications to be discovered, and that plant and soil science is the basis for many other fields of science. To prepare for careers in plant and soil science, students must attain academic knowledge and skills, acquire technical knowledge and skills related to plant and soil science and the workplace, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations. Students must meet the 40% laboratory and fieldwork requirement.
*Note: This course satisfies a high school science graduation requirement.*
**Program of Study: Plant Science**

## Advanced Shipboard Engineering

**Course Code**: N1304667      **Course Abbreviation**: ADVSE
**Credit**: 1      **Level**: 3
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite:** Introduction to Shipboard Engineering
**Recommended Corequisite**: None

The Advanced Shipboard Engineering course includes advanced knowledge of the function, design, and relationships of the systems and components of propulsion and habitability systems. This course will build on knowledge and skills established in the Principles of Maritime Science and Introduction to Shipboard Engineering courses. This course is designed to provide advanced training for employment, licensures, or post-secondary degree programs in the shipboard engineering industry. Instruction includes functions and components of cooling, fuel, lubricating, electrical, air conditioning and refrigeration, propulsion, and mechanical systems of maritime diesel engines. In addition, the students will receive instruction in safety, engine instruments, and environmental compliance.
**Program of Study: Maritime (Regional)**

## Advanced User Experience Design

**Course Code**: 13027530
**Credit**: 1
**Prerequisite**: Foundations of User Experience
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

**Course Abbreviation**: ADVUXDES
**Level**: 3

The Advanced User Experience Design course allows students to apply skills in science and art to integrate technology as a useful, meaningful, memorable, and accessible source for all users. Students will use knowledge from the Foundations of User Experience course to expand the research, design process, testing, and communication skills essential for success in this user-focused career field.

**Programs of Study: Graphic Design and Interactive Media, and Web Development**

## Advanced Video Game Programming

**Course Code**: N1300995
**Credit**: 1
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisites**: Video Game Design and Video Game Programming
**Recommended Corequisite**: None

**Course Abbreviation**: ADVIDEOGP
**Level**: 3

Advanced Video Game Programming students will be introduced to mobile application design and programming using Java and Eclipse for Android devices. Time will be spent learning basic Java programming and working with Android Studio to develop real working apps. Using Unity as an introduction to 3D game development, students will have exposure to and an understanding of: object-oriented programming concepts; game development skill with programs such as Unity; 3D modeling with programs such as Blender; image manipulation with programs such as GIMP; concepts related to the design process; and the ability to communicate and collaborate on group-based projects.

**Program of Study: Graphic Design and Interactive Media**

## Advertising

**Course Code**: 13034200
**Credit**: .5
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: Principles of Business, Marketing, and Finance
**Recommended Corequisite**: None

**Course Abbreviation**: ADVERTIS
**Level**: 3

Advertising is designed as a comprehensive introduction to the principles and practices of advertising. Students will gain knowledge of techniques used in current advertising, including print, broadcast, and digital media. The course explores the social, cultural, ethical, and legal issues of advertising, historical influences, strategies, media decision processes as well as integrated marketing communications, and careers in advertising and sales promotion. The course provides an overview of how communication tools can be used to reach target audiences and increase consumer knowledge.

**Programs of Study: Marketing and Sales, and Retail Management (Regional)**

## Aerospace Design I

**Course Code**: 12756040      **Course Abbreviation**: AERODES1
**Credit**: 1      **Level**: 2
**Prerequisite**: Algebra I
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: Geometry

Students enrolled in Aerospace Design I demonstrate knowledge and skills associated with the design evolution and emerging trends of aircraft and aerospace systems. Fundamental concepts such as forces of flight, structures, aerodynamics, propulsion, stability and control, and orbital mechanics are introduced as related to design decisions for atmospheric and space flight. These concepts are related to mission requirements and solution approaches.

**Programs of Study: Aviation (Pilots), Engineering Foundations, and Mechanical and Aerospace Engineering**

## Aerospace Design II

**Course Code**: 12756045      **Course Abbreviation**: AERODES2
**Credits**: 2      **Level**: 3
**Prerequisites**: Geometry and Aerospace Design I
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

Students enrolled in Aerospace Design II demonstrate knowledge and skills associated with the design and prototyping of aerospace systems. Through aerospace projects, students apply fundamental concepts such as managing an engineering project to meet mission requirements, prototyping, testing, and validating requirements. Students explore choices made for propulsion, material, and structural design as well as various ways aircraft can navigate. Emphasis is placed on team collaboration and professional documentation.

**Programs of Study: Aviation (Pilots), Engineering Foundations, and Mechanical and Aerospace Engineering**

## Agribusiness Management and Marketing

**Course Code**: 13000900      **Course Abbreviation**: AGRBUSMM
**Credit**: 1      **Level**: 3
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: Principles of Agriculture, Food, and Natural Resources
**Recommended Corequisite**: None

Agribusiness Management and Marketing is designed to provide a foundation to agribusiness management and the free enterprise system. Instruction includes the use of economic principles such as supply and demand, budgeting, record keeping, finance, risk management, business law, marketing, and careers in agribusiness. To prepare for careers in agribusiness systems, students must attain academic skills and knowledge, acquire technical knowledge and skills related to agribusiness marketing and management and the workplace, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations.

**Program of Study: Agriculture Business, Leadership, and Communications**

## Agribusiness Management and Marketing + Agricultural Laboratory and Field Experience

**Course Code**: 13000910  **Course Abbreviation**: AGRBUSLAB
**Credits**: 2  **Level**: 3
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: Principles of Agriculture, Food, and Natural Resources
**Recommended Corequisite**: None

Agribusiness Management and Marketing is designed to provide a foundation to agribusiness management and the free enterprise system. Instruction includes the use of economic principles such as supply and demand, budgeting, record keeping, finance, risk management, business law, marketing, and careers in agribusiness. To prepare for careers in agribusiness systems, students must attain academic skills and knowledge, acquire technical knowledge and skills related to agribusiness marketing and management and the workplace, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations.

**Program of Study: Agriculture Business, Leadership, and Communications**

## Agricultural Equipment Design and Fabrication

**Course Code**: 13002350  **Course Abbreviation**: AGEQDF
**Credit**: 1  **Level**: 4
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: Agricultural Mechanics and Metal Technologies
**Recommended Corequisite**: None

In Agricultural Equipment Design and Fabrication, students will acquire knowledge and skills related to the design and fabrication of agricultural equipment. To prepare for careers in mechanized agriculture and technical systems, students must attain knowledge and skills related to agricultural equipment design and fabrication.

**Program of Study: Agricultural Technology and Mechanical Systems**

## Agricultural Equipment Design and Fabrication + Agricultural Laboratory and Field Experience

**Course Code**: 13002360  **Course Abbreviation**: AGEQDFLAB
**Credits**: 2  **Level**: 4
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: Agricultural Mechanics and Metal Technologies
**Recommended Corequisite**: None

In Agricultural Equipment Design and Fabrication, students will acquire knowledge and skills related to the design and fabrication of agricultural equipment. To prepare for careers in mechanized agriculture and technical systems, students must attain knowledge and skills related to agricultural equipment design and fabrication.

**Program of Study: Agricultural Technology and Mechanical Systems**

## Agricultural Leadership, Research, and Communications

**Course Code**: 13000950 **Course Abbreviation:** AGLEAD
**Credit**: 1 **Level**: 4
**Prerequisite**: One credit from the courses in the Agriculture, Food, and Natural Resources career cluster
**Corequisite**: None
**Recommended Prerequisite**: Principles of Agriculture, Food, and Natural Resources
**Recommended Corequisite**: None

Agricultural Leadership, Research, and Communications focuses on challenging students to use higher level thinking skills, develop leadership abilities, and develop and communicate agricultural positions effectively with all stakeholders. To prepare for careers in agriculture, food, and natural resources, students must attain academic knowledge and skills, acquire technical knowledge and skills related to the workplace, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations.

**Program of Study: Agriculture Business, Leadership, and Communications**

## Agricultural Mechanics and Metal Technologies

**Course Code**: 13002200 **Course Abbreviation:** AGMECHMT
**Credit**: 1 **Level**: 2
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: Principles of Agriculture, Food, and Natural Resources
**Recommended Corequisite**: None

Agricultural Mechanics and Metal Technologies is designed to develop an understanding of agricultural mechanics as it relates to safety and skills in tool operation, electrical wiring, plumbing, carpentry, fencing, concrete, and metal working techniques. To prepare for careers in agricultural power, structural, and technical systems, students must attain academic skills and knowledge; acquire technical knowledge and skills related to power, structural, and technical agricultural systems and the industry; and develop knowledge and skills regarding career opportunities, entry requirements, industry certifications, and industry expectations.

**Programs of Study: Advanced Manufacturing and Industrial Technology (Regional), and Agricultural Technology and Mechanical Systems**

## Agricultural Mechanics and Metal Technologies + Agricultural Laboratory and Field Experience

**Course Code**: 13002210 **Course Abbreviation:** AGMECMTLAB
**Credits**: 2 **Level**: 2
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: Principles of Agriculture, Food, and Natural Resources
**Recommended Corequisite**: None

Agricultural Mechanics and Metal Technologies is designed to develop an understanding of agricultural mechanics as it relates to safety and skills in tool operation, electrical wiring, plumbing, carpentry, fencing, concrete, and metal working techniques. To prepare for careers in agricultural power, structural, and technical systems, students must attain academic skills and knowledge; acquire technical knowledge and skills related to power, structural, and technical agricultural systems and the industry; and develop knowledge and skills regarding career opportunities, entry requirements, industry certifications, and industry expectations.

**Programs of Study: Advanced Manufacturing and Industrial Technology (Regional), and Agricultural Technology and Mechanical Systems**

## Agricultural Power Systems

**Course Code**: 13002400

**Course Abbreviation:** AGPOWSYS

**Credits**: 2

**Level**: 3

**Prerequisite**: None

**Corequisite**: None

**Recommended Prerequisite**: Principles of Agriculture, Food, and Natural Resources

**Recommended Corequisite**: None

Agricultural Power Systems is designed to develop an understanding of power and control systems as related to energy sources, small and large power systems, and agricultural machinery. To prepare for careers in agricultural power, structural, and technical systems, students must attain academic skills and knowledge; acquire technical knowledge and skills related to power, structural, and technical agricultural systems and the workplace; and develop knowledge and skills regarding career opportunities, entry requirements, industry certifications, and industry expectations.

**Program of Study: Agricultural Technology and Mechanical Systems**

## Agricultural Power Systems + Agricultural Laboratory and Field Experience

**Course Code**: 13002410

**Course Abbreviation:** AGPOWSLAB

**Credits**: 3

**Level**: 3

**Prerequisite**: None

**Corequisite**: None

**Recommended Prerequisite**: Principles of Agriculture, Food, and Natural Resources

**Recommended Corequisite**: None

Agricultural Power Systems is designed to develop an understanding of power and control systems as related to energy sources, small and large power systems, and agricultural machinery. To prepare for careers in agricultural power, structural, and technical systems, students must attain academic skills and knowledge; acquire technical knowledge and skills related to power, structural, and technical agricultural systems and the workplace; and develop knowledge and skills regarding career opportunities, entry requirements, industry certifications, and industry expectations.

**Program of Study: Agricultural Technology and Mechanical Systems**

## Agricultural Structures Design and Fabrication

**Course Code**: 13002300

**Course Abbreviation:** AGSDF

**Credit**: 1

**Level**: 3

**Prerequisite**: None

**Corequisite**: None

**Recommended Prerequisite**: Agricultural Mechanics and Metal Technologies

**Recommended Corequisite**: None

In Agricultural Structures Design and Fabrication, students will explore career opportunities, entry requirements, and industry expectations. To prepare for careers in mechanized agriculture and technical systems, students must attain knowledge and skills related to agricultural structures design and fabrication.

**Program of Study: Agricultural Technology and Mechanical Systems**

## Agricultural Structures Design and Fabrication + Agricultural Laboratory and Field Experience

**Course Code**: 13002310 **Course Abbreviation**: AGSDFLAB
**Credits**: 2 **Level**: 3
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: Agricultural Mechanics and Metal Technologies
**Recommended Corequisite**: None

In Agricultural Structures Design and Fabrication, students will explore career opportunities, entry requirements, and industry expectations. To prepare for careers in mechanized agriculture and technical systems, students must attain knowledge and skills related to agricultural structures design and fabrication.
**Program of Study: Agricultural Technology and Mechanical Systems**

## Aircraft Airframe Technology

**Course Code**: 13039400 **Course Abbreviation**: AIRAFTEC
**Credits**: 2 **Level**: 3
**Prerequisite**: Aircraft Maintenance Technology
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

Aircraft Airframe Technology is designed to teach the theory of operation of aircraft airframes and associated maintenance and repair practices of Federal Aviation Administration (FAA) airframe curriculum subjects utilizing aircraft, aircraft training devices, or equivalent simulated situations. In this course, the academic and technical skills are separated to reflect the learning outcomes as designed in the FAA Airman Certification Standards. Airframe maintenance and repair practices include knowledge of the theory, function, diagnosis, and service of airframe structures, systems, and components of aircraft. Industry-recognized professional licensures, certifications, and registrations are available for students who meet the requirements set forth by the accrediting organization.
**Program of Study: Aviation Maintenance**

## Aircraft Airframe Technology + Advanced Transportation Systems Laboratory

**Course Code**: 13039410 **Course Abbreviation**: AIRAFTEC
**Credits**: 3 **Level**: 3
**Prerequisite**: Aircraft Maintenance Technology
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

Aircraft Airframe Technology is designed to teach the theory of operation of aircraft airframes and associated maintenance and repair practices of Federal Aviation Administration (FAA) airframe curriculum subjects utilizing aircraft, aircraft training devices, or equivalent simulated situations. In this course, the academic and technical skills are separated to reflect the learning outcomes as designed in the FAA Airman Certification Standards. Airframe maintenance and repair practices include knowledge of the theory, function, diagnosis, and service of airframe structures, systems, and components of aircraft. Industry-recognized professional licensures, certifications, and registrations are available for students who meet the requirements set forth by the accrediting organization.
**Program of Study: Aviation Maintenance**

## Aircraft Maintenance Technology

**Course Code**: 13039360
**Credit**: 1
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: Introduction to Aircraft Technology
**Recommended Corequisite**: None

**Course Abbreviation**: AIRMTECH
**Level**: 2

Aircraft Maintenance Technology is designed to teach the theory of operation, general maintenance, and repair practices of Federal Aviation Administration (FAA) general curriculum subjects utilizing aircraft, aircraft training devices, or equivalent simulated situations. In this course, the academic and technical skills are separated to reflect the learning outcomes as designed in the FAA airman certification standards. Maintenance and repair practices include knowledge of the function, diagnosis, and service of aircraft and their associated equipment. Industry-recognized professional licensures, certifications, and registrations are available for students who meet the requirements set forth by the accrediting organization.
**Program of Study: Aviation Maintenance**

## Aircraft Maintenance Technology + Advanced Transportation Systems Laboratory

**Course Code**: 13039370
**Credits**: 2
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: Introduction to Aircraft Technology
**Recommended Corequisite**: None

**Course Abbreviation**: AIRMTLAB
**Level**: 2

Aircraft Maintenance Technology is designed to teach the theory of operation, general maintenance, and repair practices of Federal Aviation Administration (FAA) general curriculum subjects utilizing aircraft, aircraft training devices, or equivalent simulated situations. In this course, the academic and technical skills are separated to reflect the learning outcomes as designed in the FAA airman certification standards. Maintenance and repair practices include knowledge of the function, diagnosis, and service of aircraft and their associated equipment. Industry-recognized professional licensures, certifications, and registrations are available for students who meet the requirements set forth by the accrediting organization.
**Program of Study: Aviation Maintenance**

## Aircraft Powerplant Technology

**Course Code**: 13039500
**Credits**: 2
**Prerequisite**: Aircraft Maintenance Technology
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

**Course Abbreviation**: AIRPPTEC
**Level**: 4

Aircraft Powerplant Technology is designed to teach the theory of operation of aircraft powerplants and associated maintenance and repair practices of the Federal Aviation Administration (FAA) powerplant curriculum subjects utilizing aircraft, aircraft training devices, or equivalent simulated situations. In this course, the academic and technical skills are separated to reflect the learning outcomes as designed in the FAA Airman Certification Standards. Powerplant maintenance and repair practices include knowledge of the theory, function, diagnosis, and service of powerplants, systems, and components of aircraft. Industry-recognized professional licensures, certifications, and registrations are available for students who meet the requirements set forth by the accrediting organization.
**Program of Study: Aviation Maintenance**

## Aircraft Powerplant Technology + Advanced Transportation Systems Laboratory

**Course Code**: 13039510      **Course Abbreviation**: AIRPPLAB
**Credits**: 3      **Level**: 4
**Prerequisite**: Aircraft Maintenance Technology
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

Aircraft Powerplant Technology is designed to teach the theory of operation of aircraft powerplants and associated maintenance and repair practices of the Federal Aviation Administration (FAA) powerplant curriculum subjects utilizing aircraft, aircraft training devices, or equivalent simulated situations. In this course, the academic and technical skills are separated to reflect the learning outcomes as designed in the FAA Airman Certification Standards. Powerplant maintenance and repair practices include knowledge of the theory, function, diagnosis, and service of powerplants, systems, and components of aircraft. Industry-recognized professional licensures, certifications, and registrations are available for students who meet the requirements set forth by the accrediting organization.

**Program of Study: Aviation Maintenance**

## Allied Health Therapeutic Services

**Course Code**: N1302120      **Course Abbreviation**: ALLHTS
**Credit**: 1      **Level**: 2
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: Principles of Allied Health
**Recommended Corequisite**: None

Allied Health Therapeutic Services builds on the concepts from Principles of Allied Health and allows students to apply the concepts, knowledge, and skills necessary for a health career in an allied health field. This course will focus on anatomy and physiology, medical terminology, and career skills and exploration associated with healthcare industry standards for respiratory therapy, physical and occupational therapy, radiological imaging, and pharmaceuticals. This course is designed for students who are interested in pursuing careers in the allied health fields.

**Programs of Study: Diagnostic and Therapeutic Services, and Exercise Science, Wellness, and Restoration**

## Anatomy and Physiology

**Course Code**: 13020600      **Course Abbreviation**: ANATPHYS
**Credit**: 1      **Level**: 3
**Prerequisites**: One credit in biology and one credit in chemistry, Integrated Physics and Chemistry (IPC), or physics
**Corequisite**: None
**Recommended Prerequisite**: A course from the Health Science career cluster
**Recommended Corequisite**: None

The Anatomy and Physiology course is designed for students to conduct laboratory and field investigations, use scientific methods during investigations, and make informed decisions using critical thinking and scientific problem solving. Students in Anatomy and Physiology will study a variety of topics, including the structure and function of the human body and the interaction of body systems for maintaining homeostasis.
*Note: This course satisfies a high school science graduation requirement.*

**Programs of Study: Biomedical Science, Diagnostic and Therapeutic Services, Exercise Science, Wellness, and Restoration, Fire Science, and Nursing Science**

## Animation I

**Course Code**: 13008300      **Course Abbreviation**: ANIMAT1
**Credit**: 1      **Level**: 2
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: Principles of Arts, Audio/Video Technology, and Communications or Art I
**Recommended Corequisite**: Animation I Lab

Careers in animation span all aspects of motion graphics. Within this context, in addition to developing technical knowledge and skills needed for success in the Arts, Audio Visual Technology, and Communications career cluster, students will be expected to develop an understanding of the history and techniques of the animation industry.
**Program of Study: Graphic Design and Interactive Media**

## Animation I + Animation I Lab

**Course Code**: 13008310      **Course Abbreviation:** ANILAB1
**Credits**: 2      **Level**: 2
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: Principles of Arts, Audio/Video Technology, and Communications or Art I
**Recommended Corequisite**: None

Careers in animation span all aspects of motion graphics. Within this context, in addition to developing technical knowledge and skills needed for success in the Arts, Audio Visual Technology, and Communications career cluster, students will be expected to develop an understanding of the history and techniques of the animation industry.
**Program of Study: Graphic Design and Interactive Media**

## Animation II

**Course Code**: 13008400      **Course Abbreviation**: ANIMAT2
**Credit**: 1      **Level**: 3
**Prerequisite**: Animation l
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: Animation II Lab

Careers in animation span all aspects of motion graphics. Within this context, in addition to developing advanced knowledge and skills needed for success in the Arts, Audio Visual Technology, and Communications career cluster, students will be expected to create two- and three-dimensional animations. The instruction also assists students seeking careers in the animation industry.
**Program of Study: Graphic Design and Interactive Media**

## Animation II + Animation II Lab

**Course Code**: 13008410      **Course Abbreviation**: ANILAB2
**Credits**: 2      **Level**: 3
**Prerequisite**: Animation l
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

Careers in animation span all aspects of motion graphics. Within this context, in addition to developing advanced knowledge and skills needed for success in the Arts, Audio Visual Technology, and Communications career cluster, students will be expected to create two- and three-dimensional animations. The instruction also assists students seeking careers in the animation industry.
**Program of Study: Graphic Design and Interactive Media**

## Applied Mathematics for Technical Professionals

**Course Code**: 12701410　　　　　**Course Abbreviation**: APMATHTP
**Credit**: 1　　　　　**Level**: 4
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisites**: Algebra 1 and Geometry
**Recommended Corequisite**: None

Applied Mathematics for Technical Professionals uses problem-solving situations, hands-on activities, and technology to extend mathematical thinking and engage student reasoning. Situations relating to technical applications provide students opportunities to make connections with mathematics and the workplace. In addition, students will learn the skills necessary to communicate using mathematics. Hands-on activities will allow students to model, explore, and develop abstract concepts applicable to technical careers. (Essential to this course is the partnership between mathematics and technical teachers.)
*Note: This course satisfies a high school mathematics graduation requirement.*
**Programs of Study: Electronics Technology (Regional), Oil and Gas Exploration and Production, Refining and Chemical Processes, and Renewable Energy**

## Applied Nutrition and Dietetics

**Course Code**: N1302541　　　　　**Course Abbreviation**: APPNUTR
**Credit**: 1　　　　　**Level**: 3
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisites**: Principles of Human Services, Lifetime Nutrition and Wellness and/or Human Growth and Development
**Recommended Corequisites**: None

The Applied Nutrition and Dietetics course builds on the fundamental nutritional knowledge gained from the Lifetime Nutrition and Wellness course by reinforcing professional standards, food safety and sanitation, food service and management, and nutrition care for individuals and groups at a deeper level. The course also introduces and applies career focused and real-world topics related to nutrition such as the nutrition care process, types of nutrition education and counseling, development of nutrition programs, and nutrition industry related research. Students will research requirements necessary to become a professional in the nutrition and dietetics field such as a registered dietitian, licensed nutritionist, or clinical dietitian.
**Programs of Study: Exercise Science, Wellness, and Restoration, and Health and Wellness**

## Architectural Design I

**Course Code**: 13004600　　　　　**Course Abbreviation**: ARCHDSN1
**Credit**: 1　　　　　**Level**: 2
**Prerequisites**: Algebra l and English l
**Corequisite**: None
**Recommended Prerequisites**: Geometry, Principles of Architecture, and Principles of Construction
**Recommended Corequisites**: None

In Architectural Design I, students will gain knowledge and skills needed to enter a career in architecture or construction or prepare a foundation toward a postsecondary degree in architecture, construction science, drafting, interior design, or landscape architecture. Architectural Design I includes the knowledge of the design, design history, techniques, and tools related to the production of drawings, renderings, and scaled models for nonresidential or residential architectural purposes.
**Program of Study: Architectural Drafting and Design**

## Architectural Design II

**Course Code**: 13004700      **Course Abbreviation**: ARCHDSN2
**Credits**: 2      **Level**: 3
**Prerequisite**: Architectural Design l or Advanced Interior Design and Geometry
**Corequisite**: None
**Recommended Prerequisites**: Principles of Architecture and Principles of Construction
**Recommended Corequisites**: None

In Architectural Design II, students will gain advanced knowledge and skills needed to enter a career in architecture or construction or prepare a foundation toward a postsecondary degree in architecture, construction science, drafting, interior design, or landscape architecture. Architectural Design II includes the advanced knowledge of the design, design history, techniques, and tools related to the production of drawings, renderings, and scaled models for nonresidential or residential architectural purposes.
**Program of Study: Architectural Drafting and Design**

## Architectural Engineering

**Course Code**: 12756065      **Course Abbreviation**: ARCHENGR
**Credits**: 2      **Level**: 3
**Prerequisite**: Civil Engineering I
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

Students enrolled in Architectural Engineering use principles of engineering and design tools to create innovative, functional, and sustainable buildings. Students develop cursory knowledge and essential skills to understand the design of buildings, including the mechanical, electrical, plumbing, and structural systems, while also planning the construction process. They engage in project planning, building and system analysis, site investigation, and the integration of sustainable design and construction practices for an architectural engineering project.
**Programs of Study: Architectural Drafting and Design, Civil Engineering, and Engineering Foundations**

## Audio/Video Production I

**Course Code**: 13008500      **Course Abbreviation**: AVPROD1
**Credit**: 1      **Level**: 2
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: Principles of Arts, Audio/Video Technology, and Communications
**Recommended Corequisite**: Audio/Video Production I Lab

Careers in audio and video technology and film production span all aspects of the audio/video communications industry. Within this context, in addition to developing technical knowledge and skills needed for success in the Arts, Audio Visual Technology, and Communications career cluster, students will be expected to develop an understanding of the industry with a focus on pre-production, production, and post-production audio and video products.
**Program of Study: Digital Communications**

## Audio/Video Production I + Audio/Video Production I Lab

**Course Code**: 13008510
**Credits**: 2
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: Principles of Arts, Audio/Video Technology, and Communications or Digital Media
**Recommended Corequisite**: None

**Course Abbreviation**: AVPLAB1
**Level**: 2

Careers in audio and video technology and film production span all aspects of the audio/video communications industry. Within this context, in addition to developing technical knowledge and skills needed for success in the Arts, Audio Visual Technology, and Communications career cluster, students will be expected to develop an understanding of the industry with a focus on pre-production, production, and post-production audio and video products.
**Program of Study: Digital Communications**

## Audio/Video Production ll

**Course Code**: 13008600
**Credit**: 1
**Prerequisite**: Audio/Video Production l
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: Audio/Video Production II Lab

**Course Abbreviation**: AVPROD2
**Level**: 3

Careers in audio and video technology and film production span all aspects of the audio/video communications industry. Building upon the concepts taught in Audio/Video Production I, in addition to developing advanced knowledge and skills needed for success in the Arts, Audio Visual Technology, and Communications career cluster, students will be expected to develop an advanced understanding of the industry with a focus on pre-production, production, and post-production products. This course may be implemented in an audio format or a format with both audio and video.
**Program of Study: Digital Communications**

## Audio/Video Production II + Audio/Video Production II Lab

Course Code: 13008610
**Credits**: 2
**Prerequisite**: Audio/Video Production l
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

**Course Abbreviation**: AVPLAB2
**Level**: 3

Careers in audio and video technology and film production span all aspects of the audio/video communications industry. Building upon the concepts taught in Audio/Video Production I, in addition to developing advanced knowledge and skills needed for success in the Arts, Audio Visual Technology, and Communications career cluster, students will be expected to develop an advanced understanding of the industry with a focus on pre-production, production, and post-production products. This course may be implemented in an audio format or a format with both audio and video.
**Program of Study: Digital Communications**

## Automotive Basics

**Course Code**: 13039550      **Course Abbreviation**: AUTOBASC
**Credit**: 1      **Level**: 2
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

Automotive Basics includes knowledge of the basic automotive systems and the theory and principles of the components that make up each system and how to service these systems. Automotive Basics includes applicable safety and environmental rules and regulations. In Automotive Basics, students will gain knowledge and skills in the repair, maintenance, and servicing of vehicle systems. This study allows students to reinforce, apply, and transfer academic knowledge and skills to a variety of interesting and relevant activities, problems, and settings. The focus of this course is to teach safety, tool identification, proper tool use, and employability.
**Program of Study: Automotive and Collision Repair**

## Automotive Technology l: Maintenance and Light Repair

**Course Code**: 13039600      **Course Abbreviation**: AUTOTEC1
**Credits**: 2      **Level**: 3
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: Automotive Basics
**Recommended Corequisite**: None

Automotive Technology I: Maintenance and Light Repair includes knowledge of the major automotive systems and the principles of diagnosing and servicing these systems. This course includes applicable safety and environmental rules and regulations. In Automotive Technology I: Maintenance and Light Repair, students will gain knowledge and skills in the repair, maintenance, and diagnosis of vehicle systems. This study will allow students to reinforce, apply, and transfer academic knowledge and skills to a variety of interesting and relevant activities, problems, and settings. The focus of this course is to teach safety, tool identification, proper tool use, and employability.
**Program of Study: Automotive and Collision Repair**

## Automotive Technology ll: Automotive Service

**Course Code**: 13039700      **Course Abbreviation**: AUTOTEC2
**Credits**: 2      **Level**: 4
**Prerequisite**: Automotive Technology l: Maintenance and Light Repair
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

Automotive Technology II: Automotive Service includes knowledge of the major automotive systems and the principles of diagnosing and servicing these systems. Automotive Technology II: Automotive Service includes applicable safety and environmental rules and regulations. In this course, students will gain knowledge and skills in the repair, maintenance, and diagnosis of vehicle systems. This study will allow students to reinforce, apply, and transfer academic knowledge and skills to a variety of interesting and relevant activities, problems, and settings. The focus of this course is to teach safety, tool identification, proper tool use, and employability.
**Program of Study: Automotive and Collision Repair**

## Automotive Technology ll: Automotive Service + Advanced Transportation Systems Laboratory

**Course Code**: 13039710      **Course Abbreviation**: AUTOLAB2
**Credits**: 3      **Level**: 4
**Prerequisite**: Automotive Technology l: Maintenance and Light Repair
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

Automotive Technology II: Automotive Service includes knowledge of the major automotive systems and the principles of diagnosing and servicing these systems. Automotive Technology II: Automotive Service includes applicable safety and environmental rules and regulations. In this course, students will gain knowledge and skills in the repair, maintenance, and diagnosis of vehicle systems. This study will allow students to reinforce, apply, and transfer academic knowledge and skills to a variety of interesting and relevant activities, problems, and settings. The focus of this course is to teach safety, tool identification, proper tool use, and employability.
**Program of Study: Automotive and Collision Repair**

## Aviation Ground School

**Course Code**: N1304675      **Course Abbreviation**: AVIAGS
**Credit**: 1      **Level**: 3
**Prerequisite**: None
**Corequisite**: None
**Recommended prerequisite**: Algebra I, Introduction to Unmanned Aerial Vehicles (UAV), Introduction to Aircraft Technology, or Junior Reserve Officer Training Corps (JROTC) II
**Recommended Corequisite**: None

This course is designed to extend student interests in all aspects of aviation while preparing students to take the formal ground requisite exam for the Federal Aviation Administration (FAA) Airman Knowledge Test which is required to obtain a private pilot's license. The rigor of the course challenges students with complex aeronautical, engineering, weather, management, and judgment concepts. Rules, regulations, obligations, and commitments to discipline and focus are foundational throughout the course. The ability to grasp flight without actually flying a real aircraft extends well beyond the classroom as students learn navigation, weather science, attention to detail (mathematical fuel and load planning), health and mental well-being related to flight planning and piloting aircraft.
**Program of Study: Aviation (Pilots)**

## Banking and Financial Services

**Course Code**: 13016300      **Course Abbreviation**: BANKFIN
**Credit**: .5      **Level**: 2
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: Principles of Business, Marketing, and Finance
**Recommended Corequisite**: None

In Banking and Financial Services, students will develop knowledge and skills in the economic, financial, technological, international, social, and ethical aspects of banking to become competent employees and entrepreneurs. Students will incorporate a broad base of knowledge that includes the operations, sales, and management of banking institutions to gain a complete understanding of how banks function within society.
**Program of Study: Accounting and Financial Services**

## Barbering I

**Course Code**: N1302534　　　　　　　　**Course Abbreviation**: BARBER1
**Credits**: 3　　　　　　　　　　　　　　**Level**: 3
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

Barbering is an extended course of study that enables students to become licensed barbers through Texas Department of Licensing and Regulation (TDLR).  Barbering I allows students to earn an industry certificate that launches them into a professional career immediately, yet also specifies rigorous core curricula that prepares the student to be successful in a post-secondary learning environment.
**Program of Study: Cosmetology and Personal Care Services (Regional)**

## Barbering II

**Course Code**: N1302535　　　　　　　　**Course Abbreviation**: BARBER2
**Credits**: 3　　　　　　　　　　　　　　**Level**: 4
**Prerequisite**: Barbering I
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

Barbering is an extended course of study that enables students to become licensed barbers through Texas Department of Licensing and Regulation (TDLR).  Barbering II allows students to earn an industry certificate that launches them into a professional career immediately, yet also specifies rigorous core curricula that prepares the student to be successful in a post-secondary learning environment.
**Program of Study: Cosmetology and Personal Care Services (Regional)**

## Basic Collision Repair and Refinishing

**Course Code**: 13039750　　　　　　　　**Course Abbreviation**: BASCOLRR
**Credit**: 1　　　　　　　　　　　　　　**Level**: 1
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

Basic Collision Repair and Refinishing includes knowledge of the processes, technologies, and materials used in the reconstruction of vehicles. This course is designed to teach the concepts and theory of systems related to automotive collision repair and refinishing.
**Program of Study: Automotive and Collision Repair**

## Basic Fluid Power

**Course Code**: N1303683  **Course Abbreviation**: BASICFP
**Credit**: 1  **Level**: 3
**Prerequisite**: None
**Corequisite**: None
**Recommended prerequisites**: Algebra I, Geometry, and Solid-State Electronics
**Recommended Corequisite**: None

Basic Fluid Power is an overview of automated manufacturing principles. It includes coverage of the manufacturing process, control systems, and measurement theory. Students will identify terminology and fundamental concepts of manufacturing; describe the trends of manufacturing careers within the industry cluster; identify safety, health, environmental, and ergonomic issues in manufacturing; discuss quality and continuous improvement methods; describe the importance of maintenance within manufacturing; and identify processes and production steps in manufacturing.
**Program of Study: Industrial Maintenance**

## Beekeeping and Honey Processing

**Course Code**: 13002110  **Course Abbreviation**: BEEHONPR
**Credit**: 1  **Level**: 2
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: Principles of Agriculture, Food, and Natural Resources
**Recommended Corequisite**: None

Beekeeping and Honey Processing is a course designed to provide students with the academic and technical knowledge and skills that are required to pursue a career related to beekeeping, apiary operations, honey harvesting, and related industries. Beekeeping and honey processing is a vital part of the United States agricultural economy. To prepare for success in Beekeeping and Honey Processing, students need opportunities to learn, reinforce, experience, apply, and transfer their knowledge and skills in a variety of settings.
**Program of Study: Environmental and Natural Resources**

## Biomedical Innovation (PLTW)

**Course Code**: N1302095  **Course Abbreviation**: BIOINN
**Credit**: 1  **Level**: 4
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite:** At least one credit in a Level 2 or higher course in the Biomedical Science program of study
**Recommended Corequisite**: None

In Biomedical Innovation, students design innovative solutions for health challenges of the 21st century working through challenging open-ended problems, addressing topics such as clinical medicine, physiology, biomedical engineering, and public health. Students are presented with each problem in a mission file, a case brief, a list of completion tasks, links to resources, and a reflection section. This provides skills-based instruction in research and experimentation and tools students use to design innovative solutions to real-world problems. The student uses what they learn in these missions as they develop and implement their independent project at the end of the year, culminating in the creation of a project portfolio. Students are encouraged to work with a mentor from the biomedical industry and present their work to an audience from the health care community.
**Program of Study: Biomedical Science**

## Biotechnology l
**Course Code**: 13036400
**Credit**: 1
**Prerequisite**: One credit in biology
**Corequisite**: None
**Recommended Prerequisites**: Principles of Bioscience and one credit in chemistry
**Recommended Corequisite**: None

**Course Abbreviation**: BIOTECH1
**Level**: 2

In Biotechnology I, students will apply advanced academic knowledge and skills to the emerging fields of biotechnology such as agricultural, medical, regulatory, and forensics. Students will have the opportunity to use sophisticated laboratory equipment, perform statistical analysis, and practice quality-control techniques. Students will conduct laboratory and field investigations and make informed decisions using critical thinking, scientific problem solving, and the engineering design process. Students in Biotechnology I will study a variety of topics that include structures and functions of cells, nucleic acids, proteins, and genetics. Students must meet the 40% laboratory and fieldwork requirement.
*Note: This course satisfies a high school science graduation requirement.*
**Program of Study: Biomedical Science**

## Biotechnology ll
**Course Code**: 13036450
**Credit**: 1
**Prerequisites**: One credit in chemistry and Biotechnology I
**Corequisite**: None
**Recommended Prerequisites**: None
**Recommended Corequisite**: None

**Course Abbreviation**: BIOTECH2
**Level**: 3

Biotechnology II has the components of any rigorous scientific or bioengineering program of study. This course applies the standard skills mastered in Biotechnology I and includes additional skills related to assay design, protein analysis, applications of genetic engineering, and quality management. After taking this course, students should be prepared for entry-level lab technician jobs. Students must meet the 40% laboratory and fieldwork requirement.
*Note: This course satisfies a high school science graduation requirement.*
**Program of Study: Biomedical Science**

## Blueprint Reading for Manufacturing Applications
**Course Code**: N1303684
**Credit**: 1
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisites**: Algebra I, Geometry, and Principles of Construction
**Recommended Corequisite**: None

**Course Abbreviation**: BRFMA
**Level**: 1

Blueprint Reading for Manufacturing Applications is an introduction to reading and interpreting working drawings for fabrication processes and associated trades. Students will learn sketching techniques to create pictorial and multiple-view drawings. Students will interpret working drawings including dimensions, notes, symbols, sections and auxiliary views.
**Programs of Study: Advanced Manufacturing and Industrial Technology (Regional), Electronics Technology (Regional), and Manufacturing Technology**

## Building Maintenance Technology I

**Course Code**: 13005400      **Course Abbreviation**: BUILDMA1
**Credits**: 2      **Level**: 2
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: Principles of Architecture or Principles of Construction
**Recommended Corequisite**: None

In Building Maintenance Technology I, students will gain knowledge and skills needed to enter the field of building maintenance as a building maintenance technician or supervisor or secure a foundation for a postsecondary degree in construction management, architecture, or engineering. Students will acquire knowledge and skills in plumbing; electrical; and heating, ventilation, and air conditioning (HVAC) systems. Additionally, students will learn methods for repair and installation of drywall, roof, and insulation systems.

**Programs of Study: Construction Management and Inspection, HVAC and Sheet Metal, and Plumbing and Pipefitting**

## Building Maintenance Technology II

**Course Code**: 13005500      **Course Abbreviation**: BUILDMA2
**Credits**: 2      **Level**: 3
**Prerequisite**: Building Maintenance Technology l
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

In Building Maintenance Technology II, students will continue to gain advanced knowledge and skills needed to enter the workforce as a building maintenance technician or supervisor and construction project manager or secure a foundation for a postsecondary degree in construction management, architecture, or engineering. Students will acquire knowledge and skills in safety, Occupational Safety and Health Administration (OSHA) standards, and safety devices in electrical circuits; maintenance of electrical and heating, ventilation, and air conditioning (HVAC) systems; and concepts of historic preservation.

**Program of Study: Construction Management and Inspection**

## Business Communication and Technologies

**Course Code**: 13011500      **Course Abbreviation**: BUSICT
**Credit**: 1      **Level**: 2
**Prerequisite**: Foundations of Business Communication and Technologies
**Corequisite**: None
**Recommended Prerequisite**: Touch System Data Entry
**Recommended Corequisite**: Business Lab

In Business Communication and Technologies, students implement personal and interpersonal skills to strengthen individual performance in the workplace and in society and make a successful transition to the workforce or postsecondary education. Students apply technical skills to address business applications of emerging technologies, create complex word-processing documents, develop sophisticated spreadsheets using charts and graphs, and make an electronic presentation using appropriate multimedia software.

**Program of Study: Business Management**

## Business Communication and Technologies + Business Lab

**Course Code**: 13011510      **Course Abbreviation**: BUSICTLAB
**Credits**: 2      **Level**: 2
**Prerequisite**: Foundations of Business Communication and Technologies
**Corequisite**: None
**Recommended Prerequisite**: Touch System Data Entry
**Recommended Corequisite**: None

In Business Communication and Technologies, students implement personal and interpersonal skills to strengthen individual performance in the workplace and in society and make a successful transition to the workforce or postsecondary education. Students apply technical skills to address business applications of emerging technologies, create complex word-processing documents, develop sophisticated spreadsheets using charts and graphs, and make an electronic presentation using appropriate multimedia software.
**Program of Study: Business Management**

## Business English

**Course Code**: 13011600      **Course Abbreviation**: BUSENGL
**Credit**: 1      **Level**: None
**Prerequisite**: English lll
**Corequisite**: None
**Recommended Prerequisite**: Touch System Data Entry
**Recommended Corequisite**: None

In Business English, students enhance communication and research skills by applying them to the business environment, in addition to exchanging information and producing properly formatted business documents using emerging technology.
*Note: This course satisfies the high school advanced English graduation requirement.*
**This course is not in a program of study**

## Business Law

**Course Code**: 13011700      **Course Abbreviation**: BUSLAW
**Credit**: 1      **Level**: 2
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

Business Law is designed for students to analyze various aspects of the legal environment, including ethics, the judicial system, contracts, personal property, sales, negotiable instruments, agency and employment, business organization, risk management, and real property.
**Programs of Study: Business Management, Legal Studies, and Real Estate**

## Business Management

**Course Code**: 13012100      **Course Abbreviation**: BUSMGT
**Credit**: 1      **Level**: 3
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

Business Management is designed to familiarize students with the concepts related to business management as well as the functions of management, including planning, organizing, staffing, leading, and controlling. Students will also demonstrate interpersonal and project-management skills.
**Programs of Study: Business Management, and Lodging and Resort Management**

## Career and Technical Education Project-Based Capstone

**Course Code**:
12701101 (First Time Taken)
12701102 (Second Time Taken)
12701103 (Third Time Taken)
**Credit**: 1
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

**Course Abbreviation**:
CTEPBC1
CTEPBC2
CTEPBC3
**Level**: 4

Career and Technical Education Project-Based Capstone is a course designed for students to develop and enhance essential skills while investigating real-world problems, issues, or interests. Students work independently or collaboratively with others within or across career clusters or programs of study. Students partner with mentor(s) or advisor(s) to develop a project. Students conduct research, compile findings, implement project activities appropriate to student contribution, and present their work to a relevant audience that may include industry experts. Students may repeat this course with different course content for up to three credits. *Note: Second Time Taken and Third Time Taken are not in a program of study and do not count for CCMR, and earn 1.1 weighted funding.*

**Programs of Study: Agricultural Technology and Mechanical Systems, Agriculture Business, Leadership, and Communications, Animal Science, Architectural Drafting and Design, Biomedical Science, Civil Engineering, Cybersecurity, Drone (Unmanned Vehicle) (Regional), Early Learning, Electrical Engineering, Engineering Foundations, Entrepreneurship, Environmental and Natural Resources, Exercise Science, Wellness, and Restoration, Family and Community Services, Fire Science, Food Science and Technology, Geospatial Engineering and Land Surveying (Regional), Health Informatics, Information Technology Support and Services, Legal Studies, Mechanical and Aerospace Engineering, Networking Systems, Oil and Gas Exploration and Production, Plant Science, Programming and Software Development, Refining and Chemical Processes, Renewable Energy, Teaching and Training, and Web Development**

## Career Preparation for Programs of Study

**Course Code**:
12701121 (First Time Taken)
12701122 (Second Time Taken)
**Credits**: 2

**Course Abbreviation**:
CPPS1
CPPS2
**Level**: 4

**Prerequisite**: At least one Level 2 or higher CTE course
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

Career Preparation for Programs of Study provides additional opportunities for students to develop business and industry employment experiences, which must be related to the student's current program of study alongside advanced classroom instruction. The goal is to prepare students with a variety of skills to transition from job- to career-mindedness. This course provides a continuing focus on collaborative feedback between the employer, teacher, and student. Career Preparation for Programs of Study expands on Career Preparation General by increasing rigor, supporting student attainment of academic standards, and effectively preparing students for college and career success.

*Note: Second Time Taken is not in a program of study and does not count for CCMR, and earns 1.1 weighted funding.*

**Programs of Study: Accounting and Financial Services, Advanced Manufacturing and Industrial Technology (Regional), Agricultural Technology and Mechanical Systems, Agriculture Business, Leadership, and Communications, Animal Science, Architectural Drafting and Design, Automotive and Collision Repair, Aviation Maintenance, Aviation (Pilots), Biomedical Science, Business Management, Carpentry, Civil Engineering, Construction Management and Inspection, Cosmetology and Personal Care Services (Regional), Culinary Arts, Cybersecurity, Diagnostic and Therapeutic Services, Diesel and Heavy Equipment Maintenance and Commercial Driver, Digital Communications, Distribution, Logistics, and Warehousing, Drone (Unmanned Vehicle) (Regional), Early Learning, Electrical, Electrical Engineering, Electronics Technology (Regional), Engineering Foundations, Entrepreneurship, Environmental and Natural Resources, Exercise Science, Wellness, and Restoration, Family and Community Services, Fire Science, Food Science and Technology, Geospatial Engineering and Land Surveying (Regional), Government and Public Administration, Graphic Design and Interactive Media, Health and Wellness, Health Informatics, HVAC and Sheet Metal, Industrial Maintenance, Information Technology Support and Services, Law Enforcement, Legal Studies, Lodging and Resort Management, Manufacturing Technology, Maritime (Regional), Marketing and Sales, Masonry, Mechanical and Aerospace Engineering, Networking Systems, Nursing Science, Oil and Gas Exploration and Production, Plant Science, Plumbing and Pipefitting, Printing and Imaging (Regional), Programming and Software Development, Real Estate, Refining and Chemical Processes, Renewable Energy, Retail Management (Regional), Robotics and Automation Technology, Teaching and Training, Travel, Tourism, and Attractions, Web Development, and Welding.**

## Career Preparation for Programs of Study + Extended Career Preparation

**Course Code**:
12701141 (First Time Taken)
12701142 (Second Time Taken)
**Credits**: 3
**Prerequisite**: At least one Level 2 or higher CTE course
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

**Course Abbreviation**:
EXCPPS1
EXCPPS2
**Level**: 4

Career Preparation for Programs of Study provides additional opportunities for students to develop business and industry employment experiences, which must be related to the student's current program of study alongside advanced classroom instruction. The goal is to prepare students with a variety of skills to transition from job- to career-mindedness. This course provides a continuing focus on collaborative feedback between the employer, teacher, and student. Career Preparation for Programs of Study expands on Career Preparation General by increasing rigor, supporting student attainment of academic standards, and effectively preparing students for college and career success.

*Note: Second Time Taken is not in a program of study and does not count for CCMR, and earns 1.1 weighted funding.*

**Programs of Study: Accounting and Financial Services, Advanced Manufacturing and Industrial Technology (Regional), Agricultural Technology and Mechanical Systems, Agriculture Business, Leadership, and Communications, Animal Science, Architectural Drafting and Design, Automotive and Collision Repair, Aviation Maintenance, Aviation (Pilots), Biomedical Science, Business Management, Carpentry, Civil Engineering, Construction Management and Inspection, Cosmetology and Personal Care Services (Regional), Culinary Arts, Cybersecurity, Diagnostic and Therapeutic Services, Diesel and Heavy Equipment Maintenance and Commercial Driver, Digital Communications, Distribution, Logistics, and Warehousing, Drone (Unmanned Vehicle) (Regional), Early Learning, Electrical, Electrical Engineering, Electronics Technology (Regional), Engineering Foundations, Entrepreneurship, Environmental and Natural Resources, Exercise Science, Wellness, and Restoration, Family and Community Services, Fire Science, Food Science and Technology, Geospatial Engineering and Land Surveying (Regional), Government and Public Administration, Graphic Design and Interactive Media, Health and Wellness, Health Informatics, HVAC and Sheet Metal, Industrial Maintenance, Information Technology Support and Services, Law Enforcement, Legal Studies, Lodging and Resort Management, Manufacturing Technology, Maritime (Regional), Marketing and Sales, Masonry, Mechanical and Aerospace Engineering, Networking Systems, Nursing Science, Oil and Gas Exploration and Production, Plant Science, Plumbing and Pipefitting, Printing and Imaging (Regional), Programming and Software Development, Real Estate, Refining and Chemical Processes, Renewable Energy, Retail Management (Regional), Robotics and Automation Technology, Teaching and Training, Travel, Tourism, and Attractions, Web Development, and Welding.**

## Career Preparation General

**Course Code**:
12701111 (First Time Taken)
12701112 (Second Time Taken)
**Credits**: 2
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: At least one credit in a CTE course
**Recommended Corequisite**: None

**Course Abbreviation**:
CPGEN1
CPGEN2
**Level**: None

Career Preparation General provides opportunities for students to participate in a work-based learning environment that incorporates continuous collaborative feedback between the employer, teacher, and student. This course combines classroom instruction with business and industry employment experiences that may be outside the student's current program of study. The goal is for students to obtain entry-level employment developing a variety of skills for obtaining and maintaining employment. Career preparation is relevant and rigorous, supports student attainment of academic standards, and effectively prepares students for college and career success.
**This course is not in a program of study**

## Career Preparation General + Extended Career Preparation

**Course Code**:
12701131 (First Time Taken)
12701132 (Second Time Taken)
**Credits**: 3
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: At least one credit in a CTE course
**Recommended Corequisite**: None

**Course Abbreviation**:
EXCPGEN1
EXCPGEN2
**Level**: None

Career Preparation General provides opportunities for students to participate in a work-based learning environment that incorporates continuous collaborative feedback between the employer, teacher, and student. This course combines classroom instruction with business and industry employment experiences that may be outside the student's current program of study. The goal is for students to obtain entry-level employment developing a variety of skills for obtaining and maintaining employment. Career preparation is relevant and rigorous, supports student attainment of academic standards, and effectively prepares students for college and career success.
**This course is not in a program of study**

## Child Development

**Course Code**: 13024700
**Credit**: 1
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: Principles of Human Services or Principles of Education and Training
**Recommended Corequisite**: None

**Course Abbreviation**: CHILDDEV
**Level**: 2

Child Development is a course that addresses knowledge and skills related to child growth and development from prenatal through school-age children. Students use these skills to promote the well-being and healthy development of children and investigate careers related to the care and education of children.
**Programs of Study: Early Learning, Family and Community Services, Health and Wellness, and Teaching and Training**

## Child Development Associate Foundations

**Course Code**: 13024710  **Course Abbreviation**: CDAFND
**Credit**: 1  **Level**: 2
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: Principles of Education and Training or Principles of Human Services
**Recommended Corequisite**: None

The Child Development Associate Foundations course is a laboratory course addressing the knowledge and skills related to applying Child Development Associate Competency Standards in early childhood environments and understanding how these competencies help young children move with success from one developmental stage to the next.
**Programs of Study: Early Learning, and Family and Community Services**

## Child Guidance

**Course Code**: 13024800  **Course Abbreviation**: CHILDGUI
**Credits**: 2  **Level**: 3
**Prerequisite**: Child Development or Child Development Associate Foundations
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

Child Guidance is a course that addresses the knowledge and skills related to child growth and guidance, equipping students to develop positive relationships with children and effective caregiver skills. Students use these skills to promote the well-being and healthy development of children, strengthen a culturally diverse society, and pursue careers related to the care, guidance, and education of children, including those with special needs. Instruction may be delivered through school-based laboratory training or through work-based delivery arrangements such as cooperative education, mentoring, and job shadowing.
**Program of Study: Early Learning**

## Civil Engineering I

**Course Code**: 12756050  **Course Abbreviation**: CVENGR1
**Credit**: 1  **Level**: 2
**Prerequisites**: Algebra I and Introduction to Computer-Aided Design and Drafting or Principles of Applied Engineering
**Corequisite**: None
**Recommended Prerequisite**: Geometry
**Recommended Corequisite**: None

Students in Civil Engineering I are introduced to the basic principles and practices essential to the field of civil engineering. Throughout this course students investigate different career paths in civil engineering, explore the various specializations within the field, and understand the phases and life cycle of civil engineering projects. They also delve into the functional mathematics crucial to the profession. Additionally, the course emphasizes the importance of effective project document structure and project management, ethical considerations, and the impact of civil engineering on the natural and built environment.
**Program of Study: Civil Engineering**

## Civil Engineering II

**Course Code**: 12756055      **Course Abbreviation**: CVENGR2
**Credit**: 2      **Level**: 3
**Prerequisites**: Geometry and Civil Engineering I
**Corequisite**: None
**Recommended Prerequisite**: Introduction to Computer-Aided Design and Drafting
**Recommended Corequisite**: None

Students in Civil Engineering II apply the principles and practices essential to various subdisciplines within civil engineering. Throughout this course, students develop knowledge and skills essential to the design development and construction of a civil engineering project. The students explore the impacts and constraints on the design of a project. They also delve into the functional mathematics crucial to the profession. Additionally, the course emphasizes the importance of effective project document structure and project management, ethical considerations, and the impact of civil engineering on the natural and built environment.

**Program of Study: Civil Engineering**

## Clinical Ethics

**Course Code**: N1302121      **Course Abbreviation**: CLINETH
**Credit**: 1      **Level**: 3
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisites**: Principles of Nursing Science and Science of Nursing
**Recommended Corequisite**: None

The Clinical Ethics course is a practical review of a discipline that provides a structured approach to assist health professionals in identifying, analyzing, and resolving ethical issues that arise in clinical practice. Students analyze ongoing developments in advanced medical technology. The course may raise awareness of or concerns about the ethical dimensions of clinical care. Students will leave the course with a practical awareness of how to respect diverse perspectives on ethics, morals, and values in healthcare.

**Programs of Study: Biomedical Science, Diagnostic and Therapeutic Services, and Nursing Science**

## Collision Repair

**Course Code**: 13039800      **Course Abbreviation**: COLLISR
**Credits**: 2      **Level**: 2
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: Basic Collision Repair and Refinishing
**Recommended Corequisite**: None

Collision Repair includes knowledge of the processes, technologies, and materials used in the reconstruction of vehicles. This course is designed to teach the concepts and theory of systems related to automotive collision repair and refinishing.

**Program of Study: Automotive and Collision Repair**

## Collision Repair + Advanced Transportation Systems Laboratory

**Course Code**: 13039810

**Course Abbreviation**: COLLRLAB

**Credits**: 3

**Level**: 2

**Prerequisite**: None

**Corequisite**: None

**Recommended Prerequisite**: Basic Collision Repair and Refinishing

**Recommended Corequisite**: None

Collision Repair includes knowledge of the processes, technologies, and materials used in the reconstruction of vehicles. This course is designed to teach the concepts and theory of systems related to automotive collision repair and refinishing.

**Program of Study: Automotive and Collision Repair**

## Commercial Photography l

**Course Code**: 13009100

**Course Abbreviation**: CPHOTO1

**Credit**: 1

**Level**: 2

**Prerequisite**: None

**Corequisite**: None

**Recommended Prerequisite**: None

**Recommended Corequisite**: Commercial Photography I Lab

Careers in commercial photography require skills that span all aspects of the industry from setting up a shot to delivering products in a competitive market. In addition to developing knowledge and skills needed for success in the Arts, Audio Visual Technology, and Communications career cluster, students will be expected to develop an understanding of the commercial photography industry with a focus on creating quality photographs.

**Program of Study: Graphic Design and Interactive Media**

## Commercial Photography l + Commercial Photography l Lab

**Course Code**: 13009110

**Course Abbreviation**: CPHLAB1

**Credits**: 2

**Level**: 2

**Prerequisite**: None

**Corequisite**: None

**Recommended Prerequisite**: None

**Recommended Corequisite**: None

Careers in commercial photography require skills that span all aspects of the industry from setting up a shot to delivering products in a competitive market. In addition to developing knowledge and skills needed for success in the Arts, Audio Visual Technology, and Communications career cluster, students will be expected to develop an understanding of the commercial photography industry with a focus on creating quality photographs.

**Program of Study: Graphic Design and Interactive Media**

## Commercial Photography ll
**Course Code**: 13009200      **Course Abbreviation**: CPHOTO2
**Credit**: 1      **Level**: 3
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisites**: Commercial Photography l and Commercial Photography l Lab
**Recommended Corequisite**: Commercial Photography II Lab

Careers in commercial photography span all aspects of the industry from setting up a shot to delivering products in a competitive market. In addition to developing advanced technical knowledge and skills needed for success in the Arts, Audio Visual Technology, and Communications career cluster, students will be expected to develop an advanced technical understanding of the commercial photography industry with a focus on producing, promoting, and presenting professional quality photographs.
**Program of Study: Graphic Design and Interactive Media**

## Commercial Photography ll + Commercial Photography ll Lab
**Course Code**: 13009210      **Course Abbreviation**: CPHLAB2
**Credits**: 2      **Level**: 3
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisites**: Commercial Photography l and Commercial Photography l Lab
**Recommended Corequisite**: None
Careers in commercial photography span all aspects of the industry from setting up a shot to delivering products in a competitive market. In addition to developing advanced technical knowledge and skills needed for success in the Arts, Audio Visual Technology, and Communications career cluster, students will be expected to develop an advanced technical understanding of the commercial photography industry with a focus on producing, promoting, and presenting professional quality photographs.
**Program of Study: Graphic Design and Interactive Media**

## Communication and Technology in Education
**Course Code**: 13014310      **Course Abbreviation**: CMTED
**Credit**: 1      **Level**: 2
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: Principles of Education and Training
**Recommended Corequisite**: None

Communication and Technology in Education is an extended course of study designed to provide students with the fundamentals of planning, managing, and training services needed to provide learning support services in Kindergarten-Grade 12 classrooms. Students will develop knowledge and skills regarding the professional, ethical, and legal responsibilities in teaching related to educational technology; students will also understand laws and pedagogical justifications regarding classroom technology use. Students will develop knowledge of developmentally appropriate practice for age level when technology is used by learners. This course provides an opportunity for students to participate in training related to standards set by the International Society for Technology in Education.
**Program of Study: Teaching and Training**

## Computer-Aided Drafting for Architecture

**Course Code**: N1300429      **Course Abbreviation**: CAD4ARCH
**Credit**: 1      **Level**: 2
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: Architectural Design
**Recommended Corequisite**: None

Computer-Aided Drafting for Architecture introduces students to the specific architectural computer-aided design and drafting (CADD) software and equipment required to produce architectural working drawings and construction documents.
**Program of Study: Architectural Drafting and Design**

## Computer Integrated Manufacturing (PLTW)

**Course Code**: N1303748      **Course Abbreviation**: CIM
**Credit**: 1      **Level**: 3
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: Introduction to Engineering Design
**Recommended Corequisite**: College preparatory mathematics and science courses

PLTW Computer Integrated Manufacturing is one of the specialization courses in the PLTW Engineering program. The course deepens the skills and knowledge of an engineering student within the context of efficiently creating the products around us. Students build upon their Computer-Aided Design (CAD) experience through the use of Computer-Aided Manufacturing (CAM) software. CAM transforms a digital design into a program that a Computer Numerical Controlled (CNC) mill uses to transform a block of raw material into a product designed by a student. Students learn and apply concepts related to integrating robotic systems such as Automated Guided Vehicles (AGV) and robotic arms into manufacturing systems. Throughout the course students learn about manufacturing processes and systems. This course culminates with a capstone project where students design, build, program, and present a manufacturing system model capable of creating a product.
**Programs of Study: Electrical Engineering, Engineering Foundations, Manufacturing Technology**

## Computer Maintenance

**Course Code**: 13027300      **Course Abbreviation**: COMPMTN
**Credit**: 1      **Level**: 2
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: Principles of Information Technology
**Recommended Corequisite**: Computer Maintenance Lab

In Computer Maintenance, students will acquire knowledge of computer maintenance and creating appropriate documentation. Students will analyze the social responsibility of business and industry regarding the significant issues relating to the environment, ethics, health, safety, and diversity in society and in the workplace as related to computer maintenance. Students will apply technical skills to address the IT industry and emerging technologies.
**Programs of Study: Cybersecurity, Information Technology Support and Services, Networking Systems**

## Computer Maintenance + Computer Maintenance Lab

**Course Code**: 13027310                    **Course Abbreviation**: COMMTLAB
**Credits**: 2                                              **Level**: 2
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: Principles of Information Technology
**Recommended Corequisite**: None

In Computer Maintenance, students will acquire knowledge of computer maintenance and creating appropriate documentation. Students will analyze the social responsibility of business and industry regarding the significant issues relating to the environment, ethics, health, safety, and diversity in society and in the workplace as related to computer maintenance. Students will apply technical skills to address the IT industry and emerging technologies.
**Programs of Study: Cybersecurity, Information Technology Support and Services, Networking Systems**

## Computer Science I

**Course Code**: 03580200                    **Course Abbreviation**: TACS1
**Credit**: 1                                              **Level**: 2
**Prerequisite**: Algebra I
**Corequisite**: Algebra I
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

Computer Science I will foster students' creativity and innovation by presenting opportunities to design, implement, and present meaningful programs through a variety of media. Students will collaborate with one another, their instructor, and various electronic communities to solve the problems presented throughout the course. Through computational thinking and data analysis, students will identify task requirements, plan search strategies, and use computer science concepts to access, analyze, and evaluate information needed to solve problems. By using computer science knowledge and skills that support the work of individuals and groups in solving problems, students will select the technology appropriate for the task, synthesize knowledge, create solutions, and evaluate the results. Students will learn digital citizenship by researching current laws, regulations, and best practices and by practicing integrity and respect. Students will gain an understanding of the principles of computer science through the study of technology operations, systems, and concepts.
**Programs of Study: Cybersecurity, Networking Systems, Programming and Software Development, and Web Development**

## Computer Science II

**Course Code**: 03580300                    **Course Abbreviation**: TACS2
**Credit**: 1                                              **Level**: 3
**Prerequisites**: Algebra I and Computer Science I or AP Computer Science Principles
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

Computer Science II will foster students' creativity and innovation by presenting opportunities to design, implement, and present meaningful programs through a variety of media. Students will collaborate with one another, their instructor, and various electronic communities to solve the problems presented throughout the course. Through computational thinking and data analysis, students will identify task requirements, plan search strategies, and use computer science concepts to access, analyze, and evaluate information needed to solve problems. By using computer science knowledge and skills that support the work of individuals and groups in solving problems, students will select the technology appropriate for the task, synthesize knowledge, create solutions, and evaluate the results. Students will gain an understanding of computer science through the study of technology operations, systems, and concepts.
**Program of Study: Programming and Software Development**

## Computer Science III

**Course Code**: 03580350        **Course Abbreviation**: TACS3
**Credit**: 1        **Level**: 4
**Prerequisite**: Computer Science II, Advanced Placement (AP) Computer Science A, or International Baccalaureate (IB) Computer Science Standard Level or IB Computer Science Higher Level
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

Computer Science III will foster students' creativity and innovation by presenting opportunities to design, implement, and present meaningful programs through a variety of media. Students will collaborate with one another, their instructor, and various electronic communities to solve the problems presented throughout the course. Through computational thinking and data analysis, students will identify task requirements, plan search strategies, and use computer science concepts to access, analyze, and evaluate information needed to solve problems. By using computer science knowledge and skills that support the work of individuals and groups in solving problems, students will select the technology appropriate for the task, synthesize knowledge, create solutions, and evaluate the results. Students will gain an understanding of advanced computer science data structures through the study of technology operations, systems, and concepts.
**Program of Study: Programming and Software Development**

## Computer Technician Practicum

**Course Code**:        **Course Abbreviation**:
13027500 (First Time Taken)        COMPT1
13027510 (Second Time Taken)        COMPT2
**Credits**: 2        **Level**: 4
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisites**: Principles of Information Technology, Computer Maintenance, Computer Maintenance Lab, Networking, and Networking Lab
**Recommended Corequisite**: None

In the Computer Technician Practicum, students will gain knowledge and skills in the area of computer technologies, including advanced knowledge of electrical and electronic theory, computer principles, and components related to the installation, diagnosis, service, and repair of computer-based technology systems. Students will reinforce, apply, and transfer their knowledge and skills to a variety of settings and problems. Proper use of analytical skills and application of IT concepts and standards are essential to prepare students for success in a technology-driven society. Critical thinking, IT experience, and product development may be conducted in a classroom setting with an instructor, with an industry mentor, or both.
**Program of Study: Information Technology Support and Services**

## Computer Technician Practicum + Extended Computer Technician Practicum

**Course Code**:
13027505 (First Time Taken)
13027515 (Second Time Taken)
**Credits**: 3
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisites**: Principles of Information Technology, Computer Maintenance, Computer Maintenance Lab, Networking, and Networking Lab
**Recommended Corequisite**: None

**Course Abbreviation**:
EXCOMPT1
EXCOMPT2
**Level**: 4

In the Computer Technician Practicum, students will gain knowledge and skills in the area of computer technologies, including advanced knowledge of electrical and electronic theory, computer principles, and components related to the installation, diagnosis, service, and repair of computer-based technology systems. Students will reinforce, apply, and transfer their knowledge and skills to a variety of settings and problems. Proper use of analytical skills and application of IT concepts and standards are essential to prepare students for success in a technology-driven society. Critical thinking, IT experience, and product development may be conducted in a classroom setting with an instructor, with an industry mentor, or both.
**Program of Study: Information Technology Support and Services**

## Concepts of Distribution and Logistics Technology

**Course Code**: N1303800
**Credit**: 1
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

**Course Abbreviation**: DISTLOG
**Level**: 2

In Concepts of Distribution and Logistics Technology, students will gain knowledge and skills in safe application, design, and assessment of technologies used in the supply chain and logistics industries. The students will apply knowledge and skills in using standard and emerging technologies in the field of logistics. This course allows students to understand, apply, and simulate the new technologies of distribution and logistics. The Concepts of Distribution and Logistics Technology course will provide students with a broader basis for understanding the technology of managing, storing, shipping, and receiving different materials. These technologies will include data base tracking and delivering software, equipment, and services used in the field. The course will develop the students' knowledge of distribution, logistics, and the supply chain.
**Program of Study: Distribution, Logistics, and Warehousing**

## Construction Management l

**Course Code**: 13004900
**Credits**: 2
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisites**: Algebra I, Geometry, and Principles of Architecture or Principles of Construction
**Recommended Corequisite**: None

**Course Abbreviation**: CONSMGT1
**Level**: 2

In Construction Management I, students will gain knowledge and skills needed to enter the workforce as apprentice carpenters or building maintenance supervisors' assistants or to build a foundation toward a postsecondary degree in architecture, construction science, drafting, or engineering. Construction Management I includes the knowledge of design techniques and tools related to the management of architectural and engineering projects.
**Program of Study: Construction Management and Inspection**

## Construction Management ll

**Course Code**: 13005000     **Course Abbreviation**: CONSGMGT2
**Credits**: 2     **Level**: 3
**Prerequisite**: Construction Management l
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

In Construction Management II, students will gain knowledge and skills needed to enter the workforce as apprentice carpenters or building maintenance supervisors' assistants or to build a foundation toward a postsecondary degree in architecture, construction science, drafting, or engineering. Construction Management II includes knowledge of the design, techniques, and tools related to the management of architectural and engineering projects.

**Program of Study: Construction Management and Inspection**

## Construction Technology l

**Course Code**: 13005100     **Course Abbreviation**: CONTECH1
**Credits**: 2     **Level**: 2
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: Principles of Construction or Principles of Architecture
**Recommended Corequisite**: None

In Construction Technology I, students will gain knowledge and skills needed to enter the workforce as carpenters or building maintenance supervisors or to prepare for a postsecondary degree in construction management, architecture, or engineering. Students will acquire knowledge and skills in safety, tool usage, building materials, codes, and framing. For safety and liability considerations, limiting course enrollment to 15 students is recommended.

**Programs of Study: Carpentry, and Industrial Maintenance**

## Construction Technology ll

**Course Code**: 13005200     **Course Abbreviation**: CONTECH2
**Credits**: 2     **Level**: 3
**Prerequisite**: Construction Technology l
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

In Construction Technology II, students will gain advanced knowledge and skills needed to enter the workforce as carpenters, building maintenance technicians, or supervisors or to prepare for a postsecondary degree in construction management, architecture, or engineering. Students will build on the knowledge base from Construction Technology I and are introduced to exterior and interior finish out skills. For safety and liability considerations, limiting course enrollment to 15 students is recommended.

**Program of Study: Carpentry**

## Correctional Services

**Course Code**: 13029700  **Course Abbreviation**: CORRSRVS
**Credit**: 1  **Level**: 3
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: Principles of Law, Public Safety, Corrections, and Security
**Recommended Corequisite**: None

In Correctional Services, students prepare for certification required for employment as a municipal, county, state, or federal correctional officer. Students will learn the role and responsibilities of a county or municipal correctional officer; discuss relevant rules, regulations, and laws of municipal, county, state, or federal facilities; and discuss defensive tactics, restraint techniques, and first aid procedures as used in the municipal, county, state, or federal correctional setting. Students will analyze rehabilitation and alternatives to institutionalization for inmates.
**Program of Study: Law Enforcement**

## Cosmetology I

**Course Code**: 13025200  **Course Abbreviation**: COSMET1
**Credits**: 2  **Level**: 3
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: Introduction to Cosmetology
**Recommended Corequisite**: Cosmetology I Lab

In Cosmetology I, students coordinate integration of academic, career, and technical knowledge and skills in this laboratory instructional sequence course designed to provide job-specific training for employment in cosmetology careers. Instruction includes sterilization and sanitation procedures, hair care, nail care, and skin care and meets the Texas Department of Licensing and Regulation (TDLR) requirements for licensure upon passing the state examination. Analysis of career opportunities, license requirements, knowledge and skills expectations, and development of workplace skills are included.
**Program of Study: Cosmetology and Personal Care Services (Regional)**

## Cosmetology I + Cosmetology I Lab

**Course Code**: 13025210  **Course Abbreviation**: COSLAB1
**Credits**: 3  **Level**: 3
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: Introduction to Cosmetology
**Recommended Corequisite**: None

In Cosmetology I, students coordinate integration of academic, career, and technical knowledge and skills in this laboratory instructional sequence course designed to provide job-specific training for employment in cosmetology careers. Instruction includes sterilization and sanitation procedures, hair care, nail care, and skin care and meets the Texas Department of Licensing and Regulation (TDLR) requirements for licensure upon passing the state examination. Analysis of career opportunities, license requirements, knowledge and skills expectations, and development of workplace skills are included.
**Program of Study: Cosmetology and Personal Care Services (Regional)**

## Cosmetology II

**Course Code**: 13025300
**Credits**: 2
**Prerequisite**: Cosmetology I
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: Cosmetology II Lab

**Course Abbreviation**: COSMET2
**Level**: 4

In Cosmetology II, students will demonstrate proficiency in academic, technical, and practical knowledge and skills. The content is designed to provide the occupational skills required for licensure. Instruction includes advanced training in professional standards/employability skills; Texas Department of Licensing and Regulation (TDLR) rules and regulations; use of tools, equipment, technologies and materials; and practical skills.
**Program of Study: Cosmetology and Personal Care Services (Regional)**

## Cosmetology II + Cosmetology II Lab

**Course Code**: 13025310
**Credits**: 3
**Prerequisite**: Cosmetology I
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

**Course Abbreviation**: COSLAB2
**Level**: 4

In Cosmetology II, students will demonstrate proficiency in academic, technical, and practical knowledge and skills. The content is designed to provide the occupational skills required for licensure. Instruction includes advanced training in professional standards/employability skills; Texas Department of Licensing and Regulation (TDLR) rules and regulations; use of tools, equipment, technologies and materials; and practical skills.
**Program of Study: Cosmetology and Personal Care Services (Regional)**

## Counseling and Mental Health

**Course Code**: 13024600
**Credit**: 1
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: Principles of Human Services
**Recommended Corequisite**: None

**Course Abbreviation**: COUNSMH
**Level**: 3

In Counseling and Mental Health, students model the knowledge and skills necessary to pursue a counseling and mental health career through simulated environments. Students are expected to apply knowledge of ethical and legal responsibilities, limitations, and the implications of their actions. Professional integrity in counseling and mental health care is dependent on acceptance of ethical and legal responsibilities.
**Programs of Study: Family and Community Services, Fire Science, Health and Wellness, and Law Enforcement**

## Court Systems and Practices

**Course Code**: 13029600

**Course Abbreviation**: COURTSP

**Credit**: 1

**Level**: 2

**Prerequisite**: None

**Corequisite**: None

**Recommended Prerequisite**: Law Enforcement l or Principles of Government and Public Administration

**Recommended Corequisite**: None

Court Systems and Practices is an overview of the federal and state court systems. The course identifies the roles of judicial officers and the trial processes from pretrial to sentencing and examines the types and rules of evidence. Emphasis is placed on constitutional laws for criminal procedures such as search and seizure, stop and frisk, and interrogation.

**Program of Study: Legal Studies**

## Criminal Investigation

**Course Code**: 13029550

**Course Abbreviation**: CRINVEST

**Credit**: 1

**Level**: 2

**Prerequisite**: None

**Corequisite**: None

**Recommended Prerequisite**: Principles of Law, Public Safety, Corrections, and Security

**Recommended Corequisite**: None

Criminal Investigation is a course that introduces students to the profession of criminal investigations. Students will understand basic functions of criminal investigations and procedures and will learn how to investigate or follow up during investigations. Students will learn terminology and investigative procedures related to criminal investigation, crime scene processing, evidence collection, fingerprinting, and courtroom presentation. Through case studies and simulated crime scenes, students will collect and analyze evidence such as fingerprint analysis, bodily fluids, hairs, fibers, shoe and tire impressions, bite marks, drugs, tool marks, firearms and ammunition, blood spatter, digital evidence, and other types of evidence.

**Program of Study: Law Enforcement**

## Culinary Arts

**Course Code**: 13022600

**Course Abbreviation**: CULARTS

**Credits**: 2

**Level**: 2

**Prerequisite**: None

**Corequisite**: None

**Recommended Prerequisites**: Principles of Hospitality and Tourism and Introduction to Culinary Arts

**Recommended Corequisite**: None

Culinary Arts begins with the fundamentals and principles of the art of cooking and the science of baking and includes management and production skills and techniques. Students can pursue a national sanitation certification or other appropriate industry certifications. This course is offered as a laboratory-based course.

**Program of Study: Culinary Arts**

## Cybersecurity Capstone

**Course Code**: 03580855

**Credit**: 1

**Prerequisite**: Foundations of Cybersecurity

**Corequisite**: None

**Recommended Prerequisite**: None

**Recommended Corequisite**: None

**Course Abbreviation**: TACYBCAP

**Level**: 4

In the Cybersecurity Capstone course, students will develop the knowledge and skills needed to explore advanced concepts related to the ethics, laws, and operations of cybersecurity. Students will examine trends and operations of cyberattacks, threats, and vulnerabilities. Students will develop security policies to mitigate risks. The skills obtained in this course prepare students for additional study toward industry certification. A variety of courses are available to students interested in the cybersecurity field. Cybersecurity Capstone may serve as a culminating course in this field of study.

**Program of Study: Cybersecurity**

## Dental Anatomy and Physiology

**Course Code**: N1302122

**Credit**: 1

**Prerequisite**: None

**Corequisite**: None

**Recommended prerequisites**: Biology and Introduction to Dental Science

**Recommended Corequisite**: None

**Course Abbreviation**: DENAP

**Level**: 2

Dental Anatomy and Physiology is a health science course designed for exploration of the physiology of the head, neck, oral, and dental anatomy. Students will identify and describe functions of anatomical structures, including the bones, muscles, nerves, and blood vessels of the head and neck as well as their relationship to the corresponding body systems. Students will also identify and describe oral, head and neck pathologies, conditions, diagnostic tools, treatments, and professions. While this course is identified as dental, it is well suited for all students interested in pursuing any of the professions involved with the head and neck such as dentistry, otolaryngology, optometry, radiology, audiology, neurology, reconstructive/plastic surgery.

**Program of Study: Diagnostic and Therapeutic Services**

## Dental Equipment and Procedures

**Course Code**: N1302130

**Credit**: 1

**Prerequisite**: None

**Corequisite**: None

**Recommended Prerequisites**: Introduction to Dental Science and Dental Anatomy and Physiology

**Recommended Corequisite**: None

**Course Abbreviation**: DENTEP

**Level**: 3

This course provides the foundational content knowledge, skills, and hands-on practice of essential dental assisting skills and chairside dental assisting functions. Topics include examination and assessment procedures, equipment and materials, instrumentation techniques, and treatment procedures and skills performed by a clinical dental assistant during restorative procedures. The hands-on practice will prepare students for clinical experiences.

**Program of Study: Diagnostic and Therapeutic Services**

## Diesel Equipment Technology l

**Course Code**: 13040150      **Course Abbreviation**: DIEQTEC1
**Credits**: 2      **Level**: 2
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

Diesel Equipment Technology I includes knowledge of the function and maintenance of diesel systems. Rapid advances in diesel technology have created new career opportunities and demands in the transportation industry. This course provides the knowledge, skills, and technologies required for employment in transportation systems.
**Program of Study: Diesel and Heavy Equipment Maintenance and Commercial Driver**

## Diesel Equipment Technology ll

**Course Code**: 13040160      **Course Abbreviation**: DIEQTEC2
**Credits**: 2      **Level**: 3
**Prerequisite**: Diesel Equipment Technology l
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

Diesel Equipment Technology II includes knowledge of the function, diagnosis, and service of diesel equipment systems. Rapid advances in diesel technology have created new career opportunities and demands in the transportation industry. This course provides the advanced knowledge, skills, and technologies required for employment in transportation systems.
**Program of Study: Diesel and Heavy Equipment Maintenance and Commercial Driver**

## Diesel Equipment Technology ll + Advanced Transportation Systems Laboratory

**Course Code**: 13040170      **Course Abbreviation**: DIEQLAB2
**Credits**: 3      **Level**: 3
**Prerequisite**: Diesel Equipment Technology l
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

Diesel Equipment Technology II includes knowledge of the function, diagnosis, and service of diesel equipment systems. Rapid advances in diesel technology have created new career opportunities and demands in the transportation industry. This course provides the advanced knowledge, skills, and technologies required for employment in transportation systems.
**Program of Study: Diesel and Heavy Equipment Maintenance and Commercial Driver**

## Digital Art and Animation

**Course Code**: 03580500      **Course Abbreviation**: TADGAA
**Credit**: 1      **Level**: 3
**Prerequisite**: None
**Corequisite**: None
**Recommended prerequisite**: Art, Level I
**Recommended Corequisite**: None

Digital Art and Animation consists of computer images and animations created with digital imaging software. Digital Art and Animation has applications in many careers, including graphic design, advertising, web design, animation, corporate communications, illustration, character development, script writing, storyboarding, directing, producing, inking, project management, editing, and the magazine, television, film, and game industries. Students in this course will produce various real-world projects and animations. The six strands include creativity and innovation; communication and collaboration; research and information fluency; critical thinking; problem solving, and decision making; digital citizenship; and technology operations and concepts.
*Note: This course satisfies the high school fine arts graduation requirement.*
**Program of Study: Graphic Design and Interactive Media**

## Digital Audio Technology l

**Course Code**: 13009950      **Course Abbreviation**: DATECH1
**Credit**: 1      **Level**: 2
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisites**: Principles of Arts, Audio/Video Technology, and Communications or Digital Media or both Audio/Video Production I and Audio/Video Production I Lab
**Recommended Corequisite**: None

Digital Audio Technology I was designed to provide students interested in audio production careers such as audio for radio and television broadcasting, audio for video and film, audio for animation and game design, music production and live sound, and additional opportunities and skill sets. Digital Audio Technology I does not replace Audio Video Production courses but is recommended as a single credit, co-curricular course with an audio production technical emphasis. This course can also be paired with Digital Media. Students will be expected to develop an understanding of the audio industry with a technical emphasis on production and critical-listening skills.
**Program of Study: Digital Communications**

## Digital Audio Technology ll

**Course Code**: 13009960      **Course Abbreviation**: DATECH2
**Credit**: 1      **Level**: 3
**Prerequisite**: Digital Audio Technology l
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

Digital Audio Technology II was designed to provide additional opportunities and skill sets for students interested in audio production careers such as audio for radio and television broadcasting, audio for video and film, audio for animation and game design, and music production and live sound. Digital Audio Technology II does not replace Audio Video Production courses but is recommended as a single credit, co-curricular course with an audio production technical emphasis. This course can also be paired with Digital Media. Students will be expected to develop an understanding of the audio industry with a technical emphasis on production and critical-listening skills.
**Program of Study: Digital Communications**

## Digital Communications in the 21st Century

**Course Code**: 03580610                    **Course Abbreviation**: TADGC
**Credit**: 1                                **Level**: 1
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

Digital Communications in the 21st Century will prepare students for the societal demands of increased civic literacy, independent working environments, global awareness, and the mastery of a base set of analysis and communication skills. Students will be expected to design and present an effective product based on well-researched issues in order to thoughtfully propose suggested solutions to authoritative stakeholders. The outcome of the process and product approach is to provide students an authentic platform to demonstrate effective application of multimedia tools within the contexts of global communication and collaborative communities and appropriately share their voices to affect change that concerns their future. The six strands include creativity and innovation; communication and collaboration; research and information fluency; critical thinking; problem solving, and decision making; digital citizenship; and technology operations and concepts.

**Program of Study: Digital Communications**

## Digital Design and Media Production

**Course Code**: 03580400                    **Course Abbreviation**: TADGDMP
**Credit**: 1                                **Level**: 2
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

Digital Design and Media Production will allow students to demonstrate creative thinking, develop innovative strategies, and use communication tools in order to work effectively with others as well as independently. Students will gather information electronically, which will allow for problem solving and making informed decisions regarding media projects. Students will learn digital citizenship by researching current laws and regulations and by practicing integrity and respect. Students will demonstrate a thorough understanding of digital design principles that is transferable to other disciplines. The six strands include creativity and innovation; communication and collaboration; research and information fluency; critical thinking; problem solving, and decision making; digital citizenship; and technology operations and concepts.

**Programs of Study: Digital Communications, Graphic Design and Interactive Media, and Marketing and Sales**

## Digital Electronics

**Course Code**: 13037600                    **Course Abbreviation**: DIGELC
**Credit**: 1                                **Level**: 3
**Prerequisites**: Algebra I and Geometry
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

Digital Electronics is the study of electronic circuits that are used to process and control digital signals. In contrast to analog electronics, where information is represented by a continuously varying voltage, digital signals are represented by two discreet voltages or logic levels. This distinction allows for greater signal speed and storage capabilities and has revolutionized the world of electronics. Digital electronics is the foundation of modern electronic devices such as cellular phones, digital audio players, laptop computers, digital cameras, and high-definition televisions. The primary focus of Digital Electronics is to expose students to the design process of combinational and sequential logic design, teamwork, communication methods, engineering standards, and technical documentation.

*Note: This course satisfies a high school mathematics graduation requirement.*

**Programs of Study: Advanced Manufacturing and Industrial Technology (Regional), Drone (Unmanned Vehicle) (Regional), Electrical Engineering, Electronics Technology (Regional), Engineering Foundations, and Renewable Energy**

## Digital Forensics

**Course Code**: 03580360      **Course Abbreviation**: TADGFR
**Credit**: 1      **Level**: 3
**Prerequisite**: Foundations of Cybersecurity
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

Digital forensics is a critical discipline concerned with analyzing anomalous activity on computers, networks, programs, and data. As a discipline, it has grown with the expansion of a globally connected digital society. As computing has become more sophisticated, so too have the abilities to access systems and sensitive information. Digital forensics professionals investigate and craft appropriate responses to disruptions to governments, organizations, and individuals. Whereas cybersecurity takes a proactive approach to information assurance to minimize harm, digital forensics takes a reactive approach to incident response.
**Program of Study: Cybersecurity**

## Digital Image Processing

**Course Code**: N1303766      **Course Abbreviation**: DGIP
**Credit**: 1      **Level**: None
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisites**: Algebra I, Geometry, and Algebra II
**Recommended Corequisite**: None

This course introduces the topic of how images (pictures) are represented in a way that computers can store them in memory, manipulate their pixels, display them, and analyze their contents. Digital images are processed by programs written in scientific computing software environments. The following image processing operations will be studied: enhancement, filtering, reconstruction, compression, object detection, and classification.
**This course is not in a program of study**

## Digital Media

**Course Code**: 13027800      **Course Abbreviation**: DIMEDIA
**Credit**: 1      **Level**: 1
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

In Digital Media, students will analyze and assess current and emerging technologies, while designing and creating multimedia projects that address customer needs and resolve a problem. Students will implement personal and interpersonal skills to prepare for a rapidly evolving workplace environment. The knowledge and skills acquired and practiced will enable students to successfully perform and interact in a technology-driven society. Students will enhance reading, writing, computing, communication, and critical thinking and apply them to the IT environment.
**Programs of Study: Graphic Design and Interactive Media, Marketing and Sales, and Web Development**

## Dimensions of Diplomacy

**Course Code**: N1301820
**Credit**: 1
**Prerequisite**: None
**Corequisite**: None

**Course Abbreviation**: DIDIPL
**Level**: 3

**Recommended Prerequisites**: Principles of Government and Public Administration, Political Science I, and/or Foreign Service and Diplomacy; two levels of languages other than English (LOTE)
**Recommended Corequisites**: Statistics and/or Psychology

Dimensions of Diplomacy is designed to allow students to master the Thirteen Dimensions that candidates interested in careers with the United States Department of State must demonstrate during the selection process for internships, scholarships, fellowships, and career opportunities. Students will develop global competencies, problem-solving, decision-making, professional communication and negotiation skills applicable to all clusters and professions but particularly relevant to international diplomacy and careers with multinational firms.
**Program of Study: Government and Public Administration**

## Disaster Response

**Course Code**: N1303011
**Credit**: 1
**Prerequisite**: None
**Corequisite**: None

**Course Abbreviation**: DISRESP
**Level**: 2

**Recommended Prerequisite**: Principles of Law, Public Safety, Corrections, and Security
**Recommended Corequisite**: None

Disaster Response includes basic training of students in disaster survival and rescue skills that would improve the ability of citizens to survive until responders or other assistance could arrive. Students will receive education, training, and volunteer service to make communities safer, stronger, and better prepared to respond to the threats of terrorism, crime, public health issues and disasters of all kinds.
**Programs of Study: Diagnostic and Therapeutic Services, and Fire Science**

## Discrete Mathematics for Computer Science

**Course Code**: 03580370
**Credit**: 1
**Prerequisite**: Algebra II
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

**Course Abbreviation**: TADISMA
**Level**: 3

Discrete Mathematics for Computer Science provides the tools used in most areas of computer science. Exposure to the mathematical concepts and discrete structures presented in this course is essential in order to provide an adequate foundation for further study. Discrete Mathematics for Computer Science is generally listed as a core requirement for Computer Science majors. Course topics are divided into six areas: sets, functions, and relations; basic logic; proof techniques; counting basics; graphs and trees; and discrete probability. Mathematical topics are interwoven with computer science applications to enhance the students' understanding of the introduced mathematics. Students will develop the ability to see computational problems from a mathematical perspective. Introduced to a formal system (propositional and predicate logic) upon which mathematical reasoning is based, students will acquire the necessary knowledge to read and construct mathematical arguments (proofs), understand mathematical statements (theorems), and use mathematical problem-solving tools and strategies. Students will be introduced to discrete data structures such as sets, discrete functions, and relations and graphs and trees. Students will also be introduced to discrete probability and expectations. The six strands include creativity and innovation; communication and collaboration; research and information fluency; critical thinking; problem solving, and decision making; digital citizenship; and technology operations and concepts.
**Programs of Study: Cybersecurity, and Programming and Software Development**

## Distribution and Logistics

**Course Code**: 13040300

**Credit**: 1

**Prerequisite**: None

**Corequisite**: None

**Recommended Prerequisite**: Principles of Distribution and Logistics

**Recommended Corequisite**: None

**Course Abbreviation**: DISTLGS

**Level**: 3

Distribution and Logistics is designed to provide training for entry-level employment in distribution and logistics. This course focuses on the business planning and management aspects of distribution and logistics. To prepare for success, students will learn, reinforce, experience, apply, and transfer their knowledge and skills related to distribution and logistics.

**Program of Study: Distribution, Logistics, and Warehousing**

## Diversified Manufacturing l

**Course Code**: 13032650

**Credit**: 1

**Prerequisite**: None

**Corequisite**: None

**Recommended Prerequisite**: Algebra I

**Recommended Corequisite**: None

**Course Abbreviation**: DIMANU1

**Level**: 2

In Diversified Manufacturing I, students gain knowledge and skills in the application, design, production, and assessment of products, services, and systems and how those knowledge and skills are applied to manufacturing. The study of manufacturing systems allows students to reinforce, apply, and transfer academic knowledge and skills to a variety of interesting and relevant activities, problems, and settings in a manufacturing setting. Diversified Manufacturing I allows students the opportunity to understand the process of mass production by using a wide variety of materials and manufacturing techniques. Knowledge about career opportunities, requirements, and expectations and the development of skills prepare students for workplace success.

**Programs of Study: Advanced Manufacturing and Industrial Technology (Regional), and Manufacturing Technology**

## Diversified Manufacturing ll

**Course Code**: 13032660

**Credit**: 1

**Prerequisite**: Diversified Manufacturing l

**Corequisite**: None

**Recommended Prerequisite**: Algebra I

**Recommended Corequisite**: None

**Course Abbreviation**: DIMANU2

**Level**: 3

In Diversified Manufacturing II, students will gain knowledge and skills in the application, design, production, and assessment of products, services, and systems and how those knowledge and skills are applied to manufacturing. The study of manufacturing systems allows students to reinforce, apply, and transfer academic knowledge and skills to a variety of interesting and relevant activities, problems, and settings in a manufacturing setting. Diversified Manufacturing II allows students the opportunity to understand the process of mass production by using a wide variety of materials and manufacturing techniques. Knowledge about career opportunities, requirements, and expectations and the development of skills prepare students for workplace success.

**Program of Study: Manufacturing Technology**

## Dollars and Sense

**Course Code**: 13024300      **Course Abbreviation**: DOLLARSE
**Credit**: .5      **Level**: 1
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: Principles of Human Services
**Recommended Corequisite**: None

Dollars and Sense focuses on consumer practices and responsibilities, money-management processes, decision-making skills, impact of technology, and preparation for human services careers.
**Programs of Study: Family and Community Services, and Health and Wellness**

## Electrical Technology l

**Course Code**: 13005600      **Course Abbreviation**: ELECTEC1
**Credit**: 1      **Level**: 2
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: Principles of Architecture or Principles of Construction
**Recommended Corequisite**: None

In Electrical Technology I, students will gain knowledge and skills needed to enter the workforce as an electrician or building maintenance supervisor, prepare for a postsecondary degree in a specified field of construction or construction management, or pursue an approved apprenticeship program. Students will acquire knowledge and skills in safety, electrical theory, tools, codes, installation of electrical equipment, and the reading of electrical drawings, schematics, and specifications.
**Programs of Study: Electrical, Industrial Maintenance, and Renewable Energy**

## Electrical Technology ll

**Course Code**: 13005700      **Course Abbreviation**: ELECTEC2
**Credits**: 2      **Level**: 3
**Prerequisite**: Electrical Technology l
**Corequisite**: None
**Recommended Prerequisite**: Principles of Architecture or Principles of Construction
**Recommended Corequisite**: None

In Electrical Technology II, students will gain advanced knowledge and skills needed to enter the workforce as an electrician, a building maintenance technician, or a supervisor; prepare for a postsecondary degree in a specified field of construction or construction management; or pursue an approved apprenticeship program. Students will acquire knowledge and skills in safety, electrical theory, tools, codes, installation of electrical equipment, alternating current and direct current motors, conductor installation, installation of electrical services, and electric lighting installation.
**Programs of Study: Electrical and Renewable Energy**

## Emergency Medical Technician–Basic

**Course Code**: N1303015 **Course Abbreviation**: EMTB
**Credits**: 2 **Level**: 3
**Prerequisite**: Biology
**Corequisite**: None
**Recommended Prerequisite**: Principles of Law, Public Safety, Corrections, and Security; and Anatomy and Physiology
**Recommended Corequisite**: None

Emergency Medical Technician (EMT)–Basic instructs students to meet and exceed standard knowledge needed to be a valid Emergency Medical Technician. The curriculum includes skills necessary for a student to provide entry level emergency medical care, life support, and ambulance service. The EMT–Basic course is an introductory course to concepts, knowledge, and skills needed by EMTs in the areas of communications, transportation, and recordkeeping. Students interested in working in public safety, including fire, police, and ambulance operators will be capable of performing the job expectations of an EMT safely and effectively after the completion of this course.
**Programs of Study: Diagnostic and Therapeutic Services, and Fire Science**


## Energy and Natural Resource Technology

**Course Code**: 13001100 **Course Abbreviation**: ENGNRT
**Credit**: 1 **Level**: 3
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: A minimum of one credit from the courses in the Agriculture, Food, and Natural Resources career cluster
**Recommended Corequisite**: None

Energy and Natural Resource Technology examines the interrelatedness of environmental issues and production agriculture. Students will evaluate the environmental benefits provided by sustainable resources and green technologies. Instruction is designed to allow for the application of science and technology to measure environmental impacts resulting from production agriculture through field and laboratory experiences. To prepare for careers in environmental service systems, students must attain academic skills and knowledge, acquire advanced technical knowledge and skills related to environmental service systems and the workplace, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations.
**Programs of Study: Environmental and Natural Resources, and Renewable Energy**


## Energy and Natural Resource Technology + Agricultural Laboratory and Field Experience

**Course Code**: 13001110 **Course Abbreviation**: ENGNRTLAB
**Credits**: 2 **Level**: 3
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: A minimum of one credit from the courses in the Agriculture, Food, and Natural Resources career cluster
**Recommended Corequisite**: None

Energy and Natural Resource Technology examines the interrelatedness of environmental issues and production agriculture. Students will evaluate the environmental benefits provided by sustainable resources and green technologies. Instruction is designed to allow for the application of science and technology to measure environmental impacts resulting from production agriculture through field and laboratory experiences. To prepare for careers in environmental service systems, students must attain academic skills and knowledge, acquire advanced technical knowledge and skills related to environmental service systems and the workplace, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations.
**Programs of Study: Environmental and Natural Resources**

## Energy and Power of Transportation Systems

**Course Code**: 13039300      **Course Abbreviation**: EPTSYS
**Credit**: 1      **Level**: 3
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: Principles of Transportation Systems
**Recommended Corequisite**: None

Energy and Power of Transportation Systems will prepare students to meet the expectations of employers in this industry and to interact and relate to others. Students will learn the technologies used to provide products and services in a timely manner. The businesses and industries of the Transportation, Distribution, and Logistics career cluster are rapidly expanding to provide new career and career advancement opportunities. Performance requirements will include academic and technical skills. Students will need to understand the interaction between various vehicle systems, including engines, transmissions, brakes, fuel, cooling, and electrical. Students will also need to understand the logistics used to move goods and services to consumers, as well as the components of transportation infrastructure.

**Program of Study: Automotive and Collision Repair**

## Engineering Applications of Computer Science Principles

**Course Code**: 13027540      **Course Abbreviation**: ENGRAPCS
**Credit**: 1      **Level**: 3
**Prerequisites**: Algebra I and at least one credit in a course from the Information Technology career cluster
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

Engineering Applications of Computer Science Principles teaches rigorous engineering design practices, engineering habits of mind, and the foundational tools of computer science. Students apply core computer science principles to solve engineering design challenges that cannot be solved without such knowledge and skills. Students use a variety of computer software and hardware applications to complete projects.

**Program of Study: Cybersecurity**

## Engineering Design and Presentation

**Course Code**: 13036500      **Course Abbreviation**: ENGRDP
**Credit**: 1      **Level**: 3
**Prerequisites**: Algebra I and at least one credit in a course from the Engineering career cluster
**Corequisite**: None
**Recommended Prerequisite**: Principles of Applied Engineering
**Recommended Corequisite**: None

Students enrolled in Engineering Design and Presentation demonstrate knowledge and skills of the design process as it applies to engineering fields and project management using multiple software applications and tools necessary to produce and present working drawings, solid model renderings, and prototypes. Through implementation of the design process, students transfer advanced academic skills to component designs. Additionally, students explore career opportunities in engineering, technology, and drafting and learn what is required to gain and maintain employment in these areas.

**Programs of Study: Civil Engineering, Electrical Engineering, Engineering Foundations, Mechanical and Aerospace Engineering, and Robotics and Automation Technology**

## Engineering Design and Problem Solving

**Course Code**: 13037300      **Course Abbreviation**: ENGDPRS
**Credit**: 1      **Level**: 4
**Prerequisites**: Algebra I, Geometry, and at least one credit in a Level 2 or higher course in the Engineering career cluster
**Corequisite**: None
**Recommended Prerequisite**: Engineering Science, chemistry, or physics
**Recommended Corequisite**: Engineering Science, chemistry, or physics

The Engineering Design and Problem Solving course extends students' problem solving skills by identifying needs and then devising solutions using scientific and engineering practices. Students apply prior knowledge to develop a multi-system product or solution for a complex problem. Students demonstrate project management skills by collaborating as part of a team, conducting research, and analyzing data that culminates in a comprehensive report and presentation. Technical drawings, models, and prototypes are created using the appropriate tools, materials, and techniques. Structured decision-making processes are used to select and justify a preferred, multi-system solution to an authentic problem. Students develop, implement, and document repeated trials of experiments and tests using scientific and engineering practices to determine whether a prototype meets design requirements.
*Note: This course satisfies a high school science graduation requirement.*
**Programs of Study: Civil Engineering, Electrical Engineering, Engineering Foundations, Mechanical and Aerospace Engineering, and Renewable Energy**

## Engineering Design Process

**Course Code**: 12756001      **Course Abbreviation**: ENGRDSP
**Credit**: 1      **Level**: 1
**Prerequisite**: Algebra I
**Corequisite**: None
**Recommended Prerequisite**: Principles of Applied Engineering
**Recommended Corequisite**: None

Engineering Design Process is an engineering course applicable to all engineering fields. Students use an iterative engineering design process to solve problems, make decisions, and manage a project. Professional practices are addressed, including development of a problem statement, maintenance of documentation, use of an engineering notebook, research, project management, internal and external communication, and creation of technical drawings and prototypes. The student delivers a professional presentation detailing the experience of working through each step of the engineering design process.
**Programs of Study: Electrical Engineering, Engineering Foundations, and Mechanical and Aerospace Engineering**

## Engineering Mathematics

**Course Code**: 13036700      **Course Abbreviation**: ENGMATH
**Credit**: 1      **Level**: 3
**Prerequisite**: Algebra ll
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

Engineering Mathematics is a course where students solve and model design problems. Students will use a variety of mathematical methods and models to represent and analyze problems that represent a range of real-world engineering applications such as robotics, data acquisition, spatial applications, electrical measurement, manufacturing processes, materials engineering, mechanical drives, pneumatics, process control systems, quality control, and computer programming.
*Note: This course satisfies a high school mathematics graduation requirement.*
**Programs of Study: Civil Engineering, Electrical Engineering, Engineering Foundations, and Mechanical and Aerospace Engineering**

## Engineering Project Management

**Course Code**: 12756060
**Credit**: 1
**Prerequisite**: Algebra I
**Corequisite**: None
**Recommended Prerequisite**: English II
**Recommended Corequisite**: None

**Course Abbreviation**: ENGRMGMT
**Level**: 2

Students enrolled in Engineering Project Management develop cursory knowledge and essential skills to lead an engineering team through the development and construction of a project. Students assess project documentation for compliance with best management practices. They engage in project planning, risk management, team management, and stakeholder communication to ensure project completion, adherence to safety guidelines, and continuous improvement.

**Programs of Study: Engineering Foundations, and Civil Engineering**

## Engineering Science

**Course Code**: 13037500
**Credit**: 1
**Prerequisites**: Algebra I, one credit in biology, and at least one credit in a course from the Engineering career cluster
**Corequisite**: None
**Recommended Prerequisite**: Geometry, Integrated Physics and Chemistry (IPC), one credit in chemistry, or one credit in physics
**Recommended Corequisite**: None

**Course Abbreviation**: ENGSCIEN
**Level**: 3

Engineering Science is an engineering course designed to expose students to some of the major concepts and technologies that they will encounter in a postsecondary program of study in any engineering domain. Students will have an opportunity to investigate engineering and high-tech careers. In Engineering Science, students will employ science, technology, engineering, and mathematical concepts in the solution of real-world challenge situations. Students will develop problem-solving skills and apply their knowledge of research and design to create solutions to various challenges. Students will also learn how to document their work and communicate their solutions to their peers and members of the professional community.
*Note: This course satisfies a high school science graduation requirement.*

**Programs of Study: Drone (Unmanned Vehicle) (Regional), Electrical Engineering, Engineering Foundations, and Mechanical and Aerospace Engineering**

## Entrepreneurship I

**Course Code**: 13011101
**Credit**: 1
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: Principles of Business, Marketing, and Finance
**Recommended Corequisite**: None

**Course Abbreviation**: ENTPR1
**Level**: 2

In Entrepreneurship I, students will gain the knowledge and skills needed to become an entrepreneur in a free enterprise system. Students will learn the key concepts necessary to begin and operate a business. The primary focus of the course is to help students identify the types and selection criteria of business structures, understand the components of a business plan, determine the feasibility of an idea using research, and develop and present a business concept. In addition, students will understand the basics of management, accounting, finance, marketing, risk, and product development.

**Programs of Study: Accounting and Financial Services, Agriculture Business, Leadership, and Communications, Animal Science, Automotive and Collision Repair, Business Management, Carpentry, Cosmetology and Personal Care Services (Regional), Culinary Arts, Diesel and Heavy Equipment Maintenance and Commercial Driver, Digital Communications, Electrical, Entrepreneurship, Exercise Science, Wellness, and Restoration, Family and Community Services, Graphic Design and Interactive Media, Health and Wellness, HVAC and Sheet Metal, Information Technology Support and Services, Lodging and Resort Management, Manufacturing Technology, Marketing and Sales, Masonry, Networking Systems, Plant Science, Plumbing and Pipefitting, Printing and Imaging (Regional), Programming and Software Development, Real Estate, Travel, Tourism, and Attractions, Web Development, and Welding.**

## Entrepreneurship II

**Course Code**: 13011102      **Course Abbreviation**: ENTPR2
**Credit**: 1      **Level**: 3
**Prerequisite**: Entrepreneurship I
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

In Entrepreneurship II, students gain the knowledge and skills needed to become successful entrepreneurs within an innovative marketplace in a free enterprise system. The goal and outcome of the course are for students to have a business launched by the end of the course or have the tools necessary to launch and operate a business. In this course, students learn and initiate the process of taking a business plan from idea to implementation. Students are encouraged to work in close cooperation with local industry leaders and community members to develop ideas and objectives, complete a business planning tool, pitch for funding, and register with governmental agencies.

**Program of Study: Entrepreneurship**

## Environmental Engineering

**Course Code**: 12756010      **Course Abbreviation**: ENVRENGR
**Credit**: 1      **Level**: 3
**Prerequisite**: At least one credit in a course from the Engineering or Energy career cluster
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

In Environmental Engineering, students research, develop, and design solutions related to water, land, and energy problems, with consideration to ethics and regulations. Using technology and the engineering design process, students devise innovative solutions to address current and future engineering challenges.

**Programs of Study: Engineering Foundations, and Renewable Energy**

## Equine Science

**Course Code**: 13000500      **Course Abbreviation**: EQUINSCI
**Credit**: .5      **Level**: 2
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: Principles of Agriculture, Food, and Natural Resources
**Recommended Corequisite**: None

In Equine Science, students acquire knowledge and skills related to the equine industry. Equine Science may address topics related to horses, donkeys, and mules. To prepare for careers in the field of animal science, students must enhance academic knowledge and skills, acquire knowledge and skills related to equine systems, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations.

**Program of Study: Animal Science**

## Esthetics
**Course Code**: N1302533      **Course Abbreviation**: ESTHE
**Credits**: 2      **Level**: 2
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

Students enrolled in Esthetics will explore the practical skills of a skin care professional, including introduction to the treatment environment, basic facial treatments, hair removal, corrective skin care treatments, makeup application, special effects makeup application and the technology likely to be utilized in a salon, spa, or clinical setting.
**Program of Study: Cosmetology and Personal Care Services (Regional)**

## Event and Meeting Planning
**Course Code**: 13022730      **Course Abbreviation**: INTMTGPL
**Credit**: 1      **Level**: 3
**Prerequisite**: At least one credit in a course from the Hospitality and Tourism career cluster
**Corequisite**: None
**Recommended Prerequisite**: Principles of Hospitality and Tourism, Hotel Management or Travel and Tourism Management
**Recommended Corequisite**: None

Event and Meeting Planning introduces students to the concepts and topics necessary to understand the meetings, events, expositions, and conventions (MEEC) industry. The course will review the roles of the organizations and people involved in the businesses that comprise the MEEC industry.
**Programs of Study: Culinary Arts, Lodging and Resort Management, and Marketing and Sales**

## Family and Community Services
**Course Code**: 13024900      **Course Abbreviation**: FAMCOSRV
**Credit**: 1      **Level**: 3
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: Principles of Human Services
**Recommended Corequisite**: None

Family and Community Services is a laboratory-based course designed to involve students in realistic and meaningful community-based activities through direct service or service-learning experiences. Students are provided opportunities to interact with and provide services to individuals, families, and the community through community or volunteer services. Emphasis is placed on developing and enhancing organizational and leadership skills and characteristics.
**Programs of Study: Family and Community Services, and Health and Wellness**

## Fashion Design l
**Course Code**: 13009300      **Course Abbreviation**: FASHDSN1
**Credit**: 1      **Level**: 2
**Prerequisites**: None
**Corequisite**: None
**Recommended Prerequisite**: Principles of Arts, Audio/Video Technology, and Communications
**Recommended Corequisite**: Fashion Design I Lab

Careers in fashion span all aspects of the textile and apparel industries. Within this context, in addition to developing technical knowledge and skills needed for success in the Arts, Audio Visual Technology, and Communications career cluster, students will be expected to develop an understanding of the fashion industry with an emphasis on design and construction.
**Program of Study: Graphic Design and Interactive Media**

## Fashion Design l + Fashion Design l Lab

**Course Code**: 13009310      **Course Abbreviation**: FASLAB1

**Credits**: 2      **Level**: 2

**Prerequisite**: None

**Corequisite**: None

**Recommended Prerequisite**: Principles of Arts, Audio/Video Technology, and Communications

**Recommended Corequisite**: None

Careers in fashion span all aspects of the textile and apparel industries. Within this context, in addition to developing technical knowledge and skills needed for success in the Arts, Audio Visual Technology, and Communications career cluster, students will be expected to develop an understanding of the fashion industry with an emphasis on design and construction.

**Program of Study: Graphic Design and Interactive Media**

## Fashion Design ll

**Course Code**: 13009400      **Course Abbreviation**: FASHDSN2

**Credit**: 1      **Level**: 3

**Prerequisite**: Fashion Design l

**Corequisite**: None

**Recommended Prerequisite**: None

**Recommended Corequisite**: Fashion Design II Lab

Careers in fashion span all aspects of the textile and apparel industries. Within this context, in addition to developing technical knowledge and skills needed for success in the Arts, Audio Visual Technology, and Communications career cluster, students will be expected to develop an understanding of the fashion industry with an emphasis on design and construction.

**Program of Study: Graphic Design and Interactive Media**

## Fashion Design ll + Fashion Design ll Lab

**Course Code**: 13009410      **Course Abbreviation**: FASLAB2

**Credits**: 2      **Level**: 3

**Prerequisite**: Fashion Design l

**Corequisite**: None

**Recommended Prerequisite**: None

**Recommended Corequisite**: None

Careers in fashion span all aspects of the textile and apparel industries. Within this context, in addition to developing technical knowledge and skills needed for success in the Arts, Audio Visual Technology, and Communications career cluster, students will be expected to develop an understanding of the fashion industry with an emphasis on design and construction.

**Program of Study: Graphic Design and Interactive Media**

## Fashion Marketing

**Course Code**: 13034300      **Course Abbreviation**: FASHMKTG

**Credit**: .5      **Level**: 2

**Prerequisite**: None

**Corequisite**: None

**Recommended Prerequisite**: Principles of Business, Marketing, and Finance

**Recommended Corequisite**: None

Fashion Marketing is designed to provide students with knowledge of the various business functions in the fashion industry. Students in Fashion Marketing will gain a working knowledge of promotion, textiles, merchandising, mathematics, selling, visual merchandising, and career opportunities.

**Program of Study: Marketing and Sales**

## Federal Law Enforcement and Protective Services

**Course Code**: 13029800     **Course Abbreviation**: FEDLEPS
**Credit**: 1     **Level**: 2
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: Principles of Law, Public Safety, Corrections, and Security
**Recommended Corequisite**: None

Federal Law Enforcement and Protective Services provides the knowledge and skills necessary to prepare for certification in security services for federal law enforcement and protective services. The course provides an overview of security elements and types of organizations with a focus on security measures used to protect lives, property, and proprietary information, to ensure computer security, to provide information assurance, and to prevent cybercrime.
**Programs of Study: Government and Public Administration, and Law Enforcement**

## Financial Analysis

**Course Code**: 13016800     **Course Abbreviation**: FINANAL
**Credit**: 1     **Level**: 3
**Prerequisite**: Accounting I
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

In Financial Analysis, students will apply knowledge and technical skills in the economic, financial, technological, international, social, and ethical aspects of business to become competent consumers, employees, and entrepreneurs. Students will develop analytical skills by actively evaluating financial results of multiple businesses, interpreting results for stakeholders, and presenting strategic recommendations for performance improvement.
**Programs of Study: Accounting and Financial Services, and Real Estate**

## Financial Mathematics

**Course Code**: 13018000     **Course Abbreviation**: FINMATH
**Credit**: 1     **Level**: 2
**Prerequisite**: Algebra l
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

Financial Mathematics is a course about personal money management. Students will apply critical-thinking skills to analyze personal financial decisions based on current and projected economic factors.
*Note: This course satisfies a high school mathematics graduation requirement.*
**Programs of Study: Accounting and Financial Services, and Real Estate**

## Firefighter I

**Course Code**: 13029900     **Course Abbreviation**: FIRE1
**Credits**: 2     **Level**: 3
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: Principles of Law, Public Safety, Corrections, and Security
**Recommended Corequisite**: None

Firefighter I introduces students to firefighter safety and development. Students will analyze Texas Commission on Fire Protection rules and regulations, proper incident reporting and records, proper use of personal protective equipment, and the principles of fire safety.
**Program of Study: Fire Science**

## Firefighter ll

**Course Code**: 13030000       **Course Abbreviation**: FIRE2
**Credits**: 3       **Level**: 4
**Prerequisite**: Firefighter l
**Corequisite**: None
**Recommended Prerequisite**: Principles of Law, Public Safety, Corrections, and Security
**Recommended Corequisite**: None

Firefighter II is the second course in a series for students studying firefighter safety and development. Students will understand Texas Commission on Fire Protection rules and regulations, proper incident reporting and records, proper use of personal protective equipment, and the principles of fire safety. Students will demonstrate proper use of fire extinguishers, ground ladders, fire hoses, and water supply apparatus systems.
**Program of Study: Fire Science**

## Floral Design

**Course Code**: 13001800       **Course Abbreviation**: FLORAL
**Credit**: 1       **Level**: 3
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: Principles of Agriculture, Food, and Natural Resources
**Recommended Corequisite**: None

Floral Design is designed to develop students' ability to identify and demonstrate the elements and principles of floral design as well as develop an understanding of the management of floral enterprises. Through the analysis of artistic floral styles and historical periods, students develop respect for the traditions of and appreciation for the contributions of diverse cultures. Students respond to and analyze floral designs, thus contributing to the development of lifelong skills of making informed judgments and evaluations. To prepare for careers in floral design, students must attain academic knowledge and skills, acquire technical knowledge and skills related to horticultural systems, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations.
*Note: This course satisfies the fine arts graduation requirement.*
**Program of Study: Plant Science**

## Floral Design + Agricultural Laboratory and Field Experience

**Course Code**: 13001810       **Course Abbreviation**: FLORALAB
**Credits**: 2       **Level**: 3
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: Principles of Agriculture, Food, and Natural Resources
**Recommended Corequisite**: None

Floral Design is designed to develop students' ability to identify and demonstrate the elements and principles of floral design as well as develop an understanding of the management of floral enterprises. Through the analysis of artistic floral styles and historical periods, students develop respect for the traditions of and appreciation for the contributions of diverse cultures. Students respond to and analyze floral designs, thus contributing to the development of lifelong skills of making informed judgments and evaluations. To prepare for careers in floral design, students must attain academic knowledge and skills, acquire technical knowledge and skills related to horticultural systems, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations.
*Note: This course satisfies the fine arts graduation requirement.*
**Program of Study: Plant Science**

## Fluid Mechanics
**Course Code**: 12756015      **Course Abbreviation**: FLMECH
**Credit**: 1      **Level**: 3
**Prerequisites**: At least one credit in a course from the Engineering career cluster and physics or chemistry
**Corequisite**: None
**Recommended Prerequisite**: Algebra II
**Recommended Corequisite**: Algebra II

Students enrolled in Fluid Mechanics investigate the behavior and properties of fluids, including liquids and gasses. Through hands-on experiments, simulations, and real-world examples, students learn about concepts such as viscosity, pressure, buoyancy, and flow dynamics. Students explore how fluids interact with solid objects, understanding phenomena like lift and drag, which are critical to the operation of ships, airplanes, and vehicles. Students engage in case studies and problem-solving activities to gain insights into how fluid mechanics shape our everyday lives, technological advancements, and industrial applications. This course prepares students to progress in careers in engineering and scientific disciplines such as aerospace, mechanical, civil, chemical, materials, and physics.
*Note: This course satisfies a high school science graduation requirement.*
**Programs of Study: Engineering Foundations**


## Food Processing
**Course Code**: 13001400      **Course Abbreviation**: FOODPRO
**Credit**: 1      **Level**: 3
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: Food Technology and Safety
**Recommended Corequisite**: None

Food Processing focuses on the food processing industry with special emphasis on the handling, processing, and marketing of food products. To prepare for careers in food products and processing systems, students must attain academic skills and knowledge, acquire technical knowledge and skills related to natural resources and the workplace, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations. To prepare for success, students need opportunities to learn, reinforce, apply, and transfer their knowledge and skills in a variety of settings.
**Programs of Study: Culinary Arts, and Food Science and Technology**


## Food Processing + Agricultural Laboratory and Field Experience
**Course Code**: 13001410      **Course Abbreviation:** FOODPRLAB
**Credits**: 2      **Level**: 3
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: Food Technology and Safety
**Recommended Corequisite**: None

Food Processing focuses on the food processing industry with special emphasis on the handling, processing, and marketing of food products. To prepare for careers in food products and processing systems, students must attain academic skills and knowledge, acquire technical knowledge and skills related to natural resources and the workplace, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations. To prepare for success, students need opportunities to learn, reinforce, apply, and transfer their knowledge and skills in a variety of settings.
**Programs of Study: Culinary Arts, and Food Science and Technology**

## Food Science

**Course Code**: 13023000      **Course Abbreviation**: FOODSCI
**Credit**: 1      **Level**: 4
**Prerequisites**: One credit in biology, one credit in chemistry, and at least one credit in a Level 2 or higher course from the Hospitality and Tourism or Agriculture, Food, and Natural Resources career clusters
**Corequisite**: None
**Recommended Prerequisite**: Principles of Hospitality and Tourism
**Recommended Corequisite**: None

In Food Science, students examine the nature and properties of foods, food microbiology, and the principles of science in food production, processing, preparation, and preservation; use scientific methods to conduct laboratory and field investigations; and make informed decisions using critical thinking and scientific problem solving. This course provides students a foundation for further study that leads to occupations in food and beverage services; the health sciences; agriculture, food, and natural resources; and human services.
*Note: This course satisfies a high school science graduation requirement.*
**Programs of Study: Culinary Arts, Food Science and Technology, and Health and Wellness**

## Food Technology and Safety

**Course Code**: 13001300      **Course Abbreviation**: FOODTS
**Credit**: 1      **Level**: 2
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

Food Technology and Safety examines the food technology industry as it relates to food production, handling, and safety. To prepare for careers in value-added and food processing systems, students must attain academic skills and knowledge, acquire technical knowledge and skills related to value-added and food processing and the workplace, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations.
**Programs of Study: Culinary Arts, and Food Science and Technology**

## Food Technology and Safety + Agricultural Laboratory and Field Experience

**Course Code**: 13001310      **Course Abbreviation**: FOODTLAB
**Credits**: 2      **Level**: 2
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisites**: None
**Recommended Corequisite**: None

Food Technology and Safety examines the food technology industry as it relates to food production, handling, and safety. To prepare for careers in value-added and food processing systems, students must attain academic skills and knowledge, acquire technical knowledge and skills related to value-added and food processing and the workplace, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations.
**Program of Study: Food Science and Technology**

## Foreign Service and Diplomacy

**Course Code**: 13018900       **Course Abbreviation**: FORSRVD
**Credit**: 1       **Level**: None
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: Principles of Government and Public Administration or Principles of Law, Public Safety, Corrections, and Security
**Recommended Corequisite**: None

Foreign Service and Diplomacy provides the opportunity for students to investigate the knowledge and skills necessary for careers in foreign service. The course includes law, history, media communication, and international relations associated with the diplomatic environment.
**This course is not in a program of study**

## Forensic Psychology

**Course Code**: N1303012       **Course Abbreviation**: FORENSPSY
**Credit**: 1       **Level**: 3
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: Law Enforcement I and Psychology
**Recommended Corequisite**: None

Forensic psychology is found at the intersection between psychology and the criminal justice system. It involves understanding criminal law in the relevant jurisdictions in order to be able to interact within the criminal justice system. It utilizes and applies basic skills developed in psychology and criminal scenarios resulting in a structured and scientific approach to investigative analysis; thereby, enabling police and law enforcement officials to predict criminal activity via scientific analysis rather than intuition. Students will learn basic structured psychological investigative techniques in question building, interviewing, criminal behavior characteristics, truth detection methodology, research methods, statistical analysis and probability forecasting.
**Program of Study: Law Enforcement**

## Forensic Science

**Course Code**: 13029500       **Course Abbreviation**: FORENSCI
**Credit**: 1       **Level**: 4
**Prerequisite**: One credit in biology, one credit in chemistry, Integrated Physics and Chemistry (IPC), or physics
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

Forensic Science is a survey course that introduces students to the application of science to law. Students learn terminology and procedures related to the collection and examination of physical evidence using scientific processes performed in a field or laboratory setting. Students also learn the history and the legal aspects of forensic science.
*Note: This course satisfies a high school science graduation requirement.*
**Programs of Study: Law Enforcement, and Legal Studies**

## Forestry and Woodland Ecosystems

**Course Code**: 13001700  
**Course Abbreviation**: FWECO  
**Credit**: 1  
**Level**: 2  
**Prerequisite**: None  
**Corequisite**: None  
**Recommended Prerequisite**: None  
**Recommended Corequisite**: None  

Forestry and Woodland Ecosystems examines current management practices for forestry and woodlands. Special emphasis is given to management as it relates to ecological requirements and how these practices impact the environment.  
**Program of Study: Environmental and Natural Resources**

## Forestry and Woodland Ecosystems + Agricultural Laboratory and Field Experience

**Course Code**: 13001710  
**Course Abbreviation**: FWECOLAB  
**Credits**: 2  
**Level**: 2  
**Prerequisite**: None  
**Corequisite**: None  
**Recommended Prerequisite**: None  
**Recommended Corequisite**: None  

Forestry and Woodland Ecosystems examines current management practices for forestry and woodlands. Special emphasis is given to management as it relates to ecological requirements and how these practices impact the environment.  
**Program of Study: Environmental and Natural Resources**

## Foundations of Business Communication and Technologies

**Course Code**: 13011400  
**Course Abbreviation**: FDNBUSI  
**Credit**: 1  
**Level**: 1  
**Prerequisite**: None  
**Corequisite**: None  
**Recommended Prerequisite**: Touch System Data Entry  
**Recommended Corequisite**: Business Lab  

In Foundations of Business Communication and Technologies, students implement personal and interpersonal skills to strengthen individual performance in the workplace and in society and make a successful transition to the workforce and postsecondary education. Students apply technical skills to address business applications of emerging technologies, create word-processing documents, develop a spreadsheet, formulate a database, and make an electronic presentation using appropriate software.  
**Programs of Study: Accounting and Financial Services, Business Management, Entrepreneurship, and Health Informatics**

## Foundations of Business Communication and Technologies + Business Lab

**Course Code**: 13011410  
**Course Abbreviation**: FDNBULAB  
**Credits**: 2  
**Level**: 1  
**Prerequisite**: None  
**Corequisite**: None  
**Recommended Prerequisite**: Touch System Data Entry  
**Recommended Corequisite**: None  

In Foundations of Business Communication and Technologies, students implement personal and interpersonal skills to strengthen individual performance in the workplace and in society and make a successful transition to the workforce and postsecondary education. Students apply technical skills to address business applications of emerging technologies, create word-processing documents, develop a spreadsheet, formulate a database, and make an electronic presentation using appropriate software.  
**Programs of Study: Accounting and Financial Services, Business Management, Entrepreneurship, and Health Informatics**

## Foundations of Court Reporting

**Course Code**: N1303017
**Credit**: 1
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisites**: English I and Principles of Government and Public Administration
**Recommended Corequisite**: None

**Course Abbreviation**: FDCRTREP
**Level**: 2

This course will enable the student to identify the parts of a computer-compatible steno machine and demonstrate proficiency in creating reports using the specialized chorded steno machine keyboard functions and computer software. The students will evaluate the workings of real-time reporting information systems and communications technology. The student will acquire the ability to write conflict-free real-time translation theory on a computer-compatible steno machine, using proper punctuation and grammar. The student will be able to create and organize a personal dictionary for brief form writing the most common words and phrases and a phonetic-based system for writing all words. The student will build reading and writing skills on literary material, jury charge material, and question/answer testimony to navigate the inner workings of the court system. These materials include but are not limited to courtroom filings, subpoenas, affidavits, and all other documents needing transcription. Additionally, students will demonstrate proper dictation practices required for cognitive theory translation and speed-accuracy development. The central focus of the proposed course to provide students the opportunity to gain thorough knowledge and expertise in the field of legal court reporting. By completing the course, students would be able to build upon their foundation of learning to become licensed court reporters and obtain meaningful work in a high-demand area.
**Program of Study: Legal Studies**

## Foundations of Cybersecurity

**Course Code**: 03580850
**Credit**: 1
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

**Course Abbreviation**: TAFCYB
**Level**: 1

In the Foundations of Cybersecurity course, students will develop the knowledge and skills needed to explore fundamental concepts related to the ethics, laws, and operations of cybersecurity. Students will examine trends and operations of cyberattacks, threats, and vulnerabilities. Students will review and explore security policies designed to mitigate risks. The skills obtained in this course prepare students for additional study in cybersecurity. A variety of courses are available to students interested in this field. Foundations of Cybersecurity may serve as an introductory course in this field of study.
**Program of Study: Cybersecurity**

## Foundations of Energy

**Course Code**: 13040503
**Credit**: 1
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

**Course Abbreviation**: FOUNDEN
**Level**: 1

In Foundations of Energy, students will conduct laboratory and field investigations, use scientific practices during investigations, and make informed decisions using critical thinking and scientific problem solving. Various systems will be described in terms of energy. Students will study a variety of topics that include energy transformation, the law of conservation of energy, energy efficiency, interrelationships among energy resources and society, and sources and flow of energy through the production, transmission, processing, and use of energy. Students will apply these concepts and perform investigations and experiments at least 40% of the time using safe practices.
**Programs of Study: Oil and Gas Exploration and Production, Refining and Chemical Processes, and Renewable Energy**

## Foundations of Restaurant Management

**Course Code**: 13022720

**Credit**: 1

**Prerequisite**: None

**Corequisite**: None

**Recommended Prerequisite**: Principles of Hospitality and Tourism

**Recommended Corequisite**: None

**Course Abbreviation**: RSTMGMT

**Level**: 2

Foundations of Restaurant Management provides students with a foundation to understand basic culinary skills and food service management, along with current food service industry topics and standards. Building on prior instruction, this course provides introductory insight into critical thinking, financial analysis, industry technology, social media, customer or client awareness, and leadership in the food service industry. Students will gain an understanding of restaurant operations and the importance of communicating effectively to diverse audiences for different purposes and situations in food service operations and management. Students will learn how the front of the house and the back of the house of restaurant management operate and collaborate and will obtain value-added certifications in the industry to help launch themselves into food service careers.

**Programs of Study: Culinary Arts, and Travel, Tourism, and Attractions**

## Foundations of User Experience

**Course Code**: 13027525

**Credit**: 1

**Prerequisite**: None

**Corequisite**: None

**Recommended Prerequisite**: None

**Recommended Corequisite**: None

**Course Abbreviation**: FNDUX

**Level**: 2

In Foundations of User Experience, students analyze and assess current trends in a career field that creates meaningful, approachable, and compelling experiences for users of an array of products, services, and/or initiatives of companies, governments, and organizations. Students gain knowledge of introductory observation and research skills, basic design thinking and applied empathy methodologies, collaborative problem-solving and ideation, and interaction design and solution development. The knowledge and skills acquired from this course enable students to identify real-world problems through research and data-driven investigation and to design solutions while participating in collaborative problem solving. Students are introduced to agile practices and methodologies to develop skills to take solutions from conceptual sketch to digital designs using professional software tools. Students explore how to improve the quality of user interactions and perceptions of products, experiences, and any related services.

**Programs of Study: Entrepreneurship, Graphic Design and Interactive Media, Retail Management (Regional), and Web Development**

## Fundamentals of Computer Science

**Course Code**: 03580140
**Credit**: 1
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

**Course Abbreviation**: TAFCS
**Level**: 1

Fundamentals of Computer Science is intended as a first course for those students just beginning the study of computer science. Students will learn about the computing tools that are used every day. Students will foster their creativity and innovation through opportunities to design, implement, and present solutions to real-world problems. Students will collaborate and use computer science concepts to access, analyze, and evaluate information needed to solve problems. Students will learn computational thinking, problem-solving, and reasoning skills that are the foundation of computer science. By using computer science knowledge and skills that support the work of individuals and groups in solving problems, students will select the technology appropriate for the task, synthesize knowledge, create solutions, and evaluate the results. Students will learn digital citizenship by researching current laws, regulations, and best practices and by practicing integrity and respect. Students will gain an understanding of the principles of computer science through the study of technology operations and concepts.
**Programs of Study: Cybersecurity, Information Technology Support and Services, Networking Systems, Programming and Software Development, and Web Development**

## Fundamentals of Real Estate

**Course Code**: N1301120
**Credits**: 2
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

**Course Abbreviation**: FUNDRE
**Level**: 3

This course contains the curriculum necessary to complete the pre-licensure education requirements of the Texas Real Estate Commission (TREC) to obtain a real estate salesperson license. Includes the following TREC course materials: Principles of Real Estate I and II, Law of Contracts, Law of Agency, Real Estate Finance, and Promulgated Contract Forms.
**Programs of Study: Marketing and Sales, and Real Estate**

## Game Programming and Design

**Course Code**: 03580380
**Credit**: 1
**Prerequisite**: Algebra I
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

**Course Abbreviation**: TAGMPD
**Level**: 2

Game Programming and Design will foster student creativity and innovation by presenting students with opportunities to design, implement, and present meaningful programs through a variety of media. Students will collaborate with one another, their instructor, and various electronic communities to solve gaming problems. Through data analysis, students will include the identification of task requirements, plan search strategies, and use programming concepts to access, analyze, and evaluate information needed to design games. By acquiring programming knowledge and skills that support the work of individuals and groups in solving problems, students will select the technology appropriate for the task, synthesize knowledge, create solutions, and evaluate the results. Students will learn digital citizenship by researching current laws and regulations and by practicing integrity and respect. Students will create a computer game that is presented to an evaluation panel. The six strands include creativity and innovation; communication and collaboration; research and information fluency; critical thinking; problem solving, and decision making; digital citizenship; and technology operations and concepts.
**Programs of Study: Graphic Design and Interactive Media, and Programming and Software Development**

## General Employability Skills

**Course Code**: N1270153
**Credit**: 1
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

**Course Abbreviation**: GEMPLS
**Level**: None

This course provides students with knowledge of the prerequisite skills for general employment as well as the means of obtaining those skills. Employability skills include fundamentals of maintenance of personal appearance and grooming. The course also includes the knowledge, skills, and attitudes that allow employees to get along with their co-workers, make important work-related decisions, and become strong members of the work team. Discovering job possibilities that link skills, abilities, interests, values, needs, and work environment preferences is a part of the process of obtaining employability skills and abilities and is experiential learning that takes place over time.
**This course is not in a program of study**

## Geographic Information Systems (GIS)

**Course Code**: 13027545
**Credit**: 1
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: Principles of Arts, Audio/Video Technology, and Communications, Principles of Information Technology, Physics for Engineers, or Principles of Applied Engineering
**Recommended Corequisite**: None

**Course Abbreviation**: GISYS
**Level**: 2

The Geographic Information Systems (GIS) course employs an analytic process using industry standard software to find trends and patterns in collected data. Whether collecting data first-hand or from reputable websites, GIS aims to use scientific methods to find solutions to various problems and issues.
**Programs of Study: Civil Engineering, Geospatial Engineering and Land Surveying (Regional), and Information Technology Support and Services**

## Geographic Information Systems (GIS) for Agriculture

**Course Code**: 13002450
**Credit**: 1
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: Principles of Agriculture, Food, and Natural Resources
**Recommended Corequisite**: None

**Course Abbreviation**: GISAGRI
**Level**: 3

Geographic Information Systems for Agriculture is a course designed to provide students with the academic and technical knowledge and skills that are required to pursue a career as a precision agriculture specialist, a crop specialist, an independent crop consultant, a nutrient management specialist, a physical scientist, a precision agronomist, a precision farming coordinator, a research agricultural engineer, or a soil fertility specialist. Students will learn to use computers to develop or analyze maps of remote sensing to compare physical topography with data on soils, fertilizer, pests, or weather.
**Program of Study: Agricultural Technology and Mechanical Systems**

## Global Business

**Course Code**: 13011800      **Course Abbreviation**: GLOBBUS
**Credit**: .5      **Level**: 3
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

Global Business is designed for students to analyze global trade theories, international monetary systems, trade policies, politics, and laws relating to global business as well as cultural issues, logistics, and international human resource management.
**Programs of Study: Business Management, and Travel, Tourism, and Attractions**

## Graphic Design and Illustration l

**Course Code**: 13008800      **Course Abbreviation**: GRAPHDI1
**Credit**: 1      **Level**: 2
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: Principles of Arts, Audio/Video Technology, and Communications
**Recommended Corequisite**: Graphic Design and Illustration I Lab

Careers in graphic design and illustration span all aspects of the advertising and visual communications industries. Within this context, in addition to developing knowledge and skills needed for success in the Arts, Audio Visual Technology, and Communications career cluster, students will be expected to develop an understanding of the industry with a focus on fundamental elements and principles of visual art and design.
**Programs of Study: Graphic Design and Interactive Media, and Print and Imaging**

## Graphic Design and Illustration l + Graphic Design and Illustration l Lab

**Course Code**: 13008810      **Course Abbreviation**: GRDLAB1
**Credits**: 2      **Level**: 2
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisites**: Principles of Arts, Audio/Video Technology, and Communications
**Recommended Corequisite**: None

Careers in graphic design and illustration span all aspects of the advertising and visual communications industries. Within this context, in addition to developing knowledge and skills needed for success in the Arts, Audio Visual Technology, and Communications career cluster, students will be expected to develop an understanding of the industry with a focus on fundamental elements and principles of visual art and design.
**Programs of Study: Graphic Design and Interactive Media, and Print and Imaging**

## Graphic Design and Illustration ll

**Course Code**: 13008900      **Course Abbreviation**: GRAPHDI2
**Credit**: 1      **Level**: 3
**Prerequisite**: Graphic Design and Illustration l
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: Graphic Design and Illustration II Lab

Careers in graphic design and illustration span all aspects of the advertising and visual communications industries. Within this context, in addition to developing advanced technical knowledge and skills needed for success in the Arts, Audio Visual Technology, and Communications career cluster, students will be expected to develop an advanced understanding of the industry with a focus on mastery of content knowledge and skills.
**Program of Study: Graphic Design and Interactive Media**

## Graphic Design and Illustration ll + Graphic Design and Illustration ll Lab

**Course Code**: 13008910　　**Course Abbreviation**: GRDLAB2
**Credits**: 2　　**Level**: 3
**Prerequisite**: Graphic Design and Illustration l
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

Careers in graphic design and illustration span all aspects of the advertising and visual communications industries. Within this context, in addition to developing advanced technical knowledge and skills needed for success in the Arts, Audio Visual Technology, and Communications career cluster, students will be expected to develop an advanced understanding of the industry with a focus on mastery of content knowledge and skills.
**Program of Study: Graphic Design and Interactive Media**

## Greenhouse Operation and Production

**Course Code**: 13002050　　**Course Abbreviation**: GREOP
**Credit**: 1　　**Level**: 2
**Prerequisite**: None
**Corequisites**: None
**Recommended Prerequisite**: Principles of Agriculture, Food, and Natural Resources
**Recommended Corequisite**: None

Greenhouse Operation and Production is designed for students to develop an understanding of greenhouse production techniques and practices. To prepare for careers in horticultural and controlled environment agricultural systems, students must attain academic knowledge and skills, acquire technical knowledge and skills related to horticultural systems and the workplace, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations.
**Program of Study: Plant Science**

## Greenhouse Operation and Production + Agricultural Laboratory and Field Experience

**Course Code**: 13002060　　**Course Abbreviation**: GREOPLAB
**Credit**: 2　　**Level**: 2
**Prerequisite**: None
**Corequisites**: None
**Recommended Prerequisite**: Principles of Agriculture, Food, and Natural Resources
**Recommended Corequisite**: None

Greenhouse Operation and Production is designed for students to develop an understanding of greenhouse production techniques and practices. To prepare for careers in horticultural and controlled environment agricultural systems, students must attain academic knowledge and skills, acquire technical knowledge and skills related to horticultural systems and the workplace, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations.
**Program of Study: Plant Science**

## Health Informatics

**Course Code**: 13020960      **Course Abbreviation**: HLTHINF
**Credit**: 1      **Level**: 3
**Prerequisite**: Medical Terminology
**Corequisite**: None
**Recommended Prerequisite**: Principles of Health Science and Business Information Management I
**Recommended Corequisite**: None

The Health Informatics course is designed to provide knowledge of one of the fastest growing areas in both academic and professional fields. Healthcare information technology has increased demand for information and health professionals who can effectively design, develop, and use technologies such as electronic medical records, patient monitoring systems, and digital libraries. This course will include a focus on billing and coding.
**Program of Study: Health Informatics**

## Health Science Theory

**Course Code**: 13020400      **Course Abbreviation**: HLTHSCI
**Credit**: 1      **Level**: 3
**Prerequisite**: One credit in biology and at least one credit in a course from the Health Science career cluster
**Corequisite**: None
**Recommended Prerequisite**: Medical Terminology
**Recommended Corequisite**: Health Science Clinical

The Health Science Theory course is designed to provide for the development of advanced knowledge and skills related to a wide variety of health careers. Students will become familiar with industry-based standards for documenting and maintaining medical information; research industry employment requirements, including education, certification, and licensing requirements; and evaluate ethical and legal responsibilities of health science professionals. Students will employ hands-on experiences for continued clinical knowledge and skill development.
**Programs of Study: Diagnostic and Therapeutic Services, Exercise Science, Wellness, and Restoration, Health Informatics, and Nursing Science**

## Health Science Theory + Health Science Clinical

**Course Code**: 13020410      **Course Abbreviation**: HLSCLIN
**Credits**: 2      **Level**: 3
**Prerequisites**: One credit in biology and at least one credit in a course from the Health Science career cluster
**Corequisite**: None
**Recommended Prerequisite**: Medical Terminology
**Recommended Corequisite**: None

The Health Science Theory course is designed to provide for the development of advanced knowledge and skills related to a wide variety of health careers. Students will become familiar with industry-based standards for documenting and maintaining medical information; research industry employment requirements, including education, certification, and licensing requirements; and evaluate ethical and legal responsibilities of health science professionals. Students will employ hands-on experiences for continued clinical knowledge and skill development. Health Science Clinical course is designed to provide for the development of advanced knowledge and skills related to a wide variety of health careers. Students will employ hands-on experiences for continued knowledge and skill development.
**Programs of Study: Diagnostic and Therapeutic Services, Exercise Science, Wellness, and Restoration, Health Informatics, and Nursing Science**

## Healthcare Administration and Management

**Course Code**: 13020962      **Course Abbreviation**: HLTHAM
**Credit**: 1      **Level**: 3
**Prerequisite**: Medical Terminology
**Corequisite**: None
**Recommended Prerequisites**: Principles of Health Science and Business Information Management I
**Recommended Corequisite**: None

Healthcare Administration and Management is designed to familiarize students with the concepts related to healthcare administration as well as the functions of management, including planning, organizing, staffing, leading, and controlling. Students will also demonstrate interpersonal and project-management skills.
**Program of Study: Health Informatics**

## Heating, Ventilation, and Air Conditioning (HVAC) and Refrigeration Technology l

**Course Code**: 13005800      **Course Abbreviation**: HVACREF1
**Credit**: 1      **Level**: 2
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: Principles of Architecture, Principles of Construction, or Construction Technology l
**Recommended Corequisite**: None

In Heating, Ventilation, and Air Conditioning (HVAC) and Refrigeration Technology I, students will gain knowledge and skills needed to enter the industry as technicians in the HVAC and refrigeration industry or building maintenance industry, prepare for a postsecondary degree in a specified field of construction management, or pursue an approved apprenticeship program. Students will acquire knowledge and skills in safety, principles of HVAC theory, use of tools, codes, and installation of HVAC and refrigeration equipment.
**Programs of Study: HVAC and Sheet Metal, and Industrial Maintenance**

## Heating, Ventilation, and Air Conditioning (HVAC) and Refrigeration Technology ll

**Course Code**: 13005900      **Course Abbreviation**: HVACREF2
**Credits**: 2      **Level**: 3
**Prerequisites**: Heating, Ventilation, and Air Conditioning (HVAC) and Refrigeration Technology l
**Corequisite**: None
**Recommended Prerequisite**: Principles of Architecture or Principles of Construction
**Recommended Corequisite**: None

In Heating, Ventilation, and Air Conditioning (HVAC) and Refrigeration Technology II, students will gain advanced knowledge and skills needed to enter the industry as HVAC and refrigeration technicians or building maintenance technicians or supervisors, prepare for a postsecondary degree in a specified field of construction or construction management, or pursue an approved apprenticeship program. Students will acquire knowledge and skills in safety, electrical theory, use of tools, codes, installation of commercial HVAC equipment, heat pumps, troubleshooting techniques, various duct systems, and maintenance practices.
**Program of Study: HVAC and Sheet Metal**

## Horticultural Science

**Course Code**: 13002000      **Course Abbreviation**: HORTISCI
**Credit**: 1      **Level**: 3
**Prerequisite**: At least one credit in a course from the Agriculture, Food, and Natural Resources career cluster
**Corequisite**: None
**Recommended Prerequisite**: Principles of Agriculture, Food, and Natural Resources
**Recommended Corequisite**: None

In Horticultural Science, students develop an understanding of common horticultural management practices as they relate to food and ornamental plant production. To prepare for careers in horticultural industry systems, students must attain academic knowledge and skills, acquire technical knowledge and skills related to horticulture and the workplace, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations.
**Program of Study: Plant Science**

## Horticultural Science + Agricultural Laboratory and Field Experience

**Course Code**: 13002010      **Course Abbreviation**: HORSCILAB
**Credits**: 2      **Level**: 3
**Prerequisite**: At least one credit in a course from the Agriculture, Food, and Natural Resources career cluster
**Corequisite**: None
**Recommended Prerequisite**: Principles of Agriculture, Food, and Natural Resources
**Recommended Corequisite**: None

In Horticultural Science, students develop an understanding of common horticultural management practices as they relate to food and ornamental plant production. To prepare for careers in horticultural industry systems, students must attain academic knowledge and skills, acquire technical knowledge and skills related to horticulture and the workplace, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations.
**Program of Study: Plant Science**

## Hospitality Services

**Course Code**: 13022800      **Course Abbreviation**: HOSPSRVS
**Credits**: 2      **Level**: 3
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisites**: Principles of Hospitality and Tourism, Hotel Management, and Travel and Tourism Management
**Recommended Corequisite**: None

Hospitality Services provides students with the academic and technical preparation to pursue high-demand and high-skill careers in hospitality related industries. The knowledge and skills are acquired within a sequential, standards-based program that integrates hands-on and project-based instruction. Standards included in the Hospitality Services course are designed to prepare students for nationally recognized industry certifications, postsecondary education, and entry-level careers. In addition, Hospitality Services is designed so that performance standards meet employer expectations, enhancing the employability of students. Instruction may be delivered through laboratory training or through internships, mentoring, or job shadowing.
**Programs of Study: Lodging and Resort Management, and Travel, Tourism, and Attractions**

## Hotel Management

**Course Code**: 13022300      **Course Abbreviation**: HOTELMGT
**Credit**: 1      **Level**: 2
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: Principles of Hospitality and Tourism
**Recommended Corequisite**: None

Hotel Management focuses on the knowledge and skills needed to pursue staff and management positions available in the hotel industry. This in-depth study of the lodging industry includes departments within a hotel such as front desk, food and beverage, housekeeping, maintenance, human resources, and accounting. This course will focus on, but not be limited to, professional communication, leadership, management, human resources, technology, and accounting.
**Programs of Study: Lodging and Resort Management, and Travel, Tourism, and Attractions**

## Human Body Systems (PLTW)

**Course Code**: N1302093      **Course Abbreviation**: HUMBODSY
**Credit**: 1      **Level**: 2
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

In the Human Body Systems (HBS) course, students examine the interactions of body systems as they explore identity, communication, power, movement, protection, and homeostasis. Students design experiments to investigate the structures and functions of the human body and use data acquisition software to monitor body functions such as muscle movement, reflex and voluntary actions, and respiration. Exploring science in action, students build organs and tissues on a skeletal manikin, work through interesting real-world cases, and often play the role of biomedical professionals to solve medical mysteries. Students practice problem-solving with structured activities and progress to open-ended projects and problems that require them to develop planning, documentation, communication, and other professional skills.
**Program of Study: Biomedical Science**

## Human Growth and Development

**Course Code**: 13014300      **Course Abbreviation**: HUGRDEV
**Credit**: 1      **Level**: 2
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: Principles of Education and Training or Principles of Human Services
**Recommended Corequisite**: None

Human Growth and Development is an examination of human development across the lifespan with emphasis on research, theoretical perspectives, and common physical, cognitive, emotional, and social developmental milestones. Students use the knowledge and skills gained in this course to prepare for a career path working with children in an educational or service learning setting. The course covers material that is generally taught in a postsecondary, one-semester introductory course in developmental psychology or human development.
**Programs of Study: Family and Community Services, Health and Wellness, and Teaching and Training**

## Human Resources Management

**Course Code**: 13011900      **Course Abbreviation**: HRMGT
**Credit**: .5      **Level**: 3
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

Human Resources Management is designed to familiarize students with the concepts related to human resource management, including legal requirements, recruitment and employee selection methods, and employee development and evaluation. Students will also become familiar with compensation and benefits programs as well as workplace safety, employee-management relations, and global impacts on human resources.
**Programs of Study: Business Management, and Retail Management (Regional)**

## Imaging Technology I

**Course Code**: N1302123      **Course Abbreviation**: IMGTEC1
**Credit**: 1      **Level**: 2
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: Introduction to Imaging Technology
**Recommended Corequisite**: None

The Imaging Technology I course provides students with the opportunity to learn about standard radiographic positioning and related medical terminology of the chest, abdomen, and upper and lower extremities. The course introduces students to the operation of X-ray equipment, analyzing X-rays, and maintaining diagnostic results. Imaging Technology I prepares students for college, career and military readiness by allowing the student the opportunity to obtain an industry certification, enter the workforce upon graduation from high school, or transition to a postsecondary institution with the prior knowledge to be successful in a radiology career field.
**Program of Study: Diagnostic and Therapeutic Services**

## Imaging Technology II

**Course Code**: N1302131      **Course Abbreviation**: IMGTEC2
**Credits**: 2      **Level**: 3
**Prerequisite**: Imaging Technology I
**Corequisite**: None
**Recommended Prerequisite**: Introduction to Imaging Technology
**Recommended Corequisite**: None

The Imaging Technology II Clinical course provides students with the opportunity to build upon the knowledge learned in Introduction to Imaging Technology and Imaging Technology I. The course prepares students to take the Limited Medical Radiologic Technician Licensing Exam (LMRT) by increasing their depth of knowledge in anatomy, radiology-based physics, positioning, radiation protection, radiation biology, patient care, ethics, imaging techniques, correcting imaging errors, image storage, and equipment while participating in clinical rotations. Additionally, students will identify errors within the radiographic image and describe how to correct the errors. Imaging Technology II incorporates a clinical component that allows students to gain hands-on experience.
**Program of Study: Diagnostic and Therapeutic Services**

# Independent Study in Evolving/Emerging Technologies

**Course Code**:
03581500 (First Time Taken)
03581600 (Second Time Taken)
03581700 (Third Time Taken)
**Credit**: 1
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: A minimum of one credit from the courses in the Information Technology career cluster
**Recommended Corequisite**: None

**Course Abbreviation**:
TAINDET1
TAINDET2
TAINDET3
**Level**: 4

In the Independent Study in Evolving/Emerging Technologies course, through the study of evolving/emerging technologies, including technology-related terms, concepts, and data input strategies, students will communicate information in different formats and to diverse audiences using a variety of technologies. Students will learn to make informed decisions, develop and produce original work that exemplifies the standards identified by the selected profession or discipline, and publish the product in electronic media and print. Students will demonstrate efficient acquisition of information by identifying task requirements, using search strategies, and using technology to access, analyze, and evaluate the acquired information. By using technology as a tool that supports the work of individuals and groups in solving problems, students will select the technology appropriate for the task, synthesize knowledge, create solutions, and evaluate the results. The six strands include creativity and innovation; communication and collaboration; research and information fluency; critical thinking; problem solving, and decision making; digital citizenship; and technology operations and concepts.

*Note: Second Time Taken and Third Time Taken are not in a program of study, do not count for CCMR, and earn 1.1 weighted funding.*

**Programs of Study: Cybersecurity, Graphic Design and Interactive Media, Information Technology Support and Services, Networking Systems, Programming and Software Development, and Web Development**

# Independent Study in Technology Applications

**Course Code**:
03580900 (First Time Taken)
03581000 (Second Time Taken)
03581100 (Third Time Taken)
**Credit**: 1
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: A minimum of one credit from the courses in the Information Technology career cluster
**Recommended Corequisite**: None

**Course Abbreviation**:
TAIND1
TAIND2
TAIND3
**Level**: 4

In Independent Study in Technology Applications, through the study of technology applications foundations, including technology-related terms, concepts, and data input strategies, students will communicate information in different formats and to diverse audiences using a variety of technologies. Students will learn to make informed decisions; develop and produce original work that exemplifies the standards identified by the selected profession or discipline; and publish the product in electronic media and print. Students will practice the efficient acquisition of information by identifying task requirements, using search strategies, and using technology to access, analyze, and evaluate the acquired information. By using technology as a tool that supports the work of individuals and groups in solving problems, students will select the technology appropriate for the task, synthesize knowledge, create solutions, and evaluate the results. The six strands include creativity and innovation; communication and collaboration; research and information fluency; critical thinking; problem solving, and decision making; digital citizenship; and technology operations and concepts.

*Note: Second Time Taken and Third Time Taken are not in a program of study, do not count for CCMR, and earn 1.1 weighted funding.*

**Programs of Study: Cybersecurity, Graphic Design and Interactive Media, Information Technology Support and Services, Networking Systems, Programming and Software Development, and Web Development**

## Information Technology Troubleshooting

**Course Code**: 13027535

**Course Abbreviation**: INFOTRBL

**Credit**: 1

**Level**: 3

**Prerequisite**: At least one credit in a course from the Information Technology career cluster

**Corequisite**: None

**Recommended Prerequisite**: Principles of Information Technology and Computer Maintenance/Lab

**Recommended Corequisite**: None

The Informational Technology Troubleshooting course is about applying logic over technical components to identify and resolve problems. The course focuses on developing a methodical approach in IT troubleshooting and leveraging those skills in a workplace environment. In this course, students learn and use proven troubleshooting methods and apply those in a collaborative workplace setting. Students develop personal success skills, including time management and personal accountability measures, strategies for collaboration and teamwork, and effective written and verbal communication skills. The knowledge and skills acquired in the course enables students to use IT resources and data safely, ethically, and within legal guidelines. Students work within a service level model that helps them to interpret, clarify, and diagnose issues with hardware, software, and networking.

**Program of Study: Information Technology Support and Services**

## Instructional Practices

**Course Code**: 13014400

**Course Abbreviation**: INPRAC

**Credits**: 2

**Level**: 3

**Prerequisite**: At least one credit in a course from the Education and Training career cluster

**Corequisite**: None

**Recommended Prerequisite**: Principles of Education and Training, Human Growth and Development, or Child Development

**Recommended Corequisite**: None

Instructional Practices is a field-based (practicum) course that provides students with background knowledge of child and adolescent development as well as principles of effective teaching and training practices. Students work under the joint direction and supervision of both a teacher with knowledge of early childhood, middle childhood, and adolescence education and exemplary educators or trainers in direct instructional roles with elementary-, middle school-, and high school-aged students. Students learn to plan and direct individualized instruction and group activities, prepare instructional materials, develop materials for educational environments, assist with record keeping, and perform other duties of teachers, trainers, paraprofessionals, or other educational personnel.

**Program of Study: Teaching and Training**

## Insurance Operations

**Course Code**: 13016500

**Course Abbreviation**: INSOPS

**Credit**: 1

**Level**: 3

**Prerequisite**: None

**Corequisite**: None

**Recommended Prerequisite**: Principles of Business, Marketing, and Finance

**Recommended Corequisite**: None

In Insurance Operations, students will understand the laws and regulations in order to manage business operations and transactions in the insurance industry.

**Programs of Study: Accounting and Financial Services, Marketing and Sales, and Real Estate**

## Interior Design l

**Course Code**: 13004300
**Course Abbreviation**: INTERDS1
**Credit**: 1
**Level**: 2
**Prerequisites**: Algebra l and English l
**Corequisite**: None
**Recommended Prerequisites**: Principles of Architecture and Principles of Construction, or Architectural Design l
**Recommended Corequisite**: None

Interior Design I is a technical course that addresses psychological, physiological, and sociological needs of individuals by enhancing the environments in which they live and work. Students will use knowledge and skills related to interior and exterior environments, construction, and furnishings to make wise consumer decisions, increase productivity, promote sustainability, and compete in industry.
**Programs of Study: Architectural Drafting and Design, and Real Estate**

## Interior Design ll

**Course Code**: 13004400
**Course Abbreviation**: INTERDS2
**Credits**: 2
**Level**: 3
**Prerequisites**: English ll, Geometry, and Interior Design l
**Corequisite**: None
**Recommended Prerequisites**: None
**Recommended Corequisite**: None

Interior Design II is a technical laboratory course that includes the application of the employability characteristics, principles, processes, technologies, communication, tools, equipment, and materials related to interior design to meet industry standards.
**Program of Study: Architectural Drafting and Design**

## Intermediate Computer-Aided Design and Drafting

**Course Code**: 13037360
**Course Abbreviation**: INTMCADD
**Credit**: 1
**Level**: 2
**Prerequisite**: Architectural Design I, Introduction to Computer-Aided Design and Drafting, or Engineering Design and Presentation
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

In Intermediate Computer-Aided Design and Drafting (CADD), students develop practices and techniques used in computer-aided drafting, emphasizing the development and use of prototype drawings, construction of pictorial drawings, construction of three-dimensional drawings, interfacing two-dimensional and three-dimensional environments, and extracting data. Basic rendering techniques will also be developed. Emphasis is placed on drawing set-up; creating and modifying geometry; storing and retrieving predefined shapes; placing, rotating, and scaling objects; adding text and dimensions; using layers and coordinating systems, as well as using input and output devices.
**Programs of Study: Civil Engineering, Electrical Engineering, Engineering Foundations, and Mechanical and Aerospace Engineering**

## International Baccalaureate (IB) Computer Science Higher Level

**Course Code**:
I3580310 (Math)
I3580320 (LOTE)

**Course Abbreviation**:
IBTACSHLM
IBTACSHLL

**Credits**: 2 – I35803102 (1) I3580320 (1)

**Level**: 3

**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisites**: Computer Science I, Algebra II
**Recommended Corequisite**: None

Content requirements for IB Computer Science Higher Level are prescribed by the International Baccalaureate Organization. Subject guides may be obtained from International Baccalaureate of North America.
*Note: This course satisfies a high school mathematics graduation and a LOTE graduation requirement.*
**Programs of Study: Cybersecurity, and Programming and Software Development**

## International Baccalaureate (IB) Computer Science Standard Level

**Course Code**: I3580200

**Course Abbreviation**: IBTACSSL

**Credits**: 2

**Level**: 3

**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisites**: Computer Science I, Algebra II
**Recommended Corequisite**: None

Content requirements for IB Computer Science Standard Level are prescribed by the International Baccalaureate Organization. Subject guides may be obtained from International Baccalaureate of North America.
**Programs of Study: Cybersecurity, and Programming and Software Development**

## International Baccalaureate (IB) Digital Society Higher Level

**Course Code**: I3580500

**Course Abbreviation**: IBITGSHL

**Credits**: 2

**Level**: None

**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisites**: Computer Science I, Algebra II
**Recommended Corequisite**: None

Content requirements for IB Digital Society Higher Level are prescribed by the International Baccalaureate Organization. Subject guides may be obtained from International Baccalaureate of North America.
**This course is not in a program of study**

## International Baccalaureate (IB) Digital Society Standard Level

**Course Code**: I3580400

**Course Abbreviation**: IBITGSSL

**Credits**: 2

**Level**: None

**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisites**: Computer Science I, Algebra II
**Recommended Corequisite**: None

Content requirements for IB Digital Society Standard Level are prescribed by the International Baccalaureate Organization. Subject guides may be obtained from International Baccalaureate of North America.
**This course is not in a program of study**

## Internetworking Technologies I (Cisco)

**Course Code**: N1302803      **Course Abbreviation**: INTNET1
**Credit**: 1      **Level**: 2
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

The purpose of this course is to begin to prepare students for a networking career by introducing how networks operate. This first course introduces architectures, models, protocols, and networking elements – understanding needed to support the operations and priorities of Fortune 500 companies to small innovative retail businesses. In this course, students will build simple local area networks (LANs), perform basic configurations for routers and switches, and develop a working knowledge of IP addressing schemes and foundational network security.
**Programs of Study: Cybersecurity, Information Technology Support and Services, and Networking Systems**

## Internetworking Technologies II (Cisco)

**Course Code**: N1302804      **Course Abbreviation**: INTNET2
**Credit**: 1      **Level**: 3
**Prerequisite**: Internetworking Technologies I
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

This course focuses on switching technologies and router operations that support small-to-medium business networks, including wireless local area networks (WLAN) and security concepts. In Internetworking Technologies II, students perform basic network configuration and troubleshooting, identify and mitigate local area network (LAN) security threats, and configure and secure a basic WLAN. Students will demonstrate a deeper understanding of industry expectations by applying more advanced concepts in a practical lab situation that simulates the environment students might encounter in the workplace. Recommended preparation: Cisco Networking Study Guide: Introduction to Networks or equivalent knowledge.
**Programs of Study: Cybersecurity, Information Technology Support and Services, and Networking Systems**

## Interpersonal Studies

**Course Code**: 13024400      **Course Abbreviation**: INTERSTU
**Credit**: .5      **Level**: 2
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: Principles of Human Services, Principles of Hospitality and Tourism, Principles of Health Science, or Principles of Education and Training
**Recommended Corequisite**: None

Interpersonal Studies examines how the relationships between individuals and among family members significantly affect the quality of life. Students use knowledge and skills in family studies and human development to enhance personal development, foster quality relationships, promote wellness of family members, manage multiple adult roles, and pursue careers related to counseling and mental health services.
**Programs of Study: Exercise Science, Wellness, and Restoration, Family and Community Services, and Health and Wellness**

## Introduction to Aerospace and Aviation

**Course Code**: N1304672

**Credit**: 1

**Prerequisite**: None

**Corequisite**: None

**Recommended Prerequisite**: None

**Recommended Corequisite**: None

**Course Abbreviation**: INTAEAVI

**Level**: 1

The Introduction to Aerospace and Aviation course will provide the foundation for advanced exploration in the areas of professional pilot, aerospace engineering, and unmanned aircraft systems. Students will learn about the history of aviation, from Leonardo da Vinci's ideas about flight to the Wright brothers and the space race. Along the way students will learn about the innovations and technological developments that have made today's aviation and aerospace industries possible. The course includes engineering practices, the design process, aircraft structure, space vehicles past and present, and a look toward future space exploration. Students will also learn about the wide variety of exciting and rewarding careers available to them. The Introduction to Aerospace and Aviation course will inspire students to consider aviation and other aerospace careers while laying the foundation for continued study in grades 10-12.

**Programs of Study: Aviation (Pilots), Drone (Unmanned Vehicle) (Regional), and Mechanical and Aerospace Engineering**

## Introduction to Aircraft Technology

**Course Code**: 13039350

**Credit**: 1

**Prerequisite**: None

**Corequisite**: None

**Recommended Prerequisite**: None

**Recommended Corequisite**: None

**Course Abbreviation**: INAIRTEC

**Level**: 1

Introduction to Aircraft Technology is designed to teach the theory of operation of aircraft airframes, powerplants, and associated maintenance and repair practices. Maintenance and repair practices include knowledge of the general curriculum subjects, powerplant theory and maintenance, and the function, diagnosis, and service of airframe structures, airframe systems and components, and powerplant systems and components of aircraft. Industry-recognized professional licensures, certifications, and registrations are available for students who meet the requirements set forth by the accrediting organization.

**Programs of Study: Aviation Maintenance, and Aviation (Pilots)**

## Introduction to C# Programming Applications

**Course Code**: N1302812

**Credit**: 1

**Prerequisite**: None

**Corequisite**: None

**Recommended Prerequisite**: At least one credit in a Level 2 or higher course in programming or software development

**Recommended Corequisite**: None

**Course Abbreviation**: INTCPA

**Level**: 3

Introduction to C# Programming Applications is an introductory programming course using the C# programming language. C# is primarily used on the Windows.NET framework. This course does not assume any prior programming experience, though students should have a working knowledge of Object-Oriented Programming concept. Students will use C# to create several different programs and applications: mobile apps, desktop apps, cloud-based services, websites, enterprise software, and games. In this course, students will explore data types, control structures, functions, syntax, and semantics of the language, classes, class relationships, and exception handling for C#. Students will demonstrate the use of software development tools. Students will develop and write documented C# programs, including designing, debugging, and analyzing code. The course provides and prepares students to enter the workforce or college with a solid foundation in C# programming. The course prepares students to create different mobile apps, desktop apps, cloud-based services, websites, enterprise software, and games.

**Program of Study: Programming and Software Development**

## Introduction to Computer-Aided Design and Drafting

**Course Code**: 13037350      **Course Abbreviation**: INTRCADD
**Credit**: 1      **Level**: 1
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: Principles of Applied Engineering, Principles of Architecture and Design, or Principles of Manufacturing
**Recommended Corequisite**: None

Introduction to Computer-Aided Design and Drafting (CADD) allows students to acquire knowledge and skills needed to use design software, including an introduction to CADD equipment and software selection and interfaces. Students gain skills in setting up a CADD workstation; upgrading a computer to run advanced CADD software; working with storage devices; storing, retrieving, backing-up, and sharing databases, file servers, and local area networks (LANs); and transferring drawing files over the internet.
**Programs of Study: Civil Engineering, Electrical Engineering, Engineering Foundations, and Mechanical and Aerospace Engineering**

## Introduction to Cosmetology

**Course Code**: 13025100      **Course Abbreviation**: INTCOSMO
**Credit**: 1      **Level**: 2
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

In Introduction to Cosmetology, students explore careers in the cosmetology industry. To prepare for success, students must have academic and technical knowledge and skills relative to the industry. Students may begin to earn hours toward state licensing requirements.
**Program of Study: Cosmetology and Personal Care Services (Regional)**

## Introduction to Culinary Arts

**Course Code**: 13022550      **Course Abbreviation**: INCULART
**Credit**: 1      **Level**: 1
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: Principles of Hospitality and Tourism
**Recommended Corequisite**: None

Introduction to Culinary Arts will emphasize the principles of planning, organizing, staffing, directing, and controlling the management of a variety of food service operations. The course will provide insight into the operation of a well-run restaurant. Introduction to Culinary Arts will provide insight into food production skills, various levels of industry management, and hospitality skills. This is an entry level course for students interested in pursuing a career in the food service industry. This course is offered as a classroom and laboratory-based course.
**Programs of Study: Culinary Arts, and Travel, Tourism, and Attractions**

## Introduction to Dental Science

**Course Code**: N1302101
**Credit**: 1
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

**Course Abbreviation**: DNTSCI
**Level**: 1

Introduction to Dental Science is an introductory health science course designed to initiate secondary students to the field of dentistry and related topics. At the end of the course, students will be able to discuss the history of dentistry; identify dental related career pathways; explain dental legal and ethical responsibilities; recognize professional healthcare behavior and demeanor; and perform basic routine dental office procedures. The purpose of this course is to establish a foundation for future coursework in dental science and prepare secondary students for a future career in dentistry.
**Program of Study: Diagnostic and Therapeutic Services**

## Introduction to Film Interpretation of Weldments

**Course Code**: N1303687
**Credit**: 1
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: Algebra I
**Recommended Corequisite**: None

**Course Abbreviation**: INTFMWLD
**Level**: 2

Introduction to Film Interpretation of Weldments provides an overview of non-destructive testing (NDT) principles. It includes coverage of the inspection process, systems, measurements, theories and practices. Students will identify terminology and fundamental concepts of film interpretation of weldments; describe the trends of NDT careers within the industry cluster; identify safety, health, environmental, and ergonomic issues in non-destructive testing; discuss quality and continuous improvement methods; describe the importance of maintenance and inspection within manufacturing; and identify processes and production steps in manufacturing.
**Program of Study: Welding**

## Introduction to Imaging Technology

**Course Code**: N1302102
**Credit**: 1
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

**Course Abbreviation**: IMGTECH
**Level**: 1

The Introduction to Imaging Technology course provides students an introduction to the basic principles, guidelines, and knowledge needed for members of the medical imaging field. This course will provide the student with an overview of radiography and its role within the health care system, including basic radiologic terminology, equipment, basic image production, patient positioning, and radiation safety. The student will study human anatomic structures and organs, as well as the standard positioning associated with the chest, abdomen, upper and lower extremities. This course is recommended for students grades 9-10 interested in the medical imaging field.
**Program of Study: Diagnostic and Therapeutic Services**

## Introduction to Instrumentation and Electrical

**Course Code**: N1303900      **Course Abbreviation**: INSTELEC
**Credit**: 1      **Level**: 2
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: Integrated Physics and Chemistry (IPC) or chemistry
**Recommended Corequisite**: None

Introduction to Instrumentation and Electrical will introduce students to instrumentation professions, including the different career opportunities available and required certification/postsecondary education requirements for each. Introduction to Instrumentation is the first of two courses that provide a pathway for the student to learn core competencies, as identified by industries using process instrumentation and postsecondary institutions such as simple control loops, an introduction to pressure, temperature, level, flow transmitters and the various transducers used in the detection of changes in process variables.
**Program of Study: Refining and Chemical Processes**

## Introduction to Pharmacy Science

**Course Code**: N1302103      **Course Abbreviation**: PHARSCI
**Credit**: 1      **Level**: 1
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

The Introduction to Pharmacy Science course is designed to provide an overview of the history of the pharmacy profession, legal and ethical aspects of pharmacy, skills necessary to work in the field of pharmacy (including professionalism, certifications/registration, communication and medical terminology, and rules and regulations pertaining to the field), medical math, anatomy and physiology/pathophysiology, pharmacology, and wellness as they pertain to pharmacy sciences. It is the first course in a pathway leading to certification as a pharmacy technician.
**Program of Study: Diagnostic and Therapeutic Services**

## Introduction to Process Technology

**Course Code**: 13040502      **Course Abbreviation**: INTRPT
**Credit**: 1      **Level**: 2
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

In Introduction to Process Technology, students will learn the social significance and workforce impact of process technology in industry and the opportunities available at various levels of education and training in industries using process technology.
**Program of Study: Refining and Chemical Processes**

## Introduction to Shipboard Engineering

**Course Code**: N1304666      **Course Abbreviation**: INTSE
**Credit**: 1      **Level**: 2
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: Principles of Maritime Science
**Recommended Corequisite**: None

Introduction to Shipboard Engineering is designed to provide training for entry-level employment and/or a basis for continuing education in shipboard engineering and merchant mariner credentialing. This course will build on the foundational knowledge previously acquired in the Principles of Maritime Science course. Shipboard engineering includes knowledge of the functions, troubleshooting, maintenance and repair of the systems and components of maritime engines such as centrifuge engines, outboards, and portable dewatering pumps. In addition, students will receive instruction in safety, emergency procedures, and shipboard auxiliary systems.

**Program of Study: Maritime (Regional)**

## Introduction to Small Engine Technology

**Course Code**: 13040000      **Course Abbreviation**: INTSET
**Credit**: 1      **Level**: 1
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

Introduction to Small Engine Technology includes knowledge of the function and maintenance of the systems and components of all types of small engines such as outdoor power equipment, motorcycles, generators, and irrigation engines. This course is designed to provide training for employment in the small engine technology industry. Instruction includes the repair and service of cooling, air, fuel, lubricating, electrical, ignition, and mechanical systems. In addition, the student will receive instruction in safety, academic, and leadership skills as well as career opportunities.

**Programs of Study: Automotive and Collision Repair, Diesel and Heavy Equipment Maintenance and Commercial Driver, and Industrial Maintenance**

## Introduction to Speech Pathology and Audiology

**Course Code**: N1302100      **Course Abbreviation**: INTSPA
**Credit**: 1      **Level**: 1
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisites**: Anatomy and Physiology and Principles of Health Science
**Recommended Corequisite**: None

The Introduction to Speech Pathology and Audiology course is designed to provide for the development of advanced knowledge and skills related to the professions that specialize in communication disorders: speech-language pathology, audiology, hearing, and speech and language science. Topics are related to defining the professional practice areas of speech language pathology, audiology and hearing, and speech and language science; the scope of practice as determined by the American Speech-Language-Hearing Association for these professions; multicultural service delivery for individuals with communication disorders; certification; code of ethics; practice settings; employment opportunities; and the use of technology in management and treatment of communication disorders.

**Program of Study: Exercise Science, Wellness, and Restoration**

## Introduction to Transportation Technology

**Course Code**: 13039270

**Course Abbreviation**: INTRTEC

**Credit**: .5

**Level**: 2

**Prerequisite**: None

**Corequisite**: None

**Recommended Prerequisite**: None

**Recommended Corequisite**: None

Introduction to Transportation Technology includes knowledge of the major automotive systems and the principles of diagnosing and servicing these systems. Transportation technology includes applicable safety and environmental rules and regulations. In transportation technology, students will gain knowledge and skills in the repair, maintenance, and diagnosis of transportation systems. This study will allow students to reinforce, apply, and transfer academic knowledge and skills to a variety of interesting and relevant activities, problems, and settings. The focus of this course is to teach safety, tool identification, proper tool use, and employability.

**Programs of Study: Automotive and Collision Repair, and Diesel and Heavy Equipment Maintenance and Commercial Driver**

## Introduction to Unmanned Aerial Vehicles (UAV)

**Course Code**: N1304670

**Course Abbreviation**: PRINUAV

**Credit**: 1

**Level**: 2

**Prerequisite**: None

**Corequisite**: None

**Recommended Prerequisite**: Principles of Transportation Systems

**Recommended Corequisite**: None

Course Description: The Introduction to Unmanned Aerial Vehicles (UAV) Flight course is designed to prepare students for entry-level employment or continuing education in piloting UAV operations. Principles of UAV is designed to instruct students in UAV flight navigation, industry laws and regulations, and safety regulations. Students are also exposed to mission planning procedures, environmental factors, and human factors involved in the UAV industry.

**Programs of Study: Aviation (Pilots), and Drone (Unmanned Vehicle) (Regional)**

## Introduction to Welding

**Course Code**: 13032250

**Course Abbreviation**: INTRWELD

**Credit**: 1

**Level**: 1

**Prerequisite**: None

**Corequisite**: None

**Recommended Prerequisite**: Algebra I

**Recommended Corequisite**: Algebra I

Introduction to Welding will provide an introduction to welding technology with an emphasis on basic welding laboratory principles and operating procedures. Students will be introduced to the three basic welding processes. Topics include: industrial safety and health practices, hand tool and power machine use, measurement, laboratory operating procedures, welding power sources, welding career potentials, and introduction to welding codes and standards. Introduction to Welding will provide students with the knowledge, skills, and technologies required for employment in welding industries. Students will develop knowledge and skills related to welding and apply them to personal career development. This course supports integration of academic and technical knowledge and skills. Students will reinforce, apply, and transfer knowledge and skills to a variety of settings and problems. Knowledge about career opportunities, requirements, and expectations and the development of workplace skills will prepare students for future success.

**Programs of Study: Industrial Maintenance, Plumbing and Pipefitting, and Welding**

## Junior Reserve Officers' Training Corps (JROTC) I
**Course Code**: 03160100
**Credit**: 1
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

**Course Abbreviation**: JROTC1
**Level**: 1

**Program of Study: Junior Reserve Officers' Training Corps**

## Junior Reserve Officers' Training Corps (JROTC) II
**Course Code**: 03160200
**Credit**: 1
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

**Course Abbreviation**: JROTC2
**Level**: 2

**Program of Study: Junior Reserve Officers' Training Corps**

## Junior Reserve Officers' Training Corps (JROTC) III
**Course Code**: 03160300
**Credit**: 1
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

**Course Abbreviation**: JROTC3
**Level**: 3

**Program of Study: Junior Reserve Officers' Training Corps**

## Junior Reserve Officers' Training Corps (JROTC) IV
**Course Code**: 03160300
**Credit**: 1
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

**Course Abbreviation**: JROTC4
**Level**: 4

**Program of Study: Junior Reserve Officers' Training Corps**

## Kinesiology I

**Course Code**: N1302104

**Credit**: 1

**Prerequisite**: None

**Corequisite**: None

**Recommended Prerequisite**: None

**Recommended Corequisite**: None

**Course Abbreviation**: KINES1

**Level**: 2

This course is designed to introduce students to the basic concepts of kinesiology. Students will gain an understanding of body mechanics, physiological functions of muscles and movements, the history of kinesiology, and the psychological impact of sports and athletic performance. Students will also explore careers within the kinesiology field and be able to explain the societal demand for kinesiology-related jobs. Students will develop a foundation in Kinesiology I that will prepare them for upper-level courses that will dive deeper into the anatomical and physiological functions of the body and provide opportunities for an industry-certified exam such as a certified personal trainer.

**Program of Study: Exercise Science, Wellness, and Restoration**

## Kinesiology II

**Course Code**: N1302124

**Credit**: 1

**Prerequisite**: None

**Corequisite**: None

**Recommended Prerequisite**: Kinesiology I

**Recommended Corequisite**: None

**Course Abbreviation**: KINES2

**Level**: 3

The Kinesiology II course is designed to provide students an advanced level of knowledge, skills, and understanding of body composition and the effect on health, nutritional needs of physically active individuals, qualitative biomechanics, application of therapeutic modalities, appropriate rehabilitation services, and aerobic training intensity programs. The course is designed to allow students to advance their understanding of professional standards, employability skills, and ethical and legal standards. Throughout this course, students explore the healthcare/exercise business model and gain an understanding of therapeutic sports psychology. Students develop proper aerobic fitness programs and rehabilitation programs. Kinesiology II prepares students for an industry certification exam such as Certified Personal Trainer.

**Program of Study: Exercise Science, Wellness, and Restoration**

## Landscape Design and Management

**Course Code**: 13001900

**Credit**: .5

**Prerequisite**: None

**Corequisite**: None

**Recommended Prerequisite**: None

**Recommended Corequisite**: None

**Course Abbreviation**: LNDMGT

**Level**: 2

Landscape Design and Management is designed to develop an understanding of landscape design and management techniques and practices. To prepare for careers in horticultural systems, students must attain academic skills and knowledge, acquire technical knowledge and skills related to horticultural systems and the workplace, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations.

**Program of Study: Plant Science**

## Law Enforcement l

**Course Code**: 13029300

**Course Abbreviation**: LAWENF1

**Credit**: 1

**Level**: 2

**Prerequisite**: None

**Corequisite**: None

**Recommended Prerequisite**: Principles of Law, Public Safety, Corrections, and Security

**Recommended Corequisite**: None

Law Enforcement I is an overview of the history, organization, and functions of local, state, and federal law enforcement. Students will understand the role of constitutional law at local, state, and federal levels; the U.S. legal system; criminal law; and law enforcement terminology and the classification and elements of crime.

**Program of Study: Law Enforcement**

## Law Enforcement ll

**Course Code**: 13029400

**Course Abbreviation**: LAWENF2

**Credit**: 1

**Level**: 3

**Prerequisite**: None

**Corequisite**: None

**Recommended Prerequisite**: Law Enforcement l

**Recommended Corequisite**: None

Law Enforcement II provides the knowledge and skills necessary to prepare for a career in law enforcement. Students will understand ethical and legal responsibilities, patrol procedures, first responder roles, telecommunications, emergency equipment operations, and courtroom testimony.

**Program of Study: Law Enforcement**

## Leadership and Management in Nursing

**Course Code**: 13021225

**Course Abbreviation**: LMNURS

**Credit**: 1

**Level**: 3

**Prerequisites**: One credit in biology, one credit in chemistry, and at least one credit in a course from the Health Science career cluster

**Corequisite**: None

**Recommended Prerequisite**: Science of Nursing

**Recommended Corequisite**: None

This course is designed to explore leadership and management in nursing, studying topics such as ethics, educational levels, career paths, regulatory bodies, and personal and professional leadership skills.

**Program of Study: Nursing Science**

## Legal Research and Writing

**Course Code**: 13018610

**Course Abbreviation**: LEGALRW

**Credit**: 1

**Level**: 3

**Prerequisite**: At least one credit in a course from the Law and Public Service career cluster

**Corequisite**: None

**Recommended Prerequisite**: Court Systems and Practices

**Recommended Corequisite**: None

Legal Research and Writing provides an introduction to the study and practice of legal writing and research. This course is designed to introduce students to the methods and tools used to conduct legal research, develop and frame legal arguments, produce legal writings such as briefs, memorandums, and other legal documents, study U.S. Constitutional law, and prepare for appellate argument(s).

**Program of Study: Legal Studies**

## Lifetime Nutrition and Wellness

**Course Code**: 13024500  **Course Abbreviation**: LNURTWEL
**Credit**: .5  **Level**: 2
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: Principles of Human Services, Principles of Hospitality and Tourism, or Principles of Health Science
**Recommended Corequisite**: None

Lifetime Nutrition and Wellness is a laboratory course that allows students to use principles of lifetime wellness and nutrition to help them make informed choices that promote wellness as well as pursue careers related to hospitality and tourism, education and training, human services, and health sciences.
**Programs of Study: Exercise Science, Wellness, and Restoration, Family and Community Services, and Health and Wellness**

## Livestock and Poultry Production

**Course Code**: 13000300  **Course Abbreviation**: LIVEPROD
**Credit**: 1  **Level**: 3
**Prerequisites**: A minimum of two credits with at least one course in a Level 2 or higher course from the Agriculture, Food, and Natural Resources career cluster
**Corequisite**: None
**Recommended Prerequisite**: Principles of Agriculture, Food, and Natural Resources
**Recommended Corequisite**: None

In Livestock and Poultry Production, students acquire knowledge and skills related to the livestock and poultry production industry. Livestock and Poultry Production may address topics related to beef cattle, dairy cattle, swine, sheep, goats, and poultry. To prepare for careers in the field of animal science, students must attain academic knowledge and skills, acquire knowledge and skills related to livestock and poultry systems and the workplace, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations.
**Program of Study: Animal Science**

## Livestock and Poultry Production + Agricultural Laboratory and Field Experience

**Course Code**: 13000310  **Course Abbreviation**: LIVPROLAB
**Credits**: 2  **Level**: 3
**Prerequisites**: A minimum of two credits with at least one course in a Level 2 or higher course from the Agriculture, Food, and Natural Resources career cluster
**Corequisite**: None
**Recommended Prerequisite**: Principles of Agriculture, Food, and Natural Resources
**Recommended Corequisite**: None

In Livestock and Poultry Production, students acquire knowledge and skills related to the livestock and poultry production industry. Livestock and Poultry Production may address topics related to beef cattle, dairy cattle, swine, sheep, goats, and poultry. To prepare for careers in the field of animal science, students must attain academic knowledge and skills, acquire knowledge and skills related to livestock and poultry systems and the workplace, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations.
**Program of Study: Animal Science**

## Logistics Engineering

**Course Code**: N1303801

**Course Abbreviation**: LOGENG

**Credit**: 1

**Level**: 3

**Prerequisite**: None

**Corequisite**: None

**Recommended Prerequisites**: Principles of Distribution and Logistics and Distribution and Logistics

**Recommended Corequisite**: None

The purpose of the Logistics Engineering course is to prepare students for supply chain management (SCM) and logistics professions and required certifications/post-secondary education requirements for each. The main goal of this course is to provide a pathway for high school students to learn core competencies as identified by the local SCM and logistics industry and post-secondary institutions. The central focus of the Logistics Engineering course is to provide instruction which can lead to various workforce-preparation degree programs that support employment in the manufacturing, transportation, distribution, supply chain management and logistics industries.

**Program of Study: Distribution, Logistics, and Warehousing**

## Management of Transportation Systems

**Course Code**: 13040200

**Course Abbreviation**: MNGTRSY

**Credit**: 1

**Level**: 2

**Prerequisite**: None

**Corequisite**: None

**Recommended Prerequisite**: Principles of Transportation Systems

**Recommended Corequisite**: None

In Management of Transportation Systems, students will gain knowledge and skills in material handling and distribution and proper application, design, and production of technology as it relates to the transportation industries. This course includes the safe operation of tractor-trailers, forklifts, and related heavy equipment. This course will allow students to reinforce, apply, and transfer their academic knowledge and skills to management of transportation systems and associated careers.

**Program of Study: Distribution, Logistics, and Warehousing**

## Manufacturing Engineering Technology I

**Course Code**: 13032900

**Course Abbreviation**: MANENGT1

**Credit**: 1

**Level**: 2

**Prerequisite**: None

**Corequisite**: None

**Recommended Prerequisite**: Algebra I

**Recommended Corequisite**: None

In Manufacturing Engineering Technology I, students will gain knowledge and skills in the application, design, production, and assessment of products, services, and systems and how those knowledge and skills are applied to manufacturing. Students will prepare for success in the global economy. The study of manufacturing engineering will allow students to reinforce, apply, and transfer academic knowledge and skills to a variety of interesting and relevant activities, problems, and settings in a manufacturing setting.

**Programs of Study: Electrical Engineering, Engineering Foundations, Robotics and Automation Technology**

## Manufacturing Engineering Technology ll

**Course Code**: 13032950 **Course Abbreviation**: MANENGT2
**Credit**: 1 **Level**: 3
**Prerequisite**: Manufacturing Engineering Technology l
**Corequisite**: None
**Recommended Prerequisite**: Algebra II, Computer Science I, or physics
**Recommended Corequisite**: None

In Manufacturing Engineering Technology II, students will gain knowledge and skills in the application, design, production, and assessment of products, services, and systems and how those knowledge and skills are applied to manufacturing. The study of Manufacturing Engineering Technology II will allow students to reinforce, apply, and transfer academic knowledge and skills to a variety of interesting and relevant activities, problems, and settings.
*Note: This course satisfies a high school mathematics graduation requirement.*
**Program of Study: Robotics and Automation Technology**


## Maritime Science I

**Course Code**: N1304662 **Course Abbreviation**: MSCI1
**Credit**: 1 **Level**: 2
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: Principles of Maritime Science
**Recommended Corequisite**: None

Maritime Science I provides training for entry-level employment and a basis for continuing education in deck and piloting careers and merchant mariner credentialing. Students will build on the foundational knowledge acquired in the Principles of Maritime Science course. Maritime Science I will instruct students in progressing aspects of vessel piloting and navigation, safety of life at sea, voyage planning, shipboard damage control and marine pollution. Specifically, students will understand safety expectations, laws, and environmental and human factors involved in the maritime industry. The course focuses on lab assignments and simulator experiences to reinforce critical-thinking and decision-making skills in navigation, ship handling, collision avoidance, and risk assessment and mitigation. Navigation instruction, including chart preparation, various distance, speed, and time relationships, positioning techniques, calculation of tides and currents, and voyage planning, and aids to navigation, will be explored. Students will learn basic shipboard damage control actions required in the event of shipboard casualties, search and rescue, advancements, collateral duties, and other personnel management issues.
**Program of Study: Maritime (Regional)**


## Maritime Science II

**Course Code**: N1304663 **Course Abbreviation**: MSCI2
**Credit**: 1 **Level**: 3
**Prerequisite**: Maritime Science I
**Corequisite**: None
**Recommended Prerequisite**: Principles of Maritime Science
**Recommended Corequisite**: None

After successful completion of Principles of Maritime Science and Maritime Science I, students may participate in the course, Maritime Science II. Students will develop new skills such as advanced navigation coordination; collision avoidance; briefing the command; electronic navigation theory; basic, routine, and emergency ship handling procedures; external communications; and other relevant knowledge, skills, and techniques. Upon successful completion of this course, students will be able to plan and execute safe vessel navigation. Students will exhibit knowledge of all bridge navigation (TRANSAS, ECDIS, and Paper Charts) equipment and procedures. Using case studies and real world simulations, students will identify the contributing factors involved in maritime accidents.
**Program of Study: Maritime (Regional)**

## Marketing

**Course Code**: 13011131
**Credit**: 1
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: Principles of Business, Marketing, and Finance
**Recommended Corequisite**: None

**Course Abbreviation**: MRKTNG
**Level**: 2

The Marketing course explores the seven core functions of marketing, which include marketing planning -- why target marketing and industry affect businesses; marketing-information management -- why market research is important; pricing -- how prices maximize profit and affect the perceived value; product/service management -- why products live and die; promotion -- how to inform customers about products; channel management -- how products reach the final user; and selling -- how to convince a customer that a product is the best choice. Students will demonstrate knowledge through hands-on projects that may include conducting research, creating a promotional plan, pitching a sales presentation, and introducing an idea for a new product or service.

**Programs of Study: Marketing and Sales, and Real Estate**

## Masonry Technology l

**Course Code**: 13006300
**Credits**: 2
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: Principles of Construction
**Recommended Corequisite**: None

**Course Abbreviation**: MASTECH1
**Level**: 2

Masonry Technology I provides information and techniques related to basic masonry and safety precautions. For safety and liability considerations, limiting course enrollment to 15 students is recommended.

**Program of Study: Masonry**

## Masonry Technology ll

**Course Code**: 13006400
**Credits**: 2
**Prerequisite**: Masonry Technology I
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

**Course Abbreviation**: MASTECH2
**Level**: 3

Masonry Technology II is designed to further enhance the skills and knowledge of the beginning masonry student. For safety and liability considerations, limiting course enrollment to 15 students is recommended.

**Program of Study: Masonry**

## Mathematical Applications in Agriculture, Food, and Natural Resources

**Course Code**: 13001000      **Course Abbreviation**: MATHAFNR
**Credit**: 1      **Level**: 2
**Prerequisite**: Algebra l
**Corequisite**: None
**Recommended Prerequisite**: One credit from the courses in the Agriculture, Food, and Natural Resources career cluster
**Recommended Corequisite**: None

In Mathematical Applications in Agriculture, Food, and Natural Resources, students will apply knowledge and skills related to mathematics, including algebra, geometry, and data analysis in the context of agriculture, food, and natural resources. To prepare for careers in agriculture, food, and natural resources, students must acquire technical knowledge in the discipline as well as apply academic skills in mathematics. To prepare for success, students need opportunities to reinforce, apply, and transfer their knowledge and skills related to mathematics in a variety of contexts.
*Note: This course satisfies a high school mathematics graduation requirement.*
**Program of Study: Agriculture Business, Leadership, and Communications**

## Mathematics for Medical Professionals

**Course Code**: 13020970      **Course Abbreviation**: MTHMEDPR
**Credit**: 1      **Level**: 4
**Prerequisites**: Geometry and Algebra ll
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

The Mathematics for Medical Professionals course is designed to serve as the driving force behind the Texas Essential Knowledge and Skills for mathematics, guided by the college and career readiness standards. By embedding statistics, probability, and finance, while focusing on fluency and solid understanding in medical mathematics, students will extend and apply mathematical skills necessary for health science professions. Course content consists primarily of high school level mathematics concepts and their applications to health science professions.
**Programs of Study: Diagnostic and Therapeutic Services, and Health Informatics**

## Mechanical Design I

**Course Code**: 12756030      **Course Abbreviation**: MECHDES1
**Credit**: 1      **Level**: 3
**Prerequisite**: Algebra I
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: Geometry

Students enrolled in Mechanical Design I demonstrate knowledge and skills associated with design and manufacture of mechanical systems. Fundamental mechanisms are introduced such as gears, belts, threaded elements, and four-bar mechanisms. Basic manufacturing processes such as stamping, injection molding, casting, machining, and assembly are explored through reverse engineering. The mechanisms encountered through reverse engineering enable the exploration of product functionality. Students compare engineering choices made for components, materials, and manufacturing processes. Emphasis is placed on team collaboration and professional documentation.
**Program of Study: Mechanical and Aerospace Engineering**

## Mechanical Design II

**Course Code**: 12756035      **Course Abbreviation**: MECHDES2
**Credits**: 2      **Level**: 4
**Prerequisite**: Mechanical Design I
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

Students enrolled in Mechanical Design II demonstrate knowledge and skills associated with the design development and validation of a prototype solution to meet a given set of requirements. Students identify project stakeholders; manage projects; evolve requirements; model system solutions; develop, test, and refine prototypes; and validate project solutions. Emphasis is placed on budget management, professional documentation, conducting project status updates, critiquing design reviews, and team collaboration.

**Program of Study: Mechanical and Aerospace Engineering**

## Mechanics of Materials

**Course Code**: 12756020      **Course Abbreviation**: MECHMAT
**Credit**: 1      **Level**: 3
**Prerequisites**: At least one credit from the Engineering career cluster and physics; Algebra II
**Corequisite**: Algebra II
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

Students enrolled in Mechanics of Materials describe the mechanical behavior of engineering materials, including metals, ceramics, polymers, composites, welds, and adhesives, and the applications of load, deformation, stress and strain relationships for deformable bodies, and mechanical elements relevant to engineers. The course includes axially loaded members, buckling of columns, torsional members, beams, and failure.

*Note: This course satisfies a high school science graduation requirement.*

**Programs of Study: Engineering Foundations**

## Medical Assistant

**Course Code**: 13021015      **Course Abbreviation**: MEDASST
**Credit**: 1      **Level**: 3
**Prerequisite**: Anatomy and Physiology
**Corequisite**: Anatomy and Physiology
**Recommended Prerequisite**: Medical Terminology
**Recommended Corequisite**: None

The Medical Assistant course provides students with the knowledge and skills to pursue a career as a medical assistant and to improve college and career readiness. Students will obtain communication skills, clinical ethics knowledge, safety awareness, and information related to medical assisting career opportunities.

**Program of Study: Diagnostic and Therapeutic Services**

## Medical Billing and Coding

**Course Code**: 13020964
**Credit**: 1
**Prerequisite**: Medical Terminology
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

**Course Abbreviation**: MEDBC
**Level**: 4

Medical Billing and Coding familiarizes students with the process, language, medical procedure codes, requirements of Health Insurance Portability and Accountability Act (HIPAA), and skills they will need to make accurate records. Students will develop an understanding of the entire process of the revenue cycle and how to effectively manage it. The program is designed to prepare students for employment in a variety of health care settings as entry level coder, medical billing specialist, and patient access representative.

**Program of Study: Health Informatics**

## Medical Intervention Evaluation and Research

**Course Code**: N1302125
**Credit**: 1
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: Principles of Health Informatics or Principles of Health Science
**Recommended Corequisite**: None

**Course Abbreviation**: MEDINEV
**Level**: 2

Medical Intervention, Evaluation, and Research further develops basic knowledge of health informatics, data management, and biotechnological advances and their connections in the various healthcare settings. Topics include informatics in medical intervention and evaluation, electronic patient management systems, applications in medical diagnostics, best practices in billing and coding medical diagnosis and procedures, appropriate International Classification of Diseases (ICD) 10 codes, fraud prevention, and databases culminating in an extended learning experience. The demand and growth in the field precipitates a needed integration of multiple medical technologies and their impact in healthcare delivery.

**Program of Study: Health Informatics**

## Medical Interventions (PLTW)

**Course Code**: N1302094
**Credit**: 1
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: At least one credit in a Level 2 or higher course in the Biomedical Science program of study
**Recommended Corequisite**: None

**Course Abbreviation**: MEDINT
**Level**: 3

Medical Interventions (PLTW) allows students to investigate the variety of interventions involved in the prevention, diagnosis, and treatment of disease. Students explore how to prevent and fight infection; screen and evaluate the code in our DNA; prevent, diagnose, and treat cancer; and prevail when the organs of the body begin to fail. A wide range of interventions related to immunology, surgery, genetics, pharmacology, medical devices, and diagnostics are explored in real-world, patient-centered scenarios. Interventions may range from simple diagnostic tests to treatment of complex diseases and disorders. Lifestyle choices and preventive measures are emphasized throughout the course as well as the role that scientific thinking and engineering design play in the development of interventions of the future. Students practice problem-solving with structured activities and progress to open-ended projects and problems that require them to develop planning, documentation, communication, and other professional skills.

**Program of Study: Biomedical Science**

## Medical Microbiology

**Course Code**: 13020700                    **Course Abbreviation**: MICRO
**Credit**: 1                                **Level**: 3
**Prerequisites**: One credit in biology, one credit in chemistry, and at least one credit in a course from the Health Science career cluster
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

The Medical Microbiology course is designed to explore the microbial world, studying topics such as pathogenic and non-pathogenic microorganisms, laboratory procedures, identifying microorganisms, drug-resistant organisms, and emerging diseases. Students must meet the 40% laboratory and fieldwork requirement.
*Note: This course satisfies a high school science graduation requirement.*
**Programs of Study: Biomedical Science, Diagnostic and Therapeutic Services, and Nursing Science**

## Medical Terminology

**Course Code**: 13020300                    **Course Abbreviation**: MEDTERM
**Credit**: 1                                **Level**: 2
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

The Medical Terminology course is designed to introduce students to the structure of medical terms, including prefixes, suffixes, word roots, singular and plural forms, and medical abbreviations. The course allows students to achieve comprehension of medical vocabulary appropriate to medical procedures, human anatomy and physiology, and pathophysiology.
**Programs of Study: Biomedical Science, Diagnostic and Therapeutic Services, Exercise Science, Wellness, and Restoration, Health Informatics, and Nursing Science**

## Metal Fabrication and Machining I

**Course Code**: 13032700                    **Course Abbreviation**: MTFBMCH1
**Credits**: 2                               **Level**: 2
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: Algebra I or Geometry
**Recommended Corequisite**: None

Metal Fabrication and Machining I provides the knowledge, skills, and certifications required for equal employment opportunities in the metal production industry. Students must have opportunities to reinforce, apply, and transfer knowledge and skills to a variety of settings and problems.
**Program of Study: Manufacturing Technology**

## Metal Fabrication and Machining ll

**Course Code**: 13032800      **Course Abbreviation**: MTFBMCH2

**Credits**: 2      **Level**: 3

**Prerequisites**: Metal Fabrication and Machining l

**Corequisite**: None

**Recommended Prerequisites**: Geometry and Algebra ll

**Recommended Corequisite**: None

Metal Fabrication and Machining II builds on the knowledge, skills, and certifications students acquire in Metal Fabrication and Machining I. Students will develop advanced concepts and skills as related to personal and career development. This course integrates academic and technical knowledge and skills. Students will have opportunities to reinforce, apply, and transfer knowledge and skills to a variety of settings and problems.

**Program of Study: Manufacturing Technology**


## Microbiology and Safety for Cosmetology Careers

**Course Code**: N1302540      **Course Abbreviation**: MICRCOS

**Credit**: 1      **Level**: 1

**Prerequisite**: None

**Corequisite**: None

**Recommended Prerequisite**: None

**Recommended Corequisite**: None

Students who enroll in Microbiology and Safety for Cosmetology Careers will receive instruction in the microbial world, studying topics such as pathogenic and non-pathogenic microorganisms, identification of microorganisms, drug resistant organisms, and emerging diseases. Additionally, students will explore and apply concepts as they apply to the safety and health of individuals pursuing a career in cosmetology services. This course also includes an opportunity for students to solve an in-depth analytical problem concerning occupational health and safety in cosmetology.

**Program of Study: Cosmetology and Personal Care Services (Regional)**


## Mill and Cabinetmaking Technology

**Course Code**: 13005300      **Course Abbreviation**: MACTECH

**Credits**: 2      **Level**: 3

**Prerequisite**: None

**Corequisite**: None

**Recommended Prerequisites**: Principles of Architecture and Principles of Construction

**Recommended Corequisite**: None

In Mill and Cabinetmaking Technology, students will gain knowledge and skills needed to enter the workforce in the area of mill work and cabinet manufacturing and installation. Students may also apply these skills to professions in carpentry or building maintenance supervision or use the skills as a foundation for a postsecondary degree in construction management, architecture, or engineering. Students will acquire knowledge and skills in cabinet design, tool usage, jointing methods, finishes, and industry-level practices such as numerical and computer-control production methods.

**Program of Study: Carpentry**

## Mobile Application Development

**Course Code**: 03580390

**Credit**: 1

**Prerequisite**: Algebra I

**Corequisite**: None

**Recommended Prerequisite**: None

**Recommended Corequisite**: None

**Course Abbreviation**: TAMBAD

**Level**: 3

Mobile Application Development will foster students' creativity and innovation by presenting opportunities to design, implement, and deliver meaningful projects using mobile computing devices. Students will collaborate with one another, their instructor, and various electronic communities to solve problems presented throughout the course. Through data analysis, students will identify task requirements, plan search strategies, and use software development concepts to access, analyze, and evaluate information needed to program mobile devices. By using software design knowledge and skills that support the work of individuals and groups in solving problems, students will select the technology appropriate for the task, synthesize knowledge, create solutions, and evaluate the results. Students will learn digital citizenship by researching current laws and regulations and by practicing integrity and respect. Students will gain an understanding of the principles of mobile application development through the study of development platforms, programming languages, and software design standards. The six strands include creativity and innovation; communication and collaboration; research and information fluency; critical thinking; problem solving, and decision making; digital citizenship; and technology operations and concepts.

**Programs of Study: Entrepreneurship, and Programming and Software Development**

## Money Matters

**Course Code**: 13016200

**Credit**: 1

**Prerequisite**: None

**Corequisite**: None

**Recommended Prerequisite**: Principles of Business, Marketing, and Finance

**Recommended Corequisite**: None

**Course Abbreviation**: MONEYM

**Level**: 1

In Money Matters, students will investigate money management from a personal financial perspective. Students will apply critical-thinking skills to analyze financial options based on current and projected economic factors. Students will gain knowledge and skills necessary to establish short-term and long-term financial goals. Students will examine various methods of achieving short-term and long-term financial goals through various methods such as investing, tax planning, asset allocating, risk management, retirement planning, and estate planning.

**Program of Study: Accounting and Financial Services**

## Nail Care, Enhancements and Spa Services

**Course Code**: N1302531

**Credits**: 2

**Prerequisite**: None

**Corequisite**: None

**Recommended Prerequisite**: None

**Recommended Corequisite**: None

**Course Abbreviation**: NCESS

**Level**: 2

Nail Care, Enhancement and Spa Services students will demonstrate proficiency in academic, technical, and practical knowledge and skills (basic manipulative skills, safety judgements, and proper work habits). The content is designed to provide the occupational skills required for licensure as a nail technician or related career avenue. Instruction includes advanced training in professional standards/employability skills, TDLR rules and regulations, use of tools, equipment, technologies and materials, and practical skills.

**Program of Study: Cosmetology and Personal Care Services (Regional)**

## National Security

**Course Code**: 13018800
**Credit**: 1
**Prerequisite**: None
**Corequisite**: None

**Course Abbreviation**: NATLSEC
**Level**: 3

**Recommended Prerequisites**: Principles of Government and Public Administration and Public Management and Administration or Principles of Law, Public Safety, Corrections, and Security or Junior Reserve Officer Training Corps (JROTC) coursework
**Recommended Corequisite**: None

National Security introduces the students to the aspects of disaster management. The course includes engaging simulation exercises related to natural disasters, man-made disasters, and terroristic events using homeland security programs and National Incident Management System (NIMS) programs.
**Program of Study: Fire Science**

## Networking

**Course Code**: 13027400
**Credit**: 1
**Prerequisite**: None
**Corequisite**: None

**Course Abbreviation**: NETWRK
**Level**: 3

**Recommended Prerequisites**: Principles of Information Technology, Computer Maintenance, and Computer Maintenance Lab
**Recommended Corequisite**: Networking Lab

In Networking, students will develop knowledge of the concepts and skills related to data networking technologies and practices in order to apply them to personal or career development. To prepare for success, students will have opportunities to reinforce, apply, and transfer knowledge and skills to a variety of settings and problems.
**Programs of Study: Cybersecurity, and Networking Systems**

## Networking + Networking Lab

**Course Code**: 13027410
**Credits**: 2
**Prerequisite**: None
**Corequisite**: None

**Course Abbreviation**: NETWRLAB
**Level**: 3

**Recommended Prerequisites**: Principles of Information Technology, Computer Maintenance, and Computer Maintenance Lab
**Recommended Corequisite**: None

In Networking, students will develop knowledge of the concepts and skills related to data networking technologies and practices in order to apply them to personal or career development. To prepare for success, students will have opportunities to reinforce, apply, and transfer knowledge and skills to a variety of settings and problems.
**Programs of Study: Cybersecurity, and Networking Systems**

# Occupational Safety and Environmental Technology I

**Course Code**: N1303680

**Course Abbreviation**: OSET1

**Credit**: 1

**Level**: 2

**Prerequisite**: None

**Corequisite**: None

**Recommended Prerequisite**: Principles of Transportation Systems, Principles of Distribution and Logistics, or Principles of Manufacturing

**Recommended Corequisite**: None

During Occupational Safety & Environmental Technology (OSET) I, students will investigate the field of Occupational Safety and Health Administration and Environmental Technology, which is charged with the tasks of ensuring that business and industry provide a safe workplace, free from hazards and bringing about a reduction in the occurrence of job-related injuries and fatalities. Students will use safety resources and discover procedures for collaborating with business and industry regarding ways to increase employee safety and health, reduce workers' compensation insurance costs and medical expenses, decrease payout for return-to-work programs, reduce faulty products, and lower costs for job accommodations for injured workers. The sequence of OSET courses provides students with the knowledge and skills to enter business and industry under OSET/OSHA. Students will be prepared to investigate hazards and create plans of action to address hazard controls for employers.

**Programs of Study: Automotive and Collision Repair, Aviation Maintenance, Diesel and Heavy Equipment Maintenance and Commercial Driver, Distribution, Logistics, and Warehousing, Manufacturing Technology, Maritime (Regional), Oil and Gas Exploration and Production, Robotics and Automation Technology, and Welding.**

# Occupational Safety and Environmental Technology II

**Course Code**: N1303681

**Course Abbreviation**: OSET2

**Credit**: 1

**Level**: 3

**Prerequisite**: None

**Corequisite**: None

**Recommended Prerequisite**: Occupational Safety and Environmental Technology I

**Recommended Corequisite**: None

During the Occupational Safety and Environmental Technology (OSET) II course, students will analyze the accident sequence, investigate hazard control concepts and principles, and examine fire protection systems and their applications with emphasis on the fire prevention codes and standards. Students will apply critical thinking skills to analyze system safety, organizational cultures, and the importance of leadership. Students will describe the organization of the accident investigation, from beginning to end. Students will examine analytical techniques in accident investigations and will utilize analytical investigation techniques to assist organizations in preventing accidents. Students will gain knowledge and skills necessary to make proactive hazard control an organizational priority. The sequence of OSET courses provides students with the knowledge and skills to enter business and industry under OSET/OSHA. Students will be prepared to investigate hazards and create plans of action to address hazard controls for employers.

**Programs of Study: Manufacturing Technology, Oil and Gas Exploration and Production, and Robotics and Automation Technology**

## Occupational Safety and Environmental Technology III

**Course Code**: N1303682      **Course Abbreviation**: OSET3
**Credits**: 2      **Level**: 4
**Prerequisites**: Occupational Safety and Environmental Technology I and Occupational Safety and Environmental Technology II
**Corequisite**: None
**Recommended Prerequisite**: Chemistry or Integrated Physics and Chemistry (IPC)
**Recommended Corequisite**: None

During Occupational Safety and Environmental Technology (OSET) III, students will study a variety of national and worldwide health and safety problems, and learn preventative measures to resolve, reduce, and/or eliminate safety and health issues encountered at the workplace. Students will encounter detailed information from various federal agencies that are involved in workplace safety and health and demonstrate understanding of that information. Focus will be on the Occupational Safety and Health Administration (OSHA) regulations and the Department of Transportation (DOT) regulations with an emphasis on identifying and applying appropriate regulatory safety standards. This course will allow students to reinforce, apply, and transfer their academic knowledge and skills to a variety of interesting and relevant activities, problems, and settings.
**Program of Study: Manufacturing Technology**

## Occupational Therapy I

**Course Code**: N1302132      **Course Abbreviation**: OCCHLTH1
**Credit**: 1      **Level**: 3
**Prerequisites**: None
**Corequisite**: None
**Recommended Prerequisites**: Principles of Health Science or Principles of Allied Health and Medical Terminology or Allied Health Therapeutic Services
**Recommended Corequisite**: None

Occupational Therapy I is designed to provide concepts, knowledge, and skills necessary for a career in Occupational Therapy. This course will focus on the principles and practices of occupational therapy practitioners; proper management of patient care to safely assist patients; management of equipment as it relates to occupational therapy; and communication skills to work effectively within an occupational therapy practice. This course is designed for students in grades 11 or 12 who desire to work in an occupational therapy clinic as a therapy technician and/or advance to become a licensed occupational therapy practitioner.
**Program of Study: Exercise Science, Wellness, and Restoration**

## Occupational Therapy II

**Course Code**: N1302133      **Course Abbreviation**: OCCHLTH2
**Credit**: 1      **Level**: 4
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: Occupational Therapy I
**Recommended Corequisite**: None

Occupational Therapy II is an advanced course designed to build upon students' prior knowledge of Occupational Therapy. This course will focus on the Occupational Therapy Practice Framework and process; application of intervention modalities; use of assistive technology; building therapeutic relationships; and performing occupational therapy assessments. Student instruction is reinforced with hands-on activity labs and field-based learning experiences. This course is designed for students in grade 12 who desire to work in an occupational therapy clinic and/or advance to become a licensed occupational therapist or occupational therapy assistant.
**Program of Study: Exercise Science, Wellness, and Restoration**

# Oil and Gas Production I

**Course Code**: 13001250
**Credit**: 1
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

**Course Abbreviation**: OILGP1
**Level**: 1

In Oil and Gas Production I, students will identify specific career opportunities and skills, abilities, tools, certification, and safety measures associated with each career. Students will also understand components, systems, equipment, and production and safety regulations associated with oil and gas wells. To prepare for careers in oil and gas production, students must attain academic skills and knowledge, acquire technical knowledge and skills related to oil and gas production and the workplace, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations.

**Program of Study: Oil and Gas Exploration and Production**

# Oil and Gas Production I + Agricultural Laboratory and Field Experience

**Course Code**: 13001255
**Credits**: 2
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

**Course Abbreviation**: OILGPLAB1
**Level**: None

In Oil and Gas Production I, students will identify specific career opportunities and skills, abilities, tools, certification, and safety measures associated with each career. Students will also understand components, systems, equipment, and production and safety regulations associated with oil and gas wells. To prepare for careers in oil and gas production, students must attain academic skills and knowledge, acquire technical knowledge and skills related to oil and gas production and the workplace, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations.

**This course is not in a program of study**

# Oil and Gas Production II

**Course Code**: 13001260
**Credit**: 1
**Prerequisite**: Oil and Gas Production l
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

**Course Abbreviation**: OILGP2
**Level**: 2

In Oil and Gas Production II, students will gain knowledge of the specific requirements for entry into post-secondary education and employment in the petroleum industry; research and discuss petroleum economics; research and discuss the modes of transportation in the petroleum industry; research and discuss environmental, health, and safety concerns; research and discuss different energy sources; and prepare for industry certification. To prepare for careers in oil and gas production, students must attain academic skills and knowledge, acquire technical knowledge and skills related to oil and gas production and the workplace, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations.

**Program of Study: Oil and Gas Exploration and Production**

## Oil and Gas Production II + Agricultural Laboratory and Field Experience

**Course Code**: 13001265
**Credits**: 2
**Prerequisite**: Oil and Gas Production I
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

**Course Abbreviation**: OILGPLAB2
**Level**: None

In Oil and Gas Production II, students will gain knowledge of the specific requirements for entry into post-secondary education and employment in the petroleum industry; research and discuss petroleum economics; research and discuss the modes of transportation in the petroleum industry; research and discuss environmental, health, and safety concerns; research and discuss different energy sources; and prepare for industry certification. To prepare for careers in oil and gas production, students must attain academic skills and knowledge, acquire technical knowledge and skills related to oil and gas production and the workplace, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations.
**This course is not in a program of study**

## Oil and Gas Production III

**Course Code**: 13040500
**Credit**: 1
**Prerequisite**: Oil and Gas Production II
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

**Course Abbreviation**: OGPROD3
**Level**: 3

In Oil and Gas Production III, students will gain knowledge of hydraulic and pneumatic systems and skill requirements to work in oil and gas and related industries. Students complete an advance core curriculum that includes hydraulic and pneumatic systems involved in oil and gas production. This program is designed to train students in all areas of down and mid-stream operation skills.
**Program of Study: Oil and Gas Exploration and Production**

## Oil and Gas Production IV

**Course Code**: 13040501
**Credit**: 1
**Prerequisite**: Oil and Gas Production III
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

**Course Abbreviation**: OGPROD4
**Level**: 4

Oil and Gas Production IV is designed to extend training for future petroleum engineering technicians in all areas of down and mid-stream operations. Students complete an intense core curriculum in areas that include hydrocarbon safety, drilling, petroleum geology, oil and gas exploration and production, reservoir operations, well head completions, petroleum data management operations and analysis, natural gas production, and economics. In conjunction with this course, students employ the latest computer software in engineering and petroleum, operations, data mining, and geological mapping.
**Program of Study: Oil and Gas Exploration and Production**

## Optical Technician

**Course Code**: N1302126  
**Course Abbreviation**: OPTTEC  
**Credit**: 1  
**Level**: 4  
**Prerequisite**: None  
**Corequisite**: None  
**Recommended Prerequisite**: Biology or Principles of Health Science  
**Recommended Corequisite**: None

The Optical Technician course introduces high school students to the profession of dispensing eyeglasses and fitting contact lenses. The course includes classroom lectures, hands-on lab hours, and community clinics. The student will be proficient in the terminology of a dispensing optician and in using appropriate professional communication when engaging with patients, peers, colleagues, supervisors, and eye care providers. The course is designed to help the student prepare for entry-level positions in wholesale, retail, benevolent, and independent optical settings.

**Program of Study: Diagnostic and Therapeutic Services**

## Paint and Refinishing

**Course Code**: 13039900  
**Course Abbreviation**: PAINTREF  
**Credits**: 2  
**Level**: 3  
**Prerequisite**: None  
**Corequisite**: None  
**Recommended Prerequisites**: Basic Collision Repair and Refinishing or Collision Repair  
**Recommended Corequisite**: None

Paint and Refinishing includes knowledge of the processes, technologies, and materials used in the reconstruction of vehicles. This course is designed to teach the concepts and theory of systems related to automotive paint and refinishing.

**Program of Study: Automotive and Collision Repair**

## Paint and Refinishing + Advanced Transportation Systems Laboratory

**Course Code**: 13039910  
**Course Abbreviation**: PTREFLAB  
**Credits**: 3  
**Level**: 3  
**Prerequisite**: None  
**Corequisite**: None  
**Recommended Prerequisites**: Basic Collision Repair and Refinishing or Collision Repair  
**Recommended Corequisite**: None

Paint and Refinishing includes knowledge of the processes, technologies, and materials used in the reconstruction of vehicles. This course is designed to teach the concepts and theory of systems related to automotive paint and refinishing.

**Program of Study: Automotive and Collision Repair**

## Parenting Education I

**Course Code**: N1302536  
**Course Abbreviation**: PAED1  
**Credit**: 1  
**Level**: None  
**Prerequisite**: None  
**Corequisite**: None  
**Recommended Prerequisite**: None  
**Recommended Corequisite**: None

This course is designed to address the special needs and interests of students who are parents or expectant parents. Special emphasis is placed on prenatal care and development, postnatal care, infant care, child development, and parenting skills. Other units of study address personal development, responsible parenthood and adult roles, family problems and crises, conflict resolution, family health issues, nutrition, safety, management, and employability skills. Students develop the knowledge and skills to the multiple roles of student, parent, family member, and provider.

**This course is not in a program of study**

## Parenting Education II

**Course Code**: N1302537
**Credit**: 1
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: Parenting Education I
**Recommended Corequisite**: None

**Course Abbreviation**: PAED2
**Level**: None

This course provides more in-depth knowledge of parenting and child development including implications of expectations of children, child abuse, disabilities, and issues impacting young families such as employment, postsecondary education, transportation, childcare, housing, and personal responsibility. Students develop the knowledge and skills to manage the multiple roles of being a student, parent, family member, and provider.
**This course is not in a program of study**

## Pathophysiology

**Course Code**: 13020800
**Credit**: 1
**Prerequisites**: One credit in biology, one credit in chemistry, and at least one credit in a Level 2 or higher course from the Health Science career cluster
**Corequisite**: None
**Recommended Prerequisite**: Anatomy and Physiology
**Recommended Corequisite**: None

**Course Abbreviation**: PATHO
**Level**: 4

The Pathophysiology course is designed for students to conduct laboratory and field investigations, use scientific methods during investigations, and make informed decisions using critical thinking and scientific problem solving. Students in Pathophysiology will study disease processes and how humans are affected. Emphasis is placed on prevention and treatment of disease.
*Note: This course satisfies a high school science graduation requirement.*
**Programs of Study: Biomedical Science, Diagnostic and Therapeutic Services, and Nursing Science**

## Petrochemical Safety, Health, and Environment

**Course Code**: 13040504
**Credit**: 1
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

**Course Abbreviation**: PSHAE
**Level**: 3

Petrochemical Safety, Health, and Environment addresses the shortage of process technology operators/technicians by educating students on the safety rules, regulations, and operations of the petrochemical process technology operator. Students enrolled in this course will learn about the knowledge and skills required in occupational safety, health, and environment as well as the governing regulatory authorities and the legal aspects of the industry in order to maintain a safe work environment.
**Program of Study: Refining and Chemical Processes**

## Pharmacology

**Course Code**: 13020950  **Course Abbreviation**: PHARMC
**Credit**: 1  **Level**: 4
**Prerequisites**: One credit in biology, one credit in chemistry, and at least one credit in a Level 2 or higher course from the Health Science career cluster
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

The Pharmacology course is designed to study how natural and synthetic chemical agents such as drugs affect biological systems. Knowledge of the properties of therapeutic agents is vital in providing quality health care. It is an ever-changing, growing body of information that continually demands greater amounts of time and education from healthcare workers.
**Programs of Study: Diagnostic and Therapeutic Services, and Nursing Science**

## Pharmacy I

**Course Code**: 13021020  **Course Abbreviation**: PHARMI
**Credit**: 1  **Level**: 2
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisites**: Introduction to Pharmacy Science or Principles of Health Science and one credit in biology
**Recommended Corequisite**: None

The goal of Pharmacy I is for the student to gain a strong foundation in the knowledge and skills needed to pursue a career in the pharmaceutical field (e.g., pharmacy technician, pharmacist). Knowledge includes pharmacology, pharmacy law, medication safety, the dispensing process, and inventory. Pharmacy I is designed to be the second course in a pathway leading to college and career readiness in the healthcare therapeutics professions. The course content aligns with the competencies of pharmacy technician certification examinations.
**Program of Study: Diagnostic and Therapeutic Services**

## Pharmacy II

**Course Code**: 13021030  **Course Abbreviation**: PHARMII
**Credits**: 2  **Level**: 3
**Prerequisites**: One credit in biology, one credit in chemistry, and Pharmacy I
**Corequisite**: None
**Recommended Prerequisites**: Algebra I, Introduction to Pharmacy Science, and Pharmacy I
**Recommended Corequisite**: None

The Pharmacy II course provides students with the advanced knowledge and skills to explore various careers in the pharmacy field, including pharmacology, pharmacy law, medication errors, inventory pharmacy calculations, compounding, and workflow expectations in a pharmacy setting. Pharmacy II is designed to be the third course in a pathway leading to college and career readiness in the healthcare therapeutics professions. The course content aligns with the competencies of pharmacy technician certification examinations.
**Program of Study: Diagnostic and Therapeutic Services**

## Physical Therapy I
**Course Code**: N1302128  **Course Abbreviation**: PHYTHER1
**Credit**: 1  **Level**: 3
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: Biology, Principles of Health Science or Principles of Allied Health, or Medical Terminology
**Recommended Corequisite**: None

Physical Therapy I is designed to provide basic concepts, knowledge, and skills needed to work within physical therapy practice under the supervision of a licensed physical therapist/physical therapist assistant. Specifically, the course focuses on proper management of patient care to safely assist patients/therapists; management of equipment as it relates to physical therapy; strengthening and conditioning; and communication skills to work effectively within a physical therapy practice. This course is designed for students in grades 10, 11, or 12 who desire to work in a physical therapy clinic and/or advance to become a licensed physical therapist/physical therapist assistant.
**Program of Study: Exercise Science, Wellness, and Restoration**

## Physical Therapy II
**Course Code**: N1302134  **Course Abbreviation**: PHYTHER2
**Credit**: 1  **Level**: 4
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: Biology or Physical Therapy I
**Recommended Corequisite**: Anatomy and Physiology

The Physical Therapy II innovative course is intended for 11th and 12th-grade students. Students will build upon the foundational skills that students learned in Physical Therapy I by practicing skills such as musculoskeletal strength and range of motion (ROM) assessment, safety techniques, administering therapeutic exercise routines, and professional skills. Upon completing this course, students will have the foundational knowledge to pursue post-secondary education that prepare them for a career as a licensed physical therapist or physical therapist assistant.
**Program of Study: Exercise Science, Wellness, and Restoration**

## Physics for Engineering
**Course Code**: 13037150  **Course Abbreviation**: PHYSENGR
**Credit**: 1  **Level**: 1
**Prerequisites**: One credit of Algebra I and one credit of chemistry, physics, or Integrated Physics and Chemistry (IPC)
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

In Physics for Engineering, students conduct laboratory and field investigations, use scientific and engineering practices during investigations, and make informed decisions using critical thinking and scientific problem solving. Various systems are described in terms of space, time, energy, and matter. Students study topics, including laws of motion, conservation of energy, momentum, electricity, magnetism, thermodynamics, and characteristics and behavior of waves. Students apply physics concepts and perform laboratory experimentations for at least 40 percent of instructional time using safe practices.
*Note: This course satisfies a high school science graduation requirement.*
**Programs of Study: Civil Engineering, Electrical Engineering, Engineering Foundations, and Mechanical and Aerospace Engineering**

## Pipefitting Technology I

**Course Code**: N1300425      **Course Abbreviation**: PIPETEC1
**Credit**: 1      **Level**: 2
**Prerequisites**: Algebra I and Geometry
**Corequisite**: None
**Recommended Prerequisites**: National Center for Construction Education and Research (NCCER) Core, Introduction to Manufacturing, Principles of Construction, or Construction Technology I
**Recommended Corequisite**: None

Students will learn the types of work performed, responsibilities and career opportunities within the industry, and safety principles associated with pipefitting. Additionally, students will learn care, selection, and use of hand and power tools of the trade and ladder and scaffold safety, selection, construction, and the associated hazards. Oxyfuel cutting and associated safety procedures will be reinforced. Students will learn the maintenance, operation, and safety of motorized equipment. This class may lead to the National Center for Construction Education and Research (NCCER) certification.
**Program of Study: Plumbing and Pipefitting**

## Pipefitting Technology I + Pipefitting Technology I Lab

**Course Code**: N1300427      **Course Abbreviation**: PIPETECL1
**Credits**: 2      **Level**: 2
**Prerequisites**: Algebra I and Geometry
**Corequisite**: None
**Recommended Prerequisites**: National Center for Construction Education and Research (NCCER) Core, Introduction to Manufacturing, Principles of Construction, or Construction Technology I
**Recommended Corequisite**: None

Students will learn the types of work performed, responsibilities, career opportunities within the industry and safety principles associated with pipefitting. Additionally, students will learn care, selection and use of hand and power tools of the trade and ladder and scaffold safety, selection, construction and the associated hazards. Oxyfuel cutting and associated safety procedures will be reinforced. Students will learn the maintenance, operation and safety of motorized equipment. This class may lead to the National Center for Construction Education and Research (NCCER) certification.
**Program of Study: Plumbing and Pipefitting**

## Pipefitting Technology II

**Course Code**: N1300426      **Course Abbreviation**: PIPETEC2
**Credit**: 1      **Level**: 3
**Prerequisite**: Pipefitting Technology I
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

Students will learn about, be able to identify and install various types of piping systems and valves. Students will learn to read detail and drawing sheets and how to use mathematics to solve problems related to Pipefitting construction. Students will also be educated in how to prepare, fabricate, and assemble threaded pipe, socket weld, and butt weld installations. Excavating per Occupational Safety and Health Administration (OSHA) standards as well as grading and elevations of trenching and backfilling will also be taught. The course may lead to National Center for Construction Education and Research (NCCER) certification.
**Program of Study: Plumbing and Pipefitting**

## Pipefitting Technology II + Pipefitting Technology II Lab

**Course Code**: N1300428      **Course Abbreviation**: PIPETECL2
**Credits**: 2      **Level**: 3
**Prerequisite**: Pipefitting Technology I
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

Students will learn about, be able to identify and install various types of piping systems and valves. Students will learn to read detail and drawing sheets and how to use mathematics to solve problems related to pipefitting construction. Students will also be educated in how to prepare, fabricate, and assemble threaded pipe, socket weld, and butt weld installations. Excavating per Occupational Safety and Health Administration (OSHA) standards as well as grading and elevations of trenching and backfilling will also be taught. The course may lead to National Center for Construction Education and Research (NCCER) certification.
**Program of Study: Plumbing and Pipefitting**

## Planning and Governance

**Course Code**: 13018700      **Course Abbreviation**: PLANGOV
**Credit**: 1      **Level**: 3
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisites**: Principles of Government and Public Administration
**Recommended Corequisite**: None

Planning and Governance provides the opportunity for students to formulate plans and policies to meet social, economic, and physical needs of communities.
**Program of Study: Government and Public Administration**

## Plumbing Technology l

**Course Code**: 13006000      **Course Abbreviation**: PLTECH1
**Credit**: 1      **Level**: 2
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: Principles of Architecture, Principles of Construction, or Construction Technology l
**Recommended Corequisite**: None

In Plumbing Technology I, students will gain knowledge and skills needed to enter the industry as a plumbing apprentice, building maintenance technician, or supervisor or prepare for a postsecondary degree in construction management, architecture, or engineering. Students will acquire knowledge and skills in industry workplace basics and employer/customer expectations, including how to use a plumbing code book; how to identify and use power and hand tools; how to be safe on the jobsite and when using hand and power tools; how to apply basic plumbing mathematics and plumbing drawing; and how to identify, fit, and use plastic, copper, cast iron, carbon steel, and corrugated stainless steel pipe. In addition, students will be introduced to gas, drainage, and water supply systems and continue their knowledge of workplace basics and green technologies.
**Program of Study: Plumbing and Pipefitting**

## Plumbing Technology ll
**Course Code**: 13006100
**Course Abbreviation**: PLTECH2
**Credits**: 2
**Level**: 3
**Prerequisite**: Plumbing Technology l
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

In Plumbing Technology II, students will gain the advanced knowledge and skills needed to enter the industry as a plumber, building maintenance technician, or supervisor or prepare for a postsecondary degree in mechanical engineering. Students will acquire knowledge and skills in plumbing codes, industry workplace basics, and employer/customer expectations, including tool and jobsite safety, advanced plumbing mathematics, commercial drawings, basic electricity, hanger installation, supports and structural penetrations, roof drains, fixture installation, valves and faucets, and oxy-fuel safety. Students will also learn about setup, cutting, brazing and welding water system sizing; gas, drain, waste and vent installation and testing; and water heater installation.
**Program of Study: Plumbing and Pipefitting**


## Political Science I
**Course Code**: 13018300
**Course Abbreviation**: POLISCI1
**Credit**: 1
**Level**: 2
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: Principles of Government and Public Administration
**Recommended Corequisite**: None

Political Science I introduces students to political theory through the study of governments, public policies, political processes, systems, and behavior.
**Programs of Study: Government and Public Administration, and Legal Studies**


## Political Science II
**Course Code**: 13018400
**Course Abbreviation**: POLISCI2
**Credit**: 1
**Level**: 3
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: Principles of Government and Public Administration or Political Science I
**Recommended Corequisite**: None

Political Science II uses a variety of learning methods and approaches to examine the processes, systems, and political dynamics of the United States and other nations. The dynamic component of this course includes current U.S. and world events.
**Programs of Study: Government and Public Administration, and Legal Studies**

## Practicum in Agriculture, Food, and Natural Resources

**Course Code**:
13002500 (First Time Taken)
13002510 (Second Time Taken)
**Credits**: 2

**Course Abbreviation**:
PRACAFNR1
PRACAFNR2
**Level**: 4

**Prerequisites**: A minimum of two credits with at least one course in a Level 2 or higher course from the Agriculture, Food, and Natural Resources career cluster
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

Practicum in Agriculture, Food, and Natural Resources is designed to give students supervised practical application of knowledge and skills. Practicum experiences can occur in a variety of locations appropriate to the nature and level of experiences such as employment, independent study, internships, assistantships, mentorships, or laboratories. To prepare for careers in agriculture, food, and natural resources, students must attain academic knowledge and skills, acquire technical knowledge and skills related to the workplace, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations. To prepare for success, students need opportunities to learn, reinforce, apply, and transfer their knowledge and skills and technologies in a variety of settings.

**Programs of Study: Agricultural Technology and Mechanical Systems, Agriculture Business, Leadership, and Communications, Animal Science, Environmental and Natural Resources, Food Science and Technology, and Plant Science**

## Practicum in Agriculture, Food, and Natural Resources + Extended Practicum in Agriculture, Food, and Natural Resources

**Course Code**:
13002505 (First Time Taken)
13002515 (Second Time Taken)
**Credits**: 3

**Course Abbreviation**:
EXPRAFNR1
EXPRAFNR2
**Level**: 4

**Prerequisites**: A minimum of two credits with at least one course in a Level 2 or higher course from the Agriculture, Food, and Natural Resources career cluster
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

Practicum in Agriculture, Food, and Natural Resources is designed to give students supervised practical application of knowledge and skills. Practicum experiences can occur in a variety of locations appropriate to the nature and level of experiences such as employment, independent study, internships, assistantships, mentorships, or laboratories. To prepare for careers in agriculture, food, and natural resources, students must attain academic knowledge and skills, acquire technical knowledge and skills related to the workplace, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations. To prepare for success, students need opportunities to learn, reinforce, apply, and transfer their knowledge and skills and technologies in a variety of settings.

**Programs of Study: Agricultural Technology and Mechanical Systems, Agriculture Business, Leadership, and Communications, Animal Science, Environmental and Natural Resources, Food Science and Technology, and Plant Science**

## Practicum in Animation

**Course Code**:
13008450 (First Time Taken)
13008460 (Second Time Taken)
**Credits**: 2
**Prerequisites**: Animation ll + Animation ll Lab
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

**Course Abbreviation**:
PRACANI1
PRACANI2
**Level**: 4

Building upon the concepts taught in Animation II and its corequisite Animation II Lab, in addition to developing advanced technical knowledge and skills needed for success in the Arts, Audio Visual Technology, and Communications career cluster, students will be expected to develop an increasing understanding of the industry with a focus on applying pre-production, production, and post-production animation products in a professional environment. Instruction may be delivered through lab-based classroom experiences or career preparation opportunities.
**Program of Study: Graphic Design and Interactive Media**

## Practicum in Animation + Extended Practicum in Animation

**Course Code**:
13008455 (First Time Taken)
13008465 (Second Time Taken)
**Credits**: 3
**Prerequisites**: Animation ll + Animation ll Lab
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

**Course Abbreviation**:
EXPRANI1
EXPRANI2
**Level**: 4

Building upon the concepts taught in Animation II and its corequisite Animation II Lab, in addition to developing advanced technical knowledge and skills needed for success in the Arts, Audio Visual Technology, and Communications career cluster, students will be expected to develop an increasing understanding of the industry with a focus on applying pre-production, production, and post-production animation products in a professional environment. Instruction may be delivered through lab-based classroom experiences or career preparation opportunities.
**Program of Study: Graphic Design and Interactive Media**

## Practicum in Architectural Design

**Course Code**:
13004800 (First Time Taken)
13004810 (Second Time Taken)
**Credits**: 2
**Prerequisite**: Architectural Design ll
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

**Course Abbreviation**:
PRACADS1
PRACADS2
**Level**: 4

Practicum in Architectural Design is an occupationally specific course designed to provide technical instruction in architectural design. Safety and career opportunities are included in addition to work ethics and architectural design study.
**Program of Study: Architectural Drafting and Design**

## Practicum in Architectural Design + Extended Practicum in Architectural Design

**Course Code**:
13004805 (First Time Taken)
13004815 (Second Time Taken)
**Credits**: 3
**Prerequisite**: Architectural Design ll
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

**Course Abbreviation**:
EXPRADS1
EXPRADS2
**Level**: 4

Practicum in Architectural Design is an occupationally specific course designed to provide technical instruction in architectural design. Safety and career opportunities are included in addition to work ethics and architectural design study.
**Program of Study: Architectural Drafting and Design**

## Practicum in Audio/Video Production

**Course Code**:
13008700 (First Time Taken)
13008710 (Second Time Taken)
**Credits**: 2
**Prerequisites**: Audio/Video Production ll and Audio/Video Production ll Lab
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

**Course Abbreviation**:
PRACAVP1
PRACAVP2
**Level**: 4

Building upon the concepts taught in Audio/Video Production II and its corequisite Audio/Video Production II Lab, in addition to developing advanced technical knowledge and skills needed for success in the Arts, Audio Visual Technology, and Communications career cluster, students will be expected to develop an increasing understanding of the industry with a focus on applying pre-production, production, and post-production audio and video products in a professional environment. This course may be implemented in an advanced audio/video or audio format. Instruction may be delivered through lab-based classroom experiences or career preparation opportunities.
**Programs of Study: Digital Communications, and Programming and Software Development**

## Practicum in Audio/Video Production + Extended Practicum in Audio/Video Production

**Course Code**:
13008705 (First Time Taken)
13008715 (Second Time Taken)
**Credits**: 3
**Prerequisites**: Audio/Video Production ll and Audio/Video Production ll Lab
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

**Course Abbreviation**:
EXPRAVP1
EXPRAVP2
**Level**: 4

Building upon the concepts taught in Audio/Video Production II and its corequisite Audio/Video Production II Lab, in addition to developing advanced technical knowledge and skills needed for success in the Arts, Audio Visual Technology, and Communications career cluster, students will be expected to develop an increasing understanding of the industry with a focus on applying pre-production, production, and post-production audio and video products in a professional environment. This course may be implemented in an advanced audio/video or audio format. Instruction may be delivered through lab-based classroom experiences or career preparation opportunities.
**Programs of Study: Digital Communications, and Programming and Software Development**

## Practicum in Business Management

**Course Code**:

13012200 (First Time Taken)

13012210 (Second Time Taken)

**Credits**: 2

**Prerequisite**: None

**Corequisite**: None

**Recommended Prerequisites**: Touch System Data Entry and Business Management or Business Communication and Technologies

**Recommended Corequisite**: None

**Course Abbreviation**:

PRACBM

PRACBM2

**Level**: 4

Practicum in Business Management is designed to give students supervised practical application of previously studied knowledge and skills. Practicum experiences occur in a paid or unpaid arrangement and in a variety of locations appropriate to the nature and level of experience. Students implement personal and interpersonal skills to strengthen individual performance in the workplace and in society and to make a successful transition to the workforce or postsecondary education. Students apply technical skills to address business applications of emerging technologies. Students develop a foundation in the economic, financial, technological, international, social, and ethical aspects of business to become competent consumers, employees, and entrepreneurs. Students enhance reading, writing, computing, communication, and reasoning skills and apply them to the business environment. Students incorporate a broad base of knowledge that includes the legal, managerial, marketing, financial, ethical, and international dimensions of business to make appropriate business decisions.

**Programs of Study: Accounting and Financial Services, Business Management, Entrepreneurship, Real Estate, and Retail Management (Regional)**

## Practicum in Business Management + Extended Practicum in Business Management

**Course Code**:

13012205 (First Time Taken)

13012215 (Second Time Taken)

**Credits**: 3

**Prerequisite**: None

**Corequisite**: None

**Recommended Prerequisites**: Touch System Data Entry and Business Management or Business Communication and Technologies

**Recommended Corequisite**: None

**Course Abbreviation**:

EXPRBM

EXPRBM2

**Level**: 4

Practicum in Business Management is designed to give students supervised practical application of previously studied knowledge and skills. Practicum experiences occur in a paid or unpaid arrangement and in a variety of locations appropriate to the nature and level of experience. Students implement personal and interpersonal skills to strengthen individual performance in the workplace and in society and to make a successful transition to the workforce or postsecondary education. Students apply technical skills to address business applications of emerging technologies. Students develop a foundation in the economic, financial, technological, international, social, and ethical aspects of business to become competent consumers, employees, and entrepreneurs. Students enhance reading, writing, computing, communication, and reasoning skills and apply them to the business environment. Students incorporate a broad base of knowledge that includes the legal, managerial, marketing, financial, ethical, and international dimensions of business to make appropriate business decisions.

**Programs of Study: Accounting and Financial Services, Business Management, Entrepreneurship, Real Estate, and Retail Management (Regional)**

## Practicum in Commercial Photography

**Course Code**:
13009250 (First Time Taken)
13009260 (Second Time Taken)
**Credits**: 2
**Prerequisites**: Commercial Photography l and Commercial Photography l Lab along with teacher recommendation
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

**Course Abbreviation**:
PRACCPH1
PRACCPH2
**Level**: 4

Careers in commercial photography span all aspects of the industry from setting up a shot to delivering products in a competitive market. In addition to developing advanced technical knowledge and skills needed for success in the Arts, Audio Visual Technology, and Communications career cluster, students will be expected to develop an advanced technical understanding of the commercial photography industry with a focus on producing, promoting, and presenting professional quality photographs.
**Program of Study: Graphic Design and Interactive Media**

## Practicum in Commercial Photography + Extended Practicum in Commercial Photography

**Course Code**:
13009255 (First Time Taken)
13009265 (Second Time Taken)
**Credits**: 3
**Prerequisites**: Commercial Photography l and Commercial Photography l Lab along with teacher recommendation
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

**Course Abbreviation**:
EXPRCPH1
EXPRCPH2
**Level**: 4

Careers in commercial photography span all aspects of the industry from setting up a shot to delivering products in a competitive market. In addition to developing advanced technical knowledge and skills needed for success in the Arts, Audio Visual Technology, and Communications career cluster, students will be expected to develop an advanced technical understanding of the commercial photography industry with a focus on producing, promoting, and presenting professional quality photographs.
**Program of Study: Graphic Design and Interactive Media**

## Practicum in Construction Management

**Course Code**:
13006200 (First Time Taken)
13006210 (Second Time Taken)
**Credits**: 2
**Prerequisite**: Construction Management ll
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

**Course Abbreviation**:
PRACCM1
PRACCM2
**Level**: 4

Practicum in Construction Management is an occupationally specific course designed to provide classroom technical instruction or on-the-job training experiences. Safety and career opportunities are included in addition to work ethics and job-related study in the classroom.
**Program of Study: Construction Management and Inspection**

## Practicum in Construction Management + Extended Practicum in Construction Management

**Course Code**:
13006205 (First Time Taken)
13006215 (Second Time Taken)
**Credits**: 3

**Course Abbreviation**:
EXPRCM1
EXPRCM2
**Level**: 4

**Prerequisite**: Construction Management ll
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite:** None

Practicum in Construction Management is an occupationally specific course designed to provide classroom technical instruction or on-the-job training experiences. Safety and career opportunities are included in addition to work ethics and job-related study in the classroom.
**Program of Study: Construction Management and Inspection**

## Practicum in Construction Technology

**Course Code**:
13005250 (First Time Taken)
13005260 (Second Time Taken)
**Credits**: 2

**Course Abbreviation**:
PRACCT1
PRACCT2
**Level**: 4

**Prerequisites**: Construction Technology II, Building Maintenance Technology II; Electrical Technology II; Heating, Ventilation, and Air Conditioning (HVAC) and Refrigeration Technology II; Plumbing Technology I; or Mill and Cabinetmaking Technology
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

In Practicum in Construction Technology, students will be challenged with the application of knowledge and skills gained in previous construction-related coursework. In many cases students will be allowed to work at a job (paid or unpaid) outside of school or be involved in local projects the school has approved for this class.
**Programs of Study: Architectural Drafting and Design, Carpentry, Construction Management and Inspection, Electrical, HVAC and Sheet Metal, Masonry, and Plumbing and Pipefitting**

## Practicum in Construction Technology + Extended Practicum in Construction Technology

**Course Code**:
13005255 (First Time Taken)
13005265 (Second Time Taken)
**Credits**: 3

**Course Abbreviation**:
EXPRCT1
EXPRCT2
**Level**: 4

**Prerequisites**: Construction Technology ll, Building Maintenance Technology II; Electrical Technology II; Heating, Ventilation, and Air Conditioning (HVAC) and Refrigeration Technology II; Plumbing Technology I; or Mill and Cabinetmaking Technology
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

In Practicum in Construction Technology, students will be challenged with the application of knowledge and skills gained in previous construction-related coursework. In many cases students will be allowed to work at a job (paid or unpaid) outside of school or be involved in local projects the school has approved for this class.
**Programs of Study: Architectural Drafting and Design, Carpentry, Construction Management and Inspection, Electrical, HVAC and Sheet Metal, Masonry, and Plumbing and Pipefitting**

## Practicum in Culinary Arts

**Course Code**:
13022700 (First Time Taken)
13022710 (Second Time Taken)
**Credits**: 2
**Prerequisite**: Culinary Arts
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

**Course Abbreviation**:
PRACCUL1
PRACCUL2
**Level**: 4

Practicum in Culinary Arts is a unique practicum that provides occupationally specific opportunities for students to participate in a learning experience that combines classroom instruction with actual business and industry career experiences. Practicum in Culinary Arts integrates academic and career and technical education; provides more interdisciplinary instruction; and supports strong partnerships among schools, businesses, and community institutions with the goal of preparing students with a variety of skills in a fast-changing workplace.
**Program of Study: Culinary Arts**

## Practicum in Culinary Arts + Extended Practicum in Culinary Arts

**Course Code**:
13022705 (First Time Taken)
13022715 (Second Time Taken)
**Credits**: 3
**Prerequisite**: Culinary Arts
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

**Course Abbreviation**:
EXPRCUL1
EXPRCUL2
**Level**: 4

Practicum in Culinary Arts is a unique practicum that provides occupationally specific opportunities for students to participate in a learning experience that combines classroom instruction with actual business and industry career experiences. Practicum in Culinary Arts integrates academic and career and technical education; provides more interdisciplinary instruction; and supports strong partnerships among schools, businesses, and community institutions with the goal of preparing students with a variety of skills in a fast-changing workplace.
**Program of Study: Culinary Arts**

## Practicum in Digital Audio Technology

**Course Code**: N1300996
**Credits**: 2
**Prerequisites**: Digital Audio Technology I and Digital Audio Technology II
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

**Course Abbreviation**: PRACDAT
**Level**: 4

The Practicum in Digital Audio Technology course is the pinnacle experience for Digital Communications program graduates, focusing on digital audio and entertainment industry preparation. This capstone course builds on prior learning, emphasizing practical skill acquisition in broadcasting, streaming, podcasting, studio recording, and audio creation for various media. Beyond theoretical knowledge, the course offers hands-on experience, enabling students to enhance their portfolios. Notably, participants can earn industry-based certifications, such as Adobe Certified Professional in Print and Digital Media Publication Using Adobe InDesign (Adobe-110), Audio-Visual Communications – Job Ready (NOCTI-937), Broadcasting and Journalism (NOCTI-953), and Adobe Certified Professional in Digital Video Using Adobe Premiere Pro (Adobe-110). This holistic approach equips students with the essential skills and certifications for success in the dynamic digital audio and entertainment field. This comprehensive approach equips students with the skills and certifications necessary for success in the dynamic digital audio and entertainment landscape.
**Program of Study: Digital Communications**

## Practicum in Distribution and Logistics

**Course Code**:
13040470 (First Time Taken)
13040480 (Second Time Taken)
**Credits**: 2
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

**Course Abbreviation**:
PRACDLG1
PRACDLG2
**Level**: 4

Practicum in Distribution and Logistics is designed to give students supervised practical application of knowledge and skills. Practicum experiences can occur in a variety of locations appropriate to the nature and level of experience such as internships, mentorships, independent study, or laboratories. The Practicum can be either school lab based or work based.
**Programs of Study: Distribution, Logistics, and Warehousing, and Maritime (Regional)**

## Practicum in Distribution and Logistics + Extended Practicum in Distribution and Logistics

**Course Code**:
13040475 (First Time Taken)
13040485 (Second Time Taken)
**Credits**: 3
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

**Course Abbreviation**:
EXPRDLG1
EXPRDLG2
**Level**: 4

Practicum in Distribution and Logistics is designed to give students supervised practical application of knowledge and skills. Practicum experiences can occur in a variety of locations appropriate to the nature and level of experience such as internships, mentorships, independent study, or laboratories. The Practicum can be either school lab based or work based.
**Programs of Study: Distribution, Logistics, and Warehousing, and Maritime (Regional)**

## Practicum in Early Learning

**Course Code**:
13014520 (First Time Taken)
13014530 (Second Time Taken)
**Credits**: 2
**Prerequisite**: Child Guidance
**Corequisite**: None
**Recommended Prerequisite**: Child Development or Child Development Associate Foundations
**Recommended Corequisite:** None

**Course Abbreviation**:
PRACEL1
PRACEL2
**Level**: 4

Practicum in Early Learning is a field-based course that provides students background knowledge of early childhood development principles as well as principles of effective teaching and training practices. Students in the course work under the joint direction and supervision of both a teacher facilitator and an exemplary industry professional. Students learn to plan and direct individualized instruction and group activities, prepare instructional materials, assist with record keeping, make physical arrangements, and complete other responsibilities of early learning teachers, trainers, paraprofessionals, or other educational personnel.
**Program of Study: Early Learning**

## Practicum in Early Learning + Extended Practicum in Early Learning

**Course Code**:                                        **Course Abbreviation**:
13014525 (First Time Taken)                             EXPREL1
13014535 (Second Time Taken)                            EXPREL2
**Credits**: 3                                          **Level**: 4
**Prerequisite**: Child Guidance
**Corequisite**: None
**Recommended Prerequisite**: Child Development or Child Development Associate Foundations
**Recommended Corequisite**: None

Practicum in Early Learning is a field-based course that provides students background knowledge of early childhood development principles as well as principles of effective teaching and training practices. Students in the course work under the joint direction and supervision of both a teacher facilitator and an exemplary industry professional. Students learn to plan and direct individualized instruction and group activities, prepare instructional materials, assist with record keeping, make physical arrangements, and complete other responsibilities of early learning teachers, trainers, paraprofessionals, or other educational personnel.

**Program of Study: Early Learning**

## Practicum in Education and Training

**Course Code**:                                        **Course Abbreviation**:
13014500 (First Time Taken)                             PRACEDT1
13014510 (Second Time Taken)                            PRACEDT2
**Credits**: 2                                          **Level**: 4
**Prerequisite**: Instructional Practices
**Corequisite**: None
**Recommended Prerequisites**: Principles of Education and Training, Human Growth and Development, and Child Development
**Recommended Corequisite**: None

Practicum in Education and Training is a field-based course that provides students background knowledge of child and adolescent development principles as well as principles of effective teaching and training practices. Students in the course work under the joint direction and supervision of both a teacher with knowledge of early childhood, middle childhood, and adolescence education and exemplary educators in direct instructional roles with elementary-, middle school-, and high school-aged students. Students learn to plan and direct individualized instruction and group activities, prepare instructional materials, assist with record keeping, make physical arrangements, and perform other duties of classroom teachers, trainers, paraprofessionals, or other educational personnel.

**Program of Study: Teaching and Training**

## Practicum in Education and Training + Extended Practicum in Education and Training

**Course Code**:
13014505 (First Time Taken)
13014515 (Second Time Taken)
**Credits**: 3
**Prerequisite**: Instructional Practices
**Corequisite**: None
**Recommended Prerequisites**: Principles of Education and Training and Human Growth and Development
**Recommended Corequisite**: None

**Course Abbreviation**:
EXPREDT1
EXPREDT2
**Level**: 4

Practicum in Education and Training is a field-based course that provides students background knowledge of child and adolescent development principles as well as principles of effective teaching and training practices. Students in the course work under the joint direction and supervision of both a teacher with knowledge of early childhood, middle childhood, and adolescence education and exemplary educators in direct instructional roles with elementary-, middle school-, and high school-aged students. Students learn to plan and direct individualized instruction and group activities, prepare instructional materials, assist with record keeping, make physical arrangements, and perform other duties of classroom teachers, trainers, paraprofessionals, or other educational personnel.
**Program of Study: Teaching and Training**

## Practicum in Energy

**Course Code**: N1303910
**Credits**: 2
**Prerequisite**: None
**Corequisite**: None
**Recommended prerequisite**: At least one of the following courses: Oil and Gas Production II/Lab, Occupational Safety and Environmental Technology I, Oil and Gas Production III, Occupational Safety and Environmental Technology II, Career Preparation, Oil and Gas Production IV, Introduction to Process Technology, Introduction to Instrumentation and Electrical, Petrochemical Safety, Health, and Environment, Advanced Instrument and Electrical, AC/DC Electronics, Introduction to Renewable Energy, Energy and Natural Resource Technology + Lab, Environmental Sustainability (PLTW), Solid State Electronics, Scientific Research and Design or Digital Electronics
**Recommended Corequisite**: None

**Course Abbreviation**: PRACENRG
**Level**: 4

The Practicum in Energy course gives students the opportunity to apply what they have learned in the classroom in a real-world setting designed to prepare students for occupations in the Oil and Gas, Refinery, and Renewable Natural Resources industries. In this course, students will learn how to communicate in the field and work safely in a variety of situations and environments common in Energy occupations. Students will also learn about the energy balance, the distribution of power, the technology used in the field, and the regulations and environmental impact of the industry.
**Programs of Study: Oil and Gas Exploration and Production, Refining and Chemical Processes, and Renewable Energy**

## Practicum in Engineering

**Course Code**:
12756080 (First Time Taken)
12756090 (Second Time Taken)
**Credits**: 2

**Course Abbreviation**:
PRCENGR1
PRCENGR2
**Level**: 4

**Prerequisites**: Algebra I and Geometry and a minimum of two credits with at least one course in a Level 2 or higher course from the Engineering career cluster
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

Practicum in Engineering is designed to give students supervised practical application of knowledge and skills. Practicum experiences can occur in a variety of locations appropriate to the nature and level of experiences such as employment, independent study, internships, assistantships, mentorships, or laboratories. To prepare for careers in engineering, students must attain academic knowledge and skills, acquire technical knowledge and skills related to the workplace, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations. To prepare for success, students need opportunities to learn, reinforce, apply, and transfer their knowledge and skills and technologies in a variety of settings.
**Programs of Study: Biomedical Science, Civil Engineering, Cybersecurity, Electrical Engineering, Engineering Foundations, Geospatial Engineering and Land Surveying (Regional), Mechanical and Aerospace Engineering, Programming and Software Development, and Renewable Energy**

## Practicum in Engineering + Extended Practicum in Engineering

**Course Code**:
12756085 (First Time Taken)
12756095 (Second Time Taken)
**Credits**: 3

**Course Abbreviation**:
EXPRENG1
EXPRENG2
**Level**: 4

**Prerequisites**: Algebra I and Geometry and a minimum of two credits with at least one course in a Level 2 or higher course from the Engineering career cluster
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

Practicum in Engineering is designed to give students supervised practical application of knowledge and skills. Practicum experiences can occur in a variety of locations appropriate to the nature and level of experiences such as employment, independent study, internships, assistantships, mentorships, or laboratories. To prepare for careers in engineering, students must attain academic knowledge and skills, acquire technical knowledge and skills related to the workplace, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations. To prepare for success, students need opportunities to learn, reinforce, apply, and transfer their knowledge and skills and technologies in a variety of settings.
**Programs of Study: Biomedical Science, Civil Engineering, Cybersecurity, Electrical Engineering, Engineering Foundations, Geospatial Engineering and Land Surveying (Regional), Mechanical and Aerospace Engineering, Programming and Software Development, and Renewable Energy**

## Practicum in Entrepreneurship

**Course Code**:
13011111 (First Time Taken)
13011112 (Second Time Taken)
**Credits**: 2
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisites**: Entrepreneurship I and Entrepreneurship II, or successful completion of at least two courses in a CTE program of study
**Recommended Corequisite**: None

**Course Abbreviation**:
PRACENT1
PRACENT2
**Level**: 4

Practicum in Entrepreneurship provides students the opportunity to apply classroom learning and experiences to real-world business problems and opportunities in a free enterprise system while expanding their skill sets and professional relationships as a real or simulated business owner versus the experience one would have as an employee. Students will prepare for an entrepreneurial career in their area of interest in their career cluster and build on and apply the knowledge and skills gained from courses taken in an array of career areas. Practicum experiences occur in a paid or an unpaid arrangement and a variety of locations appropriate to the nature and level of the student's need for work-based learning experience. Students implement personal and interpersonal skills to strengthen individual performance in the workplace and in society and to make a successful transition to the workforce or postsecondary education. It is recommended that students are paired with local business owners or employers in their specific industry program of study.

*Note: Second Time Taken is not in a program of study and does not count for CCMR, and earns 1.1 weighted funding.*

**Programs of Study: Accounting and Financial Services, Agriculture Business, Leadership, and Communications, Animal Science, Automotive and Collision Repair, Business Management, Carpentry, Cosmetology and Personal Care Services (Regional), Culinary Arts, Diesel and Heavy Equipment Maintenance and Commercial Driver, Digital Communications, Electrical, Entrepreneurship, Exercise Science, Wellness, and Restoration, Family and Community Services, Graphic Design and Interactive Media, Health and Wellness, HVAC and Sheet Metal, Information Technology Support and Services, Lodging and Resort Management, Manufacturing Technology, Marketing and Sales, Masonry, Networking Systems, Plant Science, Plumbing and Pipefitting, (Regional), Printing and Imaging (Regional), Programming and Software Development, Real Estate, Travel, Tourism, and Attractions, Web Development, and Welding.**

## Practicum in Entrepreneurship + Extended Practicum in Entrepreneurship

**Course Code**:
13011121 (First Time Taken)
13011122 (Second Time Taken)
**Credits**: 3
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisites**: Entrepreneurship I and Entrepreneurship II, or successful completion of at least two courses in a CTE program of study
**Recommended Corequisite**: None

**Course Abbreviation**:
EXPRACENT1
EXPRACENT2
**Level**: 4

Practicum in Entrepreneurship provides students the opportunity to apply classroom learning and experiences to real-world business problems and opportunities in a free enterprise system while expanding their skill sets and professional relationships as a real or simulated business owner versus the experience one would have as an employee. Students will prepare for an entrepreneurial career in their area of interest in their career cluster and build on and apply the knowledge and skills gained from courses taken in an array of career areas. Practicum experiences occur in a paid or an unpaid arrangement and a variety of locations appropriate to the nature and level of the student's need for work-based learning experience. Students implement personal and interpersonal skills to strengthen individual performance in the workplace and in society and to make a successful transition to the workforce or postsecondary education. It is recommended that students are paired with local business owners or employers in their specific industry program of study.

*Note: Second Time Taken is not in a program of study and does not count for CCMR, and earns 1.1 weighted funding.*

**Programs of Study: Accounting and Financial Services, Agriculture Business, Leadership, and Communications, Animal Science, Automotive and Collision Repair, Business Management, Carpentry, Cosmetology and Personal Care Services (Regional), Culinary Arts, Diesel and Heavy Equipment Maintenance and Commercial Driver, Digital Communications, Electrical, Entrepreneurship, Exercise Science, Wellness, and Restoration, Family and Community Services, Graphic Design and Interactive Media, Health and Wellness, HVAC and Sheet Metal, Information Technology Support and Services, Lodging and Resort Management, Manufacturing Technology, Marketing and Sales, Masonry, Networking Systems, Plant Science, Plumbing and Pipefitting, Printing and Imaging (Regional), Programming and Software Development, Real Estate, Travel, Tourism, and Attractions, Web Development, and Welding.**

## Practicum in Event and Meeting Planning

**Course Code**:
13022920 (First Time Taken)
13022930 (Second Time Taken)
**Credits**: 2
**Prerequisites**: A minimum of two credits with at least one credit in a Level 2 or higher course from the Hospitality and Tourism career cluster
**Corequisite**: None
**Recommended Prerequisite**: Event and Meeting Planning
**Recommended Corequisite**: None

**Course Abbreviation**:
PRACEMP1
PRACEMP2
**Level**: 4

The Practicum in Event and Meeting Planning course will reinforce the concepts and topics necessary for the comprehensive understanding of the meetings, events, expositions, and conventions (MEEC) industry. The central focus of this course is to integrate academic education with local MEEC businesses to prepare students for success in the work force and/or postsecondary education. Students will benefit from a combination of classroom instruction and a work-based learning experience. Students will learn employability skills, communication skills, customer service skills, and other activities related to job acquisition. The course is recommended for students who have completed the required prerequisites.

**Programs of Study: Culinary Arts, Lodging and Resort Management, and Travel, Tourism, and Attractions**

## Practicum in Event and Meeting Planning + Extended Practicum in Hospitality Services

**Course Code**:
13022925 (First Time Taken)
13022935 (Second Time Taken)
**Credits**: 3

**Course Abbreviation**:
EXPREMP1
EXPREMP2
**Level**: 4

**Prerequisites**: A minimum of two credits with at least one credit in a Level 2 or higher course from the Hospitality and Tourism career cluster
**Corequisite**: None
**Recommended Prerequisite**: Event and Meeting Planning
**Recommended Corequisite**: None

The Practicum in Event and Meeting Planning course will reinforce the concepts and topics necessary for the comprehensive understanding of the meetings, events, expositions, and conventions (MEEC) industry. The central focus of this course is to integrate academic education with local MEEC businesses to prepare students for success in the work force and/or postsecondary education. Students will benefit from a combination of classroom instruction and a work- based learning experience. Students will learn employability skills, communication skills, customer service skills, and other activities related to job acquisition. The course is recommended for students who have completed the required prerequisites.
**Programs of Study: Culinary Arts, Lodging and Resort Management, and Travel, Tourism, and Attractions**

## Practicum in Fashion Design

**Course Code**:
13009500 (First Time Taken)
13009510 (Second Time Taken)
**Credits**: 2

**Course Abbreviation**:
PRACFAS1
PRACFAS2
**Level**: 4

**Prerequisites**: Fashion Design ll + Fashion Design ll Lab
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

Careers in fashion span all aspects of the textile and apparel industries. Within this context, in addition to developing advanced technical knowledge and skills needed for success in the Arts, Audio Visual Technology, and Communications career cluster, students will be expected to develop an advanced technical understanding of the business aspects of fashion, with emphasis on promotion and retailing. Instruction may be delivered through lab-based classroom experiences or career preparation opportunities.
**Program of Study: Graphic Design and Interactive Media**

## Practicum in Fashion Design + Extended Practicum in Fashion Design

**Course Code**:
13009505 (First Time Taken)
13009515 (Second Time Taken)
**Credits**: 3

**Course Abbreviation**:
EXPRFAS1
EXPRFAS2
**Level**: 4

**Prerequisites**: Fashion Design ll + Fashion Design ll Lab
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

Careers in fashion span all aspects of the textile and apparel industries. Within this context, in addition to developing advanced technical knowledge and skills needed for success in the Arts, Audio Visual Technology, and Communications career cluster, students will be expected to develop an advanced technical understanding of the business aspects of fashion, with emphasis on promotion and retailing. Instruction may be delivered through lab-based classroom experiences or career preparation opportunities.
**Program of Study: Graphic Design and Interactive Media**

## Practicum in Graphic Design and Illustration

**Course Code**:

13009000 (First Time Taken)

13009010 (Second Time Taken)

**Credits**: 2

**Course Abbreviation**:

PRACGRD1

PRACGRD2

**Level**: 4

**Prerequisites**: Graphic Design and Illustration ll + Graphic Design and Illustration ll Lab

**Corequisite**: None

**Recommended Prerequisite**: None

**Recommended Corequisite**: None

Careers in graphic design and illustration span all aspects of the advertising and visual communications industry. Within this context, in addition to developing technical knowledge and skills needed for success in the Arts, Audio Visual Technology, and Communications career cluster, students will be expected to develop a technical understanding of the industry with a focus on skill proficiency. Instruction may be delivered through lab-based classroom experiences or career preparation opportunities.

**Program of Study: Graphic Design and Interactive Media**

## Practicum in Graphic Design and Illustration + Extended Practicum in Graphic Design and Illustration

**Course Code**:

13009005 (First Time Taken)

13009015 (Second Time Taken)

**Credits**: 3

**Course Abbreviation**:

EXPRGRD1

EXPRGRD2

**Level**: 4

**Prerequisites**: Graphic Design and Illustration ll + Graphic Design and Illustration ll Lab

**Corequisite**: None

**Recommended Prerequisite**: None

**Recommended Corequisite**: None

Careers in graphic design and illustration span all aspects of the advertising and visual communications industry. Within this context, in addition to developing technical knowledge and skills needed for success in the Arts, Audio Visual Technology, and Communications career cluster, students will be expected to develop a technical understanding of the industry with a focus on skill proficiency. Instruction may be delivered through lab-based classroom experiences or career preparation opportunities.

**Program of Study: Graphic Design and Interactive Media**

## Practicum in Health Science

**Course Code**:

13020500 (First Time Taken)

13020510 (Second Time Taken)

**Credits**: 2

**Course Abbreviation**:

PRACHLS1

PRACHLS2

**Level**: 4

**Prerequisites**: Health Science Theory and biology

**Corequisite**: None

**Recommended Prerequisite**: None

**Recommended Corequisite**: None

The Practicum in Health Science course is designed to give students practical application of previously studied knowledge and skills. Practicum experiences can occur in a variety of locations appropriate to the nature and level of experience.

**Programs of Study: Biomedical Science, Diagnostic and Therapeutic Services, Exercise Science, Wellness, and Restoration, Health Informatics, and Nursing Science**

## Practicum in Health Science + Extended Practicum in Health Science

**Course Code**:
13020505 (First Time Taken)
13020515 (Second Time Taken)
**Credits**: 3
**Prerequisites**: Health Science Theory and biology
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

**Course Abbreviation**:
EXPRHLS1
EXPRHLS2
**Level**: 4

The Practicum in Health Science course is designed to give students practical application of previously studied knowledge and skills. Practicum experiences can occur in a variety of locations appropriate to the nature and level of experience.
**Programs of Study: Biomedical Science, Diagnostic and Therapeutic Services, Exercise Science, Wellness, and Restoration, Health Informatics, and Nursing Science**

## Practicum in Hospitality Services

**Course Code**:
13022900 (First Time Taken)
13022910  (Second Time Taken)
**Credits**: 2
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: Hospitality Services
**Recommended Corequisite**: None

**Course Abbreviation**:
PRACHOS1
PRACHOS2
**Level**: 4

Practicum in Hospitality Services is a unique practicum experience to provide opportunities for students to participate in a learning experience that combines classroom instruction with actual business and industry career experiences. Practicum in Hospitality Services integrates academic and career and technical education; provides more interdisciplinary instruction; and supports strong partnerships among schools, businesses, and community institutions with the goal of preparing students with a variety of skills in a fast-changing workplace. Students are taught employability skills, including job-specific skills applicable to their training plan, job interview techniques, communication skills, financial and budget activities, human relations, and portfolio development. Practicum in Hospitality Services is relevant and rigorous, supports student attainment of academic and technical standards, and effectively prepares students for college and career success.
**Programs of Study: Culinary Arts, Lodging and Resort Management, and Travel, Tourism, and Attractions**

## Practicum in Hospitality Services + Extended Practicum in Hospitality Services

**Course Code**:
13022905 (First Time Taken)
13022915 (Second Time Taken)
**Credits**: 3

**Course Abbreviation**:
EXPRHOS1
EXPRHOS2
**Level**: 4

**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: Hospitality Services
**Recommended Corequisite**: None

Practicum in Hospitality Services is a unique practicum experience to provide opportunities for students to participate in a learning experience that combines classroom instruction with actual business and industry career experiences. Practicum in Hospitality Services integrates academic and career and technical education; provides more interdisciplinary instruction; and supports strong partnerships among schools, businesses, and community institutions with the goal of preparing students with a variety of skills in a fast-changing workplace. Students are taught employability skills, including job-specific skills applicable to their training plan, job interview techniques, communication skills, financial and budget activities, human relations, and portfolio development. Practicum in Hospitality Services is relevant and rigorous, supports student attainment of academic and technical standards, and effectively prepares students for college and career success.

**Programs of Study: Culinary Arts, Lodging and Resort Management, and Travel, Tourism, and Attractions**

## Practicum in Human Services

**Course Code**:
13025000 (First Time Taken)
13025010 (Second Time Taken)
**Credits**: 2

**Course Abbreviation**:
PRACHUS1
PRACHUS2
**Level**: 4

**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

Practicum in Human Services provides background knowledge and occupation-specific training that focuses on the development of consumer services, early childhood development and services, counseling and mental health services, and family and community-services careers. Content for Practicum in Human Services is designed to meet the occupational preparation needs and interests of students and should be based upon the knowledge and skills selected from two or more courses in a coherent sequence in the Human Services career cluster.

**Programs of Study: Family and Community Services, and Health and Wellness**

## Practicum in Human Services + Extended Practicum in Human Services

**Course Code**:
13025005 (First Time Taken)
13025015 (Second Time Taken)
**Credits**: 3

**Course Abbreviation**:
EXPRHUS1
EXPRHUS2
**Level**: 4

**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

Practicum in Human Services provides background knowledge and occupation-specific training that focuses on the development of consumer services, early childhood development and services, counseling and mental health services, and family and community-services careers. Content for Practicum in Human Services is designed to meet the occupational preparation needs and interests of students and should be based upon the knowledge and skills selected from two or more courses in a coherent sequence in the Human Services career cluster.

**Programs of Study: Family and Community Services, and Health and Wellness**

## Practicum in Information Technology

**Course Code**:                                      **Course Abbreviation**:
13028000 (First Time Taken)                  PRACIT1
13028010 (Second Time Taken)              PRACIT2
**Credits**: 2                                          **Level**: 4
**Prerequisites**: A minimum of two high school information technology (IT) courses
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

In the Practicum in Information Technology, students will gain advanced knowledge and skills in the application, design, production, implementation, maintenance, evaluation, and assessment of products, services, and systems. Knowledge and skills in the proper use of analytical skills and application of IT concepts and standards are essential to prepare students for success in a technology-driven society. Critical thinking, IT experience, and product development may be conducted in a classroom setting with an industry mentor, as an unpaid or paid internship, as part of a capstone project, or as career preparation.
**Programs of Study: Cybersecurity, Information Technology Support and Services, Networking Systems, Programming and Software Development, and Web Development**

## Practicum in Information Technology + Extended Practicum in Information Technology

**Course Code**:                                      **Course Abbreviation**:
13028005 (First Time Taken)                  EXPRIT1
13028015 (Second Time Taken)              EXPRIT2
**Credits**: 3                                          **Level**: 4
**Prerequisites**: A minimum of two high school information technology (IT) courses
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

In the Practicum in Information Technology, students will gain advanced knowledge and skills in the application, design, production, implementation, maintenance, evaluation, and assessment of products, services, and systems. Knowledge and skills in the proper use of analytical skills and application of IT concepts and standards are essential to prepare students for success in a technology-driven society. Critical thinking, IT experience, and product development may be conducted in a classroom setting with an industry mentor, as an unpaid or paid internship, as part of a capstone project, or as career preparation.
**Programs of Study: Cybersecurity, Information Technology Support and Services, Networking Systems, Programming and Software Development, and Web Development**

## Practicum in Interior Design

**Course Code**:                                      **Course Abbreviation**:
13004500 (First Time Taken)                  PRACIDS1
13004510 (Second Time Taken)              PRACIDS2
**Credits**: 2                                          **Level**: 4
**Prerequisite**: Interior Design ll
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

Practicum in Interior Design is an occupationally specific course designed to provide job-specific skills through laboratory training, job shadowing, or work situations in areas compatible with identified career goals in interior design. In addition, students will be expected to develop knowledge and skills related to housing, furnishings, and equipment construction or equipment management and services.
**Program of Study: Architectural Drafting and Design**

## Practicum in Interior Design + Extended Practicum in Interior Design

**Course Code**:
13004505 (First Time Taken)
13004515 (Second Time Taken)
**Credits**: 3
**Prerequisite**: Interior Design ll
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

**Course Abbreviation**:
EXPRIDS1
EXPRIDS2
**Level**: 4

Practicum in Interior Design is an occupationally specific course designed to provide job-specific skills through laboratory training, job shadowing, or work situations in areas compatible with identified career goals in interior design. In addition, students will be expected to develop knowledge and skills related to housing, furnishings, and equipment construction or equipment management and services.

**Program of Study: Architectural Drafting and Design**

## Practicum in Law, Public Safety, Corrections, and Security

**Course Code**:
13030100 (First Time Taken)
13030110 (Second Time Taken)
**Credits**: 2
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

**Course Abbreviation**:
PRACLPS1
PRACLPS2
**Level**: 4

The practicum course is designed to give students supervised practical application of previously studied knowledge and skills in law, public safety, corrections, and security. Practicum experiences can occur in a variety of locations appropriate to the nature and level of experience.

**Programs of Study: Fire Science, Law Enforcement, and Legal Studies**

## Practicum in Law, Public Safety, Corrections, and Security + Extended Practicum in Law, Public Safety, Corrections, and Security

**Course Code**:
13030105 (First Time Taken)
13030115 (Second Time Taken)
**Credits**: 3
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

**Course Abbreviation**:
EXPRLPS1
EXPRLPS2
**Level**: 4

The practicum course is designed to give students supervised practical application of previously studied knowledge and skills in law, public safety, corrections, and security. Practicum experiences can occur in a variety of locations appropriate to the nature and level of experience.

**Programs of Study: Fire Science, Law Enforcement, and Legal Studies**

## Practicum in Local, State, and Federal Government

**Course Code**:
13019000 (First Time Taken)
13019010 (Second Time Taken)
**Credits**: 2
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

**Course Abbreviation**:
PRACLSF1
PRACLSF2
**Level**: 4

Students in the Practicum in Local, State, and Federal Government will concurrently learn advanced concepts of political science and government workings in the classroom setting and in the workplace. In addition, students will apply technical skills pertaining to government and public administration in a direct mentorship by individuals in professional settings such as government, public management and administration, national security, municipal planning, foreign service, revenue, taxation, and regulation.
**Program of Study: Government and Public Administration**

## Practicum in Local, State, and Federal Government + Extended Practicum in Local, State, and Federal Government

**Course Code**:
13019005 (First Time Taken)
13019015 (Second Time Taken)
**Credits**: 3
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

**Course Abbreviation**:
EXPRLSF1
EXPRLSF2
**Level**: 4

Students in the Practicum in Local, State, and Federal Government will concurrently learn advanced concepts of political science and government workings in the classroom setting and in the workplace. In addition, students will apply technical skills pertaining to government and public administration in a direct mentorship by individuals in professional settings such as government, public management and administration, national security, municipal planning, foreign service, revenue, taxation, and regulation.
**Program of Study: Government and Public Administration**

## Practicum in Manufacturing

**Course Code**:
13033000 (First Time Taken)
13033010 (Second Time Taken)
**Credits**: 2
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

**Course Abbreviation**:
PRACMAN1
PRACMAN2
**Level**: 4

The Practicum in Manufacturing course is designed to give students supervised practical application of previously studied knowledge and skills. Practicum experiences can occur in a variety of locations appropriate to the nature and level of experience.
**Programs of Study: Advanced Manufacturing and Industrial Technology (Regional), Drone (Unmanned Vehicle) (Regional), Electronics Technology (Regional), Industrial Maintenance, Manufacturing Technology, Robotics and Automation Technology, and Welding**

## Practicum in Manufacturing + Extended Practicum in Manufacturing

**Course Code**:
13033005 (First Time Taken)
13033015 (Second Time Taken)
**Credits**: 3
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

**Course Abbreviation**:
EXPRMAN1
EXPRMAN2
**Level**: 4

The Practicum in Manufacturing course is designed to give students supervised practical application of previously studied knowledge and skills. Practicum experiences can occur in a variety of locations appropriate to the nature and level of experience.
**Programs of Study: Advanced Manufacturing and Industrial Technology (Regional), Drone (Unmanned Vehicle) (Regional), Electronics Technology (Regional), Industrial Maintenance, Manufacturing Technology, Robotics and Automation Technology, and Welding**

## Practicum in Marketing

**Course Code**:
13034800 (First Time Taken)
13034810 (Second Time Taken)
**Credits**: 2
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: Principles of Business, Marketing, and Finance
**Recommended Corequisite**: None

**Course Abbreviation**:
PRACMKT1
PRACMKT2
**Level**: 4

Practicum in Marketing is a series of dynamic activities that focus on the customer to generate a profitable exchange. Students will gain knowledge and skills that help them to be proficient in one or more of the marketing functional areas associated with distribution, financing, marketing information management, pricing, product planning, promotion, purchasing, risk management, and selling skills. Students will integrate skills from academic subjects, information technology, interpersonal communication, and management training to make responsible decisions.
**Programs of Study: Entrepreneurship, and Marketing and Sales**

## Practicum in Marketing + Extended Practicum in Marketing

**Course Code**:
13034805 (First Time Taken)
13034815 (Second Time Taken)
**Credits**: 3
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: Principles of Business, Marketing, and Finance
**Recommended Corequisite**: None

**Course Abbreviation**:
EXPRMKT1
EXPRMKT2
**Level**: 4

Practicum in Marketing is a series of dynamic activities that focus on the customer to generate a profitable exchange. Students will gain knowledge and skills that help them to be proficient in one or more of the marketing functional areas associated with distribution, financing, marketing information management, pricing, product planning, promotion, purchasing, risk management, and selling skills. Students will integrate skills from academic subjects, information technology, interpersonal communication, and management training to make responsible decisions.
**Programs of Study: Entrepreneurship, and Marketing and Sales**

## Practicum in Masonry Technology

**Course Code**:
13006450 (First Time Taken)
13006460 (Second Time Taken)
**Credits**: 2
**Prerequisite**: Masonry Technology ll
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

**Course Abbreviation**:
PRACMAS1
PRACMAS2
**Level**: 4

Practicum in Masonry Technology is an occupationally specific course designed to provide classroom technical instruction or work-based learning experiences. Instruction may be delivered through laboratory training or through career preparation delivery arrangements. Safety and career opportunities are included, in addition to work ethics and job-related study in the classroom. Trade and industrial education provides the knowledge, skills, and technologies required for employment in masonry construction. Students will develop knowledge of the concepts and skills related to this trade in order to apply them to personal/career development. Trade and industrial education depends on and supports integration of academic, career, and technical knowledge and skills. To prepare for success, students must have opportunities to reinforce, apply, and transfer their knowledge and skills to a variety of settings and problems. Knowledge about career opportunities, requirements, and expectations and the development of workplace skills prepare students for success. For safety and liability considerations, including power tools usage during training, limiting course enrollment to 15 students is recommended.
**Program of Study: Masonry**

## Practicum in Masonry Technology + Extended Practicum in Masonry Technology

**Course Code**:
13006455 (First Time Taken)
13006465 (Second Time Taken)
**Credits**: 3
**Prerequisite**: Masonry Technology ll
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

**Course Abbreviation**:
EXPRMAS1
EXPRMAS2
**Level**: 4

Practicum in Masonry Technology is an occupationally specific course designed to provide classroom technical instruction or work-based learning experiences. Instruction may be delivered through laboratory training or through career preparation delivery arrangements. Safety and career opportunities are included, in addition to work ethics and job-related study in the classroom. Trade and industrial education provides the knowledge, skills, and technologies required for employment in masonry construction. Students will develop knowledge of the concepts and skills related to this trade in order to apply them to personal/career development. Trade and industrial education depends on and supports integration of academic, career, and technical knowledge and skills. To prepare for success, students must have opportunities to reinforce, apply, and transfer their knowledge and skills to a variety of settings and problems. Knowledge about career opportunities, requirements, and expectations and the development of workplace skills prepare students for success. For safety and liability considerations, including power tools usage during training, limiting course enrollment to 15 students is recommended.
**Program of Study: Masonry**

## Practicum in Nursing

**Course Code**: 13021230

**Course Abbreviation**: PRACNRS

**Credits**: 2

**Level**: 4

**Prerequisites**: One credit in biology, one credit in chemistry, and at least one course in a Level 2 or higher course in the Nursing Science program of study

**Corequisite**: None

**Recommended Prerequisites**: Science of Nursing, Medical Terminology, and Anatomy and Physiology

**Recommended Corequisite**: None

Practicum in Nursing is designed to give students practical applications of previously studied knowledge and skills. Practicum experiences can occur in a variety of locations appropriate to the nature and level of experience.

**Program of Study: Nursing Science**

## Practicum in Printing and Imaging Technology

**Course Code**:

13009800 (First Time Taken)

13009810 (Second Time Taken)

**Course Abbreviation**:

PRACPRI1

PRACPRI2

**Credits**: 2

**Level**: 4

**Prerequisites**: Printing and Imaging Technology ll + Printing and Imaging Technology ll Lab

**Corequisite**: None

**Recommended Prerequisite**: None

**Recommended Corequisite**: None

Careers in printing span all aspects of the industry, including prepress, press, and finishing and bindery operations. In addition to developing advanced technical knowledge and skills needed for success in the Arts, Audio Visual Technology, and Communications career cluster, students will be expected to develop an advanced technical understanding of the printing industry with a focus on finishing and bindery operations and customer-based projects. Instruction may be delivered through lab-based classroom experiences or career preparation opportunities.

**Program of Study: Printing and Imaging (Regional)**

## Practicum in Printing and Imaging Technology + Extended Practicum in Printing and Imaging Technology

**Course Code**:

13009805 (First Time Taken)

13009815 (Second Time Taken)

**Course Abbreviation**:

EXPRPRI1

EXPRPRI2

**Credits**: 3

**Level**: 4

**Prerequisites**: Printing and Imaging Technology ll + Printing and Imaging Technology ll Lab

**Corequisite**: None

**Recommended Prerequisite**: None

**Recommended Corequisite**: None

Careers in printing span all aspects of the industry, including prepress, press, and finishing and bindery operations. In addition to developing advanced technical knowledge and skills needed for success in the Arts, Audio Visual Technology, and Communications career cluster, students will be expected to develop an advanced technical understanding of the printing industry with a focus on finishing and bindery operations and customer-based projects. Instruction may be delivered through lab-based classroom experiences or career preparation opportunities.

**Program of Study: Printing and Imaging (Regional)**

## Practicum in Transportation Systems

**Course Code**:
13040450 (First Time Taken)
13040460 (Second Time Taken)
**Credits**: 2

**Course Abbreviation**:
PRACTRS1
PRACTRS2
**Level**: 4

**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

Practicum in Transportation Systems is designed to give students supervised practical application of knowledge and skills. Practicum experiences can occur in a variety of locations appropriate to the nature and level of experience such as internships, mentorships, independent study, or laboratories. The Practicum can be either school lab based or worked based.
**Programs of Study: Automotive and Collision Repair, Aviation Maintenance, Aviation (Pilots), Diesel and Heavy Equipment Maintenance and Commercial Driver, Distribution, Logistics, and Warehousing, and Maritime (Regional)**

## Practicum in Transportation Systems + Extended Practicum in Transportation Systems

**Course Code**:
13040455 (First Time Taken)
13040465 (Second Time Taken)
**Credits**: 3

**Course Abbreviation**:
EXPRTRS1
EXPRTRS2
**Level**: 4

**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

Practicum in Transportation Systems is designed to give students supervised practical application of knowledge and skills. Practicum experiences can occur in a variety of locations appropriate to the nature and level of experience such as internships, mentorships, independent study, or laboratories. The Practicum can be either school lab based or worked based.
**Programs of Study: Automotive and Collision Repair, Aviation Maintenance, Aviation (Pilots), Diesel and Heavy Equipment Maintenance and Commercial Driver, Distribution, Logistics, and Warehousing, and Maritime (Regional)**

## Precision Metal Manufacturing l

**Course Code**: 13032500
**Credits**: 2

**Course Abbreviation**: PREMMAN1
**Level**: 3

**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisites**: Principles of Manufacturing and completion of or concurrent enrollment in Algebra l or Geometry
**Recommended Corequisite**: None

Precision Metal Manufacturing I will provide the knowledge, skills, and technologies required for employment in precision machining. While the course is designed to provide necessary skills in machining, it also provides a real-world foundation for any engineering discipline. This course may address a variety of materials such as plastics, ceramics, and wood in addition to metal. Students will develop knowledge of the concepts and skills related to precision metal manufacturing to apply them to personal and career development. This course supports integration of academic and technical knowledge and skills. Students will have opportunities to reinforce, apply, and transfer knowledge and skills to a variety of settings and problems. Knowledge about career opportunities, requirements, and expectations and the development of workplace skills prepare students for success. This course is designed to provide entry-level employment for the student or articulated credit integration into a community college and dual credit with a community college with completion of the advanced course.
**Program of Study: Manufacturing Technology**

## Precision Metal Manufacturing II

**Course Code**: 13032600
**Credits**: 2
**Prerequisite**: Precision Metal Manufacturing l
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: Precision Metal Manufacturing II Lab

**Course Abbreviation**: PREMMAN2
**Level**: 4

Precision Metal Manufacturing II will provide students the knowledge, skills, and technologies required for employment in precision machining. While this course is designed to provide necessary skills in machining, it also provides a real-world foundation for any engineering discipline. This course addresses a variety of materials such as plastics, ceramics, and wood in addition to metal. Students will develop knowledge of the concepts and skills related to these systems to apply them to personal and career development. This course supports integration of academic and technical knowledge and skills. Students will have opportunities to reinforce, apply, and transfer knowledge and skills to a variety of settings and problems. Knowledge about career opportunities, requirements, and expectations and the development of workplace skills prepare students for success. This course is designed to provide entry-level employment for the student or articulated credit integration into a community college and dual credit with a community college with completion of the advanced course.
**Program of Study: Manufacturing Technology**

## Precision Metal Manufacturing II + Precision Metal Manufacturing II Lab

**Course Code**: 13032610
**Credits**: 3
**Prerequisite**: Precision Metal Manufacturing l
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

**Course Abbreviation**: PRMMLAB2
**Level**: 4

Precision Metal Manufacturing II will provide students the knowledge, skills, and technologies required for employment in precision machining. While this course is designed to provide necessary skills in machining, it also provides a real-world foundation for any engineering discipline. This course addresses a variety of materials such as plastics, ceramics, and wood in addition to metal. Students will develop knowledge of the concepts and skills related to these systems to apply them to personal and career development. This course supports integration of academic and technical knowledge and skills. Students will have opportunities to reinforce, apply, and transfer knowledge and skills to a variety of settings and problems. Knowledge about career opportunities, requirements, and expectations and the development of workplace skills prepare students for success. This course is designed to provide entry-level employment for the student or articulated credit integration into a community college and dual credit with a community college with completion of the advanced course.
**Program of Study: Manufacturing Technology**

## Principles of Agriculture, Food, and Natural Resources

**Course Code**: 13000200
**Credit**: 1
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

**Course Abbreviation**: PRINAFNR
**Level**: 1

In Principles of Agriculture, Food, and Natural Resources, students explore major areas of agriculture, food, and natural resources, including organizations, agribusiness leadership and communications, plant science, animal science, food science and technology, agricultural technology and mechanical systems, and environmental and natural resources. To prepare for careers in agriculture, food, and natural resources, students must attain academic knowledge and skills, acquire technical knowledge and skills related to the workplace, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations.
**Programs of Study: Agricultural Technology and Mechanical Systems, Agriculture Business, Leadership, and Communications, Animal Science, Environmental and Natural Resources, Food Science and Technology, and Plant Science**

## Principles of Allied Health

**Course Code**: N1302105

**Credit**: 1

**Prerequisite**: None

**Corequisite**: None

**Recommended Prerequisite**: None

**Recommended Corequisite**: None

**Course Abbreviation**: ALLHLTH

**Level**: 1

Principles of Allied Health is designed to provide the basic concepts, knowledge and skills necessary for a health career in an allied health field. This course will focus on concepts associated with the healthcare industry standards, respiratory therapy, physical and occupational therapy, radiological imaging, and pharmaceuticals. This course is designed for students that are interested in pursuing careers in the allied health fields.

**Programs of Study: Diagnostic and Therapeutic Services, and Exercise Science, Wellness, and Restoration**

## Principles of Applied Engineering

**Course Code**: 13036200

**Credit**: 1

**Prerequisite**: None

**Corequisite**: None

**Recommended Prerequisite**: None

**Recommended Corequisite**: None

**Course Abbreviation**: PRAPPENG

**Level**: 1

Principles of Applied Engineering provides an overview of the various fields of science, technology, engineering, and mathematics and their interrelationships. Students develop engineering communication skills, which include computer graphics, modeling, and presentations, by using a variety of computer hardware and software applications to complete assignments and projects. Upon completing this course, students will have an understanding of the various fields of engineering and be able to make informed career decisions.

**Programs of Study: Civil Engineering, Electrical Engineering, Electronics Technology (Regional), Engineering Foundations, Geospatial Engineering and Land Surveying (Regional), Manufacturing Technology, Mechanical and Aerospace Engineering, Renewable Energy, and Robotics and Automation Technology**

## Principles of Architecture

**Course Code**: 13004210

**Credit**: 1

**Prerequisite**: None

**Corequisite**: None

**Recommended Prerequisite**: None

**Recommended Corequisite**: None

**Course Abbreviation**: PRINARC

**Level**: 1

Principles of Architecture provides an overview to the various fields of architecture, interior design, and construction management. Achieving proficiency in decision making and problem solving is an essential skill for career planning and lifelong learning. Students use self-knowledge, education, and career information to set and achieve realistic career and educational goals. Job-specific training can be provided through training modules that identify career goals in trade and industry areas. Classroom studies include topics such as safety, work ethics, communication, information technology applications, systems, health, environment, leadership, teamwork, ethical and legal responsibility, employability, and career development and include skills such as problem solving, critical thinking, and reading technical drawings.

**Programs of Study: Architectural Drafting and Design, Carpentry, Construction Management and Inspection, Electrical, Geospatial Engineering and Land Surveying (Regional), HVAC and Sheet Metal, Masonry, and Plumbing and Pipefitting**

## Principles of Arts, Audio/Video Technology, and Communications

**Course Code**: 13008200      **Course Abbreviation**: PRINAAVTC
**Credit**: 1      **Level**: 1
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

Careers in the Arts, Audio Visual Technology, and Communications career cluster require a creative aptitude, a strong background in computer and technology applications, a strong academic foundation, and a proficiency in oral and written communication. Within this context, students will be expected to develop an understanding of the various and multifaceted career opportunities in this cluster and the knowledge, skills, and educational requirements for those opportunities.
**Programs of Study: Digital Communications, Graphic Design and Interactive Media, and Printing and Imaging (Regional)**

## Principles of Biomedical Science (PLTW)

**Course Code**: N1302092      **Course Abbreviation**: PRBIOSCI
**Credit**: 1      **Level**: 1
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

Principles of Biomedical Science (PBS) is a high school course providing foundational knowledge and skills in biology, anatomy and physiology, genetics, microbiology, and epidemiology; it engages students in applying knowledge and skills to real-world situations, cases, and problems. Students take on roles of different medical professionals and are challenged in various scenarios, including investigating a crime scene to solve a mystery, diagnosing and proposing treatment to patients in a family medical practice, tracking down and containing a medical outbreak at a local hospital, stabilizing a patient during an emergency, and collaborating with others to design solutions to local and global medical problems. Students develop skills in technical documentation to communicate experimental findings and solutions to problems. They explore how connections to other disciplines, such as computer science and engineering, shape the future of medicine. In addition, they demonstrate collaboration techniques that connect with professionals across any field.
**Program of Study: Biomedical Science**

## Principles of Bioscience

**Course Code**: 13036300      **Course Abbreviation**: PRBIOSCI
**Credit**: 1      **Level**: 1
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

Principles of Bioscience provides an overview of biotechnology, bioengineering, and related fields. Topics related to genetics, proteins, and nucleic acids reinforce the applications of biology content. Students will further study the increasingly important agricultural, environmental, economic, and political roles of bioenergy and biological remediation; the roles of nanoscience and nanotechnology in biotechnology medical research; and future trends in biological science and biotechnology.
**Program of Study: Biomedical Science**

## Principles of Business, Marketing, and Finance

**Course Code**: 13011200      **Course Abbreviation**: PRINBMF
**Credit**: 1      **Level**: 1
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

In Principles of Business, Marketing, and Finance, students gain knowledge and skills in economies and private enterprise systems, the impact of global business, the marketing of goods and services, advertising, and product pricing. Students analyze the sales process and financial management principles. This course allows students to reinforce, apply, and transfer academic knowledge and skills to a variety of interesting and relevant activities, problems, and settings in business, marketing, and finance.
**Programs of Study: Accounting and Financial Services, Business Management, Entrepreneurship, Lodging and Resort Management, Marketing and Sales, Real Estate, and Retail Management (Regional)**

## Principles of Community Services

**Course Code**: N1302542      **Course Abbreviation**: COMMSERV
**Credit**: 1      **Level**: 1
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

The purpose of this course is to introduce high school students to the field of nonprofits/community service, as well as explore career options that assist individuals and families in need. The students will work to understand policies, design community service plans, and develop a portfolio of different community and state resources. Students will also be encouraged to job shadow, volunteer for community service-based experiences, and participate in service-learning opportunities.
**Programs of Study: Exercise Science, Wellness, and Restoration, Family and Community Services, and Health and Wellness**

## Principles of Construction

**Course Code**: 13004220      **Course Abbreviation**: PRINCON
**Credit**: 1      **Level**: 1
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

Principles of Construction is intended to provide an introduction and lay a solid foundation for those students entering the construction or craft skilled areas. The course provides a strong knowledge of construction safety, construction mathematics, and common hand and power tools. For safety and liability considerations, limiting course enrollment to 15 students is recommended. This course also provides communication and occupation skills to assist the student in obtaining and maintaining employment.
**Programs of Study: Architectural Drafting and Design, Carpentry, Construction Management and Inspection, Electrical, HVAC and Sheet Metal, Masonry, and Plumbing and Pipefitting**

## Principles of Cosmetology Design and Color Theory

**Course Code**: 13025050　　　　　**Course Abbreviation**: PRICOSMO
**Credit**: 1　　　　　**Level**: 1
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: Principles of Human Services
**Recommended Corequisite**: None

In Principles of Cosmetology Design and Color Theory, students coordinate integration of academic, career, and technical knowledge and skills in this laboratory instructional sequence course designed to provide job-specific training for employment in cosmetology careers. Students will attain academic skills and knowledge as well as technical knowledge and skills related to cosmetology design and color theory. Students will develop knowledge and skills regarding various cosmetology design elements such as form, lines, texture, structure and illusion or depth as they relate to the art of cosmetology. Instruction includes sterilization and sanitation procedures, hair care, nail care, and skin care and meets the TDLR requirements for licensure upon passing the state examination. Analysis of career opportunities, license requirements, knowledge and skills expectations, and development of workplace skills are included. Students may begin to earn Texas Department of Licensing and Regulation (TDLR) hours toward a Cosmetology Operator License.
**Program of Study: Cosmetology and Personal Care Services (Regional)**

## Principles of Diagnostic Healthcare

**Course Code**: N1302106　　　　　**Course Abbreviation**: DIGHLTH
**Credit**: 1　　　　　**Level**: 1
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

The Principles of Diagnostic Healthcare course is designed to provide students with an overview of the education and career opportunities in this rapidly growing and significant sector of health care. Students will be provided with experiential learning activities in clinical diagnostic applications while building the knowledge and skills needed to investigate and analyze disease processes. This course is designed to foster student interest and allow for exploration of diagnostic healthcare professions and industry-based certifications. The goal is to prepare students for 21st-century careers and with an emphasis on the development of knowledge, understanding, and application of science, biology, technology, and mathematical skills. Clinical diagnostic careers require students to generate intellectual inquiry, entice critical thinking, and use problem-solving and analytical skills that will lead to data-driven decisions. Areas of concentration will include laboratory sciences, digital radiography, nuclear medicine, electrocardiograms (EKGs) and ophthalmic technologies.
**Program of Study: Diagnostic and Therapeutic Services**

## Principles of Distribution and Logistics

**Course Code**: 13039260　　　　　**Course Abbreviation**: PRINDILG
**Credit**: 1　　　　　**Level**: 1
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

In Principles of Distribution and Logistics, students will gain knowledge and skills in the safe application, design, production, and assessment of products, services, and systems. This knowledge includes the history, laws and regulations, and common practices used in the logistics of warehousing and transportation systems. Students should apply knowledge and skills in the application, design, and production of technology as it relates to distribution and logistics industries. This course allows students to reinforce, apply, and transfer their academic knowledge and skills to a variety of interesting and relevant activities, problems, and settings.
**Programs of Study: Distribution, Logistics, and Warehousing, Maritime (Regional), and Refining and Chemical Processes**

## Principles of Education and Training

**Course Code**: 13014200        **Course Abbreviation**: PRINEDTR
**Credit**: 1        **Level**: 1
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

Principles of Education and Training is designed to introduce learners to the various careers within the Education and Training career cluster. Students use self-knowledge as well as educational and career information to analyze various careers within the Education and Training career cluster. Students are introduced to societal influences of education and various school models. Additionally, students learn the role and responsibilities of a classroom educator. Students will develop a graduation plan that leads to a specific career choice in the student's interest area.
**Programs of Study: Early Learning, and Teaching and Training**

## Principles of Exercise Science and Wellness

**Course Code**: N1302107        **Course Abbreviation**: EXSCIWL
**Credit**: 1        **Level**: 1
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

The Principles of Exercise Science and Wellness course is designed to provide for the development of knowledge and skills in fields that assist patients with maintaining physical, mental, and emotional health. Students in this course will understand diet and exercise, as well as techniques to help patients recover from injury, illness, and disease. They will also learn about introductory health science topics such as employability skills, lifespan development, and ethical and legal standards. Students who take this course are ideally interested in such careers as physical therapy, athletic training, nutrition, personal training, and recreational therapy.  The central focus of this course is to provide students with a solid foundation in the topics of health and wellness and increase their interest in the various careers available in these fields.
**Program of Study: Exercise Science, Wellness, and Restoration**

## Principles of Government and Public Administration

**Course Code**: 13018200        **Course Abbreviation**: PRINGPA
**Credit**: 1        **Level**: 1
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

Principles of Government and Public Administration introduces students to foundations of governmental functions and career opportunities within the United States and abroad. Students will examine governmental documents such as the U.S. Constitution, current U.S. Supreme Court and federal court decisions, and the Bill of Rights.
**Program of Study: Government and Public Administration**

## Principles of Health Informatics

**Course Code**: N1302108
**Credit**: 1
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

**Course Abbreviation**: HLTHINF
**Level**: 1

The Principles of Health Informatics course introduces students to one of the fastest-growing areas in academia and industry professions. A large gap exists between state-of-the-art computer technologies and the state of affairs in healthcare information technology. The result is an increased demand for information and health professionals who can effectively design, develop, and use technologies such as electronic medical records, patient monitoring systems, and digital libraries while managing the vast amount of data generated by these systems.
**Program of Study: Health Informatics**

## Principles of Health Science

**Course Code**: 13020200
**Credit**: 1
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

**Course Abbreviation**: PRINHLSC
**Level**: 1

The Principles of Health Science course is designed to provide an overview of the therapeutic, diagnostic, health informatics, support services, and biotechnology research and development systems of the health care industry.
**Programs of Study: Biomedical Science, Diagnostic and Therapeutic Services, Exercise Science, Wellness, and Restoration, Health Informatics, and Nursing Science**

## Principles of Hospitality and Tourism

**Course Code**: 13022200
**Credit**: 1
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

**Course Abbreviation**: PRINHOSP
**Level**: 1

Principles of Hospitality and Tourism introduces students to an industry that encompasses lodging, travel and tourism, recreation, amusements, attractions, and food/beverage operations. Students learn knowledge and skills focusing on communication, time management, and customer service that meet industry standards. Students will explore the history of the hospitality and tourism industry and examine characteristics needed for success in that industry.
**Programs of Study: Culinary Arts, Lodging and Resort Management, and Travel, Tourism, and Attractions**

## Principles of Human Services

**Course Code**: 13024200

**Course Abbreviation**: PRINHUSR

**Credit**: 1

**Level**: 1

**Prerequisite**: None

**Corequisite**: None

**Recommended Prerequisite**: None

**Recommended Corequisite**: None

Principles of Human Services is a laboratory course that will enable students to investigate careers in the Human Services career cluster, including counseling and mental health, early childhood development, family and community, personal care, and consumer services. Each student is expected to complete the knowledge and skills essential for success in high-skill, high-wage, or in-demand human services careers.

**Programs of Study: Early Learning, Family and Community Services, Health and Wellness, and Teaching and Training**

## Principles of Information Technology

**Course Code**: 13027200

**Course Abbreviation**: PRINIT

**Credit**: 1

**Level**: 1

**Prerequisite**: None

**Corequisite**: None

**Recommended Prerequisite**: None

**Recommended Corequisite**: None

In Principles of Information Technology, students will develop computer literacy skills to adapt to emerging technologies used in the global marketplace. Students will implement personal and interpersonal skills to prepare for a rapidly evolving workplace environment. Students will enhance reading, writing, computing, communication, and reasoning skills and apply them to the information technology environment.

**Programs of Study: Cybersecurity, Information Technology Support and Services, Networking Systems, Programming and Software Development, and Web Development**

## Principles of Law, Public Safety, Corrections, and Security

**Course Code**: 13029200

**Course Abbreviation**: PRINLPCS

**Credit**: 1

**Level**: 1

**Prerequisite**: None

**Corequisite**: None

**Recommended Prerequisite**: None

**Recommended Corequisite**: None

Principles of Law, Public Safety, Corrections, and Security introduces students to professions in law enforcement, protective services, corrections, firefighting, and emergency management services. Students will examine the roles and responsibilities of police, courts, corrections, private security, and protective agencies of fire and emergency services. The course provides students with an overview of the skills necessary for careers in law enforcement, fire service, protective services, and corrections.

**Programs of Study: Fire Science, Government and Public Administration, Law Enforcement, and Legal Studies**

## Principles of Manufacturing

**Course Code**: 13032200      **Course Abbreviation**: PRINMAN
**Credit**: 1      **Level**: 1
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: Algebra I or Geometry
**Recommended Corequisite**: None

In Principles of Manufacturing, students are introduced to knowledge and skills used in the proper application of principles of manufacturing. The study of manufacturing technology allows students to reinforce, apply, and transfer academic knowledge and skills to a variety of interesting and relevant activities. Students will gain an understanding of what employers require to gain and maintain employment in manufacturing careers.
**Programs of Study: Advanced Manufacturing and Industrial Technology (Regional), Electronics Technology (Regional), Industrial Maintenance, Manufacturing Technology, Robotics and Automation Technology, and Welding**

## Principles of Maritime Science

**Course Code**: N1304661      **Course Abbreviation**: PRMSCI
**Credit**: 1      **Level**: 1
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

The Principles of Maritime Science course is designed to instruct students in the principles of maritime science as outlined by the Code of Federal Regulations (CFR) directly related to the National Maritime Center and the Merchant Mariner Credentialing Program. Students enrolled in this course will identify career opportunities, skills, abilities, tools, certifications, and safety measures for sea-based maritime careers. Students will also understand components, systems, equipment, production, and safety regulations associated with maritime industries. A baseline understanding of ships and maritime systems is developed to support assessment of the impact, benefit, and risk of decisions involving the design, acquisition, operation, regulation, law enforcement, damage control, maintenance, and salvage of ships and maritime systems. This course will also inform students on the most effective and efficient manners to assure a safe, economically efficient, and environmentally sound maritime system with the intent to lead to advanced coursework in maritime studies in later grades.
**Program of Study: Maritime (Regional)**

## Principles of Nursing Science

**Course Code**: N1302109      **Course Abbreviation**: NURSSCI
**Credit**: 1      **Level**: 1
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

The Principles of Nursing Science course introduces students to basic principles of the profession of nursing. The goals/student outcomes for the course include knowledge of the history of nursing, an introduction to nursing theory, professionalism (teamwork, communication, conflict resolution), legal/ethical issues in nursing, infection control, safety, and customer (patient) satisfaction. Skills learned include vital signs and how to document on a graphic record, patient positioning/transferring, bed-making, feeding, and personal protective equipment (PPE).
**Program of Study: Nursing Science**

## Principles of Therapeutic Healthcare

**Course Code**: N1302110

**Course Abbreviation**: THERHLTH

**Credit**: 1

**Level**: 1

**Prerequisite**: None

**Corequisite**: None

**Recommended Prerequisite**: None

**Recommended Corequisite**: Biology

The Principles of Therapeutic Healthcare course is an introductory class for students who are interested in pursuing careers within the therapeutic pathway of the healthcare industry. Principles of Therapeutic Healthcare will provide students an overview of the knowledge, skills and abilities associated with careers within the therapeutic pathway of the healthcare industry. These careers include direct patient care jobs, rehabilitation and jobs caring for individuals with physical and developmental delays.

**Program of Study: Diagnostic and Therapeutic Services**

## Principles of Transportation Systems

**Course Code**: 13039250

**Course Abbreviation**: PRINTRSY

**Credit**: 1

**Level**: 1

**Prerequisite**: None

**Corequisite**: None

**Recommended Prerequisite**: None

**Recommended Corequisite**: None

In Principles of Transportation Systems, students will gain knowledge and skills in the safe application, design, production, and assessment of products, services, and systems. This knowledge includes the history, laws and regulations, and common practices used in the transportation industry. Students should apply knowledge and skills in the application, design, and production of technology as it relates to the transportation industries. This course allows students to reinforce, apply, and transfer their academic knowledge and skills to a variety of interesting and relevant activities, problems, and settings.

**Programs of Study: Automotive and Collision Repair, Aviation Maintenance, Aviation (Pilots), Diesel and Heavy Equipment Maintenance and Commercial Driver, Distribution, Logistics, and Warehousing, and Maritime (Regional)**

## Printing and Imaging Technology l

**Course Code**: 13009600

**Course Abbreviation**: PRIMTEC1

**Credit**: 1

**Level**: 2

**Prerequisite**: None

**Corequisite**: None

**Recommended Prerequisite**: None

**Recommended Corequisite**: Printing and Imaging Technology I Lab

Careers in printing span all aspects of the industry, including prepress, press, and finishing and bindery operations. In addition to developing technical knowledge and skills needed for success in the Arts, Audio Visual Technology, and Communications career cluster, students will be expected to develop an understanding of the printing industry with a focus on digital prepress and digital publishing.

**Program of Study: Printing and Imaging (Regional)**

## Printing and Imaging Technology l + Printing and Imaging Technology l Lab

**Course Code**: 13009610      **Course Abbreviation**: PRILAB1
**Credits**: 2      **Level**: 2
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

Careers in printing span all aspects of the industry, including prepress, press, and finishing and bindery operations. In addition to developing technical knowledge and skills needed for success in the Arts, Audio Visual Technology, and Communications career cluster, students will be expected to demonstrate an understanding of the printing industry with a focus on digital prepress and digital publishing. Districts are encouraged to offer this lab in a consecutive block with Printing and Imaging Technology I to allow students sufficient time to master the content of both courses.
**Program of Study: Printing and Imaging (Regional)**

## Printing and Imaging Technology ll

**Course Code**: 13009700      **Course Abbreviation**: PRIMTEC2
**Credit**: 1      **Level**: 3
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisites**: Printing and Imaging Technology l + Printing and Imaging Technology l Lab
**Recommended Corequisite**: Printing and Imaging Technology II Lab

Careers in printing span all aspects of the industry, including prepress, press, and finishing and bindery operations. In addition to developing advanced knowledge and skills needed for success in the Arts, Audio Visual Technology, and Communications career cluster, students will be expected to develop an advanced understanding of the printing industry with a focus on digital prepress and desktop digital publishing.
**Program of Study: Printing and Imaging (Regional)**

## Printing and Imaging Technology ll + Printing and Imaging Technology ll Lab

**Course Code**: 13009710      **Course Abbreviation**: PRILAB2
**Credits**: 2      **Level**: 3
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisites**: Printing and Imaging Technology I + Printing and Imaging Technology I Lab
**Recommended Corequisite**: None

Careers in printing span all aspects of the industry, including prepress, press, and finishing and bindery operations. In addition to developing advanced knowledge and skills needed for success in the Arts, Audio Visual Technology, and Communications career cluster, students will be expected to develop an advanced understanding of the printing industry with a focus on digital prepress and desktop digital publishing. Districts are encouraged to offer this lab in a consecutive block with Printing and Imaging Technology II to allow students sufficient time to master the content of both courses.
**Program of Study: Printing and Imaging (Regional)**

## Professional Communications
**Course Code**: 13009900

**Credit**: .5

**Prerequisite**: None

**Corequisite**: None

**Recommended Prerequisite**: None

**Recommended Corequisite**: None

**Course Abbreviation**: PROFCOMM

**Level**: 1

Professional Communications blends written, oral, and graphic communication in a career-based environment. Careers in the global economy require individuals to be creative and have a strong background in computer and technology applications, a strong and solid academic foundation, and a proficiency in professional oral and written communication. Within this context, students will be expected to develop and expand the ability to write, read, edit, speak, listen, apply software applications, manipulate computer graphics, and conduct Internet research.

*Note: This course satisfies a speech credit or skills graduation requirement.*

**Programs of Study: Agriculture Business, Leadership, and Communications, Digital Communications, Family and Community Services, and Real Estate**

## Professional Standards and Communication in Agribusiness
**Course Code**: 13000800

**Credit**: 1

**Prerequisite**: None

**Corequisite**: None

**Recommended Prerequisite**: Principles of Agriculture, Food, and Natural Resources

**Recommended Corequisite**: None

**Course Abbreviation**: PROSAFNR

**Level**: 2

Professional Standards and Communication in Agribusiness focuses on leadership, communication, employer-employee relations, and problem solving as they relate to agribusiness. To prepare for careers in agribusiness systems, students must attain academic knowledge and skills, acquire technical knowledge and skills related to leadership development and communications in agriculture, and develop knowledge and skills regarding agricultural career opportunities, entry requirements, and industry expectations.

**Program of Study: Agriculture Business, Leadership, and Communications**

## Programmable Logic Controller I
**Course Code**: N1303689

**Credit**: 1

**Prerequisite**: None

**Corequisite**: None

**Recommended Prerequisite**: Principles of Applied Engineering or Principles of Manufacturing

**Recommended Corequisite**: None

**Course Abbreviation**: PROLGCNT1

**Level**: 2

Programmable Logic Controller I is a course designed to introduce students to the function and operation of Programmable Logic Controllers (PLC) through academic and applied instruction. Students will be introduced to relevant terminology, the components that make up a PLC, how PLC communicates with external components and other concepts relating to the use of PLC's in the manufacturing industry. Students will participate in structured, applied learning exercises taken from existing PLC applications. Students will also learn how to read ladder logic diagrams and ultimately write their first program. This course is recommended for students in grade 10 through 12. The central focus of this course is for students to gain an understanding of how programmable logic controllers work and how they are used in automated industries.

**Programs of Study: Electrical Engineering, and Robotics and Automation Technology**

## Programmable Logic Controller II

**Course Code**: N1303690     **Course Abbreviation**: PROLGCNT2
**Credit**: 1     **Level**: 3
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisites**: Principles of Applied Engineering or Principles of Manufacturing and Programmable Logic Controllers (PLC) I
**Recommended Corequisite**: None

The purpose of the Programmable Logic Controllers (PLC) II course is to demonstrate advanced knowledge of programming of programmable logic controllers (PLC) by incorporating the use of timers, counters, and other advanced functions. Students who complete the PLC II course will gain hands-on experience in the use of PLCs in industry and be able to troubleshoot the PLCs in common industrial applications. Additionally, the course includes an introduction to human machine interfaces (HMI) and networking. The PLC II course aligns to industry standards for various brand PLCs, and the outcomes from this course will prepare the students for postsecondary education and career readiness in the industrial maintenance/manufacturing industry.
**Programs of Study: Electrical Engineering, and Robotics and Automation Technology**

## Programming for Engineers

**Course Code**: 12756005     **Course Abbreviation**: PROGENGR
**Credit**: 1     **Level**: 3
**Prerequisites**: Algebra I and Principles of Applied Engineering, Physics for Engineering, Introduction to Computer-Aided Design and Drafting, or Introduction to Engineering Design
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

Students enrolled in Programming for Engineers focus on understanding, writing, evaluating, and troubleshooting code to solve engineering problems. Students use the engineering process and computational thinking to write computer programs for real-world solutions. Students explore autonomous systems, sensors, and careers to integrate computational thinking within their engineering mindset. Students spend at least 40% of the instructional time completing hands-on, real-world projects.
**Programs of Study: Civil Engineering and Engineering Foundations**

## Public Management and Administration

**Course Code**: 13018600     **Course Abbreviation**: PUBMANAD
**Credit**: 1     **Level**: 4
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: Principles of Government and Public Administration, or Business Management, or Business Law
**Recommended Corequisite**: None

Public Management and Administration reviews actions and activities that governments and nonprofit administrations commonly use and that resemble private-sector management. Students will be introduced to management tools that maximize the effectiveness of different types and styles of administrators and affect the quality of life of citizens in the community.
**Program of Study: Government and Public Administration**

## Quality Assurance for Biosciences
**Course Code**: N1303771
**Credit**: 1
**Prerequisite**: Biotechnology 1
**Corequisite**: Biotechnology 1
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

**Course Abbreviation**: QABIOS
**Level**: 3

Quality Assurance for the Biosciences is designed to introduce the student to quality principles and regulatory affairs as they apply to the biotechnology, biopharmaceutical, and biomedical device industries. This course focuses on exploring online regulatory websites, such as FDA.gov, discovering how new regulations arise, and learning how to find and understand them. This course is a broad overview spanning regulations of drugs, biologics, medical devices, food, and other products; however, students are encouraged to investigate further in areas that interest them through a capstone creative project.
**Program of Study: Biomedical Science**

## Range Ecology and Management
**Course Code**: 13001600
**Credit**: 1
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

**Course Abbreviation**: RECOMGT
**Level**: 3

Range Ecology and Management is designed to develop students' understanding of rangeland ecosystems and sustainable forage production. To prepare for careers in environmental and natural resource systems, students must attain academic skills and knowledge, acquire technical knowledge and skills related to environmental and natural resources, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations.
**Program of Study: Environmental and Natural Resources**

## Range Ecology and Management + Agricultural Laboratory and Field Experience
**Course Code**: 13001610
**Credits**: 2
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

**Course Abbreviation**: RECOMGLAB
**Level**: 3

Range Ecology and Management is designed to develop students' understanding of rangeland ecosystems and sustainable forage production. To prepare for careers in environmental and natural resource systems, students must attain academic skills and knowledge, acquire technical knowledge and skills related to environmental and natural resources, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations.
**Program of Study: Environmental and Natural Resources**

## Raster-Based Geographic Information Systems

**Course Code**: 13027550      **Course Abbreviation**: RASGIS
**Credit**: 1      **Level**: 2
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: Geographic Information Systems
**Recommended Corequisite**: None

In Raster-Based Geographic Information Systems (GIS), students study local problems; acquire information, including images or aerial photographs; process the acquired data; and merge the acquired data with vector data. Students plan, conduct, and present solutions for locally based problems.
**Programs of Study: Distribution, Logistics, and Warehousing, Geospatial Engineering and Land Surveying (Regional), and Information Technology Support and Services**

## Respiratory Therapy I

**Course Code**: 13021120      **Course Abbreviation**: RESPTHI
**Credit**: 1      **Level**: 3
**Prerequisite**: At least one credit in a course from the Health Science career cluster
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

Respiratory Therapy I is a technical lab course that addresses knowledge and skills related to cardiopulmonary medicine. Respiratory therapists are specialized healthcare practitioners trained in cardiopulmonary medicine to work therapeutically with people suffering from cardiopulmonary diseases. Students will learn basic knowledge and skills performed by respiratory therapists using equipment such as: stethoscopes, sphygmomanometers, thermometers, pulse oximeters, oxygen delivery devices (nasal cannula, masks of various types), nebulizers, and airway clearance and hyperinflation therapy devices.
**Program of Study: Diagnostic and Therapeutic Services**

## Respiratory Therapy II

**Course Code**: 13021122      **Course Abbreviation**: RESPTHII
**Credit**: 1      **Level**: 4
**Prerequisite**: Respiratory Therapy I
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

Respiratory Therapy II is a technical lab course that addresses knowledge and skills related to critical care and cardiopulmonary medicine. Respiratory therapists are specialized healthcare practitioners trained in cardiopulmonary medicine to work therapeutically with people suffering from cardiopulmonary diseases. Students will learn advanced knowledge and skills performed by respiratory therapists using equipment such as stethoscopes, sphygmomanometers, thermometers, pulse oximeters and monitors, oxygen delivery devices (nasal cannula, masks of various types), nebulizers, airway clearance and hyperinflation therapy devices, spirometers, and intubation mannequin heads and equipment (endotracheal tubes, laryngoscopes, stylets).
**Program of Study: Diagnostic and Therapeutic Services**

## Retail Management

**Course Code**: 13011133

**Course Abbreviation**: RTLMGMT

**Credit**: 1

**Level**: 3

**Prerequisite**: At least one credit in a course from the Business, Marketing, and Finance career cluster

**Corequisite**: None

**Recommended Prerequisite**: Principles of Business, Marketing, and Finance

**Recommended Corequisite**: None

Retail Management is designed as a comprehensive introduction to the principles and practices of retail management. The course explores the process of promoting greater sales and customer satisfaction by gaining a better understanding of the consumers of the goods and services provided by a company. The course provides an overview of the strategies involved in the retail process such as distributing finished products created by the business to consumers and determining what buyers want and require from the retail market.

**Programs of Study: Marketing and Sales, and Retail Management (Regional)**

## Revenue, Taxation, and Regulation

**Course Code**: 13018500

**Course Abbreviation**: REVTAXRE

**Credit**: 1

**Level**: 4

**Prerequisite**: None

**Corequisite**: None

**Recommended Prerequisite**: Principles of Government and Public Administration or Accounting I and II

**Recommended Corequisite**: None

Revenue, Taxation, and Regulation provides an overview of law and investigative principles and follows agency procedures to examine evidence and ensure revenue compliance. In addition, students will learn to facilitate clear and positive communication with taxpayers and become familiar with data analysis systems and revenue-related financial problems. Students will prepare projects and class activities to simulate the skills needed to enforce legal compliance and regulatory standards.

**Program of Study: Government and Public Administration**

## Robotics l

**Course Code**: 13037000

**Course Abbreviation**: ROBOTIC1

**Credit**: 1

**Level**: 2

**Prerequisite**: None

**Corequisite**: None

**Recommended Prerequisite**: Principles of Applied Engineering

**Recommended Corequisite**: None

In Robotics I, students will transfer academic skills to component designs in a project-based environment through implementation of the design process. Students will build prototypes or use simulation software to test their designs. Additionally, students will explore career opportunities, employer expectations, and educational needs in the robotic and automation industry.

**Programs of Study: Drone (Unmanned Vehicle) (Regional), Electrical Engineering, Engineering Foundations, and Robotics and Automation Technology**

## Robotics ll

**Course Code**: 13037050
**Credit**: 1
**Prerequisite**: Robotics l
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

**Course Abbreviation**: ROBOTIC2
**Level**: 3

In Robotics II, students will explore artificial intelligence and programming in the robotic and automation industry. Through the implementation of the design process, students will transfer academic skills to component designs in a project-based environment. Students will build prototypes and use software to test their designs.

*Note: This course satisfies a high school mathematics graduation requirement.*

**Programs of Study: Drone (Unmanned Vehicle) (Regional), Electrical Engineering, Engineering Foundations, and Robotics and Automation Technology**

## Science of Nursing

**Course Code**: N1302129
**Credit**: 1
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: Principles of Nursing Science or Principles of Health Science
**Recommended Corequisite**: None

**Course Abbreviation**: SCINURS
**Level**: 2

The Science of Nursing course introduces students to basic research-based concepts in nursing. Topics include the nursing process, the importance of critical thinking to patient care, regulatory agencies, and professional organizations. Instruction includes skills needed to pursue a nursing degree and training requirements required for specialty nursing roles. Knowledge and skills learned will include emergency care, patient assessment, basic interpretation of vital signs, identification of patients with physical and mental disabilities, patient positioning, use of assistive devices, and application of nursing theories in patient care plans.

**Program of Study: Nursing Science**

## Scientific Research and Design

**Course Code:**                                 **Course Abbreviation**:

13037200 (Scientific Research and Design)       SCIRD
13037210 (Scientific Research and Design II)      SCIRD2
13037220 (Scientific Research and Design III)     SCIRD3

**Credit**: 1                                         **Level**: 4

**Prerequisites**: Biology, and one credit of the following: Physics for Engineering, chemistry, Integrated Physics and Chemistry (IPC), or physics

**Corequisite**: None

**Recommended Prerequisite**: None

**Recommended Corequisite**: None

Scientific Research and Design allows districts and schools flexibility to develop local curriculum to supplement a program of study or coherent sequence. The course has the components of any rigorous scientific or CTE program of study, including problem identification, investigation design, data collection, data analysis, formulation, and presentation of conclusions. These components are integrated with the CTE emphasis of helping students gain entry-level employment in high-skill, high-wage jobs and/or continue their education. Students must meet the 40% laboratory and fieldwork requirement. Students may take this course with different course content for a maximum of three credits.

*Note: This course satisfies a high school science graduation requirement.*

*Additional Note: Second Time Taken and Third Time Taken are not in a program of study, do not count for CCMR, and earn 1.1 weighted funding.*

**Programs of Study: Agricultural Technology and Mechanical Systems, Animal Science, Aviation (Pilots), Biomedical Science, Civil Engineering, Drone (Unmanned Vehicle) (Regional), Electrical Engineering, Engineering Foundations, Environmental and Natural Resources, Food Science and Technology, Geospatial Engineering and Land Surveying (Regional), Mechanical and Aerospace Engineering, Plant Science, Programming and Software Development, and Renewable Energy**

## Securities and Investments

**Course Code**: 13016400                         **Course Abbreviation**: SECINV

**Credit**: 1                                         **Level**: 4

**Prerequisite**: None

**Corequisite**: None

**Recommended Prerequisite**: Principles of Business, Marketing, and Finance

**Recommended Corequisite**: None

In Securities and Investments, students will understand the laws and regulations to manage business operations and transactions in the securities industry.

**Program of Study: Accounting and Financial Services**

## Sheet Metal Technology

**Course Code**: N1300430                         **Course Abbreviation**: SHTMTL

**Credit**: 1                                         **Level**: 3

**Prerequisite**: None

**Corequisite**: None

**Recommended Prerequisite**: Algebra I, Geometry, Introduction to Manufacturing, Principles of Construction, or Construction Technology I

**Recommended Corequisite**: None

The purpose of the Sheet Metal Technology course is to prepare students in grades 11-12 for entry into the HVAC/Mechanical sheet metal installation industry. Students will learn the types of work performed, safety requirements, math skills needed, and career path options within the sheet metal trades. Additionally, students will learn and apply the knowledge and skills needed to select the proper material, tools, and joining methods for various types of HVAC and exhaust systems. Basic code requirements and Sheet Metal and Air Conditioning Contractors' National Association (SMACNA) design principles will be introduced.

**Program of Study: HVAC and Sheet Metal**

## Small Animal Management

**Course Code**: 13000400

**Course Abbreviation**: SMANIMGT

**Credit**: .5

**Level**: 2

**Prerequisite**: None

**Corequisite**: None

**Recommended Prerequisite**: Principles of Agriculture, Food and Natural Resources

**Recommended Corequisite**: None

In Small Animal Management, students acquire knowledge and skills related to the small animal management industry. Small Animal Management may address topics related to small animals such as dogs and cats, rabbits, pocket pets, amphibians, reptiles, and birds. To prepare for careers in the field of animal science, students must enhance academic knowledge and skills, acquire knowledge and skills related to small animal systems, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations.

**Program of Study: Animal Science**

## Small Engine Technology

**Course Code**: 13040100

**Course Abbreviation**: SETEC

**Credits**: 2

**Level**: 2

**Prerequisite**: Introduction to Small Engine Technology

**Corequisite**: None

**Recommended Prerequisite**: None

**Recommended Corequisite**: None

Small Engine Technology includes advanced knowledge of the function, diagnosis, and service of the systems and components of all types of small engines such as outdoor power equipment, motorcycles, generators, and irrigation engines. This course is designed to provide hands-on and practical application for employment in the small engine technology industry. Instruction includes the repair and service of cooling, air, fuel, lubricating, electrical, ignition, and mechanical systems and small engine overhauls. In addition, students will receive instruction in safety, academic, and leadership skills as well as career opportunities.

**Program of Study: Automotive and Collision Repair**

## Social and Community Services

**Course Code**: N1302543

**Course Abbreviation**: SOCCOM

**Credit**: 1

**Level**: 2

**Prerequisite**: None

**Corequisite**: None

**Recommended Prerequisite**: Principles of Community Services

**Recommended Corequisite**: None

Social and Community Services will provide an overview of the nonprofit, social, community service, and faith-based organization sector in the United States. The course has an emphasis on professional practices and development of the skills needed to implement service programs. The Social and Community Services course builds on knowledge from Principles of Community Services by providing an in-depth study of social services and how they relate to all other family and community services. Topics covered include the roles of community service providers in meeting human service needs, the sociological factors on clients receiving services, and the exploration of careers.

**Program of Study: Family and Community Services**

## Social Media Marketing

**Course Code**: 13034650

**Credit**: .5

**Prerequisite**: None

**Corequisite**: None

**Course Abbreviation**: SMEDMKTG

**Level**: 3

**Recommended Prerequisite**: Principles of Business, Marketing, and Finance or any marketing course

**Recommended Corequisite**: None

Social Media Marketing is designed to look at the rise of social media and how marketers are integrating social media tools in their overall marketing strategy. The course will investigate how the marketing community measures success in the new world of social media. Students will manage a successful social media presence for an organization, understand techniques for gaining customer and consumer buy-in to achieve marketing goals, and properly select social media platforms to engage consumers and monitor and measure the results of these efforts.

**Program of Study: Marketing and Sales**


## Solid State Electronics

**Course Code**: 13036900

**Credit**: 1

**Prerequisite**: AC/DC Electronics

**Corequisite**: None

**Course Abbreviation**: SOSTELEC

**Level**: 3

**Recommended Prerequisite**: None

**Recommended Corequisite**: None

In Solid State Electronics, students will demonstrate knowledge and applications of advanced circuits, electrical measurement, and electrical implementation used in the electronics and computer industries. Students will transfer advanced academic skills to apply engineering principles and technical skills to troubleshoot, repair, and modify electronic components, equipment, and power electronic systems in a project-based environment. Additionally, students will explore career opportunities, employer expectations, and educational needs in the electronics industry.

**Programs of Study: Advanced Manufacturing and Industrial Technology (Regional), Electrical Engineering, Electronics Technology (Regional), and Renewable Energy**


## Spatial Technology and Remote Sensing

**Course Code**: 13027555

**Credit**: 1

**Course Abbreviation**: SPTECHRS

**Level**: 3

**Prerequisite**: At least one credit in a course from the Information Technology career cluster

**Corequisite**: None

**Recommended Prerequisites**: Geographic Information Systems and Raster-Based Geographic Information Systems

**Recommended Corequisite**: None

In Spatial Technology and Remote Sensing, students receive instruction in industry standard geospatial extension software and geospatial tools, including global positioning systems (GPS), and training in project management and problem solving related to geographic information systems (GIS).

**Programs of Study: Civil Engineering, and Information Technology Support and Services**

## Speech and Language Development

**Course Code**: 13021291      **Course Abbreviation**: SPCHLDEV
**Credit**: 1      **Level**: 2
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisites**: Principles of Health Science, Anatomy and Physiology, and Introduction to Speech Pathology and Audiology
**Recommended Corequisite**: None

The Speech and Language Development course provides advanced knowledge and skills related to speech and language acquisition and growth of developing children. Understanding healthy development and speech, language, and communication developmental milestones is a prerequisite for studying communication disorders. This course provides students with the knowledge and skills necessary to pursue further education, possibly culminating in a bachelor's degree and subsequent master's degree in communication sciences and disorders.
**Programs of Study: Early Learning, and Exercise Science, Wellness, and Restoration**

## Speech Communication Disorders

**Course Code**: 13021292      **Course Abbreviation**: SPCOMDIS
**Credit**: 1      **Level**: 3
**Prerequisite**: At least one credit in a course from the Health Science career cluster
**Corequisite**: None
**Recommended Prerequisites**: Principles of Health Science, Anatomy and Physiology, Introduction to Speech Pathology and Audiology, Speech and Language Development, and Human Growth and Development
**Recommended Corequisite**: None

The Speech Communication Disorders course is designed to provide for the development of advanced knowledge and skills related to an overview of communication disorders that occur in children and adults in the areas of speech sound production, stuttering, voice disorders, and the language areas of semantics, syntax, pragmatics, phonology, and metalinguistics. An overview of treatment for hearing loss and deafness will also be provided.
**Programs of Study: Early Learning, and Exercise Science, Wellness, and Restoration**

## Sports and Entertainment Marketing

**Course Code**: 13034600      **Course Abbreviation**: SPORTSEM
**Credit**: .5      **Level**: 2
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: Principles of Business, Marketing, and Finance
**Recommended Corequisite**: None

Sports and Entertainment Marketing will provide students with a thorough understanding of the marketing concepts and theories that apply to sports and entertainment. The areas this course will cover include basic marketing concepts, publicity, sponsorship, endorsements, licensing, branding, event marketing, promotions, and sports and entertainment marketing strategies.
**Programs of Study: Marketing and Sales, and Travel, Tourism, and Attractions**

## Sports and Entertainment Marketing II

**Course Code**: N1303422      **Course Abbreviation**: SPORTEM2

**Credit**: .5      **Level**: 3

**Prerequisite**: Sports and Entertainment Marketing

**Corequisite**: None

**Recommended Prerequisite**: Principles of Business, Marketing, and Finance

**Recommended Corequisite**: None

Sports and Entertainment Marketing II is an advanced course designed to build upon students' prior knowledge of sports and entertainment marketing. Students will develop a thorough understanding of advanced marketing concepts and theories as they relate to the sports and entertainment industries. Students will investigate the components of branding, sponsorships and endorsements, as well as promotion plans needed for sports and entertainment events. The course also supports career development skills and explores career options. Academic skills (mathematics, science, English, and history/social science) related to the content are a part of this course.

**Program of Study: Marketing and Sales**

## Statics

**Course Code**: 12756025      **Course Abbreviation**: STATICS

**Credit**: 1      **Level**: 3

**Prerequisites**: At least one credit in a course from the Engineering career cluster and physics; Algebra II

**Corequisite**: Algebra II

**Recommended Prerequisite**: None

**Recommended Corequisite**: None

Statics is a gateway course into most engineering majors such as aerospace, mechanical, civil, and biomedical engineering. Students learn the elements of statics that include the forces in structures that are in equilibrium and usually not moving. This includes forces calculated in two dimensions, free-body diagrams, distributed loads, centroids, and friction as applied to cables, trusses, beams, machines, gears, and mechanisms. Students explore scenarios where objects remain stationary, emphasizing the importance of balance and stability in engineering design. This course not only equips students with theoretical knowledge but also empowers them with practical skills that are indispensable in real-world engineering scenarios

**Programs of Study: Engineering Foundations**

## Statistics and Business Decision Making

**Course Code**: 13016900      **Course Abbreviation**: STATBDM

**Credit**: 1      **Level**: 4

**Prerequisite**: Algebra II

**Corequisite**: None

**Recommended Prerequisites**: None

**Recommended Corequisite**: None

Statistics and Business Decision Making is an introduction to statistics and the application of statistics to business decision making. Students will use statistics to make business decisions. Students will determine the appropriateness of methods used to collect data to ensure conclusions are valid.

*Note: This course satisfies a high school mathematics graduation requirement.*

**Programs of Study: Business Management, Entrepreneurship, and Marketing and Sales**

## Student to Industry Connection

**Course Code**: N1270154     **Course Abbreviation**: ST2INDCN

**Credit**: 1     **Level**: None

**Prerequisite**: None

**Corequisite**: None

**Recommended Prerequisites**: Successful completion of two CTE courses

**Recommended Corequisite**: None

The Student to Industry Connection course provides students with the opportunity to develop professional relationships with experienced individuals within the student's chosen program of study and to demonstrate necessary skills for an online virtual workplace. Students will learn acceptable virtual etiquette and professionalism for a teleworking environment. The central focus of this course is to prepare students to be 21st century career ready through interaction with a seasoned workplace mentor. The course may include a work-based learning component. Instruction will support students with marketable skills attainment. The course is recommended for students 16 years of age or older.

**This course is not in a program of study**

## Surveying and Geomatics

**Course Code**: 12756070     **Course Abbreviation**: SURVGEO

**Credits**: 2     **Level**: 2

**Prerequisite**: Algebra I

**Corequisite**: None

**Recommended Prerequisites**: Geometry and Introduction to Computer-Aided Design and Drafting

**Recommended Corequisite**: None

Students enrolled in Surveying and Geomatics are introduced to the principles and practices essential to the field of surveying. Throughout this course students investigate different tools, applications, and techniques used to capture and process geospatial data. They also use functional mathematics crucial to the profession. Additionally, the course emphasizes the importance of visual representations of data in multiple mediums, ethical considerations, and the legal or regulatory impact of surveying on the community and society

**Program of Study: Civil Engineering**

## Texas Pre-Freshman Engineering Program II

**Course Code:** N1303753     **Course Abbreviation**: TXPRENG2

**Credit**: 1     **Level**: None

**Prerequisite**: Mathematics, Grade 8 or its equivalent

**Corequisite**: None

**Recommended Prerequisite**: None

**Recommended Corequisite**: None

TexPREP II: Engineering Physics and Integrated Algebra coursework engages students in physics, mathematics, and engineering practices by exploring real-world challenges. TexPREP II integrates core concepts in physics, scientific and engineering practices, and conceptual knowledge to allow students to integrate their academic content knowledge with evidence to generate and internalize scientific principles. Throughout the course students share preconceptions, collect and interpret evidence, generate claims, and develop concepts themselves through evidence-based consensus building. Students experience unique applications and research related to engineering and physics from speakers and university presentations.

**This course is not in a program of study**

## Texas Pre-Freshman Engineering Program III

**Course Code:** N1303754          **Course Abbreviation**: TXPRENG3
**Credit**: 1                                  **Level**: None
**Prerequisite**: TexPREP II or Algebra 2
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

TexPREP III: Probability, Statistics and Technical Writing coursework includes probability and statistics, STEM technical writing, topics in problem solving, and college and career awareness components. Technical writing is a critical pedagogical tool to help students make sense of knowledge and translate their understanding. TexPREP III develops a student's skills, content knowledge, and literacy in STEM fields. Students will also be exposed to ethical and professional responsibilities in engineering decision-making.
**This course is not in a program of study**

## Texas Pre-Freshman Engineering Program IV

**Course Code:** N1303755          **Course Abbreviation**: TXPRENG4
**Credit**: 1                                  **Level**: None
**Prerequisites**: TexPREP II and TexPREP III or chemistry
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

TexPREP IV: Innovations in Engineering is a project-based course in which students develop the ability to understand, contextualize, and analyze engineering designs and systems. Students will apply skills such as problem identification, scientific investigation, engineering design, data collection, data analysis, formulation, and presentation of conclusions. Students learn to lead the design of products, services and technologies with a human-centered approach to help solve the needs of society. This course provides students with an understanding of the design process, research methodologies and innovation strategies in emerging STEM fields, such as materials science, nanotechnology, data science or cybersecurity.
**This course is not in a program of study**

## Topographical Drafting

**Course Code**: N1300421          **Course Abbreviation**: TOPDR
**Credit**: 1                                  **Level**: 3
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisites**: Architectural Design, Algebra I, and Geometry
**Recommended Corequisite**: None

Topographical Drafting focuses on knowledge and skills essential to map drafting. Emphasis is given to plotting of surveyors' field notes, plotting elevations, contour drawings, plan and profiles, and laying out traverses.
**Program of Study: Civil Engineering**

## Touch System Data Entry

**Course Code**: 13011300

**Course Abbreviation**: TSDATAE

**Credit**: .5

**Level**: None

**Prerequisite**: None

**Corequisite**: None

**Recommended Prerequisite**: None

**Recommended Corequisite**: None

In Touch System Data Entry, students apply technical skills to address business applications of emerging technologies. Students enhance reading, writing, computing, communication, and reasoning skills and apply them to the business environment. Students will need to apply touch system data entry for production of business documents.
**This course is not in a program of study**

## Tourism Marketing Concepts and Applications

**Course Code**: N1302270

**Course Abbreviation**: TOURMRKT

**Credit**: 1

**Level**: 3

**Prerequisite**: None

**Corequisite**: None

**Recommended Prerequisite**: Principles of Hospitality and Tourism

**Recommended Corequisite**: None

Tourism Marketing Concepts and Applications will provide students with a thorough understanding of marketing concepts and theories that apply to the travel and tourism industry to include lodging, food and beverage operations, recreation, amusements, attractions, convention and visitors' bureaus and tourism companies. While general concepts of marketing for travel and tourism are similar to the marketing of other products and services, the travel and tourism industry has unique characteristics that create a variety of challenges and opportunities specific to and important for tourism marketing professionals. Students will learn broad tourism marketing concepts such as understanding a product/service, pricing out a product/service, promoting a product/service with a focus on direct sales and the placement or distribution channels for a product. They will also be introduced to the concepts of markets, market segmentation, and customer needs related to the tourism industry.
**Programs of Study: Culinary Arts, Lodging and Resort Management, and Travel, Tourism, and Attractions**

## Travel and Tourism Management

**Course Code**: 13022500

**Course Abbreviation**: TRTORMGT

**Credit**: 1

**Level**: 2

**Prerequisite**: None

**Corequisite**: None

**Recommended Prerequisite**: Principles of Hospitality and Tourism

**Recommended Corequisite**: None

Travel and Tourism Management incorporates management principles and procedures of the travel and tourism industry as well as destination geography, airlines, international travel, cruising, travel by rail, lodging, recreation, amusements, attractions, and resorts. Employment qualifications and opportunities are also included in this course.
**Programs of Study: Lodging and Resort Management, and Travel, Tourism, and Attractions**

## Turf Grass Management

**Course Code**: 13001950                    **Course Abbreviation**: TGMGT
**Credit**: .5                               **Level**: 2
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

Turf Grass Management is designed to develop an understanding of turf grass management techniques and practices. To prepare for careers in horticultural systems, students must attain academic skills and knowledge, acquire technical knowledge and skills related to horticultural systems and the workplace, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations.
**Program of Study: Plant Science**

## Veterinary Science

**Course Code**: 13000600                    **Course Abbreviation**: VETSCI
**Credit**: 1                                **Level**: 4
**Prerequisite**: Equine Science, Small Animal Management, or Livestock Production
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

Veterinary Science covers topics relating to veterinary practices, including practices for large and small animal species. To prepare for careers in the field of animal science, students must attain academic skills and knowledge, acquire technical knowledge and skills related to animal systems and the workplace, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations.
**Program of Study: Animal Science**

## Veterinary Science + Agricultural Laboratory and Field Experience

**Course Code:** 13000610                     **Course Abbreviation**: VETSCILAB
**Credits**: 2                                **Level**: 4
**Prerequisite**: Equine Science, Small Animal Management, or Livestock Production
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

Veterinary Science covers topics relating to veterinary practices, including practices for large and small animal species. To prepare for careers in the field of animal science, students must attain academic skills and knowledge, acquire technical knowledge and skills related to animal systems and the workplace, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations.
**Program of Study: Animal Science**

## Video Game Design

**Course Code**: 13009970

**Course Abbreviation**: VIDGD

**Credit**: 1

**Level**: 1

**Prerequisite**: None

**Corequisite**: None

**Recommended Prerequisite**: Principles of Arts, Audio/Video Technology, and Communications

**Recommended Corequisite**: None

Video Game Design will allow students to explore one of the largest industries in the global marketplace and the new emerging careers it provides in the field of technology. Students will learn gaming, computerized gaming, evolution of gaming, artistic aspects of perspective, design, animation, technical concepts of collision theory, and programming logic. Students will participate in a simulation of a real video game design team while developing technical proficiency in constructing an original game design.

**Program of Study: Graphic Design and Interactive Media**

## Video Game Programming

**Course Code**: N1300994

**Course Abbreviation**: VIDEOPR

**Credit**: 1

**Level**: 2

**Prerequisite**: None

**Corequisite**: None

**Recommended Prerequisite**: Video Game Design

**Recommended Corequisite**: None

Video Game Programming expands on the foundation created in Video Game Design through programming languages such as: C# programming, XNA game studio, Java, and Android App. In this course, students will investigate the inner workings of a fully functional role-playing game (RPG) by customizing playable characters, items, maps, and chests and eventually applying customizations by altering and enhancing the core game code.

**Program of Study: Graphic Design and Interactive Media**

## Virtual Business

**Course Code**: 13012000

**Course Abbreviation**: VIRTBUS

**Credit**: .5

**Level**: 2

**Prerequisite**: None

**Corequisite**: None

**Recommended Prerequisite**: Touch System Data Entry

**Recommended Corequisite**: None

Virtual Business is designed for students to start a virtual business by creating a web presence, conducting online and off-line marketing, examining contracts appropriate for an online business, and demonstrating project-management skills. Students will also demonstrate bookkeeping skills for a virtual business, maintain business records, and understand legal issues associated with a virtual business.

**Programs of Study: Business Management, and Marketing and Sales**

## Viticulture
**Course Code**: 13002080                                **Course Abbreviation**: VITICUL
**Credit**: 1                                            **Level**: 3
**Prerequisite**: At least one credit in a course from the Agriculture, Food, and Natural Resources career cluster
**Corequisite**: None
**Recommended Prerequisite**: Principles of Agriculture, Food, and Natural Resources
**Recommended Corequisite**: None

Viticulture is a course designed to provide students with the academic and technical knowledge and skills that are required to pursue a career related to vineyard operations, grape cultivation, and related industries that contribute to the Texas economy. Students in Viticulture develop an understanding of grape production techniques and practices while emphasizing environmental science related to production decisions. To prepare for success, students need opportunities to learn, reinforce, experience, apply, and transfer their knowledge and skills in a variety of settings.
**Program of Study: Plant Science**

## Web Communications
**Course Code**: 03580810                                **Course Abbreviation**: TAWEBCM
**Credit**: 0.5                                          **Level**: 1
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

In Web Communications, students will acquire knowledge of web communications and technological operations and concepts. This is an exploratory course in web communications. The six strands include creativity and innovation; communication and collaboration; research and information fluency; critical thinking; problem solving, and decision making; digital citizenship; and technology operations and concepts.
**Programs of Study: Digital Communications, Graphic Design and Interactive Media, and Web Development**

## Web Design
**Course Code**: 03580820                                **Course Abbreviation**: TAWEBDN
**Credit**: 1                                            **Level**: 3
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

In Web Design, students will acquire knowledge of web design and technological operations and concepts that support creativity, innovation, collaboration, information fluency, critical thinking and decision making. The six strands include creativity and innovation; communication and collaboration; research and information fluency; critical thinking; problem solving, and decision making; digital citizenship; and technology operations and concepts.
**Program of Study: Web Development**

## Web Game Development

**Course Code**: 03580830

**Credit**: 1

**Prerequisite**: None

**Corequisite**: None

**Recommended Prerequisite**: Web Design

**Recommended Corequisite**: None

**Course Abbreviation**: TAWEBGD

**Level**: 3

Web Game Development will allow students to demonstrate creative thinking, develop innovative strategies, and use digital and communication tools necessary to develop fully functional online games. Web Game Development has career applications for many aspects of the game industry, including programming, art principles, graphics, web design, storyboarding and scripting, and business and marketing. The six strands include creativity and innovation; communication and collaboration; research and information fluency; critical thinking; problem solving, and decision making; digital citizenship; and technology operations and concepts.

**Programs of Study: Graphic Design and Interactive Media, and Web Development**

## Welding l

**Course Code**: 13032300

**Credits**: 2

**Prerequisite**: None

**Corequisite**: None

**Recommended Prerequisite**: Algebra I, Principles of Manufacturing, Introduction to Precision Metal Manufacturing, or Introduction to Welding

**Recommended Corequisite**: None

**Course Abbreviation**: WELD1

**Level**: 2

Welding I provides the knowledge, skills, and technologies required for employment in metal technology systems. Students will develop knowledge and skills related to this system and apply them to personal career development. This course supports integration of academic and technical knowledge and skills. Students will reinforce, apply, and transfer knowledge and skills to a variety of settings and problems. Knowledge about career opportunities, requirements, and expectations and the development of workplace skills prepare students for future success.

**Programs of Study: Advanced Manufacturing and Industrial Technology (Regional), and Welding**

## Welding ll

**Course Code**: 13032400

**Credits**: 2

**Prerequisite**: Welding l

**Corequisite**: None

**Recommended Prerequisite**: Algebra l or Geometry

**Recommended Corequisite**: Welding II Lab

**Course Abbreviation**: WELD2

**Level**: 3

Welding II builds on the knowledge and skills developed in Welding I. Students will develop advanced welding concepts and skills as related to personal and career development. Students will integrate academic and technical knowledge and skills. Students will have opportunities to reinforce, apply, and transfer knowledge and skills to a variety of settings and problems.

**Program of Study: Welding**

## Welding II + Welding II Lab

**Course Code**: 13032410                    **Course Abbreviation**: WELDLAB2
**Credits**: 3                                               **Level**: 3
**Prerequisite**: Welding l
**Corequisite**: None
**Recommended Prerequisite**: Algebra I or Geometry
**Recommended Corequisite**: None

Welding II builds on the knowledge and skills developed in Welding I. Students will develop advanced welding concepts and skills as related to personal and career development. Students will integrate academic and technical knowledge and skills. Students will have opportunities to reinforce, apply, and transfer knowledge and skills to a variety of settings and problems.
**Program of Study: Welding**

## Wildlife, Fisheries, and Ecology Management

**Course Code**: 13001500                    **Course Abbreviation**: WFECGT
**Credit**: 1                                                **Level**: 2
**Prerequisite**: None
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

Wildlife, Fisheries, and Ecology Management examines the management of game and non-game wildlife species, fish, and aquacrops and their ecological needs as related to current agricultural practices. To prepare for careers in natural resource systems, students must attain academic skills and knowledge, acquire technical knowledge and skills related to natural resources, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations. To prepare for success, students need opportunities to learn, reinforce, apply, and transfer their knowledge and skills in a variety of settings.
**Program of Study: Environmental and Natural Resources**

## Wildlife, Fisheries, and Ecology Management + Agricultural Laboratory and Field Experience

**Course Code**: 13001510                    **Course Abbreviation:** WFECGTLAB
**Credits**: 2                                               **Level**: 2
**Prerequisites**: None
**Corequisite**: None
**Recommended Prerequisite**: None
**Recommended Corequisite**: None

Wildlife, Fisheries, and Ecology Management examines the management of game and non-game wildlife species, fish, and aqua crops and their ecological needs as related to current agricultural practices. To prepare for careers in natural resource systems, students must attain academic skills and knowledge, acquire technical knowledge and skills related to natural resources, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations. To prepare for success, students need opportunities to learn, reinforce, apply, and transfer their knowledge and skills in a variety of settings.
**Program of Study: Environmental and Natural Resources**

## World Health and Emerging Technologies

**Course Code**: 13020900      **Course Abbreviation**: WORLDHT

**Credit**: 1      **Level**: 4

**Prerequisites**: One credit in biology and at least one credit in a Level 2 or higher course from the Health Science career cluster

**Corequisite**: None

**Recommended Prerequisite**: None

**Recommended Corequisite**: None

The World Health and Emerging Technologies course is designed to examine major world health problems and emerging technologies as solutions to these medical concerns. It is designed to improve students' understanding of cultural, infrastructural, political, educational, and technological constraints and inspire ideas for appropriate technological solutions to global medical care issues.

**Program of Study: Health Informatics**