

2021 - 2022 High School

Career Tech Courses



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Business & Industry Endorsement Agriculture, Food, and Natural Resources

Animal Science

Levels	Courses		
Level 1	Principles of Agriculture, Food & Natural Resources 1101CT / 9-12		
Level 2	Small Animal Management AND Equine Science 1114CT & 1113CT / 9-12 <i>Courses must be taken together</i>		
Level 3	Livestock Production 1115CT / 10-12		
Level 4	Advanced Animal Science 1116CT / 11-12 <i>Prerequisite: Biology, Chemistry or IPC, Geometry, AND Small Animal/Equine Science or Livestock Production</i> Science Credit	Veterinary Medical Applications 1140CA-CB / 11-12 <i>Prerequisite: Small Animal/Equine Science or Livestock Production AND Selection Process</i> +Certified Veterinary Assistant, Level 1	Practicum in Agriculture, Food & Natural Resources 1135CA-CB / 11-12

Applied Agricultural Engineering

Levels	Courses		
Level 1	Principles of Agriculture, Food & Natural Resources 1101CT / 9-12		
Level 2	Agricultural Mechanics & Metal Technologies 1122CT / 10-12 OSHA 10-Hour Certification Possible		
Level 3	Agricultural Structures Design & Fabrication 1123CT / 11-12 <i>Prerequisite: Agricultural Mechanics & Metal Technologies</i>		
Level 4	Practicum in Agriculture, Food & Natural Resources 1135CA-CB / 11-12		

Environmental & Natural Resources

Levels	Courses		
Level 1	Principles of Agriculture, Food & Natural Resources 1101CT / 9-12		
Level 2	Wildlife, Fisheries & Ecology Management 1103CT / 9-12 TPW Hunter Safety Certification Possible	Forestry & Woodland Ecology Systems 1120CT / 10-12	
Level 3	No courses offered at Level 3 in this program of study		
Level 4	Practicum in Agriculture, Food & Natural Resources 1135CA-CB / 11-12		

Plant Science

Levels	Courses		
Level 1	Principles of Agriculture, Food & Natural Resources 1101CT / 9-12		
Level 2	No courses offered at Level 2 in this program of study		
Level 3	Floral Design 1110CT / 9-12 Fine Arts Credit	Horticulture Science 1109CT / 10-12	

	+Texas State Floral Association Floral Skills Knowledge Based Certification Possible		+Commercial/Noncommercial Pesticide Applicator Certification Possible	
Level 4	Advanced Floral Design 1124CT / 11-12 <i>Prerequisite: Floral Design</i>		Practicum in Agriculture, Food & Natural Resources 1135CA-CB / 11-12	
1 Semester Home Campus	2 Semester Home Campus	1 Semester Ben Barber	2 Semester Ben Barber	College Course Weighted Credit

Level I Courses

PRINCIPLES OF AGRICULTURE, FOOD & NATURAL RESOURCES **Placement: 9-12**
Prerequisite: Strongly recommended as 1st course in Agriculture **Length: 18 weeks**
Course: 1101CT **Credit: 1**

This class will give students an opportunity to explore the various areas of agriculture as they discover how agriculture impacts their lives on a daily basis. The foundation for truly understanding all that agriculture encompasses is laid in this class and additionally students are introduced to important life skills including record keeping, leadership and meeting room procedures. Students must keep an online record of skills and knowledge about agriculture through an agricultural experience or SAE that acts as an addition of the class to extend student learning.

Level II Courses

SMALL ANIMAL MANAGEMENT/EQUINE SCIENCE **Placement: 9-12**
Course: 1114CT & 1113CT **Credits: 1** **Length: 18 weeks**

Small Animal Management is a course that educates and encourages responsible pet ownership. This course prepares students for potential careers related to small animal care, including but not limited to: veterinarians, veterinarian technicians, animal caretakers, pet breeders and owners, groomers, boarders, etc. This course is designed to be hands-on and includes people/animal interactions. Students will learn about careers related to the field and receive practical training in tasks applicable to any pet owner. Suggested small animals which may be included in the course of study include, but are not limited to, small mammals, amphibians, reptiles, avian, dogs and cats. Equine Science is an entry level animal science course that covers topics related to the equine industry. Topics include: anatomy, reproduction, careers, nutrition, grooming, selection, tack and trailer safety. **These courses must be taken together.**

AGRICULTURAL MECHANICS & METAL TECHNOLOGIES **Placement: 10-12**
Course: 1122CT **Credits: 1** **Length: 18 weeks**

Students enrolled in this course will be exposed to careers in agricultural power, structural and technical systems. This course 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.
Certification Possible: OSHA 10 hours*

WILDLIFE, FISHERIES & ECOLOGY MANAGEMENT **Placement: 9-12**
Course: 1103CT **Credits: 1** **Length: 18 weeks**

Students will be prepared for careers in natural resource systems. Students need to attain academic skills and knowledge, acquire technical knowledge in skills related to natural resources, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations. This course examines the management of gain and non-gain wildlife species, fish, and aqua crops and their ecological needs as related to current agriculture practices.
Certification Possible: Texas Parks & Wildlife Hunter Safety*

FORESTRY & WOODLAND ECOSYSTEMS **Placement: 10-12**
Course: 1120CT **Credits: 1** **Length: 18 weeks**

This course 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. Includes exploration of careers associated with the forestry system, tree identification, calculating tree harvest and a study of the forest ecosystem.

Level III Courses

LIVESTOCK PRODUCTION

Course: 1115CT

Credits: 1

Placement: 10-12

Length: 18 weeks

To be prepared for careers in the field of animal science, students need to attain academic skills and knowledge, acquire knowledge and skills related to animal systems, and develop knowledge and skills regarding career opportunities, entry requirements, and industry standards. To prepare for success, students need opportunities to learn, reinforce, apply and transfer their knowledge and skills in a variety of settings. This course examines the interrelatedness of human, scientific and technological dimensions of livestock production. Instruction is designed to allow for the application of scientific and technological aspects of animal science through field and laboratory experiences.

AGRICULTURAL STRUCTURES DESIGN & FABRICATION

Prerequisite: Agricultural Mechanics

Course: 1123CT

Credits: 1

Placement: 11-12

Length: 18 weeks

This course 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.

FLORAL DESIGN

Course: 1110CT

Credits: 1

Placement: 9-12

Length: 18 weeks

Floral Design is a fun, hands-on course where students create beautiful, artistic designs using flowers. Students will learn the elements and principles of design and the basics of business involved in running a flower shop and other floral related industries. **This course can be used as a Fine Arts Credit.**

Certification Possible: +Texas State Floral Association Floral Skills Knowledge Based*

HORTICULTURE SCIENCE

Course: 1109CT

Credits: 1

Placement: 10-12

Length: 18 weeks

To be prepared for careers in horticultural systems, students need to attain academic skills and knowledge, acquire technical knowledge and skills related to horticulture and the workplace, and develop knowledge and skills regarding career opportunities, entry requirements and industry expectations. This course is designed to develop an understanding of common horticultural management practices as they relate to food and ornamental plant production.

Certification Possible: +Commercial/Noncommercial Pesticide Application*

Level IV Courses

ADVANCED ANIMAL SCIENCE

Prerequisite: Biology, Chemistry & IPC, Geometry AND Small Animal/Equine Science OR Livestock Production

Course: 1116CT

Credits: 1

Placement: 11-12

Length: 18 weeks

This course will build on the skills learned in Animal Science. Students will learn disease management in domesticated animals including treatments such as vaccinations and medications. Emphasis in this course is placed on the inter relatedness of human, scientific and technological dimensions of livestock production. Students interested in Veterinary Technician, Veterinarian Medicine or Agriculture Science Education as a career should take this class. **Note: Course can be used as an additional science credit for graduation.**

VETERINARY MEDICAL APPLICATIONS

Prerequisite: Small Animal/Equine Science OR Livestock Production AND Selection Process

Course: 1140CA-CB

Credits: 2

Placement: 11-12

Length: 36 weeks

For careers in the field of animal science, students need to attain academic skills and knowledge, acquire technical knowledge and skills related to animal systems and the work place, and develop knowledge and skills regarding career opportunities, entry requirements and industry expectations. Topics covered in this course include, but are not limited to, veterinary practices as they relate to both large and small animal species.

Certification Possible: +Certified Veterinary Assistant, Level 1*

PRACTICUM IN AGRICULTURE, FOOD & NATURAL RESOURCES**Course: 1135CA/CB****Credits: 2****Placement: 11-12****Length: 36 weeks**

The practicum 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. **If a student does not have transportation, opportunities will be limited.**

ADVANCE FLORAL DESIGN**Course: 1124CT****Credits: 1****Placement: 11-12****Length: 18 weeks**

In this course, students build on the knowledge from the Floral Design course and are introduced to more advanced floral design concepts, with an emphasis on specialty designs and specific occasion planning. This course focuses on building skills in advanced floral design and providing students with a thorough understanding of the design elements and planning techniques used to produce unique specialty floral designs that support the goals and objectives of a specific occasion or event. Through the analysis and evaluation of various occasion and event types, students explore the design needs and expectations of clients and propose and evaluate appropriate creations. From conception to evaluation, students are challenged to create and design appropriate specialty floral designs that meet the needs of the client. Furthermore, an emphasis on budgetary adherence and entrepreneurship equips students with many of the necessary skills needed for success in floral enterprises.

Notes on agriculture science and technology courses:

The State Board of Education course requirements include a Supervised Agriculture Experience project for all courses. The Supervised Agriculture Experiences (SAE) must relate directly to the course in which the student is enrolled or has completed. The program will continue to be as flexible as possible in regards to SAE projects. Students enrolled in any and all Agricultural Science courses are provided the opportunity for membership in the FFA, the nation's largest youth leadership organization. Students are expected to meet membership requirements. Financial assistance is available to students who possess such need. FFA is an integral part of the curriculum of Agriculture, Food, and Natural Resources.

***Students must successfully pass certification test(s) in order to receive the certification.**

+Industry Based Certification



Business & Industry Endorsement Architecture & Construction

Architectural Design

Levels	Courses	Supporting Courses
Level 1	Principles of Architecture 1819CT / 9-12	
Level 2	Architectural Design I 1660CT / 10-12 <i>Prerequisite: Principles of Architecture AND English I AND Algebra I</i>	Interior Design I 1512A-B / 10-12 <i>Prerequisite: Algebra I AND English I</i>
Level 3	Architectural Design II 1665CA/CB / 11-12 <i>Prerequisite: Architectural Design I AND Geometry</i> +Autodesk Certified User in Revit Architecture Certification Possible	Civil Engineering & Architecture (PLTW) 1861CT / 10-12 <i>Prerequisite: Principles of Engineering Weighted Credit</i>
Level 4	Practicum in Architectural Design 1668CA/CB / 12 <i>Prerequisite: Architectural Design II</i>	

Construction Technology

Levels	Courses	Supporting Courses
Level 1	Principles of Construction 1824CT / 9-12 +NCCER Core Certification Possible	Principles of Architecture 1819CT / 9-12
Level 2	Construction Technology I 1820CA/CB / 10-12 <i>Prerequisite: Principles of Construction</i> Local Certification Possible	TCC CNBT 1300 Residential & Light Commercial Blue Print Reading 0194 / 10-12 <i>Prerequisite: No TSI Requirement</i> TCC CNBT 1316 Construction Technology I 0195 / 10-12 <i>Prerequisite: No TSI Requirement</i>
Level 3	Construction Technology II 1825CA/CB / 11-12 <i>Prerequisite: Construction Technology I</i> OSHA 10 Hour AND +NCCER Construction Tech Certification Possible	TCC CNBT 1110 Basic Construction Safety 0198 / 11-12 <i>Prerequisite: No TSI Requirement</i> TCC CNBT 1350 Construction Technology II 0199 / 11-12 <i>Prerequisite: No TSI Requirement</i>
Level 4	Practicum in Construction Technology 1827CA/CB / 12 <i>Prerequisite: Construction Technology II</i>	Upon completion of all 4 TCC CNBT courses, students will earn a Residential/Commercial Site Layout & Framing Assistant Occupational Skills Award from TCC

1 Semester Home Campus

2 Semester Home Campus

1 Semester Ben Barber

2 Semester Ben Barber

College Course Weighted Credit

Level I

PRINCIPLES OF ARCHITECTURE

Course: 1819CT

Credits: 1

Placement: 9-12

Length: 18 weeks

Principles of Architecture provides an overview to the various fields of architecture, interior design, and construction management. 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.

PRINCIPLES OF CONSTRUCTION

Course: 1824CT

Credits: 1

Placement: 9-12

Length: 18 weeks

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. This course also provides communication and occupation skills to assist the student in obtaining and maintaining employment.

Possible Certification: +NCCER Core*

Level II

ARCHITECTURAL DESIGN I

Prerequisite: Principles of Architecture AND English I AND Algebra I

Course: 1660CT

Credit: 1

Placement: 10-12

Length: 18 weeks

Architectural Design is an activity/project based technical course for students interested in architecture, interior design, construction, making use of measurements, perspectives and drawings. Students will study multiple activities and problem-solving using AutoCAD, CorelDraw, Word, Excel, Adobe, the Digital Camera, Laser, CNC Lathe. Additionally, students will study basic board drawing instruments, modeling, lettering and multiple drawing styles.

CONSTRUCTION TECHNOLOGY I

Prerequisite: Principles of Construction

Course: 1820CA/CB

Credits: 2

Placement: 10-12

Length: 36 weeks

Students gain knowledge and skills specific to those needed to enter the work force or build a foundation toward a postsecondary degree or certification in the career pathway of construction science, architecture or engineering. Students acquire knowledge and skills in safety, tool usage, building materials, codes and basic framing. Various models and projects will be designed and built throughout the semester. Communication and employability skills along with options for continuing education will be provided throughout the semester. Opportunities for industry-related certification modules are part of this curriculum.

★ Students can earn a Certificate of Excellence by achieving a specific list of real world skills related to this course. For the list of skills, please visit goo.gl/9VM3a9

TCC CNBT 1300 Residential & Light Commercial Blue Print Reading & TCC CNBT 1316 Construction Technology I can be taken concurrently with this class. There is no TSI requirement, but students must register and pay tuition by TCC deadline.

Level III

ARCHITECTURAL DESIGN II

Prerequisite: Architectural Design I AND Geometry

Course: 1665CA/CB

Credits: 2

Placement: 11-12

Length: 36 weeks

In Advanced Architectural Design, students gain advanced knowledge and skills specific to those needed to enter a career in architecture and construction or prepare a foundation toward a postsecondary degree in architecture, construction science, drafting, interior design or landscape architecture. Advanced Architectural design includes the advanced knowledge of the design, design history, techniques and tools related to the production of drawings, renderings and scaled models for commercial or residential architectural purposes

Possible Certification: +Autodesk Certified User in Revit*

CIVIL ENGINEERING & ARCHITECTURE**Prerequisite: Principles of Engineering****Course: 1861CT****Credits: 1****Placement: 10-12****Length: 18 weeks**

Civil Engineering & Architecture is the study of the design & construction of residential & commercial building projects. The course includes an introduction to many of the varied factors involved in building design & construction including building components & systems, structural design, storm water management, site design, utilities & services, cost estimation, energy efficiency & careers in the design & construction industry. This is a Project Lead the Way course.

CONSTRUCTION TECHNOLOGY II**Prerequisite: Construction Technology I****Course: 1825CA/CB****Credits: 2****Placement: 11-12****Length: 36 weeks**

As a continuation of Construction Technology I, this course is an activity/project based technical course for students interested in continuing their construction or architecture career pathway. Students gain advanced knowledge and skills specific to those needed to enter the work force as carpenters or prepare for a postsecondary degree in construction science, architecture or engineering. Beginning with wall framing, students will develop skills in sequential building trades - plumbing, residential wiring and masonry. Students are introduced to exterior and interior finish-out skills. Communication and employability skills along with options for continuing education will be provided throughout the year.

Possible Certification: +NCCER Construction Tech***Possible Certification: OSHA 10 Hour***

TCC CNBT 1110 Basic Construction Safety & TCC CNBT 1350 Construction Technology II can be taken concurrently with this class. There is no TSI requirement, but students must register and pay tuition by TCC deadline.

Level IV**PRACTICUM IN ARCHITECTURAL DESIGN****Prerequisite: Architectural Design II****Course: 1668CA/CB****Credits: 2****Placement: 12****Length: 36 weeks**

Practicum in Architectural Design is an occupation 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. Students will maintain a project portfolio that documents experience by using graphic or written documentation of architectural-related projects and a professional resumé that should include select educational and work history, professional references, appropriate letters of recommendation, record of work experiences, licenses, and certifications; and completion of education and training. **If a student does not have transportation, opportunities will be limited.**

PRACTICUM IN CONSTRUCTION TECHNOLOGY**Prerequisite: Construction Technology II****Course: 1827CA/CB****Credits: 2****Placement: 12****Length: 36 weeks**

This course is an internship and project-based technical course in best practices of construction and project management. This class includes design techniques and tools related to the management of architectural, engineering and construction projects. Students will establish their internship with an industry partner in a related field of study. Students must provide their own transportation to the internship. All internships will document the student's progress and participation as a significant part of the grade for this course. Students must also identify, design and successfully manage project specific criteria and present their final product to a panel of industry advisors. Career plans, employment opportunities and options for continuing education will be part of ongoing discussion. Industry-related certification modules from previous courses are eligible for completion. **If a student does not have transportation, opportunities will be limited.**

Supporting Courses**INTERIOR DESIGN (Home Campus Only)****Prerequisite: Algebra I AND English I****Course: 1512A/B****Credits: 1****Placement: 10-12****Length: 36 weeks**

Interior Design is an activity/project based technical course for students interested in architecture, interior design, construction, making use of measurements, perspectives and drawings. Students will study multiple activities and problem solve using AutoCAD, CorelDraw, Word, Excel, Adobe and digital cameras. Additionally, students will study basic board drawing instruments, modeling, lettering and multiple drawing styles.

TCC CNBT 1300 RESIDENTIAL & LIGHT COMMERCIAL BLUE PRINT READING □

Prerequisite: Principles of Construction

Course: 0194

Credits: 1

Placement: 10-12

Length: 18 weeks

This course includes introductory blueprint reading for residential and light commercial construction. Course offered at Ben Barber and is taught concurrently with Construction Technology I (1820CA).

TCC CNBT 1316 CONSTRUCTION TECHNOLOGY I □

Prerequisite: Principles of Construction

Course: 0195

Credits: 1

Placement: 10-12

Length: 18 weeks

This course is an introduction to site preparation foundations, form work, safety, tools and equipment. Course offered at Ben Barber and is taught concurrently with Construction Technology I (1820CB).

TCC CNBT 1110 BASIC CONSTRUCTION SAFETY □

Prerequisite: Construction Technology I

Course: 0198

Credits: 1

Placement: 11-12

Length: 18 weeks

This course is basic job site construction safety in residential, commercial, and industrial construction. Course offered at Ben Barber and is taught concurrently with Construction Technology II (1825CA).

TCC CNBT 1350 CONSTRUCTION TECHNOLOGY II □

Prerequisite: Construction Technology I

Course: 0199

Credits: 1

Placement: 11-12

Length: 18 weeks

This course is framing in residential and light commercial construction. Includes safety, tools, and equipment used in floor, wall, ceiling, and roof framing methods and systems. Course offered at Ben Barber and is taught concurrently with Construction Technology II (1825CB).

Upon completion of all 4 TCC CNBT courses, students will earn a Residential/Commercial Site Layout & Framing Assistant Occupational Skills Award from TCC.

☑ Weighted Credit

*Students must successfully pass certification test(s) in order to receive the certification.

+Industry Based Certification



Business & Industry Endorsement Arts, Audio Video Technology & Communications

Design & Multimedia Arts

Levels	Courses				
Level 1	Principles of Arts, A/V Technology & Communications 1890CT / 9-12	Digital Media 1280CT & 1280A & B/ 9-12		Video Game Design 1269CT 9-12	
Level 2	Graphic Design I 1891CA-CB 10-12	Animation I 1897CA-CB 10-12	Commercial Photography I 1889CA-CB 10-12	Fashion Design I 1511A-B 10-12	Video Game Programming 1273CT 10-12 <i>Prerequisite: Video Game Design</i>
<i>+Adobe Photoshop Certification Possible</i>					
Level 3	Graphic Design II 1893CA-CB 10-12 <i>Prerequisite: Graphic Design I</i> <i>+Adobe Illustrator Certification Possible</i>	Digital Art & Animation 1053BB/10-12 <i>Prerequisite: Anim I</i> Fine Arts Credit	Commercial Photography II 1888CA-CB 10-12 <i>Prerequisite: Commercial Photography I</i> <i>Local Certification Possible</i>	Fashion Design II 1516A-B 10-12 <i>Prerequisite: Fashion Design I</i>	Advanced Video Game Programming 1274CT /10-12 <i>Prerequisite: Video Game Programming</i> <i>Local Certification Possible</i>
Level 4	Practicum in Graphic Design 1899CA-CB 11-12 <i>Prerequisite: GD II</i> <i>+Adobe InDesign Certification Possible</i>	Practicum in Animation 1898CA-CB 11-12 <i>Prerequisite: Digital Art & Animation OR 3D Modeling & Animation</i>	Practicum in Commercial Photography 1884CA-CB 11-12 <i>Prerequisite: Commercial Photo II</i>		

Digital Communications

Levels	Courses		
Level 1	Principles of Arts, A/V Technology & Communications 1890CT / 9-12	Professional Communications 2246/ 9-12	
Level 2	Audio/Video Production I 1869CT / 9-12	Digital Audio Technology I 1880CT / 9-12	Web Communications 1854 / 9-12
Level 3	Audio/Video Production II 1871CA-CB / 10-12 <i>Prerequisite: A/V Production I</i> <i>+Adobe Premiere Certification Possible</i>	Digital Audio Technology II 1885CT / 10-12 <i>Prerequisite: Digital Audio Technology I</i> <i>Local Certification Possible</i>	
Level 4	Practicum in Audio/Video Production 1873CA-CB / 11-12 <i>Prerequisite: Audio/Video Production II</i>	Practicum in Digital Audio Technology 1887CA-CB / 11-12 <i>Prerequisite: Digital Audio Technology II</i>	
	TV Studio Production 1875CA-CB / 11-12 <i>Prerequisite: Audio/Video Production II</i>	Sports Broadcasting Practicum 1877CA-CB / 11-12 <i>Prerequisite: Digital Audio Technology II</i>	

1 Semester Home Campus	2 Semester Home Campus	1 Semester Ben Barber	2 Semester Ben Barber	Ben Barber or Home Campus
Level I				
PRINCIPLES OF ARTS, AUDIO/VIDEO TECHNOLOGY & COMMUNICATIONS				Placement: 9-12
Course: 1890CT		Credits: 1		Length: 18 weeks
<p>This course will introduce students to careers in Design & Multimedia Arts and Digital Communication. Students will develop an understanding of the various and multifaceted career opportunities in this cluster and the knowledge, skills and educational requirements for those careers.</p>				
DIGITAL MEDIA (Offered at BB & HC)				Placement: 9-12
Course: 1280CT OR 1280A/B		Credits: 1		Length: 18 weeks(BB) OR 36 weeks(HC)
<p>Students will develop beginner-intermediate skills in Adobe Creative Suite software including InDesign, Photoshop Extended, Acrobat Professional, Illustrator, and Fireworks. Become a multimedia, presentation master! In this course the students design and create original interactive computer generated multimedia projects and presentations. Students will learn to use digital cameras and scan and edit photographs. Students create animation and dynamic web content while learning about careers and the ethical, acceptable use of multimedia. Portfolio development, along with correct oral and written communication skills will be integral in all aspects of this course.</p>				
VIDEO GAME DESIGN				Placement: 9-12
Course: 1269CT		Credits: 1		Length: 18 weeks
<p>Students will learn the basics of computer science, video game design and development. Students will program in Game Maker using drag and drop options and scripting. Students will also learn design, teamwork, presentation preparation and delivery, real-world time management and many basic computer and media technology skills. Other programming environment and game design techniques may also be studied to reinforce basic skills. Topics covered are mathematics, physics, design and computer programming.</p>				
PROFESSIONAL COMMUNICATIONS (Home Campus Only)				Placement: 9-12
Course: 2246		Credits: 0.5		Length: 18 weeks
<p>Professional Communications blends written, oral, and graphic communication in a career-based environment. Careers in 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.</p>				
Level II				
GRAPHIC DESIGN & ILLUSTRATION I				Placement: 10-12
Course: 1891CA/CB		Credits: 2		Length: 36 weeks
<p>This class will give students an opportunity to express and design creative ideas visually for a growing field. Commercial art concepts and design strategies will be explored using design principles and art elements for creating ads, logos, newsletters, magazine covers, illustrations and more. Students will learn to create and design artwork for projects using Adobe software. A final DVD with student artwork will be created for a digital portfolio.</p> <p>Possible Certification: +Adobe Photoshop*</p>				
ANIMATION I				Placement: 10-12
Course: 1897CA/CB		Credits: 2		Length: 36 weeks
<p>This course is for the creative student wanting to explore computer animation. Animation is a growing art form fulfilling a need in multiple careers such as entertainment, advertising commercials, medical and legal fields and other areas wanting a strong visual impact. Design principles of animation will be used for creating storyboards to develop characters and story lines. Sound will be imported into animations. Multiple file formats and forms of animation will be discussed and explored, including 2D and 3D animation. Adobe software will be used. A final DVD including animation will be created by students for a digital portfolio.</p> <p>Possible Certification: +Adobe Photoshop*</p>				

COMMERCIAL PHOTOGRAPHY I**Course: 1889CA/CB****Credits: 2****Placement: 10-12
Length: 36 weeks**

Students will develop an understanding of the commercial photography industry with a focus on creating quality photographs. 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. Within this context, students will develop knowledge and skills needed for success in the Arts, Audio/Video Technology and Communications career cluster.

Equipment Required: DSLR camera

Possible Certification: +Adobe Photoshop***FASHION DESIGN I (Home Campus Only)****Course: 1511A/B****Credits: 1****Placement: 9-12
Length: 36 weeks**

Fashion Design provides students with knowledge of the various business functions in the fashion industry and to help students develop an understanding of fashion and the textile and apparel industry. Students in Fashion Design will gain a working knowledge of promotion, merchandising, apparel construction, textiles, fashion history and career opportunities in the fashion industry.

VIDEO GAME PROGRAMMING**Prerequisite: Video Game Design****Course: 1273CT****Credits: 1****Placement: 10-12
Length: 18 weeks**

Students will dive into 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. Students will work in the Visual Studio C#, Java programming environments, XNA Game Studio or Unity.

AUDIO/VIDEO PRODUCTION I**Course: 1869CT****Credits: 1****Placement: 9-12
Length: 18 weeks**

This course is designed to provide job-specific training for entry-level employment in movie, video and television careers. Students study video technologies, basic equipment operation, video composition, basic lighting and audio production planning and visual storytelling. Students work individually and in groups to create video projects utilizing professional editing equipment and software. Ultimately, students will create a "Demo DVD" of their work. Students will also be responsible for the production of MISD programs covering many of the activities and events at all campuses.

DIGITAL AUDIO TECHNOLOGY I**Course: 1880CT****Credits: 1****Placement: 9-12
Length: 18 weeks**

This is an introductory course exploring the Radio Broadcasting industry. Students will study several topics including the history of radio, FCC rules and regulations, audio editing, commercial production and on-air broadcasting. Each student will have an opportunity to write, edit and produce his or her own radio show to be aired on the district's radio station 99.9theWILD (KMAN-FM).

WEB COMMUNICATIONS (Home Campus Only)**Course: 1854****Credit: 0.5****Placement: 9-12
Length: 18 weeks**

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.

Level III**GRAPHIC DESIGN & ILLUSTRATION II****Prerequisite: Graphic Design & Illustration I****Course: 1893CA/CB****Credits: 2****Placement: 10-12
Length: 36 weeks**

This advanced class will provide opportunities for students wanting to expand their skills and knowledge of the graphic arts and illustration field. Students will illustrate their designs and use the design process for presenting design ideas to clients. Students

will create commercial artwork, ads, logos, poster and magazine designs, and packaging for 3D designs. Students will explore aspects of careers in the growing field of advertising and visual communications industry

Possible Certification: +Adobe Illustrator*

DIGITAL ART & ANIMATION

Prerequisite: Animation I

Course: 1053BB

Credits: 1

Placement: 10-12

Length: 18 Weeks

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. **This course can be used as a Fine Arts Credit.**

3D MODELING & ANIMATION

Prerequisite: Animation I

Course: 1054BB

Credits: 1

Placement: 10-12

Length: 18 Weeks

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. **This course can be used as a Fine Arts Credit.**

Possible +Certification: Adobe Animate*

COMMERCIAL PHOTOGRAPHY II

Prerequisite: Commercial Photography I

Course: 1888CA/CB

Credits: 2

Placement: 10-12

Length: 36 weeks

Careers in commercial photography span all aspects of the industry from setting up a shot to delivering products in a competitive market. Within this context, in addition to developing advanced technical knowledge and skills needed for success in the Arts, Audio/Video 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.

Equipment Required: DSLR camera

- ★ Students can earn a Certificate of Excellence by achieving a specific list of real world skills related to this course. For the list of skills, please visit goo.gl/9VM3a9

FASHION DESIGN II (Home Campus Only)

Prerequisite: Fashion Design I

Course: 1516A/B

Credits: 1

Placement: 10-12

Length: 36 weeks

Fashion Design II focuses on careers in fashion that 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/Video Technology, and Communications Career Cluster, students will be expected to develop an understanding of the fashion industry with an emphasis on design and construction.

ADVANCED VIDEO GAME PROGRAMMING

Prerequisite: Video Game Programming

Course: 1274CT

Credits: 1

Placement: 10-12

Length: 18 weeks

This course give students the opportunity to dive further into game development in a mobile environment and provide them with the real world processes and systems used in the creation of games and simulations. Students will work in the Android and Java environments.

- ★ Students can earn a Certificate of Excellence by achieving a specific list of real world skills related to this course. For the list of skills, please visit goo.gl/9VM3a9

AUDIO/VIDEO PRODUCTION II

Prerequisite: Audio/Video Production I

Placement: 10-12

Length: 36 weeks

Course: 1871CA/CB

Credits: 2

This course refines the video and multimedia production skills to prepare the student for post-secondary education or entry-level employment in the media technology industry. Students will be responsible for the production of several programs such as Every 15 Minutes and the Senior Video. Seniors will work on producing their personal Demo Reel which they will be able to utilize for acceptance to various colleges, trade schools and internships.

Possible Certification: +Adobe Premiere*

DIGITAL AUDIO TECHNOLOGY II

Placement: 10-12

Prerequisite: Digital Audio Technology I

Length: 18 weeks

Course: 1885CT

Credits: 1

In this advanced course, students will be responsible for the day-to-day operation of the district's radio station, KMAN-FM. All programming will be written, edited and produced by the students for airing on a daily schedule. Students will also be responsible for covering many events including plays, sporting events and newsworthy stories that take place within MISD. Students will continue to develop their interviewing skills, on-air personality and commercial sales abilities. Demo reels will be produced for each student for possible consideration of internships with local radio stations. Students also have the opportunity to compete in Skills USA competitions.

★ Students can earn a Certificate of Excellence by achieving a specific list of real world skills related to this course. For the list of skills, please visit goo.gl/9VM3a9

Level IV

PRACTICUM IN GRAPHIC DESIGN & ILLUSTRATION

Placement: 11-12

Prerequisite: Graphic Design & Illustration II

Length: 36 weeks

Course: 1899CA/CB

Credits: 2

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/Video 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. **If a student does not have transportation, opportunities will be limited.**

Possible Certification: +Adobe InDesign*

PRACTICUM IN ANIMATION

Placement: 11-12

Prerequisite: Digital Art & Animation OR 3D Modeling & Animation

Length: 36 weeks

Course: 1898CA/CB

Credits: 2

Careers in animation 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/Video 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. **If a student does not have transportation, opportunities will be limited.**

PRACTICUM IN COMMERCIAL PHOTOGRAPHY

Placement: 11-12

Prerequisite: Commercial Photography II

Length: 36 weeks

Course: 1884CA/CB

Credits: 2

This course focuses on careers in commercial photography that 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/Video 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. **If a student does not have transportation, opportunities will be limited.**

PRACTICUM IN AUDIO/VIDEO PRODUCTION

Placement: 11-12

Prerequisite: Audio/Video Production II

Length: 36 weeks

Course: 1873CA/CB

Credits: 2

In this self-paced independent production course, students will work with a mentor in the film/video industry and produce a final project complete with script, storyboard, casting, crew and premiere to an audience. Students must obtain prior approval

before enrolling and provide an outline for a future project to be implemented by the student. **If a student does not have transportation, opportunities will be limited.**

PRACTICUM IN AUDIO TECHNOLOGY

Prerequisite: Digital Audio Technology II

Course: 1887CA/CB

Credits: 2

Placement: 11-12

Length: 36 weeks

This advanced level of Radio Broadcasting is an extension of the two previous classes. This class will focus on the management side of every day operations of 99.9 The Wild, Mansfield ISD's official radio station. The students enrolled in this class will be placed into different managerial roles and will be responsible for promotions, music, programming and everyday operations of the station. This class will prepare them for the everyday ins and outs of a commercial radio station. Students also have the opportunity to compete in Skills USA competitions. **If a student does not have transportation, opportunities will be limited.**

TV STUDIO PRODUCTION

Prerequisite: Audio/Video Production II

Course: 1875CA/CB

Credits: 2

Placement: 11-12

Length: 36 weeks

Students will work in a television studio environment learning all aspects of studio production including camera, lighting, directing, producing and techniques of professional on-air talent. Projects will consist of talk shows, newscasts, game shows etc. that will be scheduled for viewing on MISD-TV. Students will understand the TV studio environment from both the production side as well as the business side. **If a student does not have transportation, opportunities will be limited.**

SPORTS BROADCASTING PRACTICUM

Prerequisite: Digital Audio Technology II

Course: 1877CA/CB

Credits: 2

Placement: 11-12

Length: 36 weeks

This Radio Broadcasting Practicum course focuses on the field of Sports Broadcasting. The students will learn both live play-by-play techniques as well as sports talk radio techniques. The students will be responsible for the athletic events within the district as well as sports programming for 99.9theScore (KMAN-FM). Students develop their interviewing and broadcast preparation skills as well as their sports knowledge. Demo reels will be produced for each student for possible consideration of internships with local sports affiliates. **If a student does not have transportation, opportunities will be limited.**

***Students must successfully pass certification test(s) in order to receive the certification.**

+Industry Based Certification



Business & Industry Endorsement Business, Marketing & Finance

Accounting & Financial Services

Levels	Courses		
Level 1	Principles of Business Marketing & Finance 1715CT / 9-12	Money Matters 1230CT & 1230A & B / 9-12	BIM I 1240A-B 9-12 <i>+Microsoft Office Specialist Word</i>
Level 2	Accounting I 1271CT / 10-12 <i>+Microsoft Office Specialist Excel</i>	Financial Mathematics 1224CT / 10-12 <i>Prerequisite: Algebra I</i> Math Credit	Banking & Financial Services 1226/10-12
Level 3	Accounting II 1272CT / 11-12 <i>Prerequisite: Accounting I</i> <i>+Microsoft Office Expert Excel</i> Math Credit	Financial Analysis 1227CT / 11-12 <i>Prerequisite: Accounting I</i> <i>Local Certification Possible</i>	
Level 3	Security & Investments 1225CT / 11-12	Practicum in Business Management 1251CA-CB / 11-12	

Business Management

Levels	Courses		
Level 1	Principles of Business Marketing & Finance 1715CT / 9-12	BIM I 1240A-B / 9-12 <i>+Microsoft Office Specialist Word</i>	
Level 2	Business Law 1215CT & 1215A & B / 10-12	Virtual Business 1203 / 10-12	BIM II 1250A-B / 10-12 <i>Prerequisite: BIM I</i> <i>+Microsoft Office Expert Word</i>
Level 3	Business Management 1216CT / 10-12 <i>Prerequisite: 1-Level I or II Business Management Course</i> <i>Local Certification Possible</i>	Global Business AND Human Resource Management 1201CT & 1202CT OR 1201/1202 / 10-12 <i>Courses offered together at Ben Barber or separately at home campus</i>	
Level 4	Practicum in Business Management 1251CA-CB / 11-12		

Entrepreneurship

Levels	Courses	
Level 1	Principles of Business, Marketing & Finance 1715CT / 9-12	
Level 2	Entrepreneurship 1720CT / 10-12 <i>+Entrepreneurship & Small Business Certification Possible</i>	
Level 3	Entrepreneurship II 1721CT / 11-12	Mobile Applications Development 1052CT / 9-12 <i>Prerequisite: Algebra I</i>
Level 4	Practicum in Business Management 1251 CA-CB / 11-12	

Marketing & Sales

Levels	Courses			
Level 1	Principles of Business, Marketing & Finance 1715CT / 9-12			
Level 2	Sports & Entertainment Marketing AND Fashion Marketing 1725CT AND 1515CT / 9-12 <i>Courses must be taken together</i> +Google Analytics Individual Qualification Certification Possible	Virtual Business 1203 / 10-12		
Level 3	Social Media Marketing AND Advertising 1727CT AND 1711CT / 10-12 <i>Courses must be taken together</i>			
Level 4	Advanced Marketing 1367CT / 11-12 <i>Prerequisite: One credit from Level 2 or 3 Marketing Courses</i>	Practicum in Marketing 1364 CA-CB / 11-12		
1 Semester Home Campus	2 Semester Home Campus	1 Semester Ben Barber	2 Semester Ben Barber	Ben Barber or Home Campus

Level I

PRINCIPLES OF BUSINESS, MARKETING & FINANCE **Placement: 9-12**
Course: 1715CT **Credits: 1** **Length: 18 weeks**

Students gain knowledge and skills in economics and private enterprise systems, the impact of global business, 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.

MONEY MATTERS (Offered at BB & HC) **Placement: 9-12**
Course: 1230CT OR 1230A/B **Credits: 1** **Length: 18 weeks(BB) or 36 weeks(HC)**

This course introduces students to the financial planning process and the components of a comprehensive financial plan. Students will investigate global economics with emphasis on the free enterprise system and its impact on consumers and businesses. Students will learn how to achieve long-term financial goals by preparing a financial plan that includes saving, investing, budgeting, borrowing, risk management (insurance) and retirement and estate planning. Students will analyze income and taxes, learn to use credit wisely, evaluate personal financial needs and manage personal finances.

BUSINESS INFORMATION MANAGEMENT I (Home Campus Only) **Placement: 9-12**
Course: 1240A/B **Credits: 1** **Length: 36 weeks**

This course provides students the opportunity to implement personal and interpersonal skills to strengthen individual performance in the workplace and/or postsecondary education. Students apply technical skills, using Microsoft Office to create word-processing documents, develop a spreadsheet, formulate a database, and make an electronic presentation.

Possible Certification: +Microsoft Office Specialist Word*

Level II

ACCOUNTING I **Placement: 10-12**
Course: 1271CT **Credits: 1** **Length: 18 weeks**

Students in this course will learn to record and interpret accounting information through accounting terminology, the use of the accounting equation and its application to procedures and the basic steps in the accounting cycle. Good work habits and the ability to apply mathematical analysis in problem-solving situations are necessary to satisfactorily complete practice simulation for a sole proprietorship, partnership and/or corporation. Students will complete some work in the computer lab. This course is a "must" for any student planning to major in business or own his/her own business in the future.

Possible Certification: +Microsoft Office Specialist Excel*

FINANCIAL MATHEMATICS**Prerequisites:** Algebra I**Course:** 1224CT**Credits:** 1**Placement:** 10-12**Length:** 18 weeks

This course is about personal money management. Students will apply critical-thinking skills to analyze personal financial decisions based on current and projected economic factors. Financial Mathematics will integrate career and postsecondary education planning into financial decision making. **Note: Course can be used as an additional math credit for graduation.**

BANKING & FINANCIAL SERVICES (Home Campus Only)**Course:** 1226**Credits:** 0.5**Placement:** 10-12**Length:** 18 weeks

This course surveys the principles and practices of banking and credit in the United States and globally. The students learn about the major functions of banks and other depository institutions, in-house operations and procedures, central banking through the Federal Reserve System, and modern trends in the banking industry. Students develop the knowledge and skills in the many aspects of banking to become competent consumers, employees, and entrepreneurs. The credit component provides an overview of credit functions and operations including credit risk evaluation, loan creation and debt collection.

BUSINESS LAW (Offered at BB & HC)**Course:** 1215CT OR 1215A/B
weeks(HC)**Credits:** 1**Placement:** 10-12**Length:** 18 weeks(BB) OR 36

Students analyze the social responsibility of business and industry regarding the significant issues relating to the legal environment, business ethics, torts, contracts, negotiable financial instruments, personal property, sales, warranties, business organizations, concept of agency and employment and real property.

VIRTUAL BUSINESS (Home Campus Only)**Course:** 1203**Credits:** 0.5**Placement:** 10-12**Length:** 18 weeks

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.

BUSINESS INFORMATION MANAGEMENT II (Home Campus Only)**Prerequisite:** BIM I**Course:** 1250A/B**Credits:** 1**Placement:** 10-12**Length:** 36 weeks

This course continues where Business Information Management I end and students will create complex word-processing documents, develop sophisticated spreadsheets using charts and graphs and make electronic multimedia presentations. In addition students may prepare for and take Microsoft Office Specialist certification tests in Word, Excel and PowerPoint.

Possible Certification: +Microsoft Office Expert Word*

ENTREPRENEURSHIP**Course:** 1720CT**Credits:** 1**Placement:** 10-12**Length:** 18 weeks

Students will gain the knowledge and skills needed to become an entrepreneur, which include learning the principles necessary to begin and operate a business. The primary focus of the course is to help students understand the process of analyzing a business opportunity, preparing a business plan, determining feasibility of an idea using research, and developing a plan to organize and promote the business and its products and services. In addition, students understand the capital required, the return on investment desired and the potential for profit. Students are encouraged to participate in DECA, a co-curricular youth organization for Marketing, Management and Entrepreneurship.

Possible Certification: +Entrepreneurship & Small Business*

SPORTS & ENTERTAINMENT MARKETING / FASHION MARKETING**Course:** 1725CT & 1727CT**Credits:** 1**Placement:** 9-12**Length:** 18 weeks

Sports & Entertainment Marketing will allow students to actually study what many universities are offering as college majors. This course exposes students to skills necessary to form a sports franchise and the knowledge needed to have a successful event for ten close friends or thousands of energetic fans. Fashion Marketing is designed to provide students with the knowledge of the various business functions in the fashion industry. Students will gain a working knowledge of promotion, textiles, merchandising, mathematics, selling, visual merchandising and career opportunities in the field of fashion marketing. Students

are encouraged to participate in DECA, a co-curricular youth organization for Marketing, Management and Entrepreneurship. **These courses must be taken together.**

Level III

ACCOUNTING II

Prerequisites: Accounting I
Course: 1272CT

Credits: 1

Placement: 11-12
Length: 18 weeks

Accounting II introduces the fundamentals of management accounting, including manufacturing and cost accounting, budgeting, accounting for managerial decision making and financial statement analysis. Students learn how to use accounting information for internal decision making and for planning and control. Because accounting knowledge is beneficial to business professionals in every discipline, this course provides them with the financial acumen necessary to make informed personal and business decisions. **Note: Course can be used as an additional math credit for graduation.**

Possible Certification: +Microsoft Office Expert Excel*

FINANCIAL ANALYSIS

Prerequisites: Accounting I
Course: 1227CT

Credits: 1

Placement: 11-12
Length: 18 weeks

Part of managing a successful and solvent business is evaluating performance in areas such as income, profitability, liquidity, working capital, debt, cash flow, etc. Students will also analyze accounting systems to examine their contribution to the fiscal stability of a business. By the end of the course, students will be able to evaluate company case studies and discuss the financial stability and value of the company.

- ★ Students can earn a Certificate of Excellence by achieving a specific list of real world skills related to this course. For the list of skills, please visit goo.gl/9VM3a9

BUSINESS MANAGEMENT

Prerequisite: 1-Level I or II Business Management Course
Course: 1216CT

Credits: 1

Placement: 10-12
Length: 18 weeks

Students analyze the primary functions of management and leadership, which are planning, organizing, staffing, directing or leading and controlling. They develop a foundation in the economic, financial, technological, international, social and ethical aspects of business to become competent managers, employees and entrepreneurs. Emphasis will be placed on project and video simulations.

- ★ Students can earn a Certificate of Excellence by achieving a specific list of real world skills related to this course. For the list of skills, please visit goo.gl/9VM3a9

GLOBAL BUSINESS / HUMAN RESOURCES MANAGEMENT (Offered at BB & HC)

Course: 1201CT & 1202CT OR 1201,1202
weeks(HC)

Credits: 1

Placement: 10-12
Length: 18 weeks(BB) OR 36

In Global Business students will implement personal and interpersonal skills to strengthen individual performance in the workplace and in society and to make a successful transition to the workforce and postsecondary education. Students will apply technical skills to address global business applications of emerging technologies. Students will develop a foundation in the economic, financial, technological, international, social, and ethical aspects of business to become competent consumers, employees, and entrepreneurs. Students will enhance reading, writing, computing, communication and reasoning skills and apply them to the business environment. In Human Resource Managements, students analyze the primary functions of human resources management, which include recruitment, selection, training, development and compensation. Topics will incorporate social responsibility of business and industry to its employees. Courses must be taken together at BBIA.

Both Global Business (1201) and Human Resources Management (1202) are offered on the home campus as 0.5 credit courses and do not have to be taken together. They must be taken together at Ben Barber.

ENTREPRENEURSHIP II

Course: 1721CT

Credits: 1

Placement: 11-12
Length: 18 weeks

Students will build on what they learned in Entrepreneurship I. The primary focus of the course is for students to analyze a business opportunity, developing a business plan and developing a plan to organize and promote the business and its products

and services. In addition, students understand the capital required, the return on investment desired and the potential for profit. Students are encouraged to participate in DECA, a co-curricular youth organization for Marketing, Management and Entrepreneurship.

MOBILE APPLICATIONS DEVELOPMENT

Course: 1052CT

Credit: 1

Placement: 9-12
Length: 18 weeks

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.

SOCIAL MEDIA MARKETING / ADVERTISING

Course: 1515CT & 1711CT

Credits: 1

Placement: 10-12
Length: 18 weeks

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. 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. Students are encouraged to participate in DECA, a co-curricular youth organization for Marketing, Management and Entrepreneurship. **These courses must be taken together.**

Possible Certifications: +Google Analytics Individual Qualification*

Level IV

SECURITIES & INVESTMENTS

Course: 1225CT

Credits: 1

Placement: 9-12
Length: 18 weeks

This course focuses on the roles and functions of a modern securities organization. Through a study of the structure of brokerage firms, the trading process, credit and margin practices, automated processes, and government regulations, students gain an understanding of how a securities firm services its customers and plays an important role in our economy. Students are given the opportunity to relate their knowledge of economics, accounting, and data processing to the international financial systems through participation in stock market simulation games.

PRACTICUM IN BUSINESS MANAGEMENT

Course: 1251CA/CB

Credits: 2

Placement: 11-12
Length: 36 weeks

The Practicum is designed to give students supervised practical application of previously studied knowledge and skills. 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 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. **If a student does not have transportation, opportunities will be limited.**

ADVANCED MARKETING

Prerequisite: 1 credit from Level 2 or 3 Marketing Courses

Course: 1367CT

Credits: 1

Placement: 11-12
Length: 18 weeks

Marketing is a series of dynamic activities that focuses on the customer to generate a profitable exchange. Students 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 integrate skills from academic subjects, information technology, interpersonal communication and management training to make responsible decisions. Students participate in leadership and career development activities. Students are encouraged to participate in DECA, a co-curricular youth organization for Marketing, Management and Entrepreneurship. This course may include unpaid career preparation experience.

PRACTICUM IN MARKETING**Course: 1364CA/CB****Credits: 2****Placement: 11-12****Length: 36 weeks**

Students gain knowledge and skills that help them become proficient in one or more of the marketing functional areas. This course covers technology, communication, and customer-service skills. The practicum 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. The practicum course is an unpaid experience for students participating in a coherent sequence of career and technical education courses in marketing education. **If a student does not have transportation, opportunities will be limited.**

***Students must successfully pass certification test(s) in order to receive the certification.**

+Industry Based Certifications



Public Service Endorsement Education & Training

Teaching & Training

Levels	Courses			
Level 1	Principles of Education 1536CT & 1536A-B/ 9-12			
Level 2	Human Growth & Development 1537CT / 10-12 <i>Prerequisite: Principles of Education</i>			
Level 3	Instructional Practices 1531CA-CB / 11-12 <i>Prerequisite: Human Growth & Development</i> +Educational Aide I Certification Possible			
Level 4	Practicum in Education & Training 1535CA-CB / 12 <i>Prerequisite: Instructional Practices AND Selection Process</i>			
1 Semester Home Campus	2 Semester Home Campus	1 Semester Ben Barber	2 Semester Ben Barber	Ben Barber or Home Campus

Level I

PRINCIPLES OF EDUCATION & TRAINING (Offered at BB & HC)

Course: 1536CT OR 1536A/B
weeks(HC)

Credits: 1

Placement: 9-12

Length: 18 weeks(BB) OR 36

Students will use self-knowledge and educational and career information to analyze various careers within the education and training career cluster. Students will also gain an understanding of the basic knowledge and skills essential to careers within the education and training career cluster. Students will develop a graduation plan that leads to a specific career choice in the student's interest area.

Level II

HUMAN GROWTH & DEVELOPMENT

Prerequisite: Principles of Education & Training
Course: 1537CT

Credits: 1

Placement: 10-12

Length: 18 weeks

Students will study an examination of human development across the lifespan with emphasis upon research, theoretical perspectives, and common physical, cognitive, emotional and social developmental milestones. The course covers material that is generally taught in a postsecondary, one-semester introductory course in developmental psychology or human development.

Level III

INSTRUCTIONAL PRACTICES IN EDUCATION & TRAINING

Prerequisite: Human Growth & Development AND Selection Process
Course: 1531CA/CB

Credits: 2

Placement: 11-12

Length: 36 weeks

This program provides internship experience for students considering a career in education. Students may be placed in classrooms grades Pre-K through grade 12. Internships will take place at schools within the MISD district and will be assigned based on the student's interest and career goals. Since students will be functioning directly in a teaching environment, it is imperative to exhibit a high academic standard and professional behavior. Students must provide their own transportation and proof of insurance. Students will meet at Ben Barber at least once a week.

Possible Certifications: +Educational Aide I*

Level IV

PRACTICUM IN EDUCATION & TRAINING

Prerequisite: Instructional Practices AND Selection Process

Course: 1535CA/CB

Credits: 2

Placement: 12

Length: 36 weeks

Practicum in Education and Training is a field-based internship 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 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 complete other responsibilities of classroom teachers, trainers, paraprofessionals or other educational personnel. **Students must provide their own transportation and proof of insurance.** Students will meet at Ben Barber at least once a week.

*Students must successfully pass certification test(s) in order to receive the certification.
+Industry Based Certification



Public Service Endorsement Health Science

Healthcare Informatics

Levels	Courses	
Level 1	Medical Terminology 1443CT / 9-12	Principles of Health Science 1410CT / 9-12
Level 2	BIM I 1240A-B / 9-12 +Microsoft Office Specialist Word	
Level 3	Medical Coding & Billing 1460CT / 11-12 <i>Prerequisite: BIM I AND Medical Terminology AND Selection Process</i> +Medical Coding & Billing Specialist Certification Possible Stop the Bleed Certification Possible	
Level 4	World Health Research 1442CT / 11-12 <i>Prerequisite: Biology & Chemistry</i>	

Healthcare Therapeutic

Levels	Courses					
Level 1	Principles of Health Science 1410CT / 9-12			Introduction to Dental Science 1465CT / 9-12		
Level 2	Medical Terminology 1443CT / 9-12					
Level 3	Anatomy & Physiology 0810CT OR 8100A-B 11-12 <i>Prerequisite: Biology & 1 other science credit AND Principles of Health Science</i> Science Credit	Health Science Theory 1411CT 10-12 <i>Prerequisite: Biology AND Principles of Health Science</i> CPR Certification Possible	Medical Microbiology 8120CT 10-12 <i>Prerequisite: Biology & Chemistry AND Principles of Health Science</i> Science Credit	Pathophysiology 8125CT 11-12 <i>Prerequisite: Biology & Chemistry AND Principles of Health Science</i> Science Credit	Phlebotomy* 1424CT 11-12 <i>Prerequisite: Principles of Health Science AND another Level 3 course AND Selection Process</i> +Phlebotomy Technician Certification Possible AND Selection Process	EKG/ECG* 1426CT 11-12 <i>Prerequisite: Principles of Health Science AND another Level 3 course AND Selection Process</i> +Certified EKG/ECG Technician Possible AND Selection Process
Level 4	Pharmacy Technician* 1421CA-CB 12 <i>Prerequisite: Health Science Theory AND any Level 3 Healthcare Therapeutic Course AND selection process</i> +Certified Pharmacy Technician	Emergency Medical Technician* 1451CA-CB 12 <i>Prerequisite: Health Science Theory AND any Level 3 Healthcare Therapeutic Course AND selection process</i> +Emergency Medical Technician	Certified Nurse Aide/Assistant 1471CT 12 <i>Prerequisite: Health Science Theory AND any Level 3 Healthcare Therapeutic Course AND selection process</i> +Certified Nurse Aide/Assistant Certification Possible	Patient Care Technician* 1413CA-CB 12 <i>Prerequisite: Health Science Theory AND Phlebotomy OR EKG/ECG AND selection process</i> +Patient Care Technician Certification Possible	Clinical Internship* 1431CA-CB 12 <i>Prerequisite: Health Science Theory AND any Level 3 Healthcare Therapeutic Course AND selection process</i> OSHA 10 Hour Certification Possible	

	<i>Certification Possible</i>	<i>Basic Certification Possible</i>			
*Students cannot take Phlebotomy AND EKG/ECG. Students cannot take EMT AND Clinical Internship. Students cannot take Pharmacy Tech AND Patient Care Technician.					
1 Semester Home Campus	2 Semester Home Campus	1 Semester Ben Barber	2 Semester Ben Barber	College Course Weighted Credit	
Level I					
PRINCIPLES OF HEALTH SCIENCE					Placement: 9-12
Course: 1410CT			Credits: 1		Length: 18 weeks
<p>This course provides an introduction to health care careers, education and skills needed to attain various health care degrees, and insight into the functionality of teamwork in health care. Students will have the opportunity to explore: how to build effective communication skills, examine medical ethics and legal responsibilities, discuss standards of client care and safety and medical language as used in a variety of health care environments. This course will enhance the student's ability to successfully secure employment or pursue advanced education in health care and prepare for the transition to clinical or work-based experiences in health care.</p>					
MEDICAL TERMINOLOGY					Placement: 9-12
Course: 1443CT			Credits: 1		Length: 18 weeks
<p>Students are introduced to the language of medicine while learning possible lifesaving techniques of CPR and First Aid. Students will learn the structure of medical terms and will build upon this foundation through each body system unit of study. Special focus will be on the application and use of medical language and terminology as it pertains to body systems related to cardiopulmonary emergencies as well as caring for sudden illness and injuries.</p>					
INTRODUCTION TO DENTAL SCIENCE					Placement: 9-12
Course: 1465CT			Credit: 1		Length: 18 weeks
<p>Introduction to Dental Science is a 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.</p>					
Level II					
BUSINESS INFORMATION MANAGEMENT I (Home Campus Only)					Placement: 9-12
Course: 1240A/B			Credits: 1		Length: 36 weeks
<p>This course provides students the opportunity to implement personal and interpersonal skills to strengthen individual performance in the workplace and/or postsecondary education. Students apply technical skills, using Microsoft Office to create word-processing documents, develop a spreadsheet, formulate a database, and make an electronic presentation.</p> <p>Possible Certification: +Microsoft Office Specialist Word*</p>					
Level III					
MEDICAL BILLING & CODING					Placement 11-12
Prerequisite: BIM I AND Medical Terminology AND Selection Process					Length: 18 weeks
Course: 1460CT			Credits: 1		
<p>The medical billing and coding program will offer a unique opportunity for students to learn the business side of medicine. A detailed curriculum takes the students through every step of this of growing field and prepares each student for a future in the medical industry. This course requires students to develop patient bill routines, entering patient demographics, generating financial reports, posting transactions and entering payments, medical administrative duties, and medical records management. Upon successful completion of the Medical Billing and Coding Program, students will be qualified to sit the national certification exam through the National Certified Insurance Coding Specialist. (NCICS)</p> <p>Possible Certification: +Medical Coding & Billing Specialist AND Stop the Bleed Student must be 16 to take certification exam.</p>					
ANATOMY & PHYSIOLOGY					Placement: 11-12
Prerequisite: Biology AND 1 other science AND Principles of Health Science					Length: 18 wks BB/36wks HC
Course: 0810CT BB/8100A-B HC			Credits: 1		

Students will study the structures and functions of the human body systems. Students will do a comparative study of mammals with an in depth mammalian dissection. Human development, maintenance of homeostasis, transport systems and energy processes will also be topics of study. As part of the laboratory investigative process, students will be active in the dissection of prepared specimens. **Note: Course can be used as an additional science credit for graduation.**

HEALTH SCIENCE THEORY

Prerequisite: Biology and Principles of Health Science

Course: 1411CT

Credits: 1

Placement: 10-12

Length: 18 weeks

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 employ hands-on experiences for continued knowledge and skill development. To pursue a career in the health science industry, students should recognize, learn to reason, think critically, make decisions, solve problems, and communicate effectively. Students should recognize that quality health care depends on the ability to work well with others. **This course is a prerequisite for ALL Health Science Practicum courses.**

Possible Certification: CPR*

MEDICAL MICROBIOLOGY

Prerequisite: Biology AND Chemistry AND Principles of Health Science

Course: 8120CT

Credits: 1

Placement: 10-12

Length: 18 weeks

Students will study the relationships of microorganisms to wellness and disease. Students will develop knowledge and skills related to disease prevention by learning the chain of infection, asepsis and standard precautions. Pathogenic and nonpathogenic organisms will be identified to assist in the understanding of specific diseases, causative agents and treatment options. **Note: Course can be used as an additional science credit for graduation.**

PATHOPHYSIOLOGY

Prerequisite: Biology AND Chemistry AND Principles of Health Science

Course: 8125CT

Credits: 1

Placement: 11-12

Length: 18 weeks

Students will study disease processes and how human systems are affected. Emphasis is placed on prevention and treatment of diseases. Students will differentiate between normal and abnormal physiology. **Note: Course can be used as an additional science credit for graduation.**

PHLEBOTOMY

Prerequisite: Principles of Health Science AND another Level 3 course AND Selection Process

Course: 1424CT

Credits: 1

Placement: 11-12

Length: 18 weeks

This course is designed to teach the knowledge in technical and procedural aspects of basic phlebotomy, including collection of blood specimens and venipuncture required to become a Phlebotomy technician. The Phlebotomy Technician program includes theory and hands-on instruction and prepares students to take the Phlebotomy Technician certification exam.

Possible Certification: +Phlebotomy Technician*

Students cannot take Phlebotomy and EKG/ECG.

EKG/ECG

Prerequisite: Principles of Health Science AND another Level 3 course AND Selection Process

Course: 1426CT

Credits: 1

Placement: 11-12

Length: 18 weeks

This course introduces the basic principles of electrocardiographic devices and their use in testing electrical impulses from the heart. Students learn how to record EKGs, vital signs, cardiac rhythms and stress. Also, individuals learn how EKG changes and myocardial infarctions are associated.

Possible Certification: +EKG/ECG Technician*

Students cannot take EKG/ECG and Phlebotomy.

Level IV

WORLD HEALTH

Prerequisite: Biology AND Chemistry

Course: 1442CT

Credits: 1

Placement: 11-12

Length: 18 weeks

This is a research-based course that examines major world health problems and emerging technologies as solutions to current medical problems. This course is designed to improve the student's understanding of the cultural, infrastructural, political, educational, and technological constraints that affect how health care is administered in the United States and in other parts of the world. World Health Research will inspire ideas for appropriate technological solutions to global health care issues. This class will also provide students with the opportunity to delve deep in the developing world as they research the culture, economy, politics, and specific health concerns that people in developing countries face. Units covered in World Health Research include: the history of disease and technology; health care systems around the world; global health and economic data; globalization of health care; public health and epidemiology; chronic and age-related diseases; infectious diseases; mental health and illnesses; maternal and perinatal conditions; immunity and disease; and cutting-edge medical technology. A major portion of this course revolves around a lengthy research project that allows students the opportunity to work in groups to explore health issues that affect a least-developed country.

PHARMACY TECHNICIAN

Prerequisite: Health Science Theory AND any Level 3 course AND selection process

Course: 1421CA/CB

Credits: 2

Placement: 12

Length: 36 weeks

The curriculum will place emphasis on the pharmaceutical knowledge and laboratory skills required of health care workers while offering students the opportunity to add an industry certification to their professional portfolio. Those who successfully complete this course will be expected to take the National Pharmacy Technician Certification exam upon graduation. Students who enroll in this course will be required to participate in the clinical externship portion of the class and must meet the requirements of the Texas State Board of Pharmacy to be approved as a Pharmacy Technician Trainee. Students will be responsible for their own transportation to the approved clinical externship sites during after school hours. Twenty (20) externship hours will be required of each participant. Students will be required to pay for their own uniform. Students should be prepared to submit to a criminal background check, drug screening, TB testing, and to present proof of current immunizations including current flu shot and valid Social Security card.

Students cannot take Pharmacy Technician and Patient Care Technician.

Course Fees: a \$25 activity fee to help cover the cost of Liability Insurance, TB test, urine drug screening, back ground checks and patch. Students must obtain a Pharmacy Technician Trainee certificate (approximate cost (\$107)).

Possible Certification: +Certified Pharmacy Technician* Student must be 17 & HS Graduate to take certification exam

EMERGENCY MEDICAL TECHNICIAN

Prerequisite: Health Science Theory AND Level 3 course AND selection process

Course: 1451CA/CB

Credits: 3

Placement: 12

Length: 36 weeks

This course is designed to prepare the student to perform minimum entry-level emergency care in the out of hospital environment. At the end of this course, successful students will be eligible to sit for National certification testing as an Emergency Medical Technician-Basic. Emphasis includes recognizing the nature and seriousness of the patient's condition, administering appropriate emergency medical care, lifting, moving and positioning the patient to minimize discomfort and prevent further injury, and to perform these duties safely and effectively. Students will complete clinical hours in the hospital and ambulance ride outs with the MFD post-graduation to be eligible for the exam. Students should be prepared to submit to a criminal background check, drug screening, TB testing, and to present proof of current immunizations including current flu shot and valid Social Security card. The classroom portion of this course will be taught at the Ben Barber campus. Students will be required to provide their own transportation to clinical sites.

Students cannot take EMT and Clinical Internship.

Course Fee: A \$100.00 activity fee to help cover cost of Liability Insurance and TB test AND security background check and drug screening through MedStar. A uniform is required for this course. Students are required to buy pants, shoes, undershirt, watch and belt.

Possible Certification: +Emergency Medical Technician* Student must be 18 & HS Graduate to take certification exam

CERTIFIED NURSING AIDE**Placement: 12****Prerequisite: Health Science Theory AND any Level 3 course AND selection process****Length: 18 weeks****Course: 1471CT****Credits: 1**

This course, approved by the Texas Department of Aging and Disability Services, is designed to prepare students for a nursing-related career in healthcare facilities. Students must have an original Social Security card, successfully complete this course and pass the state written and skills performance exams to be listed in the Texas Registry. The classroom portion of the course will be taught at the Ben Barber campus and the clinical experience will be held off campus in a healthcare facility. Students will be provided transportation to the clinical site. All students will be required to utilize this transportation. Students should be prepared to submit to a criminal background check, drug screening, TB testing, and to present proof of current immunizations including current flu shot. All candidates must provide a valid Social Security card.

Course Fee: A \$25.00 activity fee to help cover cost of Liability Insurance, TB test, Urine drug screening, background checks and patch.

Possible Certification: +Certified Nursing Assistant* Student must be 16 to take certification exam

PATIENT CARE TECHNICIAN**Placement: 12****Prerequisite: Health Science Theory AND Phlebotomy OR EKG/ECG AND selection process****Length: 36 weeks****Course: 1413CA/CB****Credits: 2**

This course prepares students for the Patient Care Technician certification exam and the responsibilities of being a Patient Care Technician. The responsibilities include helping patients with procedures such as taking vital signs, performing electrocardiography (ECG), blood draws and other needs. In addition, students will learn about providing bedside care, interactions with patients, nurses, doctors and patient's family, conduct catheterizations, saline locks and wound care procedures. All students will be required to utilize this transportation. Students should be prepared to submit to a criminal background check, drug screening, TB testing, and to present proof of current immunizations including current flu shot. All candidates must provide a valid Social Security card.

Students cannot take Patient Care Technician and Pharmacy Technician.

Course Fee: A \$25.00 activity fee to help cover cost of Liability Insurance, TB test, Urine drug screening, background checks and patch.

Possible Certification: +Patient Care Technician*

CLINICAL INTERNSHIP**Placement: 12****Prerequisite: Health Theory AND any Level 3 course AND Selection Process****Length: 36****Course: 1431CA/CB****Credits: 2**

This is an internship program for specific health professions. It is designed for those students who desire further study in a specific health specialty. Students are responsible for individualized study supervised by coordinator and clinical supervisor(s). Students are encouraged to participate in Health Occupations Students of America (HOSA), a co-curricular youth organization. Students are directed regarding participation in community service and in HOSA competition/activities. Students will learn multiple advanced practice skills as well as completing multiple research-based projects dealing with various topics related to healthcare. **Students will be expected to provide their own transportation to and from the internship sites.** Students should be prepared to submit to a criminal background check, drug screening, TB testing, and to present proof of current immunizations including current flu shot and valid Social Security card. The classroom portion of this course will be taught at the Ben Barber campus.

Course Fee: A \$25.00 activity fee to help cover cost of Liability Insurance, TB test, Urine drug screening, background checks and patch.

Possible Certification: OSHA 10 Hours*

Students cannot take Clinical Internship and EMT.

***Students must successfully pass certification test(s) in order to receive the certification.**

+Industry Based Certification



Business & Industry Endorsement Hospitality & Tourism

Culinary Arts

Levels	Courses			
Level 1	Introduction to Culinary Arts 1542CT OR 1542A-B / 9-12			
Level 2	Culinary Arts 1546CA-CB / 10-12 <i>Prerequisite: Introduction to Culinary Arts</i> +ServSafe Manager Certification Possible			
Level 3	Advanced Culinary Arts 1558CA-CB / 11-12 <i>Prerequisite: Culinary Arts</i> +Certified Fundamentals Pastry Cook Certification Possible			
Level 4	Practicum in Culinary Arts I 1547CA-CB / 11-12 <i>Prerequisite: Culinary Arts AND Selection Process</i> +Certified Fundamentals Cook Certification Possible	Practicum in Culinary Arts II 1549CA-CB / 12 <i>Prerequisite: Culinary Arts AND Selection Process</i>		
1 Semester Home Campus	2 Semester Home Campus	1 Semester Ben Barber	2 Semester Ben Barber	Ben Barber or Home Campus

Level I

INTRODUCTION TO CULINARY ARTS (Offered at BB & HC) **Placement: 9-12**
Prerequisite: Recommended that 11th/12th graders take on home campus and 9th/10th take at BB
Course: 1542CT OR 1542A-B **Credits:** 1 **Length:** 18 weeks(BB) OR 36 weeks(HC)

This laboratory course teaches students to make informed choices that promote nutrition and wellness throughout the life cycle. Instruction addresses nutritional needs of individuals, menu planning, special dietary needs, food costs and budgeting, food safety and sanitation procedures, food handling and basic food preparation procedures.

Level II

CULINARY ARTS **Placement: 10-12**
Prerequisite: Intro to Culinary Arts **Length: 36 weeks**
Course: 1546CA/CB **Credits:** 2

This is a laboratory course designed to provide specific training leading to enhanced knowledge and skills for employment in the area of Culinary Arts. Students will develop skills in culinary and baking techniques, as well as prepared catered events. Students will also learn prepping techniques for restaurant operations, which will be used in future courses involving the on-campus restaurant, Savvy's Bistro.

Course Fee: Each student is required to purchase a uniform for \$50.00
Possible Certification: +ServSafe Manager*

Level III

ADVANCED CULINARY ARTS **Placement: 11-12**
Prerequisite: Culinary Arts AND Selection Process **Length: 36 weeks**
Course: 1558CA/CB **Credits:** 2

This course 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. Students will continue to develop in-depth skills in culinary and baking techniques, as well as prepare catered events. Students will also learn prepping techniques for restaurant operations which will be used in future courses involving the on-campus restaurant,

Savvy's Bistro and be introduced to advanced cake assembly, laminated dough, chocolate work, plating and specialty showpieces. Students will also taste and evaluate products they create in class to enhance their understanding of the course material.

Course Fee: Each student is required to wear their uniform or purchase one for \$50.00

Possible Certification: +Certified Fundamentals Pastry Cook*

Level IV

PRACTICUM IN CULINARY ARTS I

Prerequisite: Culinary Arts AND Selection Process

Course: 1547CA/CB

Credits: 2

Placement: 11-12

Length: 36 weeks

This advanced laboratory course 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. Students will manage the daily operations of the on-campus restaurant, Savvy's Bistro. Students will be instructed in efficient back-of-the-house operations as well as front-of-the-house operations. Students will participate in a broad range of experiences related to the culinary arts industry.

Course Fee: Each student is required to wear their uniform or purchase one for \$50.00

Possible Certification: +Certified Fundamentals Cook*

PRACTICUM IN CULINARY ARTS II

Prerequisite: Culinary Arts AND Selection Process

Course: 1549CA/CB

Credits: 2

Placement: 12

Length: 36 weeks

This advanced laboratory course provides high level instruction in the kitchen/restaurant management. Students will receive extensive training in food preparation, inventory control, food cost and profit/loss analysis; all of which assist/support the student operated restaurant, Savvy's Bistro. **Students are required to be ServSafe certified.**

*Students must successfully pass certification test(s) in order to receive the certification.

+Industry Based Certifications



Public Service Endorsement Human Services

Family & Community Services

Levels	Courses				
Level 1	Principles of Human Services 1505A-B / 9 - 12	Professional Communications 2246 / 9 - 12	Interpersonal Studies 1517 / 9 - 12	Dollars & Sense 1220 / 9 - 12	Principles of Community Services 1523A-B / 9 - 12
Level 2	Child Development 1520A-B / 10 -12		Human Growth & Development 1537CT / 10 -12		Lifetime Nutrition & Wellness 1513 / 9 - 12
Level 3	Counseling & Mental Health 1514A-B / 11-12 <i>Prerequisite: 2 credits from Level I or II in Family & Community Services</i>			Family & Community Services 1518A-B / 10 -12 <i>Prerequisite: 2 credits from Level I or II in Family & Community Services</i>	
Level 4	No courses offered in this level at this time				
1 Semester Home Campus	2 Semester Home Campus	1 Semester Ben Barber	2 Semester Ben Barber	College Course Weighted Credit	

Level I

PRINCIPLES OF HUMAN SERVICES (Home Campus Only)

Course: 1505A/B

Credits: 1

Placement: 9-12

Length: 36 weeks

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 high-demand human services careers.

PROFESSIONAL COMMUNICATIONS (Home Campus Only)

Course: 2246

Credits: 0.5

Placement: 9-12

Length: 18 weeks

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. Students who are enrolled in this course will receive Professional Communications credit, which satisfies this ½ credit graduation requirement.

INTERPERSONAL STUDIES (Home Campus Only)

Course: 1517

Credits: 0.5

Placement: 9-12

Length: 18 weeks

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.

DOLLARS & SENSE (Home Campus Only)

Course: 1220

Credits: 0.5

Placement: 9-12

Length: 18 weeks

This course focuses on decision-making skills related to money management. Students will plan a household budget, understand proper credit card use, balance a checkbook, and calculate interest accrued from loans.

PRINCIPLES OF COMMUNITY SERVICE (Home Campus Only)

Course: 1523A/B

Credits: 1

Placement: 9-12

Length: 36 weeks

The purpose of this course is to introduce high school students to the field of non-profits/community service, as well as explore career options that provide assistance for individuals and families in need. The students will understand policies, design community service plans, and develop a portfolio of different community and state resources.

Level II

CHILD DEVELOPMENT (Home Campus Only)

Course: 1520A/B

Credits: 1

Placement: 10-12

Length: 36 weeks

This course addresses skills related to child growth and development from pregnancy through school-age. Students will identify healthy behaviors during pregnancy, understand the birthing process, and identify the physical, emotional, social, and intellectual development of children at various stages of development. Other topics include characteristics of quality child care, prevention of child abuse and investigate safe and healthy environments for children to grow and thrive properly.

HUMAN GROWTH & DEVELOPMENT

Course: 1537CT

Credits: 1

Placement: 10-12

Length: 18 weeks

Students will study an examination of human development across the lifespan with emphasis upon research, theoretical perspectives, and common physical, cognitive, emotional and social developmental milestones. The course covers material that is generally taught in a postsecondary, one-semester introductory course in developmental psychology or human development.

LIFETIME NUTRITION & WELLNESS (Home Campus Only)

Course: 1513

Credits: 0.5

Placement: 9-12

Length: 18 weeks

This laboratory course teaches students to make informed choices that promote nutrition and wellness throughout the life cycle. Instruction addresses nutritional needs of individuals, menu planning, special dietary needs, food costs and budgeting, food safety and sanitation procedures, food handling and basic food preparation procedures.

Level III

COUNSELING & MENTAL HEALTH (Home Campus Only)

Prerequisite: 2 credits from Level I or II in Family & Consumer Science

Course: 1514A/B

Credits: 1

Placement: 11-12

Length: 36 weeks

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.

FAMILY & COMMUNITY SERVICES (Home Campus Only)

Prerequisite: 2 credits from Level I or II in Family & Consumer Science

Course: 1518A/B

Credits: 1

Placement: 10-12

Length: 36 weeks

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.



Business & Industry AND STEM Endorsement Information Technology

Networking Systems

Levels	Courses	
Level 1	Computer Science I (PLTW) 1050CT / 9-12 <i>Prerequisite: Algebra I</i> LOTE Credit	Principles of Information Technology 1850CT / 9-12
Level 2	AP Computer Science Principles 1266CT / 9-12 <i>Prerequisite: Algebra I</i> Weighted & LOTE Credit	Computer Maintenance 1829CA-CB / 10-12 <i>Prerequisite: Principles of IT</i> +CompTIA A+ Certification Possible
Level 3	Networking 1831CA-CB / 11-12 <i>Prerequisite: Principles of IT</i> +CompTIA Network + Certification Possible	
Level 4	Practicum in Information Technology 1851CA-CB / 12 <i>Prerequisite: 2 courses in Information Technology OR STEM</i> +Oracle Certified Database Associate Certification Possible	

Web Development

Levels	Courses			
Level 1	Principles of Information Technology 1850CT / 9-12			
Level 2	Computer Science I (PLTW) 1050CT / 9-12 <i>Prerequisite: Algebra I</i> LOTE Credit	Web Communications 1854 / 9-12		
Level 3	Web Design 1855CT / 10-12 +WD Certified Web Design Certification Possible			
Level 4	Practicum in Information Technology 1851CA-CB / 12 <i>Prerequisite: 2 courses in Information Technology OR STEM</i> +Oracle Certified Database Associate Certification Possible			
1 Semester Home Campus	2 Semester Home Campus	1 Semester Ben Barber	2 Semester Ben Barber	College Course Weighted Credit

Level I

COMPUTER SCIENCE I (PLTW)
Prerequisite: Algebra I
Course: 1050CT

Credits: 1

Placement: 9-12
Length: 18 weeks

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 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 and regulations 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. This is a Project Lead the Way course. **Note: Course can be used as a LOTE credit for graduation.**

PRINCIPLES OF INFORMATION TECHNOLOGY**Course: 1850CT****Credits: 1****Placement: 9-12****Length: 18 weeks**

Students develop computer literacy skills to adapt to emerging technologies used in the global marketplace. Students implement personal and interpersonal skills to prepare for a rapidly evolving workplace environment. Students enhance reading, writing, computing, communication and reasoning skills and apply them to the information technology environment. Students investigate the vast wealth of career opportunities in the Information Technology field. Students learn beginning computer programming skills and the program design process.

Level II**AP COMPUTER SCIENCE PRINCIPLES □****Prerequisite: Algebra I****Course: 1266CT****Credits: 1****Placement: 9-12****Length: 18 weeks**

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 the 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 and regulations 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. **Note: Course can be used as a LOTE credit for graduation.**

COMPUTER MAINTENANCE**Course: 1829CA/CB****Credits: 2****Placement: 10-12****Length: 36 weeks**

This course prepares students for jobs in the Information Technology field. For entry-level IT technicians, this course covers preventative maintenance, basic networking, installation, troubleshooting, communication and professionalism. Students also research current technology. Students will demonstrate mastery of the industry-defined employment skills.

Possible Certification: +CompTIA A+***WEB COMMUNICATIONS (Home Campus Only)****Course: 1854****Credit: 0.5****Placement: 9-12****Length: 18 weeks**

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.

Level III**NETWORKING****Prerequisite: Computer Maintenance****Course: 1831CA/CB****Credits: 2****Placement: 11-12****Length: 36 weeks**

This course provides the student with theory and hands-on experience. The students gain experience in resolving hardware and software conflicts. Students practice SCAN Skills (industry-defined employment skills). Students develop knowledge of the concepts and skills related to telecommunications and 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.

Possible Certification: +CompTIA Network***WEB DESIGN****Course: 1855CT****Credits: 1****Placement: 10-12****Length: 18 weeks**

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.

Level IV

PRACTICUM IN INFORMATION TECHNOLOGY

Prerequisite: 2 courses in Information Technology OR STEM

Course: 1851CA/CB

Credits: 2

Placement: 12

Length: 36 weeks

This personalized independent study course will allow students interested in pursuing a career in information technology opportunities for advanced learning beyond the classroom environment. Students will engage in a variety of industry relevant experiences such as competition and or product innovation, classroom teaching opportunities, and/or advanced topics research and development. **If a student does not have transportation, opportunities will be limited.**

Possible Certification: +Oracle Certified Database Associate

Weighted Credit

***Students must successfully pass certification test(s) in order to receive the certification.**

+Industry Based Certification



Public Service Endorsement Law & Public Service

Law Enforcement

Levels	Courses		
Level 1	Principles of Law, Public Safety, Corrections & Security 9400CT / 9-12		
Level 1	Principles of Law, Public Safety, Corrections & Security 9400CT / 9-12		
Level 2	Law Enforcement I 9410CT / 9-12 <i>Prerequisite: Principles of Law</i> FEMA – Intro to Incident Command Certification Possible	Federal Protective Services 9450CT / 9-12 <i>Prerequisite: Principles of Law</i> +Non-Commissioned Security Officer Level II, Active Shooter, Critical Infrastructure Security & Resilience & FEMA Community Emergency Response Team Certification Possible	Criminal Investigation 9411CT / 10-12 <i>Prerequisite: Principles of Law</i> What Every Officer Should Know About DNA Evidence Certification Possible
Level 3	Law Enforcement II 9420CT / 10-12 <i>Prerequisite: Law Enforcement I</i> +IAED Emergency Telecommunicator Certification Possible	Correctional Services 9440CT / 12 <i>Prerequisite: Principles of Law</i>	Forensic Psychology 9431CT / 11-12 <i>Prerequisite: Principles of Law</i> Law 101: Legal Guide for Forensic Expert Certification Possible
Level 4	Practicum in Law, Public Safety, Corrections & Security 9422CA-CB / 11-12	Counseling & Mental Health 1514A-B / 11-12 <i>Prerequisite: 2 credits from Level I or II in Family & Community Services</i>	Forensic Science 9430CT / 11-12 <i>Prerequisite: Criminal Investigation AND Biology AND Chemistry</i> Crime Scene & DNA Basics Certification Possible Science Credit

Legal Studies

Levels	Courses			
Level 1	Principles of Law, Public Safety, Corrections & Security 9400CT / 9-12			
Level 2	Court Systems & Practices 9415CT / 10-12	Business Law 1215CT / 11-12		
Level 3	Advanced Legal Skills & Professionals 9416CT / 11-12 <i>Prerequisite: Court Systems & Practices</i>			
Level 4	Practicum in Law, Public Safety, Corrections & Security 9422CA-CB / 11-12			
1 Semester Home Campus	2 Semester Home Campus	1 Semester Ben Barber	2 Semester Ben Barber	College Course Weighted Credit

Level I

PRINCIPLES OF LAW, PUBLIC SAFETY, CORRECTIONS & SECURITY
 Course: 9400CT

Credits: 1

Placement: 9-12
 Length: 18 weeks

This course introduces students to professions in law enforcement, security, corrections and fire and emergency management services. Student will examine the roles and responsibilities of police, courts, corrections, private security and protective agencies of fire and emergency services. Emphasis is placed on constitutional laws for criminal procedures that are building blocks for a career in the criminal justice system. The course provides student with an overview of the skills necessary for careers in law enforcement, fire service, security and corrections.

Level II

LAW ENFORCEMENT I

Prerequisite: Principles of Law, Public Safety

Course: 9410CT

Credits: 1

Placement: 9-12

Length: 18 weeks

This course is an overview of the history, organization and functions of local, state, and federal law enforcement. This course includes the role of constitutional law, the United States legal system, criminal law, law enforcement terminology, and the classification and elements of crime. Components of this course emulate elements of a Police Academy where student will apply their knowledge and skills into a scenario-based learning environment.

Course Fee: Each student is required to purchase a uniform for \$35.00

Possible Certifications: FEMA Intro to Incident Command*

FEDERAL PROTECTIVE SERVICES

Prerequisite: Principles of Law, Public Safety

Course: 9450CT

Credits: 1

Placement: 9-12

Length: 18 weeks

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.

Possible Certifications: +Non-Commissioned Security Officer Level II, Active Shooter, Critical Infrastructure Security & Resilience, FEMA Community Emergency Response Team*

CRIMINAL INVESTIGATION

Prerequisite: Principles of Law, Public Safety

Course: 9411CT

Credits: 1

Placement: 10-12

Length: 18 weeks

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.

Possible Certifications: What every Investigator Know about DNA Evidence*

COURT SYSTEMS & PRACTICES

Course: 9415CT

Credits: 1

Placement: 10-12

Length: 18 weeks

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

BUSINESS LAW

Course: 1215CT

Credits: 1

Placement: 11-12

Length: 18 weeks

Students analyze the social responsibility of business and industry regarding the significant issues relating to the legal environment, business ethics, torts, contracts, negotiable financial instruments, personal property, sales, warranties, business organizations, concept of agency and employment and real property.

Level III

LAW ENFORCEMENT II

Prerequisite: Law Enforcement I

Course: 9420CT

Credits: 1

Placement: 10-12

Length: 18 weeks

Law Enforcement II provides the knowledge and skills necessary to prepare for a career in law enforcement. This course includes the ethical and legal responsibilities, operation of police and emergency telecommunication equipment, and courtroom testimony. Components of this course emulate more extensive elements of a Police Academy where students will apply their

knowledge and skills into a scenario-based learning environment. Students have the option to take the exam for the Emergency Telecom Certification.

Course Fee: Each student is required to purchase a uniform for \$35.00

Possible Certifications: +IAED Emergency Telecommunicator*

CORRECTIONAL SERVICES

Course: 9440CT

Credits: 1

Placement: 12

Length: 18 weeks

In Correctional Services, students prepare for the certification required for employment as a correctional officer. The student will learn the role and responsibilities of a correctional officer; discuss relevant rules, regulations, and laws; and discuss defensive tactics, restraint techniques, and first aid procedures as used in the correctional setting. The student will analyze rehabilitation and alternatives to institutionalization.

FORENSIC PSYCHOLOGY

Prerequisite: Principles of Law

Course: 9431CT

Credits: 1

Placement: 11-12

Length: 18 weeks

Forensic Psychology uses and applies basic skills developed in psychology to criminal behavior and criminal scenarios resulting in a structured and scientific approach to investigative analysis, which enables police or law enforcement officials to predict criminal activity based upon mathematical/scientific data versus abstract intuition.

Possible Certifications: Law 101: Legal Guide for Forensic Expert*

ADVANCED LEGAL SKILLS & PROFESSIONALS

Prerequisite: Court Systems & Practices

Course: 9416CT

Credits: 1

Placement: 11-12

Length: 18 weeks

This course is a more in depth look of the federal and state court systems. Emphasis is placed on constitutional law for criminal procedures such as search and seizure, stop and frisk and interrogation. Students will role play in the court room and train to compete in mock trial competitions.

Level IV

PRACTICUM IN LAW, PUBLIC SAFETY, CORRECTIONS & SECURITY

Course: 9422CA/CB

Credits: 2

Placement: 11-12

Length: 36 weeks

Students will have supervised practical application of previously studied knowledge and skills in Law, Public Safety, Corrections, and Security by participating in a non-paid Internship that is related to their interest within the Criminal Justice Field. Partners include the MISD Police Department, Local Government Agencies, Local Attorneys, Texas Department of Criminal Justice, Texas Attorney General and Tarrant County Sheriff's Department. **If a student does not have transportation, opportunities will be limited.**

COUNSELING & MENTAL HEALTH (Home Campus Only)

Prerequisite: 2 credits from Level I or II in Family & Community Services

Course: 1514A/B

Credits: 1

Placement: 11-12

Length: 36 weeks

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.

FORENSIC SCIENCE

Prerequisite: Criminal Investigation AND Biology AND Chemistry

Course: 9430CT

Credit: 1

Placement: 11-12

Length: 18 weeks

This course uses a structured and scientific approach to the investigation of crimes of assault, abuse and neglect, domestic violence, accidental death, homicide and the psychology of criminal behavior. Student will learn terminology and investigative procedures related to crime scene, questioning, interviewing, criminal behavior characteristics, truth detection and scientific procedures used to solve crimes. Using scientific methods, students will collect and analyze evidence through case studies, simulated crime scenes and laboratory applications such as fingerprint analysis, ballistics, blood spatter analysis and DNA.

Students will learn the history, legal aspects, and career options for forensic science. **Note: Course can be used as an additional science credit for graduation.**

Possible Certification: Crime Scene & DNA Basics*

*Students must successfully pass certification test(s) in order to receive the certification.

+Industry Based Certification



Business & Industry Endorsement Manufacturing

Manufacturing Technology

Levels	Courses	
Level 1	Principles of Manufacturing 1809CT / 9-12	
Level 2	Diversified Manufacturing I <i>Prerequisites: Principles of Manufacturing</i> 1828CT / 9-12	
Level 3	Precision Metal Manufacturing I 1806CA-CB / 10-12 <i>Prerequisites: Principles of Manufacturing</i> <i>OSHA 10 Hour Certification Possible</i>	Computer Integrated Manufacturing (PLTW) 1838CT / 10-12 <i>Prerequisite: Principles of Engineering</i> Weighted Credit <i>Local Certification Possible</i>
Level 4	Precision Metal Manufacturing II 1807CA-CB / 11-12 <i>Prerequisite: Precision Metal Manufacturing I</i> <i>+NIMS Level I CNC Milling Certification Possible</i>	Practicum in Manufacturing 1822CA-CB / 12 <i>Prerequisite: Precision Metal Manufacturing I</i>

Welding

Levels	Courses	Supporting Courses
Level 1	Principles of Manufacturing 1809CT / 9-12	
Level 2	Welding I 1813 CA-CB / 10-12 <i>Prerequisite: Principles of Manufacturing</i> <i>+AWS D1.1 Structural Steel Tack Welder AND</i> <i>OSHA 10 Hour Certification Possible</i>	TCC WLDG 1417 Intro to Layout & Fabrication 0178 / 11-12 <i>No TSI Requirement</i> Weighted Credit This course will be completed in the 1 st semester
Level 3	Welding II 1814CA-CB / 11-12 <i>Prerequisites: Welding I</i> <i>+AWS D1.1 Structural Steel Welder Certification Possible</i>	TCC WLDG 1428 Intro to Shielded Metal Arc Welding 0176 / 10-12 <i>No TSI Requirement</i> Weighted Credit TCC WLDG 1430 Intro to Gas Metal Arc Welding 0177 / 10-12 <i>No TSI Requirement</i> Weighted Credit
Level 4	Practicum in Manufacturing 1822CA-CB / 12 <i>Prerequisites: Welding I</i>	
1 Semester Home Campus	2 Semester Home Campus	1 Semester Ben Barber
		2 Semester Ben Barber
		College Course Weighted Credit

Level I

PRINCIPLES OF MANUFACTURING
Course: 1809CT

Credit: 1

Placement: 9-12
Length: 18 weeks

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 the modern world, using knowledge and skills in the proper application of principles of manufacturing, the design of technology, the efficient production of technology, and the assessment of the effects of manufacturing production technology. Students will apply, and transfer academic knowledge and skills to a variety of interesting and relevant activities, problems, and settings in a manufacturing

setting. Students will gain an understanding of career opportunities available in manufacturing and what employers require to obtain and maintain employment in these careers.

Level II

DIVERSIFIED MANUFACTURING

Prerequisite: Principles of Manufacturing
Course: 1828CT

Credit: 1

Placement: 9-12
Length: 18 weeks

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.

WELDING I

Prerequisite: Principles of Manufacturing
Course: 1813CA/CB

Credits: 2

Placement: 10-12
Length: 36 weeks

This course provides the knowledge, skills, and technology required for employment in metal technology systems. This course supports the integration of academic and technical knowledge and skills. Students will wire weld as well as use hand and power tools. The plasma cutter and the cutting torch will be also be introduced. Students will use measurement, drafting, welding and metal fabrication skills. Projects may require a lab fee.

Possible Certification: +AWS D1.1 Structural Steel Tack Welder and OSHA 10 Hour*

TCC WLDG 1417 Introduction to Layout & Fabrication can be taken concurrently with this class. There is no TSI requirement, but students must register and pay tuition by TCC deadline.

Level III

PRECISION METAL MANUFACTURING I

Prerequisite: Principles of Manufacturing
Course: 1806CA/CB

Credits: 2

Placement: 10-12
Length: 36 weeks

This course provides the knowledge, skills, and technologies required for employment in metal technology systems. This course may also address a variety of materials in addition to metal such as plastics, ceramics, and wood. Students develop knowledge of the concepts and skills related to these systems to apply them to personal and career development. Projects may require a lab fee.

Possible Certification: OSHA 10 Hour*

COMPUTER INTEGRATED MANUFACTURING

Prerequisite: Principles of Engineering
Course: 1838CT

Credits: 1

Placement: 10-12
Length: 18 weeks

This course applies principles of robotics and automation. Students learn to program machinery to bring their 3D design while introducing computer programming and the processes used to manufacture today's consumer products. This course builds on the skills students develop in Introduction to Engineering Design and Principles of Engineering. Students use CNC equipment to produce actual models of their three-dimensional designs. Fundamental concepts of robotics used in automated manufacturing and design analysis are included. This course allows students the opportunity to earn transcribed college credit or to articulate college credit hours upon high school graduation through participating college/university Tech Prep programs. This is a Project Lead the Way course.

Students can earn a Certificate of Excellence by achieving a specific list of real world skills related to this course. For the list of skills, please visit goo.gl/9VM3a9

WELDING II

Prerequisite: Welding I
Course: 1814CA/CB

Credits: 2

Placement: 11-12
Length: 36 weeks

This course builds upon knowledge and skills developed in Collision Repair and Welding. Students will develop advanced welding concepts and skills as they relate to personal career development. This course integrates academic and technical knowledge and skills. Students will have opportunities to reinforce, apply and transfer knowledge and skill to a variety of settings and problems. Projects may require a lab fee.

Possible Certification: +AWS D1.1 Structural Steel*

TCC WLDG 1428 Introduction to Shielded Metal Arc Welding and TCC WLDG 1430 Introduction to Gas Metal Arc Welding can be taken concurrently with this class. There is no TSI requirement, but students must register and pay tuition by TCC deadline.

Level IV

PRECISION METAL MANUFACTURING II

Prerequisite: Precision Metal Manufacturing I

Course: 1807CA/CB

Credits: 2

Placement: 11-12

Length: 36 weeks

This course trains students in the area of Computer Numerical Control (CNC) entry and intermediate machinist skills. This course will enhance technical knowledge and skills by allowing students the opportunity to explore career preparation through onsite internships with manufacturing business partners in our community. Student must provide their own transportation to participate in this course.

Possible Certification: +NIMS Level 1 CNC Milling*

PRACTICUM IN MANUFACTURING

Prerequisite: Welding I OR Precision Metal Manufacturing I

Course: 1822CA/CB

Credits: 2

Placement: 12

Length: 36 weeks

Students will gain supervised practical application of previously studied knowledge and skills in metal manufacturing focusing on welding. Students in this course will be required to participate in an internship with a local business to give them real world work experience. The student is expected to go out and secure this internship within the first week of class. Students are expected to know how to use all equipment from previous courses as well as be able to read and interpret working drawings with weld symbols. **If a student does not have transportation, opportunities will be limited.**

Supporting Courses

TCC WLDG 1417 INTRO TO LAYOUT & DESIGN

Prerequisite: Welding I

Course: 0178

Credits: 1

Placement: 11-12

Length: 18 weeks

This fundamental course in layout and fabrication related to the welding industry. Major emphasis is placed on structural shapes and use in construction. Course offered at Ben Barber and is taught concurrently with Welding I (1813CA)

TCC WLDG 1428 INTRO TO SHIELDED METAL ARC WELDING

Prerequisite: Principles of Manufacturing

Course: 0176

Credits: 1

Placement: 10-12

Length: 18 weeks

This course is an introduction to the shielded metal arc process. Emphasis is placed on power sources, electrode selection, oxy-fuel cutting and various joint designs. Instruction provided in SMAW fillet welding in various positions. Course offered at Ben Barber and is taught concurrently with Welding II (1814CA).

TCC WLDG 1430 INTRO TO GAS METAL ARC WELDING

Prerequisite: Principles of Manufacturing

Course: 0177

Credits: 1

Placement: 10-12

Length: 18 weeks

This course teaches the principles of gas metal arc welding, set-up and use of GMAW equipment and safe use of tools and equipment. Instruction in various joint designs. Course offered at Ben Barber and is taught concurrently with Welding II (1814CB).

Weighted Credit

*Students must successfully pass certification test(s) in order to receive the certification

+Industry Based Certification



STEM Endorsement Science, Technology, Engineering & Math

Cybersecurity

Levels	Courses		
Level 1	Foundations of Cybersecurity 1853CT / 9-12	Principles of Information Technology 1850CT / 9-12	
Level 2	Computer Science I (PLTW) 1050CT / 9-12 <i>Prerequisite: Algebra I</i> LOTE Credit	AP Computer Science Principles 1266CT / 9-12 Weighted & LOTE Credit	Computer Maintenance 1829CA-CB / 10-12 <i>Prerequisite: Principles of IT</i> +CompTIA A+ Certification Possible
Level 3	AP Computer Science A - Math/LOTE 1055CA-CB / 10-12 <i>Prerequisite: AP Computer Science Principles</i> Weighted & 1 Credit in Math & 1 Credit in LOTE	Networking 1831CA-CB / 10-12 +CompTIA Network + Certification Possible	
Level 4	Practicum in STEM 1857CA-CB / 12 <i>Prerequisite: A Level 2 AND Level 3 STEM or IT course</i>	Practicum in Information Technology 1851CA-CB / 12 <i>Prerequisite: 2 courses in Information Technology OR STEM</i> +Oracle Certified Database Associate Certification Possible	

Engineering

Levels	Courses				Supporting Courses	
Level 1	Introduction to Engineering (PLTW) 1835CT / 9 -12 Weighted Credit +Autodesk Certified User in Inventor Certification Possible				Robotics I 1856CT / 9-12 <i>*This course will not count toward completer status</i>	
Level 2	No courses offered at Level 2 in this program of study					
Level 3	Principles of Engineering (Engineering Science) (PLTW) 1836CT / 10-12 <i>Prerequisite: Intro to Engineering AND Algebra I AND Biology AND Chemistry OR IPC</i> Weighted Credit, Science Credit	Computer Integrated Manufacturing (PLTW) 1838CT / 10-12 <i>Prerequisite: Principles of Engineering</i> Weighted Credit Local Certification Possible	Aerospace Engineering (PLTW) 1834CT / 10-12 <i>Prerequisite: Principles of Engineering</i> Weighted Credit	Civil Engineering & Architecture (PLTW) 1861CT / 10-12 <i>Prerequisite: Principles of Engineering</i> Weighted Credit		
Level 4	Edu-Drone I 1860CT / 11-12 <i>Prerequisite: Algebra I AND must have driver's license by the end of the semester</i> +FAA Part 107 Remote Drone Pilot Certification Possible		Engineering Design & Development (PLTW) 1845CT / 11-12 <i>Prerequisite: CIM OR AE OR CE</i> Weighted Credit			

Programming & Software Development				
Levels	Courses			
Level 1	No courses offered at Level 1 in this program of study			
Level 2	AP Computer Science Principles 1266CT / 9-12 Weighted Credit LOTE Credit		Computer Science I (PLTW) 1050CT / 9-12 Prerequisite: Algebra I LOTE Credit	
Level 3	AP Computer Science A – Math/LOTE 1055CA - CB / 10-12 Prerequisite: AP Computer Science Principles Weighted Credit & 1 Credit in Math & 1 Credit in LOTE	Computer Science II 1051CT / 9-12 Prerequisite: Computer Science I LOTE Credit <i>+Microsoft MTA Intro to Programming using Python Certification Possible</i>	Mobile Applications Development 1052CT / 9-12 Prerequisite: Algebra I	
Level 4	Practicum in Information Technology 1851CA-CB / 11-12 Prerequisite: 2 courses in Information Technology OR STEM <i>+Oracle Certified Database Associate Certification Possible</i>			
Renewable Energy				
Levels	Courses			
Level 1	No courses offered at Level 1 in this program of study			
Level 2	AC/DC Electronics 1841CT / 10-12 <i>+OSHA 30 Hours Certification Possible</i>			
Level 3	Solid State Electronics 1843CT / 10-12 Prerequisite: AC/DC Electronics <i>Local Certification Possible</i>			
Level 4	Practicum in STEM 1857CA-CB / 12 Prerequisite: A Level 2 AND Level 3 STEM or IT course			
1 Semester Home Campus	2 Semester Home Campus	1 Semester Ben Barber	2 Semester Ben Barber	College Course Weighted Credit
<p>Project Lead the Way is a four year sequence of courses which, when combined with traditional mathematics and science courses in high school, introduces students to the scope, rigor, and discipline of engineering prior to entering college. However, those not intending to pursue further formal education will benefit greatly from taking some or all of the courses provided.</p>				
Level I				
FOUNDATION OF CYBERSECURITY Course: 1856CT		Credits: 1	Placement: 9-12 Length: 18 weeks	
<p>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.</p>				
PRINCIPLES OF INFORMATION TECHNOLOGY Course: 1850CT		Credits: 1	Placement: 9-12 Length: 18 weeks	
<p>Students develop computer literacy skills to adapt to emerging technologies used in the global marketplace. Students implement personal and interpersonal skills to prepare for a rapidly evolving workplace environment. Students enhance reading, writing,</p>				

computing, communication and reasoning skills and apply them to the information technology environment. Students investigate the vast wealth of career opportunities in the Information Technology field. Students learn beginning computer programming skills and the program design process.

INTRODUCTION TO ENGINEERING DESIGN □

Placement: 9-12

Course: 1835CT

Credits: 1

Length: 18 weeks

Engineering is the practice of manipulating the natural world to fit our needs as humans. In this introductory course, students will learn the basics of design and communication so that they can understand and use the methods in which our designed world is created. Products are created, analyzed, and communicated using solid modeling design software. This class combines math, art, science, and group skills to prepare students for creative and exciting jobs. This course allows students the opportunity to earn transcribed college credit to articulate college credit hours upon high school graduation through participating college/university Tech Prep programs. This is a Project Lead the Way course.

Possible Certification: +Autodesk Certified User in Inventor*

Level II

COMPUTER SCIENCE I

Placement: 9-12

Prerequisite: Algebra I

Length: 18 weeks

Course: 1050CT

Credits: 1

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 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 and regulations 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. This is a Project Lead the Way course. **Note: Course can be used as a LOTE credit for graduation.**

AP COMPUTER SCIENCE PRINCIPLES ·

Placement: 9-12

Prerequisite: Algebra I

Length: 18 weeks

Course: 1266CT

Credits: 1

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 the 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 and regulations 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. **Note: Course can be used as a LOTE credit for graduation.**

COMPUTER MAINTENANCE

Placement: 10-12

Course: 1829CA/CB

Credits: 2

Length: 36 weeks

This course prepares students for jobs in the Information Technology field. For entry-level IT technicians, this course covers preventative maintenance, basic networking, installation, troubleshooting, communication and professionalism. Students also research current technology. Students will demonstrate mastery of the industry-defined employment skills.

Possible Certification: +CompTIA A+*

AC/DC ELECTRONICS

Placement: 10-12

Course: 1841CT

Credits: 1

Length: 18 weeks

Electronics is presented with hands on, high-tech approach that includes a computer-based module lab-learning environment. Students will, analyze, experiment and design circuits using direct current, alternating current theory and perform advanced electrical-electronic troubleshooting assignments using industry standard test equipment including oscilloscopes. This course covers fundamental math and science concepts needed in electronics. Radio transmitters and receivers are explored. The fundamental relationship of current, voltage, resistance, capacitance, inductance, and power is demonstrated though an

application of the Ohm's, Power and Kirchhoff's Laws. Lab equipment includes Function generators, oscilloscopes and meters all labs require written reports. End of course design project includes the research, design, documentation and construction of a student created circuit.

Possible Certification: +OSHA 30 Hours*

Level III

AP COMPUTER SCIENCE A – MATH/LOTE

Prerequisite: AP Computer Science Principles

Course: 1055CA/CB

Credits: 2

Placement: 10-12

Length: 36 weeks

AP Computer Science A is an introductory college-level computer science course. Students cultivate their understanding of coding through analyzing, writing, and testing code as they explore concepts like modularity, variables, and control structures. **Note: Course can be used as an 1 credit LOTE and 1 credit Math credit for graduation.**

NETWORKING

Prerequisite: Computer Maintenance

Course: 1831CA/CB

Credits: 2

Placement: 11-12

Length: 36 weeks

This course provides the student with theory and hands-on experience. The students gain experience in resolving hardware and software conflicts. Students practice SCAN Skills (industry-defined employment skills). Students develop knowledge of the concepts and skills related to telecommunications and 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.

Possible Certification: +CompTIA Network*

PRINCIPLES OF ENGINEERING (Engineering Science) □

Prerequisite: Intro to Engineering AND Algebra I AND Biology AND Chemistry or IPC

Course: 1836CT

Credits: 1

Placement: 10-12

Length: 18 weeks

This course is designed to help students understand the field of engineering/engineering technology by exploring various technology systems and manufacturing processes. The activities and projects offered through this course are designed to help students learn how engineers and technicians use math, science, and technology in an engineering problem solving process. This course allows students the opportunity to earn transcribed college credit or to articulate college credit hours upon high school graduation through participating college/university Tech Prep programs. This is a Project Lead the Way course. **Note: Course can be used as an additional science credit for graduation.**

COMPUTER INTEGRATED MANUFACTURING □

Prerequisite: Principles of Engineering

Course: 1838CT

Credits: 1

Placement: 10-12

Length: 18 weeks

This course applies principles of robotics and automation. Students learn to program machinery to bring their 3D design while introducing computer programming and the processes used to manufacture today's consumer products. This course builds on the skills students develop in Introduction to Engineering Design and Principles of Engineering. Students use CNC equipment to produce actual models of their three-dimensional designs. Fundamental concepts of robotics used in automated manufacturing and design analysis are included. This course allows students the opportunity to earn transcribed college credit or to articulate college credit hours upon high school graduation through participating college/university Tech Prep programs. This is a Project Lead the Way course.

★ Students can earn a Certificate of Excellence by achieving a specific list of real world skills related to this course. For the list of skills, please visit goo.gl/9VM3a9

AEROSPACE ENGINEERING □

Prerequisite: Principles of Engineering

Course: 1834CT

Credits: 1

Placement: 10-12

Length: 18 weeks

Aerospace Engineering is the study of the engineering discipline which develops new technologies for use in aviation, defense systems and space exploration. The course explores the evolution of flight, flight fundamentals, navigation and control, aerospace materials, propulsion, space travel, orbital mechanics, ergonomics, remotely operated systems and related careers. In addition, the course presents alternative applications for aerospace engineering concepts. Students will analyze, design and build aerospace systems. While implementing these designs, students will continually hone their interpersonal skills, creativity and application of the design process. Students apply knowledge gained throughout the course in a final multi-media project to envision their future professional accomplishments. This is a Project Lead the Way course.

CIVIL ENGINEERING & ARCHITECTURE □

Prerequisite: Principles of Engineering
Course: 1861CT

Credits: 1

Placement: 10-12

Length: 18 weeks

Civil Engineering & Architecture is the study of the design & construction of residential & commercial building projects. The course includes an introduction to many of the varied factors involved in building design & construction including building components & systems, structural design, storm water management, site design, utilities & services, cost estimation, energy efficiency & careers in the design & construction industry. This is a Project Lead the Way course.

COMPUTER SCIENCE II

Prerequisite: Computer Science I
Course: 1051CT

Credits: 1

Placement: 9-12

Length: 18 weeks

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 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 and regulations and by practicing integrity and respect. Students will gain an understanding of computer science through the study of technology operations, systems, and concepts. This is a Project Lead the Way course. **Note: Course can be used as a LOTE credit for graduation.**

MOBILE APPLICATIONS DEVELOPMENT

Course: 1052CT

Credit: 1

Placement: 9-12

Length: 18 weeks

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.

SOLID STATE ELECTRONICS

Prerequisite: AC/DC Electronics
Course: 1843CT

Credits: 1

Placement: 10-12

Length: 18 weeks

Advanced Electronics presents the type of electronics in many of today's high-tech devices. Solid-state theory (transistors, integrated circuits, numbering systems, logic gates, flip-flops) is introduced and practiced, as well as TTL and CMOS devices, digital logic, counters, registers, a/d and d/a converters and solid-state devices. It also reviews the advanced concepts of DC, AC Digital electronics, which include Fundamentals of semiconductor devices, which include diodes, common diode applications, BJT, Biasing Circuits, Amplifier principals, FETs, Op-Amps, Oscillators and Voltage Regulators. Labs include the use of power supplies, function generators, oscilloscopes and meters. All labs require written reports. The end of the course has a research and design component.

★ Students can earn a Certificate of Excellence by achieving a specific list of real world skills related to this course. For the list of skills, please visit goo.gl/9VM3a9

Level IV

PRACTICUM IN STEM

Prerequisite: A Level 2 AND Level 3 STEM or IT course
Course: 1857CA/CB

Credits: 2

Placement: 12

Length: 36 weeks

Practicum in STEM 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.

PRACTICUM IN INFORMATION TECHNOLOGY**Prerequisite: 2 courses in Information Technology OR STEM****Course: 1851CA/CB****Credits: 2****Placement: 12****Length: 36 weeks**

This personalized independent study course will allow students interested in pursuing a career in information technology opportunities for advanced learning beyond the classroom environment. Students will engage in a variety of industry relevant experiences such as competition and or product innovation, classroom teaching opportunities, and/or advanced topics research and development. **If a student does not have transportation, opportunities will be limited.**

Possible Certification: +Oracle Certified Database Associate*

EDU-DRONE I**Prerequisite: Algebra I AND Must be 16 years old with driver's license before end of the course****Course: 1860CT****Credits: 1****Placement: 11-12****Length: 18 weeks**

This course allows students to develop a strong foundation in a critical work shortage field involving STEM and prepare for FAA certification to legally fly drones for commercial purposes — law enforcement and security, emergency response, aerial photography, land survey, utility inspection, and more.

Possible Certification: FAA Part 107 Remote Drone Pilot*

ENGINEERING DESIGN & DEVELOPMENT □**Prerequisite: Computer Integrated Manufacturing OR Aerospace Engineering OR Civil Engineering & Architecture****Course: 1845CT****Credits: 1****Placement: 11-12****Length: 18 weeks**

This course will provide students with the opportunity to master the design process to solve a design problem of their choosing. They will use prior knowledge to develop, model test their solutions. Each team will present and defend their solutions to a panel of experts. This is a Project Lead the Way course.

Supporting Courses

ROBOTICS I**Course: 1856CT****Credits: 1****Placement: 9-12****Length: 18 weeks**

Students enrolled in this course will demonstrate knowledge and skills necessary for the robotic and automation industry. Through implementation of the design process, students will transfer advanced academic skills to component designs in a project-based environment. Students will build prototypes or use simulation software to test their designs. Additionally, students explore career opportunities, employer expectations and educational needs in the robotic and automation industry.

□ Weighted Credit

***Students must successfully pass certification test(s) in order to receive the certification.**

+Industry Based Certification



Business & Industry Endorsement Transportation, Distribution & Logistics

Drone (Unmanned Flight) Regional Program of Study

Levels	Courses		
Level 1	No courses offered at Level 1 in this program of study		
Level 2	Robotics I 1856CT / 9-12	Principles of Engineering (Engineering Science) (PLTW) 1836CT / 10-12 <i>Prerequisite: Intro to Engineering AND Algebra I AND Biology AND Chemistry OR IPC</i> Weighted Credit, Science Credit	
Level 3	Robotics II 1858CT / 10-12 <i>Prerequisite: Robotics I</i>		
Level 4	Edu-Drone I 1860CT / 11-12 <i>Prerequisite: Algebra I AND must have driver's license by the end of the semester</i> +FAA Part 107 Remote Drone Pilot Certification Possible	Practicum in Manufacturing 1822CA-CB / 12 <i>Prerequisite: Robotics II</i>	

Automotive

Levels	Courses			
Level 1	No courses offered at Level 1 in this program of study			
Level 2	Automotive Basics 1800CT / 9-12 SP2 Ethics & You in the Automotive Industry, SP2 Land That Job Certification Possible			
Level 3	Energy, Power & Transportation Systems 1810CT / 9-12 <i>Prerequisite: Automotive Basics</i> SP2 Bullying in the Workplace, SP2 Substance Abuse Awareness & Management Certification Possible	Automotive Technology I 1811CA-CB / 10-12 <i>Prerequisites: Energy, Power & Transportation Systems</i> +ASE Maintenance & Light Repair, SP2 Mechanical Safety Certification Possible		
Level 4	Automotive Technology II 1815CA-CB / 11-12 <i>Prerequisites: Automotive Technology I</i> +ASE Brakes AND ASE Suspension & Steering Certifications Possible	Practicum in Transportation, Distribution & Logistics 1821CA-CB / 11-12 <i>Prerequisites: Automotive Technology I</i> +ASE Electrical/Electronics Systems Certifications Possible		
1 Semester Home Campus	2 Semester Home Campus	1 Semester Ben Barber	2 Semester Ben Barber	College Course Weighted Credit

Level I

No courses offered at Level 1 for this program of study.

Level II

AUTOMOTIVE BASICS
Course: 1800CT

Credits: 1

Placement: 9-12
Length: 18 weeks

This course is designed to familiarize the student with the basic understanding of career opportunities and training requirements in the automotive services field. This provides the skills and knowledge required for employment in the automotive field. This is the first class of the ASE/NATEF Certified Automotive Training Program. Competencies are set per NATEF Task List. Application of the knowledge and skills will be provided through hands on experiences in the classroom and laboratory.

Possible Certification: SP2 Ethics & You in the Automotive Industry AND SP2 Land that Job*

ROBOTICS I

Course: 1856CT

Credits: 1

Placement: 9-12

Length: 18 weeks

Students enrolled in this course will demonstrate knowledge and skills necessary for the robotic and automation industry. Through implementation of the design process, students will transfer advanced academic skills to component designs in a project-based environment. Students will build prototypes or use simulation software to test their designs. Additionally, students explore career opportunities, employer expectations and educational needs in the robotic and automation industry.

PRINCIPLES OF ENGINEERING (Engineering Science) ·

Prerequisite: Intro to Engineering AND Algebra I AND Biology AND Chemistry or IPC

Course: 1836CT

Credits: 1

Placement: 10-12

Length: 18 weeks

This course is designed to help students understand the field of engineering/engineering technology by exploring various technology systems and manufacturing processes. The activities and projects offered through this course are designed to help students learn how engineers and technicians use math, science, and technology in an engineering problem solving process. This course allows students the opportunity to earn transcribed college credit or to articulate college credit hours upon high school graduation through participating college/university Tech Prep programs. This is a Project Lead the Way course. **Note: Course can be used as an additional science credit for graduation.**

ENERGY, POWER & TRANSPORTATION SYSTEMS

Prerequisite: Automotive Basics

Course: 1810CT

Credits: 1

Placement: 9-12

Length: 18 weeks

This course is designed to provide the skills and knowledge required for employment in the automotive field of brake and suspension systems. This class is the second part of 4 classes of the ASE/NATEF Certified Automotive Training Program. Competencies are set per the NATEF Task List. Application of the knowledge and skills will be provided through hands on experiences in the classroom and laboratory.

Possible Certification: SP2 Bullying in the Workplace AND SP2 Substance Abuse Awareness & Management*

Level III

ROBOTICS II

Prerequisite: Robotics I

Course: 1858CT

Credits: 1

Placement: 10-12

Length: 18 weeks

In Robotics II, students will explore artificial intelligence and programming in the robotic and automation industry. Through 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.

AUTOMOTIVE TECHNOLOGY I: MAINTENANCE & REPAIR

Prerequisite: Energy, Power, & Transportation Systems

Course: 1811CA/CB

Credits: 2

Placement: 10-12

Length: 36 weeks

This course is a continuation of the ASE/NATEF curriculum and standards designed to prepare the student for an entry level position in the automotive technology field. The areas of instruction pertain to the Maintenance and Light Repair Certification of the NATEF Task List.

Possible Certifications: +ASE Auto Maintenance & Light Repair AND SP2 Mechanical Safety*

Level IV

EDU-DRONE I

Prerequisite: Algebra I AND Must be 16 years old with driver's license before end of the course

Course: 1860CT

Credits: 1

Placement: 11-12

Length: 18 weeks

This course allows students to develop a strong foundation in a critical work shortage field involving STEM and prepare for FAA certification to legally fly drones for commercial purposes – law enforcement and security, emergency response, aerial photography, land survey, utility inspection, and more.

Possible Certification: +FAA Part 107 Remote Drone Pilot*

PRACTICUM IN MANUFACTURING

Prerequisite: Welding I OR Precision Metal Manufacturing I

Course: 1822CA/CB

Credits: 2

Placement: 12

Length: 36 weeks

Students will gain supervised practical application of previously studied knowledge and skills in metal manufacturing focusing on welding. Students in this course will be required to participate in an internship with a local business to give them real world work experience. The student is expected to go out and secure this internship within the first week of class. Students are expected to know how to use all equipment from previous courses as well as be able to read and interpret working drawings with weld symbols. **If a student does not have transportation, opportunities will be limited.**

AUTOMOTIVE TECHNOLOGY II: AUTOMOTIVE SERVICE

Prerequisite: Automotive Technology I

Course: 1815CA/CB

Credits: 2

Placement: 11-12

Length: 36 weeks

This course prepares the student for an entry level position in the automotive technology field. The area of instruction include advanced components of the Maintenance and Light Repair Certification of the NATEF Task List. Placement in an internship may occur during the summer between a students' junior and senior year in a dealership or independent shop. Potential interns are chosen by the Business and Education Council Committee. Students must have all required safety wear as listed in the prerequisite class.

Possible Certification: +ASE Brakes AND +ASE Suspension & Steering*

PRACTICUM IN TRANSPORTATION SYSTEMS

Prerequisite: Automotive Technology I

Course: 1821CA/CB

Credits: 2

Placement: 11-12

Length: 36 weeks

This practicum course is an unpaid internship for students participating in the Automotive Technology courses. A student must have an Automotive Technology related job no later than the 2nd week after the start of class to receive credit. Students must adhere to all workplace rules and regulations and have a positive report from employers. **If a student does not have transportation, opportunities will be limited.**

Possible Certifications: +ASE Electrical/Electronic Systems*

*Students must successfully pass certification test(s) in order to receive the certification.

+Industry Based Certification