

# SECTION V:

## High School

### Career and Technical Education (CTE) Course Descriptions



# AISD

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Specific school-related questions should be directed to campus staff. When a parent or guardian has a question or concern, he or she should contact the person who made the initial decision. After discussing the matter, if the concern continues, the principal should be contacted.

# Career and Technical Education Course Descriptions

The AchieveTexas College and Career Initiative centers on establishing career clusters in schools as a strategy for improving high school completion rates and college and workforce readiness. It is based on the belief that the curricula of the 21st century should combine rigorous academics with relevant career education that incorporates the College Readiness Standards, personalized learning environments, academic and social support, relevant teaching and learning designed to promote postsecondary success, and effective educators and leaders.

Career clusters are a way of reorganizing learning around programs of study that will prepare students for an ever more competitive global economy. Texas has adopted the U.S. Department of Education's Career Clusters System. The 16 broad career clusters and multiple programs of study support the Governor's Industry Cluster Initiative, which identifies high-growth/high-paying jobs for the 21st-century Texas economy. AchieveTexas offers guidance to help students plan their educational experience based on their career goals and allows students to develop the knowledge and skills necessary for a successful transition into skilled employment, advanced training, an associate's degree, a bachelor's degree, or technical certification. Career programs of study represent a recommended sequence of courses based on a student's personal interests and career goals. The idea is to connect what students learn in school every day to what they aspire to do tomorrow, thus increasing engagement with school and motivation to achieve.

Most programs of study contain courses that allow for the awarding of college credit through completion of courses articulated with Austin Community College or other post-secondary institutions.

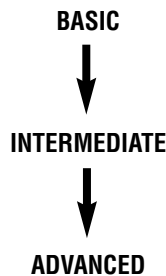
## Career and Technical Education (CTE) Cluster Areas

- Agriculture Food and Natural Resources
- Architecture and Construction
- Arts, AV Technology and Communications
- Business Management and Administration
- Education and Training
- Finance
- Government and Public Administration
- Health Science
- Hospitality and Tourism
- Human Services
- Information Technology
- Law, Public Safety, Corrections and Security
- Manufacturing
- Marketing
- Science, Technology, Engineering and Mathematics
- Transportation, Distribution and Logistics

## Other Career Courses

- Military Science Education
- Additional Career Related Courses
- Technology Applications Graduation Credit Courses

Students take the programs of study courses in a coherent sequence to maximize the effectiveness of the learning.



In many of the programs of study, articulated college credit is dependent on following the correct sequence of courses.

## Agriculture, Food, and Natural Resources Cluster

This cluster includes the study of processing, production, distribution, financing, and development of agricultural commodities and natural resources. All students in these courses are required to maintain some type of Supervised Agricultural Experience Program. The student, parent, and agriculture teacher will develop this program. The FFA student organization contributes to the advancement of leadership, citizenship, personal growth, and academic and technological skills.

### PRINCIPLES OF AGRICULTURE, FOOD AND NATURAL RESOURCES

**TEA #13000200**

**(Yearlong)**

**8100.R(Y)**

**GRADE: 9-12**

**CREDIT: 1**

*PREREQUISITE: None*

This course allows students to develop knowledge and skills regarding career opportunities related to the agriculture industry, personal development, globalization, industry standards, practices, and expectations. To prepare for success, students need to have opportunities to learn, reinforce, experience, apply, and transfer their knowledge and skills in a variety of settings.

### LIVESTOCK PRODUCTION

**TEA #13000300**

**(Semester)**

**8102.R(X)**

**GRADE: 10-12**

**CREDIT: 1/2**

**(Yearlong)**

**8102.R(Y)**

**GRADE: 10-12**

**CREDIT: 1**

*PREREQUISITE: Principles of Agriculture, Food and Natural Resources, Intro to World Ag or Applied Ag Science*

Animal species to be addressed in this course may include, but are not limited to, beef cattle, dairy cattle, swine, sheep, goats, and poultry.

### SMALL ANIMAL MANAGEMENT

**TEA #13000400**

**(Semester)**

**8104.R(X)**

**GRADE: 9-12**

**CREDIT: 1/2**

**(Yearlong)**

**8104.R(Y)**

**GRADE: 9-12**

**CREDIT: 1**

*PREREQUISITE: Principles of Agriculture, Food and Natural Resources, Intro to World Ag or Applied Ag Science*

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.

**VETERINARY MEDICAL APPLICATIONS**

**TEA #13000600**  
**(Yearlong) 8108.R(Y)**  
**GRADE: 10-12 CREDIT: 1**

*PREREQUISITE: Equine Science, Livestock Production, Small Animal Management or Intro to Vet Tech*

Topics covered in this course include, but are not limited to, veterinary practices as they relate to both large and small animal species. This course provides training in the unlicensed veterinary assistant field. The course includes, animal handling and restraint, health and safety, sanitation, surgical preparation, anatomy, physiology, medical terminology, infectious diseases, instrument and equipment identification, vaccine preparation and injection techniques, laws and ethics, and veterinary office procedures.

**ADVANCED ANIMAL SCIENCE**

**TEA #13000700**  
**(Yearlong) 8110.R(Y)**  
**GRADE: 12 CREDIT: 1**

*PREREQUISITE: One credit in the Agriculture, Food, and Natural Resources cluster*

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. To qualify as a fourth year science credit, this course must contain 40% laboratory and fieldwork experiences by Texas law and must be taught by a NCLB approved or science certified teacher.

**PROFESSIONAL STANDARDS IN AGRIBUSINESS**

**TEA #13000800**  
**(Semester) 8112.R(X)**  
**GRADE: 9-12 CREDIT: 1/2**  
**(Yearlong) 8112.R(Y)**  
**GRADE: 9-12 CREDIT: 1**

*PREREQUISITE: Principles of Agriculture, Food and Natural Resources, Intro to World Ag or Applied Ag Science*

This course primarily focuses on leadership, communication, employer-employee

relations, and problem solving as they relate to agribusiness.

**AGRIBUSINESS MANAGEMENT AND MARKETING**

**TEA #13000900**  
**(Semester) 8114.R(X)**  
**GRADE: 10-12 CREDIT: 1/2**  
**(Yearlong) 8114.R(Y)**  
**GRADE: 10-12 CREDIT: 1**

*PREREQUISITE: Professional Standards in Agribusiness*

This course is designed to provide a foundation to agribusiness management and the free enterprise system. Instruction includes the use of economic principles such as supply and demand, budgeting, recordkeeping, finance, risk management, business law, marketing, and careers in agribusiness.

**ENERGY AND NATURAL RESOURCES TECHNOLOGY**

**TEA #13001100**  
**(Semester) 8118.R(X)**  
**GRADE: 10-12 CREDIT: 1/2**  
**(Yearlong) 8118.R(Y)**  
**GRADE: 10-12 CREDIT: 1**

*PREREQUISITE: Principles of Agriculture, Food and Natural Resources, Intro to World Ag or Applied Ag Science*

This course is designed to explore the interdependency of the public and natural resource systems related to energy production. In addition, renewable, sustainable, and environmentally friendly practices will be explored.

**ADVANCED ENVIRONMENTAL TECHNOLOGY**

**TEA #13001200**  
**(Yearlong) 8120.R(Y)**  
**GRADE: 11-12 CREDIT: 1**  
**(Yearlong) 8120.H(Y)**

(weighted if the teacher is approved to offer for college credit)

**GRADE: 11-12 CREDIT: 1**

*PREREQUISITE: Energy and Natural Resources Technology*

This course examines the interrelatedness of environmental issues and production agriculture. Students evaluate sustainable resources and green technologies which will provide environmental benefits. Instruction is designed to allow for the application of science and technology to measure environmental impacts resulting from production agriculture through field and laboratory experiences. Articulated credit may be awarded upon successful completion of a sequence of courses.

**WILDLIFE, FISHERIES, AND ECOLOGY MANAGEMENT**

**TEA #13001500**  
**(Semester) 8122.R(X)**  
**GRADE: 9-12 CREDIT: 1/2**  
**(Yearlong) 8122.R(Y)**  
**GRADE: 9-12 CREDIT: 1**

*PREREQUISITE: Principles of Agriculture, Food and Natural Resources, Intro to World Ag or Applied Ag Science*

This course examines the management of game and non-game wildlife species, fish, and aquacrops and their ecological needs as related to current agricultural practices.

**RANGE ECOLOGY AND MANAGEMENT**

**TEA #13001600**  
**(Yearlong) 8124.R(Y)**  
**GRADE: 10-12 CREDIT: 1**  
**(Yearlong) 8124.H(Y)**

(weighted if the teacher is approved to offer for college credit)

**GRADE: 10-12 CREDIT: 1**

*PREREQUISITE: Wildlife, Fisheries, and Ecology Management*

This course is designed to develop students' understanding of rangeland ecosystems and sustainable forage production. Articulated credit may be awarded upon successful completion of a sequence of courses.

**FORESTRY AND WOODLAND ECOSYSTEMS**

**TEA #13001700**  
**(Semester) 8126.R(X)**  
**GRADE: 10-12 CREDIT: 1/2**  
**(Yearlong) 8126.R(Y)**  
**GRADE: 10-12 CREDIT: 1**

*PREREQUISITE: Principles of Agriculture, Food and Natural Resources, Intro to World Ag or Applied Ag Science*

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.

**PRINCIPLES AND ELEMENTS OF FLORAL DESIGN**

**TEA #13001800**  
**(Yearlong) 8129.R(Y)**  
**GRADE: 10-12 CREDIT: 1**  
**(Yearlong) 8129.H(Y)**

(weighted if the teacher is approved to offer for college credit)

**GRADE: 10-12 CREDIT: 1**

*PREREQUISITE: Principles of Agriculture, Food and Natural Resources, Intro to World Ag or Applied Ag Science*

This course is designed to develop students'

ability to identify and demonstrate the principles and techniques related to floral design as well as develop an understanding of the management of floral enterprises. Articulated credit may be awarded upon successful completion of a sequence of courses. This course satisfies the Fine Arts credit if taught by a NCLB approved or Fine Arts certified teacher.

**LANDSCAPE DESIGN AND TURF GRASS MANAGEMENT**

**TEA# 13001900**  
**(Yearlong)**                      **8130.R(Y)**  
**GRADE: 10-12**                      **CREDIT: 1**  
**(Yearlong)**                      **8130.H(Y)**

(weighted if the teacher is approved to offer for college credit)

**GRADE: 10-12**                      **CREDIT: 1**  
*PREREQUISITE: Principles and Elements of Floral Design, Intro to World Ag or Applied Ag Science*

This course is designed to develop an understanding of landscape and turf grass management techniques and practices. Articulated credit may be awarded upon successful completion of a sequence of courses.

**HORTICULTURE SCIENCE**

**TEA #13002000**  
**(Yearlong)**                      **8132.R(Y)**  
**GRADE: 10-12**                      **CREDIT: 1**  
**(Yearlong)**                      **8132.H(Y)**

(weighted if the teacher is approved to offer for college credit)

**GRADE: 10-12**                      **CREDIT: 1**  
*PREREQUISITE: Principles and Elements of Floral Design, Intro to World Ag or Applied Ag Science*

This course is designed to develop an understanding of common horticultural management practices as they relate to food and ornamental plant production. Articulated credit may be awarded upon successful completion of a sequence of courses.

**ADVANCED PLANT & SOIL SCIENCE**

**TEA #13002100**  
**(Yearlong)**                      **8137.R(Y)**  
**GRADE: 12**                              **CREDIT: 1**  
**(Yearlong)**                      **8137.H(Y)**

(weighted if the teacher is approved to offer for college credit)

**GRADE: 12**                              **CREDIT: 1**  
*PREREQUISITE: One credit in the Agriculture, Food, and Natural Resources cluster*

This course is designed to prepare students for careers in the food and fiber industry. Students will learn, reinforce, apply, and transfer their knowledge in a scientific setting. Investigations, laboratory practices & field exercises will be used to develop an understanding of plant & soil science. To

qualify as a fourth year science credit, this course must contain 40% laboratory and fieldwork experiences by Texas law and must be taught by a NCLB approved or science certified teacher. Articulated credit may be awarded upon successful completion of a sequence of courses.

**AGRICULTURAL MECHANICS AND METAL TECHNOLOGIES**

**TEA #13002200**  
**(Yearlong)**                      **8138.R(Y)**  
**GRADE: 10-12**                      **CREDIT: 1**

*PREREQUISITE: Principles of Agriculture, Food, and Natural Resources, Intro to World Ag or Applied Ag Science*

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.

**AGRICULTURAL FACILITIES DESIGN AND FABRICATION**

**TEA #13002300**  
**(Yearlong)**                      **8140.R(Y)**  
**GRADE: 10-12**                      **CREDIT: 1**

**(Yearlong)**                      **8142.R(Y)**  
**GRADE: 10-12**                      **CREDIT: 2**  
*PREREQUISITE: Agricultural Mechanics and Metal Technologies or Intro to Ag Mechanics and Ag Metal Fabrication*

The student will demonstrate principles of facilities design and fabrication related to agricultural structures as well as plan, construct, and maintain fences, corrals, and other agricultural enclosures.

**PRACTICUM IN AGRICULTURE, FOOD, & NATURAL RESOURCES I**

**TEA #13002500**  
**(Yearlong)**                      **8144.R(Y)**  
**GRADE: 11-12**                      **CREDIT: 2**

*PREREQUISITE: One credit in the Agriculture, Food, and Natural Resources cluster*

This course is a continuation of one or more courses of study in the Agriculture, Food, and Natural Resources cluster.

**PRACTICUM IN AGRICULTURE, FOOD, AND NATURAL RESOURCES I / HORTICULTURE**

**TEA #13002500**  
**(Yearlong)**                      **8144.RC1C(Y)**  
**GRADE: 11-12**                      **CREDIT: 2**

*PREREQUISITE: Horticulture Science*

This course is a continuation of Horticulture Science.

**PRACTICUM IN AGRICULTURE, FOOD, AND NATURAL RESOURCES I/VET TECH**

**TEA #13002500**  
**(Yearlong)**                      **8144.RC2C(Y)**  
**GRADE: 11-12**                      **CREDIT: 2**

*PREREQUISITE: Veterinary Medical Applications*

This course is a continuation of Veterinary Medical Applications.

**PRACTICUM IN AGRICULTURE, FOOD, AND NATURAL RESOURCES I/AG MECHANICS (weighted)**

**TEA #13002500**  
**(Yearlong)**                      **8144.H(Y)**  
**GRADE: 11-12**                      **CREDIT: 2**

*PREREQUISITE: Agricultural Mechanics and Metal Technologies*

This course is a continuation of Agricultural Mechanics and Metal Technologies. Articulated credit may be awarded upon successful completion of a sequence of courses.

**PRACTICUM IN AGRICULTURE, FOOD, AND NATURAL RESOURCES II/AG MECHANICS (weighted)**

**TEA #13002510**  
**(Yearlong)**                      **8147.H(Y)**  
**GRADE: 11-12**                      **CREDIT: 2**

*PREREQUISITE: Practicum in Agriculture, Food, and Natural Resources II/Ag Mech*

This course is a continuation of Practicum I/Ag Mechanics. Articulated credit may be awarded upon successful completion of a sequence of courses.

**MATHEMATICAL APPLICATIONS IN AGRICULTURE, FOOD, AND NATURAL RESOURCES**

**TEA #13001000**  
**(Semester)**                      **8116.R(X)**  
**GRADE: 12**                              **CREDIT: 1/2**  
**(Yearlong)**                      **8116.R(Y)**  
**GRADE: 12**                              **CREDIT: 1**

*PREREQUISITE: One credit in the Agriculture, Food, and Natural Resources cluster*

Students apply knowledge and skills related to mathematics, including algebra, geometry, and data analysis in the context of agriculture, food, and natural resources. The one credit course may count as a math credit if taken before Algebra II and taught by a NCLB approved or math certified teacher.

## Architecture and Construction Cluster

This cluster includes the study of designing, managing, building, and maintaining the built environment.

### PRINCIPLES OF ARCHITECTURE AND CONSTRUCTION

TEA #13004200

(Semester) 8160.R(X)

GRADE: 9-12 CREDIT: 1/2

(Yearlong) 8160.H(Y)

(weighted if the teacher is approved to offer for college credit)

GRADE: 9-12 CREDIT: 1

(Yearlong) 8160.HT(Y)

GRADE: 9-12 CREDIT: 1

*PREREQUISITE: Keyboarding, Touch System Data Entry, or Demonstrated Keyboarding Proficiency*

Principles of Architecture and Construction provides an overview to the various fields of architecture, interior design, construction science, and construction technology. Articulated credit may be awarded upon successful completion of a sequence of courses.

### INTERIOR DESIGN

TEA #13004300

(Semester) 8162.R(X)

GRADE: 10-12 CREDIT: 1/2

(Yearlong) 8162.R(Y)

GRADE: 10-12 CREDIT: 1

(Yearlong) 8162.H(Y)

(weighted if the teacher is approved to offer for college credit)

GRADE: 10-12 CREDIT: 1

*PREREQUISITE: Algebra I. Art I*

Interior Design is a technical course that addresses psychological, physiological, and sociological needs of individuals by enhancing the environments in which they live and work. Individuals use knowledge and skills related to interior and exterior environments, construction, and furnishings to make wise consumer decisions, increase productivity, and compete in industry. Articulated credit may be awarded upon successful completion of a sequence of courses if course completed for one credit.

### ADVANCED INTERIOR DESIGN

TEA #13004400

(Semester) 8164.R(Y)

GRADE: 11-12 CREDIT: 1

*PREREQUISITE: Geometry and Interior Design*

Advanced Interior Design is a technical laboratory course that includes the knowledge of the employability

characteristics, principles, processes, technologies, communication, tools, equipment, and materials related to interior spatial design.

### ARCHITECTURAL DESIGN

(weighted)

TEA #13004600

(Yearlong) 8172.H(Y)

GRADE: 10-12 CREDIT: 1

*PREREQUISITE: Keyboarding, Touch Data System Entry or Demonstrated Keyboarding Proficiency Algebra I and Principles of Architecture & Construction, Computer Applications or Engineering Principles*

In Architectural Design, students gain 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, and landscape architecture. Architectural design includes the 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. Articulated credit may be awarded upon successful completion of a sequence of courses.

### ADVANCED ARCHITECTURAL DESIGN (weighted)

TEA #13004700

(Yearlong) 8176.H (Y)

GRADE: 10-12 CREDIT: 1

*PREREQUISITE: Architectural Design*

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, and 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. Articulated credit may be awarded upon successful completion of a sequence of courses.

### CONSTRUCTION TECHNOLOGY

TEA #13005100

(Yearlong) 8196.R (Y)

GRADE: 10-12 CREDIT: 1

(Yearlong) 8198.H (Y)

(weighted if the teacher is approved to offer for college credit)

GRADE: 10-12 CREDIT: 2

*PREREQUISITE: None*

In Construction Technology, students gain

knowledge and skills specific to those needed to enter the work force as carpenters or building maintenance supervisors or prepare for a postsecondary degree in construction management, architecture, or engineering. Students acquire knowledge and skills in safety, tool usage, building materials, codes, and framing. Articulated credit may be awarded upon successful completion of a sequence of courses.

### ADVANCED CONSTRUCTION TECHNOLOGY

TEA #13005200

(Yearlong) 8204.R (Y)

GRADE: 11-12 CREDIT: 2

*PREREQUISITE: Intro to Construction Technology Careers or Construction Technology*

In Advanced Construction Technology, students gain advanced knowledge and skills specific to those needed to enter the work force as carpenters, building maintenance technicians, or supervisors or prepare for a postsecondary degree in construction management, architecture, or engineering. Students build on the knowledge base from Construction Technology and are introduced to exterior and interior finish out skills.

### PRACTICUM IN CONSTRUCTION MANAGEMENT

TEA #13006200

(Yearlong) 8240.R (Y)

GRADE: 12 CREDIT: 2

*PREREQUISITE: Advanced Construction Technology*

Practicum in Construction Management is an occupationally specific course designed to provide classroom technical instruction or on-the-job training experiences in construction related careers. Safety and career opportunities are included in addition to work ethics and job-related study in the classroom.

## Arts, Audio/Video Technology, and Communications Cluster

This cluster includes the study of creating, exhibiting, performing, and publishing multimedia content.

### PRINCIPLES OF ARTS, AUDIO VIDEO TECHNOLOGY, AND COMMUNICATIONS

TEA #13008200

(Semester) 8250.R(X)  
 GRADE: 9-12 CREDIT: 1/2  
 (Yearlong) 8250.R(Y)  
 GRADE: 9-12 CREDIT: 1

PREREQUISITE: *Keyboarding, Touch Data System Entry or Demonstrated Keyboarding Proficiency*

The student will apply English language arts and will learn to apply professional communications strategies. This course allows students to develop knowledge and skills regarding career opportunities related to information management and presentation, animation, video technology, printing and desktop publishing.

### ANIMATION (weighted)

TEA #13008300

(Yearlong) 8252.H(Y)  
 GRADE: 10-12 CREDIT: 1

PREREQUISITE: *Art I*

Careers in animation span all aspects of motion graphics. Within this context, in addition to developing technical knowledge and skills needed for success in the Arts, Audio/Video Technology, and Communications career cluster, students will be expected to develop an understanding of the history and techniques of the animation industry. Articulated credit may be awarded upon successful completion of a sequence of courses.

### ADVANCED ANIMATION

TEA #13008400

(Yearlong) 8256.R (Y)  
 GRADE: 11-12 CREDIT: 1  
 (Yearlong) 8256.H(Y)

(weighted if the teacher is approved to offer for college credit)

GRADE: 11-12 CREDIT: 1

PREREQUISITE: *Animation*

In addition to developing advanced knowledge and skills needed for success in the Arts, Audio/Video Technology, and Communications career cluster, students will be expected to create two- and three-dimensional animations. The instruction also

assists students seeking careers in the animation industry. Articulated credit may be awarded upon successful completion of a sequence of courses.

### VIDEO GAME DESIGN (weighted)

TEA #N1300993

(Yearlong) 8316.H(Y)  
 GRADE: 10-12 CREDIT: 1

PREREQUISITE: *Art I*

The student will be provided the opportunity to design, program, and create a functional video game. Through text, pictures, animations and digital video students are lead through the exciting world of the video game design industry. The course will introduce basic programming language and skills that are essential to developing a video game. Articulated credit may be awarded upon successful completion of a sequence of courses.

### AUDIO VIDEO PRODUCTION

(weighted)

TEA #13008500

(Yearlong) 8262.H(Y)  
 GRADE: 9-12 CREDIT: 1

PREREQUISITE: *Keyboarding*

Careers in audio and video technology and film production span all aspects of the audio/video communications industry. Within this context, in addition to developing technical knowledge and skills needed for success in the Arts, Audio/Video Technology, and Communications career cluster, students will be expected to develop an understanding of the industry with a focus on pre-production, production, and post-production audio and video activities. Articulated credit may be awarded upon successful completion of a sequence of courses.

### ADVANCED AUDIO VIDEO PRODUCTION (weighted)

TEA #13008600

(Yearlong) 8266.H (Y)  
 GRADE: 10-12 CREDIT: 1  
 (Yearlong) 8268.H (Y)  
 GRADE: 10-12 CREDIT: 2

PREREQUISITE: *Audio Video Production, Video Technology, Multimedia and Animation or Intro to Media Technology*

In addition to developing advanced knowledge and skills needed for success in the Arts, Audio Video Technology, and Communications career cluster, students will be expected to develop an advanced understanding of the industry with a focus on pre-production, production, and post-production activities. Articulated credit may be awarded upon successful completion of a sequence of courses.

### PRACTICUM IN AUDIO VIDEO PRODUCTION I (weighted)

TEA #13008700

(Yearlong) 8272.H(Y)  
 GRADE: 11-12 CREDIT: 1  
 (Yearlong) 8274.H(Y)  
 GRADE: 11-12 CREDIT: 2

PREREQUISITE: *Advanced Audio Video Production, Advanced Animation or Media Technology I*

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 increasing understanding of the industry with a focus on applying pre-production, production, and post-production audio and video activities in a studio environment. Articulated credit may be awarded upon successful completion of a sequence of courses.

### PRACTICUM IN AUDIO VIDEO PRODUCTION II

TEA #13008710

(Yearlong) 8276.R(Y)  
 GRADE: 11-12 CREDIT: 1  
 Yearlong) 8277.R(Y)  
 GRADE: 11-12 CREDIT: 2

PREREQUISITE: *Practicum in Audio Video Production I*

This course is a continuation of Practicum in Audio Video Production I.

### GRAPHIC DESIGN AND ILLUSTRATION

TEA #13008800

(Yearlong) 8280.R(Y)  
 GRADE: 10-12 CREDIT: 1  
 (Yearlong) 8280.H(Y)  
 (weighted)  
 GRADE: 10-12 CREDIT: 1

PREREQUISITE: *Keyboarding*

Careers in graphic design and illustration span all aspects of the advertising and visual communications industries. Within this context, in addition to developing knowledge and skills needed for success in the Arts, Audio/Video Technology, and Communications career cluster, students will be expected to develop an understanding of the industry with a focus on fundamental elements and principles of visual art and design. Articulated credit may be awarded upon successful completion of a sequence of courses.

### ADVANCED GRAPHIC DESIGN AND ILLUSTRATION (weighted)

TEA #13008900

(Yearlong) 8282.H(Y)  
 GRADE: 10-12 CREDIT: 1

PREREQUISITE: *Graphic Design and*

*Illustration or Communication Graphics*

Careers in graphic design and illustration span all aspects of the advertising and visual communications industries. Within this context, in addition to developing advanced technical knowledge and skills needed for success in the Arts, Audio/Video Technology, and Communications career cluster, students will be expected to develop an advanced understanding of the industry with a focus on mastery of content knowledge and skills. Articulated credit may be awarded upon successful completion of a sequence of courses.

**COMMERCIAL PHOTOGRAPHY (weighted)**

**TEA #13009100**  
**(Yearlong) 8286.H(Y)**  
**GRADE: 10-12 CREDIT: 1**

*PREREQUISITE: Graphic Design and Illustration, and Art I*

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, in addition to developing 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 commercial photography industry with a focus on creating quality photographs. Articulated credit may be awarded upon successful completion of a sequence of courses.

**ADVANCED COMMERCIAL PHOTOGRAPHY**

**TEA #13009200**  
**(Yearlong) 8290.R(Y)**  
**GRADE: 10-12 CREDIT: 1**

*PREREQUISITE: Commercial Photography or Communication Systems*

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.

**Business Management and Administration Cluster**

This cluster includes the study of organizing, directing, and evaluation functions essential to productive business operations.

**PRINCIPLES OF BUSINESS, MARKETING, AND FINANCE**

**TEA #13011200**  
**(Semester) 8318.R (X)**  
**GRADE: 9-12 CREDIT: 1/2**  
**(Yearlong) 8318.R (Y)**  
**GRADE: 9-12 CREDIT: 1**  
**(Yearlong) 8318.H(Y)**

(weighted if the teacher is approved to offer for college credit)

**GRADE: 9-12 CREDIT: 1**

*PREREQUISITE: None*

In Principles of Business, Marketing, and Finance, students study economies 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. Articulated credit may be awarded upon successful completion of a sequence of courses if course completed for one credit.

**TOUCH SYSTEM DATA ENTRY**

**TEA #13011300**  
**(Semester) 8320.R(X)**  
**GRADE: 9-10 CREDIT: 1/2**

*PREREQUISITE: None*

Students apply technical skills to address business applications of emerging technologies. Students will need to apply touch system data entry for production of business documents.

**BUSINESS INFORMATION MANAGEMENT I (weighted)**

**TEA #13011400**  
**(Yearlong) 8322.H (Y)**  
**GRADE: 9-12 CREDIT: 1**

*PREREQUISITES: Keyboarding, Touch System Data Entry or Demonstrated Keyboarding Proficiency*

Students apply technical skills to address business applications of emerging technologies, create word-processing documents, develop a spreadsheet, formulate a database, and make an electronic presentation using appropriate software. Articulated credit

may be awarded upon successful completion of a sequence of courses.

**BUSINESS INFORMATION MANAGEMENT II**

**TEA #13011500**  
**(Yearlong) 8326.R(Y)**  
**GRADE: 10-12 CREDIT: 1**  
**(Yearlong) 8326.H(Y)**

(weighted if the teacher is approved to offer for college credit)

**GRADE: 10-12 CREDIT: 1**

*PREREQUISITES: Business Information Management I or BCIS I*

Students apply technical skills to address business applications of emerging technologies, create complex word-processing documents, develop sophisticated spreadsheets using charts and graphs, and make an electronic presentation using appropriate multimedia software. Articulated credit may be awarded upon successful completion of a sequence of courses.

**BUSINESS ENGLISH**

**TEA #13011600**  
**(Yearlong) 8331.R(Y)**  
**GRADE: 9-12 CREDIT: 1**  
**(Yearlong) 8331.H(Y)**

(weighted if the teacher is approved to offer for college credit)

**GRADE: 9-12 CREDIT: 1**

*PREREQUISITES: English III and Touch System Data Entry or Keyboarding*

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 are expected to plan, draft, and complete written compositions on a regular basis. Students edit their papers for clarity, engaging language, and the correct use of the conventions and mechanics of written English and produce final, error-free drafts for business reproduction. This course satisfies the fourth credit for English on the minimum high school program if taught by a NCLB approved or english certified teacher.

**BUSINESS LAW**

**TEA #13011700**  
**(Semester) 8332.R (X)**  
**GRADE: 11-12 CREDIT: 1/2**  
**(Semester) 8332.R (Y)**  
**GRADE: 11-12 CREDIT: 1**  
**(Yearlong) 8332.H(Y)**

(weighted if the teacher is approved to offer for college credit)

**GRADE: 11-12 CREDIT: 1**

*PREREQUISITES: BCIS I or Business Information Management or Principles of Information Technology or Principles of*

*Business, Marketing and Finance*

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. Students apply technical skills to address business applications of contemporary legal issues. 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. Articulated credit may be awarded upon successful completion of a sequence of courses if course completed for one credit.

**GLOBAL BUSINESS (weighted)****TEA #13011800****(Semester) 8334.H(X)****GRADE: 10-12 CREDIT: 1/2***PREREQUISITES: Principles of Business, Marketing and Finance or Intro to Business*

Students apply technical skills to address global business applications of emerging technologies. Students develop a foundation in the economical, financial, technological, international, social, and ethical aspects of business. Articulated credit may be awarded upon successful completion of a sequence of courses if course completed for one credit.

**HUMAN RESOURCES MANAGEMENT****TEA #13011900****(Semester) 8336.R(X)****GRADE: 11-12 CREDIT: 1/2****(Yearlong) 8336.R(Y)****GRADE: 11-12 CREDIT: 1****(Yearlong) 8336.H(Y)****GRADE: 11-12 CREDIT: 1***PREREQUISITES: Principles of Business, Marketing and Finance or Intro to Business*

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. Students develop a foundation in the economical, legal, managerial, financial, technological, international, social, and ethical aspects of human resources in order to become competent managers, employees, and entrepreneurs. Articulated credit may be awarded upon successful completion of a sequence of courses if course completed for one credit.

**VIRTUAL BUSINESS (weighted)****TEA #13012000****(Semester) 8338.H(X)****GRADE: 10-12 CREDIT: 1/2****(Yearlong) 8338.H(Y)****GRADE: 10-12 CREDIT: 1***PREREQUISITES: Keyboarding, Touch**System Data Entry, or Demonstrated**Keyboarding Proficiency*

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. Students will be able to identify steps needed to locate customers, set fees, and develop client contracts. Student will be able to provide administrative, creative, and technical services using advanced technological modes of communication and data delivery. The student builds a functional website that incorporates the essentials of a virtual business. Articulated credit may be awarded upon successful completion of a sequence of courses if course completed for one credit.

**BUSINESS MANAGEMENT****TEA #13012100****(Yearlong) 8340.R(Y)****GRADE: 10-12 CREDIT: 1****(Yearlong) 8340.H(Y)***(weighted if the teacher is approved to offer for college credit)***GRADE: 10-12 CREDIT: 1***PREREQUISITES: Virtual Business, Global**Business or Principles of Business,**Marketing & Finance and BCIS I or Business**Information Management I*

Students analyze the primary functions of management and leadership, which are planning, organizing, staffing, directing or leading, and controlling. Topics will incorporate social responsibility of business and industry. Students incorporate a broad base of knowledge that includes the legal, managerial, marketing, financial, ethical, and international dimensions of business to make appropriate management decisions. Articulated credit may be awarded upon successful completion of a sequence of courses.

**PRACTICUM IN BUSINESS MANAGEMENT****TEA #13012200****(Yearlong) 8344.R(Y)****GRADE: 12 CREDIT: 2***PREREQUISITES: Touch System Data Entry, Business Information Management I and one credit in Business Management cluster courses*

The Practicum is designed to give students supervised practical application of previously

studied knowledge and skills. Practicum experiences occur in a paid or unpaid arrangement and a variety of locations appropriate to the nature and level of experience. Students implement personal and interpersonal skills to strengthen individual performance in the workplace and in society and to make a successful transition to the workforce or postsecondary education. Students apply technical skills to address business applications of emerging technologies. Students develop a foundation in the economical, financial, technological, international, social, and ethical aspects of business to become competent consumers, employees, and entrepreneurs.

**Education and Training Cluster**

This cluster includes the study of providing education, training, and related learning support services.

**PRINCIPLES OF EDUCATION AND TRAINING****TEA #13014200****(Semester) 8350.R(X)****GRADE: 9-12 CREDIT: 1/2****(Yearlong) 8350.R(Y)****GRADE: 9-12 CREDIT: 1***PREREQUISITE: None*

Principles of Education and Training is designed to introduce learners to the various careers available within the education and training career cluster. Students use 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.

**CHILD DEVELOPMENT****TEA #13024700****(Semester) 8488.R(X)****GRADE: 10-12 CREDIT: 1/2****(Yearlong) 8488.H(Y)****(weighted)****GRADE: 10-12 CREDIT: 1***PREREQUISITE: None*

This technical laboratory course addresses knowledge and skills related to child growth and development from prenatal through school-age children, equipping students with child development skills. Students use these skills to promote the well-being and healthy development of children and investigate

careers related to the care and education of children. Articulated credit may be awarded upon successful completion of a sequence of courses if course completed for one credit.

**HUMAN GROWTH AND DEVELOPMENT**

**TEA #13014300**

**(Yearlong) 8352.R(Y)**

**GRADE: 10-12 CREDIT: 1**

*PREREQUISITE: None*

Human Growth and Development is 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.

**INSTRUCTIONAL PRACTICES IN EDUCATION AND TRAINING**

**TEA #13014400**

**(Yearlong) 8356.H(Y)**

(weighted if the teacher is approved to offer for college credit)

**GRADE: 11-12 CREDIT: 2**

*PREREQUISITE: Human Growth and Development or Child Development or Preparation for Parenting*

*ADDITIONAL REQUIREMENT: Prior to acceptance, students must undergo a criminal background check and must be clear of any misdemeanor or felony convictions.*

Instructional Practices in Education and Training is a field-based internship that provides students with background knowledge of child and adolescent development as well as principles of effective teaching and training practices. Students work under the joint direction and supervision of both a teacher with knowledge of early childhood education and exemplary educators or trainers in direct instructional roles with elementary-, middle school-, and high school-aged students. Students learn to plan and direct individualized instruction and group activities, prepare instructional materials, develop materials for educational environments, assist with record keeping, and complete other responsibilities of teachers, trainers, paraprofessionals, or other educational personnel. Articulated credit may be awarded upon successful completion of a sequence of courses.

**PRACTICUM IN EDUCATION AND TRAINING**

**TEA #13014500**

**(Yearlong) 8358.R(Y)**

**GRADE: 12 CREDIT: 2**

*PREREQUISITE: Instructional Practices in Education and Training or Ready, Set, Teach I*  
*ADDITIONAL REQUIREMENT: Prior to acceptance, students must undergo a criminal background check and must be clear of any misdemeanor or felony convictions.*

This course is a continuation of the teacher education program. 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.

**Finance Cluster**

This cluster includes the study of planning finances and investments; managing banking, insurance, and business finances.

**MONEY MATTERS**

**TEA #13016200**

**(Semester) 8362.R(X)**

**GRADE: 9-12 CREDIT: 1/2**

**(Yearlong) 8362.H(Y)**

**GRADE: 9-12 CREDIT: 1**

*PREREQUISITE: None*

Students will investigate global economics with emphasis on the free enterprise system and its impact on consumers and businesses. Students apply critical-thinking skills to analyze financial options based on current and projected economic factors. Students will determine methods of achieving long-term financial goals through investment, tax planning, asset allocation, risk management, retirement planning, and estate planning. Articulated credit may be awarded upon successful completion of a sequence of courses if course completed for one credit.

**BANKING AND FINANCIAL SERVICES (weighted)**

**TEA #13016300**

**(Yearlong) 8364.H(Y)**

**GRADE: 10-12 CREDIT: 1**

*PREREQUISITE: Principles of Business, Marketing, and Finance, Personal Finance or Money Matters and Accounting IA*

Students develop knowledge and skills in the economical, financial, technological, international, social, and ethical aspects of banking to become competent consumers, employees, and entrepreneurs. Students incorporate a broad base of knowledge that includes the operations, sales, and management of banking institutions to gain a complete understanding of how banks function within society. Articulated credit may be awarded upon successful completion of a sequence of courses if course completed for one credit.

**SECURITIES AND INVESTMENTS**

**TEA #13016400**

**(Semester) 8366.R(X)**

**GRADE: 10-12 CREDIT: 1/2**

**(Yearlong) 8366.R(Y)**

**GRADE: 10-12 CREDIT: 1**

*PREREQUISITE: Principles of Business, Marketing, and Finance, Personal Finance or Money Matters*

Students will describe and abide by laws and regulations in order to manage business operations and transactions in the securities industry; access, process, maintain, evaluate, and disseminate information to assist in making decisions common to the securities industry; and monitor, plan, and control day-to-day securities organization activities to ensure continued business functioning. Students will determine client needs and wants and respond through planned, personalized communication to influence purchase decisions and enhance future securities sales opportunities.

**INSURANCE OPERATIONS**

**TEA #13016500**

**(Semester) 8368.R(X)**

**GRADE: 10-12 CREDIT: 1/2**

**(Yearlong) 8368.R(Y)**

**GRADE: 10-12 CREDIT: 1**

*PREREQUISITE: Principles of Business, Marketing, and Finance, Personal Finance or Money Matters*

Students will describe and abide by laws and regulations in order to manage business operations and transactions in the insurance industry; access, process, maintain, evaluate, and disseminate information to assist in making decisions common to the insurance

industry; and monitor, plan, and control day-to-day insurance organization activities to ensure continued business functioning. Students will employ underwriting techniques and strategies to gather, access, and evaluate the risk posed by potential insurance clients. Students will determine client needs and wants and respond through planned, personalized communication to influence purchase decisions and enhance future insurance business opportunities.

**ACCOUNTING I**

**TEA #13016600**  
**(Yearlong)** **8370.R(Y)**  
**GRADE: 10-12** **CREDIT: 1**  
**(Yearlong)** **8370.H(Y)**  
 (weighted if the teacher is approved to offer for college credit)

**GRADE: 10-12** **CREDIT: 1**  
*PREREQUISITE: BCIS I or Principles of Business, Marketing, and Finance*

Students investigate the field of accounting, including how it is impacted by industry standards as well as economic, financial, technological, international, social, legal, and ethical factors. Students reflect on this knowledge as they engage in the process of recording, classifying, summarizing, analyzing, and communicating accounting information. Students formulate and interpret financial information for use in management decision making. Articulated credit may be awarded upon successful completion of a sequence of courses.

**ACCOUNTING II**

**TEA #13016700**  
**(Yearlong)** **8372.R(Y)**  
**GRADE: 11-12** **CREDIT: 1**  
*PREREQUISITES: Accounting I*

Students continue the investigation of the field of accounting, including how it is impacted by industry standards as well as economic, financial, technological, international, social, legal, and ethical factors. Students reflect on this knowledge as they engage in various managerial and cost accounting activities. Students formulate and interpret financial information for use in management decision making.

**FINANCIAL ANALYSIS**

**TEA #13016800**  
**(Yearlong)** **8374.R(Y)**  
**GRADE: 11-12** **CREDIT: 1**  
*PREREQUISITES: Accounting I*

Students apply technical skills to develop knowledge and skills in the economical, financial, technological, international, social, and ethical aspects of business to become competent consumers, employees, and

entrepreneurs. Students develop analytical skills by actively evaluating financial results of multiple businesses, interpreting results for stakeholders, and presenting strategic recommendations for performance improvement.

**STATISTICS AND RISK MANAGEMENT**

**TEA #13016900**  
**(Yearlong)** **8376.R(Y)**  
**GRADE: 11-12** **CREDIT: 1**  
*PREREQUISITE: Algebra II*  
*RECOMMENDED: Accounting I*

Students will use a variety of graphical and numerical techniques to analyze patterns and departures from patterns to identify and manage risk that could impact an organization. Students will use probability as a tool for anticipating and forecasting data within business models to make decisions. Students will determine the appropriateness of methods used to collect data to ensure conclusions are valid. This course satisfies a fourth math credit if taught by a NCLB approved or math certified teacher.

**Government and Public Administration Cluster**

This cluster includes the study of executing governmental functions at the local, state, and federal levels.

**PRINCIPLES OF GOVERNMENT AND PUBLIC ADMINISTRATION**

**TEA #13018200**  
**(Semester)** **8378.R(X)**  
**GRADE: 9-12** **CREDIT: 1/2**  
**(Yearlong)** **8378.R(Y)**  
**GRADE: 9-12** **CREDIT: 1**  
*PREREQUISITE: None*

Students will examine governmental documents such as the United States Constitution and the Bill of Rights.

**POLITICAL SCIENCE I**

**TEA #13018300**  
**(Yearlong)** **8380.R(Y)**  
**GRADE: 10-12** **CREDIT: 1**  
**(Yearlong)** **8381.R(Y)**  
**GRADE: 10-12** **CREDIT: 2**  
*PREREQUISITES: Principles of Government and Public Administration or Public Management and Administration*

This course will familiarize the student with political theory through the study of

governments; public policies; and political processes, systems, and behavior.

**POLITICAL SCIENCE II**

**TEA #13018400**  
**(Yearlong)** **8382.R(Y)**  
**GRADE: 10-12** **CREDIT: 1**  
**(Yearlong)** **8383.R(Y)**  
**GRADE: 10-12** **CREDIT: 2**

*PREREQUISITES: Political Science I*  
 Students develop knowledge and skills in the economical, financial, technological, international, social, and ethical aspects of banking to become competent consumers, employees, and entrepreneurs. Students incorporate a broad base of knowledge that includes the operations, sales, and management of banking institutions to gain a complete understanding of how banks function within society.

**REVENUE, TAXATION, AND REGULATION**

**TEA #13018500**  
**(Yearlong)** **8384.R(Y)**  
**GRADE: 10-12** **CREDIT: 1**  
**(Yearlong)** **8385.R(Y)**  
**GRADE: 10-12** **CREDIT: 2**

*PREREQUISITES: Principles of Government and Public Admin.*

Revenue, Taxation, and Regulation is an overview of law and investigative principles and follows agency procedures to examine evidence and ensure revenue compliance. In addition, students learn to facilitate clear and positive communication with taxpayers and become familiar with data analysis systems and revenue-related financial problems. The student prepares to enforce legal compliance and regulatory standards.

**PUBLIC MANAGEMENT AND ADMINISTRATION**

**TEA #13018600**  
**(Yearlong)** **8386.R(Y)**  
**GRADE: 10-12** **CREDIT: 1**  
**(Yearlong)** **8387.R(Y)**  
**GRADE: 10-12** **CREDIT: 2**

*PREREQUISITES: None*  
 Public Management and Administration considers that governments and nonprofit administration resemble private-sector management. Students are introduced to management tools that maximize the effectiveness of administrators and affect the quality of life of citizens in the community.

**PLANNING AND GOVERNANCE**

**TEA #13018700**

**(Yearlong) 8388.R(Y)**

**GRADE: 10-12 CREDIT: 1**

**(Yearlong) 8389.R(Y)**

**GRADE: 10-12 CREDIT: 2**

*PREREQUISITE: Principles of Government and Public Administration or Public*

*Management and Administration*

Planning and Governance provides the opportunity for students to formulate plans and policies to meet social, economic, and physical needs of communities.

**NATIONAL SECURITY**

**TEA #13018800**

**(Yearlong) 8390.R(Y)**

**GRADE: 10-12 CREDIT: 1**

**(Yearlong) 8391.R(Y)**

**GRADE: 10-12 CREDIT: 2**

*PREREQUISITE: Principles of Government*

*and Public Administration, or Public*

*Management and Administration*

National Security introduces the students to the aspects of disaster management. The course includes engaging simulation exercises related to natural disasters, man-made disasters, and terroristic events.

**FOREIGN SERVICE AND DIPLOMACY**

**TEA #13018900**

**(Yearlong) 8393.R(Y)**

**GRADE: 10-12 CREDIT: 1**

**(Yearlong) 8394.R(Y)**

**GRADE: 10-12 CREDIT: 2**

*PREREQUISITE: Principles of Government and Public Administration or Public*

*Management and Administration*

Foreign Service and Diplomacy provides the opportunity for students to investigate the knowledge and skills necessary for careers in foreign service. The course includes law, history, media communication, and international relations associated with the diplomatic environment.

**PRACTICUM IN LOCAL, STATE, AND FEDERAL GOVERNMENT**

**TEA #13019000**

**(Semester) 8396.R(X)**

**GRADE: 12 CREDIT: 1**

**(Semester) 8398.R(X)**

**GRADE: 12 CREDIT: 1/2**

Students concurrently learn advanced concepts of political science in the classroom setting. In addition, students will apply technical skills pertaining to government and public administration in a direct mentorship by individuals in professional settings such as government, public management and

administration, national security, municipal planning, foreign service, revenue, taxation, and regulation.

**Health Science Cluster**

This cluster includes the study of providing diagnostic and therapeutic services, health information, support services, and biotechnology research and development.

**PRINCIPLES OF HEALTH SCIENCE**

**TEA #13020200**

**(Yearlong) 8400.R(Y)**

**GRADE: 9-12 CREDIT: 1**

*PREREQUISITE: None*

Principles of Health Science provides an overview of the therapeutic, diagnostic, health informatics, support services, and biotechnology research and development systems of the health care industry. This course satisfies the Health Education graduation requirement.

**MEDICAL TERMINOLOGY**

**(weighted)**

**TEA #13020300**

**(Semester) 8402.H(X)**

**GRADE: 9-12 CREDIT: 1/2**

*PREREQUISITE: None*

This course is designed to introduce students to the structure of medical terms, including prefixes, suffixes, word roots, combining forms, and singular and plural forms, plus medical abbreviations and acronyms. The course allows students to achieve comprehension of medical vocabulary appropriate to medical procedures, human anatomy and physiology, and pathophysiology. Articulated credit may be awarded upon successful completion of a sequence of courses.

**HEALTH SCIENCE (weighted)**

**TEA #13020400**

**(Yearlong) 8404.H(Y)**

**GRADE: 10-12 CREDIT: 1**

*PREREQUISITE: Principles of Health*

*Science or Intro to Health Science*

*Technology and concurrent enrollment or completion of Biology*

Health Science is designed to provide for the development of advanced knowledge and skills related to a wide variety of health careers. This course is designed to develop health-care specific knowledge and skills in effective communications, ethical and legal responsibilities, client care, safety, first aid, and CPR. Students will learn the knowledge and

skills needed to make client assessment; interpret health science technical material, describe biological and chemical processes that maintain homeostasis; identify principles of body mechanics and movement; analyze the impact of local, state, and government on the health care industry. This course prepares the students to work with health care issues and make the transition to clinical or work-based experiences in health care. This course satisfies the Health Education credit graduation requirement. Articulated credit may be awarded upon successful completion of a sequence of courses.

**PRACTICUM IN HEALTH SCIENCE I**

**TEA #13020500**

**(Yearlong)**

**8407.H(Y) (Clinical Experience)**

*(weighted if the teacher is approved to offer for college credit)*

**GRADE: 11-12 CREDIT: 2**

**(Yearlong)**

**8410.R(Y) (CNA)**

**GRADE: 11-12 CREDIT: 2**

**(Yearlong)**

**8412.H(Y) (EMT) (weighted)**

**GRADE: 11-12 CREDIT: 2**

*PREREQUISITE: Instructor approval, 16 years of age, Health Science, Biology and concurrent enrollment or completion of Chemistry*

*ADDITIONAL REQUIREMENT: Prior to acceptance, students must undergo a criminal background check and must be clear of any misdemeanor or felony convictions.*

The Practicum is designed to give students practical application of previously studied knowledge and skills. Practicum experiences can occur in a variety of locations appropriate to the nature and level of experience. Students may have the opportunity to develop the skills and competencies through a clinical hospital experience becoming certified as a Certified Nurse Assistant (CNA). This course will develop skills in the classroom and clinical settings that comply with standard precautions, practices and prescribed techniques. Students learn to maintain a safe environment, to prevent hazardous situations, follow protocol related to hazardous materials and strategies for the prevention of disease and infection. Students will perform health screenings, examinations, monitor client health status during therapeutic and diagnostic procedures, observe client during care and procedures; accurately measure and report client vital signs and other indicators of health status.

Students will learn to transfer knowledge and skills to new situations and apply problem solving strategies, update skills to enhance employability and identify emerging technologies in the health science technology industry. Articulated credit may be awarded for Clinical, Med Lab or EMT upon successful completion of a sequence of courses.

**PRACTICUM IN HEALTH SCIENCE II**

**TEA #13020510**  
**(Yearlong)**  
**8413.R (Y) (CNA)**  
**GRADE: 11-12 CREDIT: 2**

**(Yearlong)**  
**8416.H (Y) (Med Lab) (weighted)**  
**GRADE: 11-12 CREDIT: 2**

**(Yearlong)**  
**8418.R (Y) (Pharm Tech)**  
**GRADE: 11-12 CREDIT: 2**

**(Yearlong)**  
**8420.H (Y) (EMT) (weighted)**  
**GRADE: 11-12 CREDIT: 2**  
*PREREQUISITE: Instructor approval, 16 years of age, Health Science, Biology and concurrent enrollment or completion of Chemistry*

*ADDITIONAL REQUIREMENT: Prior to acceptance, students must undergo a criminal background check and must be clear of any misdemeanor or felony convictions.*

Students will develop advanced clinical skills necessary for the health science professions or continued post-secondary education. This course is designed to provide knowledge and skills for certification or licensure in an allied health career. Students may have the opportunity to develop the skills and competencies for Certified Nurse Assistant (CNA), Pharmacy Technician or Phlebotomist. In addition, Emergency Medical Technician (EMT) concentration is taught by EMS personnel at Akins. Articulated credit may be awarded for Med Lab or EMT upon successful completion of a sequence of courses.

**LIFETIME NUTRITION AND WELLNESS**

**TEA #13024500**  
**(Semester)** **8482.R(X)**  
**GRADE: 10-12 CREDIT: 1/2**  
**(Yearlong)** **8482.H(Y)**  
**(weighted)**  
**GRADE: 10-12 CREDIT: 1**

*PREREQUISITES: None*

This laboratory course allows students to use principles of lifetime wellness and nutrition to

help them make informed choices that promote wellness as well as pursue careers related to hospitality and tourism, education and training, human services, and health sciences. Articulated credit may be awarded upon successful completion of a sequence of courses if course completed for one credit.

**COUNSELING AND MENTAL HEALTH**

**TEA #13024600**  
**(Semester)** **8484.R(X)**  
**GRADE: 10-12 CREDIT: 1/2**  
**(Yearlong)** **8484.R(Y)**  
**GRADE: 10-12 CREDIT: 1**

*PREREQUISITE: Principles of Human Services, or Health Science Technology I*

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.

**ANATOMY AND PHYSIOLOGY (weighted)**

**TEA #13026000**  
**(Yearlong)** **8426.H (Y)**  
**GRADE: 10-12 CREDIT: 1**

*PREREQUISITES: Three credits of science recommended.*

In Anatomy and Physiology, students conduct laboratory and field investigations, use scientific methods during investigations, and make informed decisions using critical thinking and scientific problem solving. Students in Anatomy and Physiology study a variety of topics, including the structure and function of the human body and the interaction of body systems for maintaining homeostasis. Texas law requires 40% laboratory and fieldwork to qualify as a fourth year option for science credit.

**MEDICAL MICROBIOLOGY (weighted)**

**TEA #13020700**  
**(Semester)** **8428.H(X)**  
**GRADE: 10-12 CREDIT: 1/2**  
**(Yearlong)** **8428.H(Y)**  
**GRADE: 10-12 CREDIT: 1**

*PREREQUISITE: Three science credits recommended*

Students in Medical Microbiology explore the microbial world, studying topics such as pathogenic and non-pathogenic microorganisms, laboratory procedures,

identifying microorganisms, drug resistant organisms, and emerging diseases. Texas law requires 40% laboratory and fieldwork to qualify as a fourth year option for science credit.

**PATHOPHYSIOLOGY (weighted)**

**TEA #13020800**  
**(Semester)** **8430.H(X)**  
**GRADE: 11-12 CREDIT: 1/2**  
**(Yearlong)** **8430.H(Y)**  
**GRADE: 11-12 CREDIT: 1**

*PREREQUISITES: Three science credits recommended*

In Pathophysiology, students conduct laboratory and field investigations, use scientific methods during investigations, and make informed decisions using critical thinking and scientific problem solving. Students in Pathophysiology study disease processes and how humans are affected. Emphasis is placed on prevention and treatment of disease. Students will differentiate between normal and abnormal physiology. Texas law requires 40% laboratory and fieldwork to qualify as a fourth year option for science credit.

**ADVANCED BIOTECHNOLOGY (weighted)**

**TEA #13036400**  
**(Yearlong)** **8686.H(Y)**  
**GRADE: 11-12 CREDIT: 1**

*PREREQUISITE: Biology and Chemistry*

Students enrolled in this course will apply advanced academic knowledge and skills to the emerging fields of biotechnology such as agricultural, medical, regulatory, and forensics. Students will have the opportunity to use sophisticated laboratory equipment, perform statistical analysis, and practice quality-control techniques. To qualify as a fourth year science credit, this course must contain 40% laboratory and fieldwork experiences by Texas law and must be taught by a NCLB approved or science certified teacher. This course is articulated with Austin Community College.

**WORLD HEALTH RESEARCH**

**TEA #13020900**  
**(Yearlong)** **8432.R(Y)**  
**GRADE: 11-12 CREDIT: 1**

*PREREQUISITES: Biology and Chemistry*

This course examines major world health problems and emerging technologies as solutions to these medical concerns. The course is designed to improve students' understanding of the cultural, infrastructural, political, educational, and technological constraints and inspire ideas for appropriate technological solutions to global medical care issues.

**SCIENTIFIC RESEARCH AND DESIGN**

**TEA #13037200**  
**(Yearlong)**                      **8716.R(Y)**  
**GRADE: 11-12**                      **CREDIT: 1**

**TEA #13037200**  
**(Yearlong)**                      **8716.H(Y)**

(weighted option allowed with district approval)

**GRADE: 11-12**                      **CREDIT: 1**

*PREREQUISITES: One unit of science.*

Science, as defined by the National Academy of Sciences, is the "use of evidence to construct testable explanations and predictions of natural phenomena, as well as the knowledge generated through this process." This vast body of changing and increasing knowledge is described by physical, mathematical, and conceptual models. Students should know that some questions are outside the realm of science because they deal with phenomena that are not scientifically testable. Texas law requires 40% laboratory and fieldwork to qualify as a fourth year option for science credit.

**Project Lead The Way (PLTW)**

These courses are offered at Ann Richards School for Young Women Leaders which participates in the PLTW program.

**PRINCIPLES OF BIOMEDICAL SCIENCE**

**TEA #N1302092**  
**(Yearlong)**                      **8434.R(Y)**  
**GRADE: 9-12**                      **CREDIT: 1**

*PREREQUISITES: None*

Student work involves the study of human medicine, research processes and an introduction to bioinformatics. Students investigate the human body systems and various health conditions including heart disease, diabetes, sickle-cell disease, hypercholesterolemia, and infectious diseases. A theme through the course is to determine the factors that led to the death of a fictional person. After determining the factors responsible for the death, the students investigate lifestyle choices and medical treatments that might have prolonged the person's life. Key biological concepts including: homeostasis, metabolism, inheritance of traits, feedback systems, and defense against disease are embedded in the curriculum. Engineering principles including: the design process, feedback loops, fluid dynamics, and the relationship of structure to function are incorporated in the curriculum where appropriate. The course is

designed to provide an overview of all the courses in the Biomedical Sciences program and to lay the scientific foundation necessary for student success in the subsequent courses.

**HUMAN BODY SYSTEMS**

**TEA #N1302093**  
**(Yearlong)**                      **8436.R(Y)**  
**GRADE: 10-12**                      **CREDIT: 1**

*PREREQUISITES: Biology, Chemistry and Principles of Biomedical Science*

Students engage in the study of the processes, structures, and interactions of the human body systems. Important concepts in the course include: communication, transport of substances, locomotion, metabolic processes, defense, and protection. The central theme is how the body systems work together to maintain homeostasis and good health. The systems are studied as "parts of a whole," working together to keep the amazing human machine functioning at an optimal level. Students design experiments, investigate the structures and functions of body systems, and use data acquisition software to monitor body functions such as muscle movement, reflex and voluntary actions, and respiratory operation. Students work through interesting real world cases and often play the role of biomedical professionals to solve medical mysteries.

**MEDICAL INTERVENTIONS**

**TEA #N1302094**  
**(Yearlong)**                      **8438.R(Y)**  
**GRADE: 11-12**                      **CREDIT: 1**

*PREREQUISITES: Human Body Systems*

Students investigate the variety of interventions involved in the prevention, diagnosis and treatment of disease as they follow the lives of a fictitious family. The course is a "How-To" manual for maintaining overall health and homeostasis in the body as students explore how to prevent and fight infection, how to screen and evaluate the code in human DNA, how to prevent, diagnose and treat cancer, and how to prevail when the organs of the body begin to fail. Through these scenarios, students are exposed to the wide range of interventions related to immunology, surgery, genetics, pharmacology, medical devices, and diagnostics. Each family case scenario introduces multiple types of interventions and reinforces concepts learned in the previous two courses, as well as presenting new content. Interventions may range from simple diagnostic tests to treatment of complex diseases and disorders. These interventions are showcased across the generations of the family and provide a look

at the past, present and future of biomedical science. Lifestyle choices and preventive measures are emphasized throughout the course as well as the important roles scientific thinking and engineering design play in the development of interventions of the future.

**BIOMEDICAL INNOVATION**

**TEA #TBD**  
**(Yearlong)**                      **8440.RCOC.Y**  
**GRADE: 12**                      **CREDIT: 1**

*PREREQUISITE: Medical Interventions*

This capstone course allows students to apply their knowledge and skills to answer questions or solve problems related to the biomedical sciences. Students design innovative solutions for the health challenges of the 21st century as they work through progressively challenging open-ended problems, addressing topics such as clinical medicine, physiology, biomedical engineering, and public health.

**Hospitality and Tourism Cluster**

This cluster includes the study of managing restaurants and other food services, lodging, attractions, recreation events, and travel-related services.

**PRINCIPLES OF HOSPITALITY AND TOURISM**

**TEA #13022200**  
**(Semester)**                      **8446.R(X)**  
**GRADE: 9-12**                      **CREDIT: 1/2**  
**(Yearlong)**                      **8446.R(Y)**  
**GRADE: 9-12**                      **CREDIT: 1**

*PREREQUISITE: None*

The hospitality and tourism industry encompasses lodging; travel and tourism; recreation, amusements, attractions, and resorts; and restaurants and food and beverage service. The hospitality and tourism industry maintains the largest national employment base in the private sector. Students use knowledge and skills that meet industry standards to function effectively in various positions within this multifaceted industry.

**LIFETIME NUTRITION AND WELLNESS****TEA #13024500****(Semester) 8482.R(X)****GRADE: 10-12 CREDIT: 1/2****(Yearlong) 8482.H(Y)****(weighted)****GRADE: 10-12 CREDIT: 1***PREREQUISITES: None*

This laboratory course allows students to use principles of lifetime wellness and nutrition to help them make informed choices that promote wellness as well as pursue careers related to hospitality and tourism, education and training, human services, and health sciences. Articulated credit may be awarded upon successful completion of a sequence of course if course completed for one credit.

**CULINARY ARTS (weighted)****TEA #13022600****(Yearlong) 8454.H(Y)****GRADE: 10-12 CREDIT: 2**

*PREREQUISITES: Instructor approval and Lifetime Nutrition and Wellness, Principles of Hospitality and Tourism, Food Science and Nutrition or Nutrition and Food Science*

Culinary Arts begins with the fundamentals and principles of the art of cooking and the science of baking and includes management and production skills and techniques. Students can pursue a national sanitation certification, or other appropriate industry certification. Articulated credit may be awarded upon successful completion of a sequence of courses.

**PRACTICUM IN CULINARY ARTS (weighted)****TEA #13022700****(Yearlong) 8456.H(Y)****GRADE: 11-12 CREDIT: 2***PREREQUISITE: Instructor approval and Culinary Arts*

This course is a continuation of Culinary Arts. This course is a unique practicum that provides occupationally specific opportunities for students to participate in a learning experience that combines classroom instruction with laboratory-based actual business and industry career experiences. Articulated credit may be awarded upon successful completion of a sequence of courses.

**HOSPITALITY SERVICES (weighted)****TEA #13022800****(Yearlong) 8462.H(Y)****GRADE: 10-12 CREDIT: 2***PREREQUISITE: Instructor approval*

This two-hour course provides training in

hospitality services such as hotel and motel operations and institutional services. Students learn concepts and skills related to property management, psychology of guests, lodging operations and food and beverage operations. Hotels or conference centers are used for the work-based component. In addition, Hospitality Services is designed so that performance standards meet employer expectations, enhancing the employability of students. Articulated credit may be awarded upon successful completion of a sequence of courses.

**PRACTICUM IN HOSPITALITY SERVICES (weighted)****TEA #13022900****(Yearlong) 8468.H(Y)****GRADE: 11-12 CREDIT: 2***PREREQUISITE: Instructor approval and Hospitality Services*

This course is a continuation of Hospitality Services. A unique practicum experience provides opportunities for students to participate in a learning experience that combines classroom instruction with actual business and industry career experiences. Articulated credit may be awarded upon successful completion of a sequence of courses.

**FOOD SCIENCE (weighted)****TEA #13023000****(Yearlong) 8474.H(Y)****GRADE: 11-12 CREDIT: 1***PREREQUISITES: Three units of Science*

In Food Science students conduct laboratory and field investigations, use scientific methods during investigations, and make informed decisions using critical thinking and scientific problem solving. Food Science is the study of the nature of foods, the causes of deterioration, the principles underlying food processing, and the improvement of foods for the consuming public. Articulated credit may be awarded upon successful completion of a sequence of courses. No prerequisite if not offered for 4th science credit. To qualify as a fourth year science credit, this course must contain 40% laboratory and fieldwork experiences by Texas law and must be taught by a NCLB approved or science certified teacher.

**Human Services Cluster**

This cluster includes a study of providing for families and serving human needs.

**PRINCIPLES OF HUMAN SERVICES****TEA #13024200****(Semester) 8476.R(X)****GRADE: 9-12 CREDIT: 1/2****(Yearlong) 8476.R(Y)****GRADE: 9-12 CREDIT: 1***PREREQUISITE: None*

This laboratory course will enable students to investigate careers in the human services career cluster, including counseling and mental health, early childhood development, family and community, and personal care services.

**DOLLARS AND SENSE****TEA #13024300****(Semester) 8478.R(X)****GRADE: 10-12 CREDIT: 1/2****(Yearlong) 8478.R(Y)****GRADE: 10-12 CREDIT: 1***PREREQUISITES: None*

Dollars and Sense focuses on consumer practices and responsibilities, the money management process, decision-making skills, impact of technology, and preparation for human services careers.

**INTERPERSONAL STUDIES****TEA #13024400****(Semester) 8480.R(X)****GRADE: 10-12 CREDIT: 1/2****(Yearlong) 8480.R(Y)****GRADE: 10-12 CREDIT: 1***PREREQUISITE: None*

This course 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.

**LIFETIME NUTRITION AND WELLNESS****TEA #13024500****(Semester) 8482.R(X)****GRADE: 10-12 CREDIT: 1/2****(Yearlong) 8482.H(Y)****(weighted)****GRADE: 10-12 CREDIT: 1***PREREQUISITES: None*

This laboratory course allows students to use principles of lifetime wellness and nutrition to help them make informed choices that promote wellness as well as pursue careers related to hospitality and tourism, education and training, human services, and health sciences. Articulated credit may be awarded upon successful completion of a sequence of courses if course completed for one credit.

### COUNSELING AND MENTAL HEALTH

**TEA #13024600**

**(Semester) 8484.R(X)**

**GRADE: 10-12 CREDIT: 1/2**

**(Yearlong) 8484.R(Y)**

**GRADE: 10-12 CREDIT: 1**

*PREREQUISITE: Principles of Human Services or Interpersonal Studies*

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.

### CHILD DEVELOPMENT

**TEA #13024700**

**(Semester) 8488.R(X)**

**GRADE: 10-12 CREDIT: 1/2**

**(Yearlong) 8488.H(Y)**

**(weighted)**

**GRADE: 10-12 CREDIT: 1**

*PREREQUISITES: None*

This technical laboratory course addresses knowledge and skills related to child growth and development from prenatal through school-age children, equipping students with child development skills. Students use these skills to promote the well-being and healthy development of children and investigate careers related to the care and education of children. Articulated credit may be awarded upon successful completion of a sequence of courses if course completed for one credit.

### FAMILY AND COMMUNITY SERVICES

**TEA #13024900**

**(Semester) 8494.R(X)**

**GRADE: 11-12 CREDIT: 1/2**

**(Yearlong) 8494.R(Y)**

**GRADE: 11-12 CREDIT: 1**

*PREREQUISITE: Principles of Human Services*

This laboratory-based course is designed to involve students in realistic and meaningful community-based activities through direct

service experiences. Students are provided opportunities to interact 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.

### PRACTICUM IN HUMAN SERVICES

**TEA #13025000**

**(Yearlong) 8496.R(Y)**

**GRADE: 11-12 CREDIT: 2**

*PREREQUISITES: One credit in Human Services cluster*

Practicum in Human Services provides occupationally specific training and focuses on the development of consumer services, early childhood development and services, counseling and mental health services, and family and community services careers. Content for Practicum in Human Services is designed to meet the occupational preparation needs and interests of students and should be based upon the knowledge and skills selected from two or more courses in a coherent sequence in the human services cluster.

### INTRODUCTION TO COSMETOLOGY

**TEA #13025100**

**(Yearlong) 8502.R(Y)**

**GRADE: 10 CREDIT: 1**

*PREREQUISITE: None*

Students explore areas such as bacteriology, sterilization and sanitation, hair styling, manicuring, shampooing and the principles of hair cutting, hair styling, hair coloring, skin care, and facial makeup. The student researches careers in the personal care services industry. To prepare for success, students must have skills relative to this industry, as well as academic knowledge and skills. Students may begin to earn clock hours toward state licensing requirements. There are fees associated with this course.

### COSMETOLOGY I

**TEA #13025200**

**(Yearlong) 8506.R(Y)**

**GRADE: 11-12 CREDIT: 2**

**(Yearlong) 8508.R(Y)**

**GRADE: 11-12 CREDIT: 3**

*PREREQUISITES: Introduction to Cosmetology, Instructor approval plus completion of 125 clock hours*

Students coordinate integration of academic, career, and technical knowledge and skills in this laboratory instructional sequence course designed to provide job-specific training for employment in cosmetology careers. Instruction includes sterilization and sanitation procedures, haircare, nail care, and skin care and meets the Texas Department of

Licensing and Regulation requirements for licensure upon passing the state examination. Analysis of career opportunities, requirements, expectations, and development of workplace skills are included. Expenses are incurred for student owned kits. Fee is non-refundable.

### COSMETOLOGY II

**TEA #13025300**

**(Yearlong) 8512.R(Y)**

**GRADE: 12 CREDIT: 2**

**(Yearlong) 8514.R(Y)**

**GRADE: 12 CREDIT: 3**

*PREREQUISITES: Cosmetology I, Instructor approval plus completion of 625 clock hours*

Students review academic knowledge and skills related to cosmetology. This course is designed to provide advanced training for employment in cosmetology careers. Instruction includes advanced training in sterilization and sanitation processes, haircare, nail care, and skin care and meets the Texas Department of Licensing and Regulation requirements for licensure upon passing the state examination. Expenses are incurred for student owned kits. Fee is non-refundable.

## Information Technology Cluster

This cluster includes the study of designing, supporting, and managing hardware, software, multimedia, and systems integration.

### PRINCIPLES OF INFORMATION TECHNOLOGY (weighted)

**TEA #13027200**

**(Yearlong) 8526.H(Y)**

**GRADE: 9-10 CREDIT: 1**

*PREREQUISITE: Keyboarding, Touch System Data Entry, or Demonstrated Keyboarding Proficiency*

Students develop computer literacy skills to adapt to emerging technologies used in the global marketplace. Students enhance reading, writing, computing, communication, and reasoning skills and apply them to the information technology environment. Articulated credit may be awarded upon successful completion of a sequence of courses if course completed for one credit.

**COMPUTER MAINTENANCE**

**(weighted)**

**TEA #13027300**

**(Yearlong) 8528.H(Y)**

**GRADE: 10-12 CREDIT: 1**

**(Yearlong) 8530.H(Y)**

**GRADE: 10-12 CREDIT: 2**

*PREREQUISITE: Keyboarding, Touch System Data Entry, or Demonstrated Keyboarding Proficiency and Principles of Information Technology or Intro to Computer Maintenance*

Students acquire principles of computer maintenance, including electrical and electronic theory, computer hardware principles, and broad level components related to the installation, diagnosis, service, and repair of computer systems. Articulated credit may be awarded upon successful completion of a sequence of courses.

**TELECOMMUNICATIONS AND NETWORKING (weighted)**

**TEA #13027400**

**(Yearlong) 8532.H(Y)**

**GRADE: 10-12 CREDIT: 1**

*PREREQUISITE: Principles of Information Technology and Computer Maintenance or Intro to Computer Maintenance*

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. Articulated credit may be awarded upon successful completion of a sequence of courses.

**COMPUTER TECHNICIAN (weighted)**

**TEA #13027500**

**(Yearlong) 8536.H(Y)**

**GRADE: 11-12 CREDIT: 1**

**(Yearlong) 8538.H(Y)**

**GRADE: 11-12 CREDIT: 2**

*PREREQUISITE: Computer Maintenance*

Students gain knowledge and skills in the area of computer technologies, including advanced knowledge of electrical and electronic theory, computer principles, and components related to the installation, diagnosis, service, and repair of computer-based technology systems. Students will reinforce, apply, and transfer their knowledge and skills to a variety of settings and problems. Proper use of analytical skills and application of information technology concepts and standards are essential to prepare students for success in a technology-driven society. Articulated credit may be awarded upon successful completion of a sequence of courses.

**COMPUTER PROGRAMMING**

**(weighted)**

**TEA #13027600**

**(Yearlong) 8542.H(Y)**

**GRADE: 10-12 CREDIT: 1**

*PREREQUISITE: Keyboarding, Touch System Data Entry, or Demonstrated Keyboarding Proficiency and Principles of Information Technology*

Students acquire knowledge of structured programming techniques and concepts appropriate to developing executable programs and creating appropriate documentation. Students apply technical skills to address business applications of emerging technologies. Articulated credit may be awarded upon successful completion of a sequence of courses.

**ADVANCED COMPUTER PROGRAMMING (weighted)**

**TEA #13027700**

**(Yearlong) 8544.H(Y)**

**GRADE: 11-12 CREDIT: 1**

*PREREQUISITES: Computer Programming*

Students expand their knowledge and skills in structured programming techniques and concepts by addressing more complex problems and developing comprehensive programming solutions. Students apply technical skills to address business applications of emerging technologies. Articulated credit may be awarded upon successful completion of a sequence of courses.

**DIGITAL AND INTERACTIVE MEDIA (weighted)**

**TEA #13027800**

**(Yearlong) 8548.H(Y)**

**GRADE: 10-12 CREDIT: 1**

*PREREQUISITES: Keyboarding, Touch System Data Entry, or Demonstrated Keyboarding Proficiency*

Through the study of digital and interactive media and its application in information technology, students will analyze and assess current and emerging technologies, while designing and creating multimedia projects that address customer needs and resolve a problem. Articulated credit may be awarded upon successful completion of a sequence of courses.

**WEB TECHNOLOGIES (weighted)**

**TEA #13027900**

**(Yearlong) 8550.H(Y)**

**GRADE: 10-12 CREDIT: 1**

*PREREQUISITES: Keyboarding, Touch System Data Entry, or Demonstrated Keyboarding Proficiency and Principles of Information Technology or BCIS or Business Information Management*

Through the study of web technologies and design, students learn to make informed decisions and apply the decisions to the field of information technology. The knowledge and skills acquired and practiced will enable students to successfully perform and interact in a technology-driven society. Articulated credit may be awarded upon successful completion of a sequence of courses.

**RESEARCH IN INFORMATION TECHNOLOGY SOLUTIONS**

**TEA #13028000**

**(Yearlong) 8552.R(Y)**

**GRADE: 12 CREDIT: 1**

**(Yearlong) 8554.R(Y)**

**GRADE: 12 CREDIT: 2**

*PREREQUISITES: Minimum of two Information Technology cluster courses*

Students gain advanced knowledge and skills in the application, design, production, implementation, maintenance, evaluation, and assessment of products, services, and systems. Knowledge and skills in the proper use of analytical skills and application of information technology concepts and standards are essential to prepare students for success in a technology-driven society. Critical thinking, information technology experience, and product development may be conducted in a classroom setting with an industry mentor, as an unpaid internship, or as career preparation.

**INTERNETWORKING TECHNOLOGIES**

**I – CISCO (weighted)**

**TEA #N1302803**

**(Yearlong) 8560.H(Y)**

**GRADE: 10-12 CREDIT: 1**

**(Yearlong) 8562.H(Y)**

**GRADE: 10-12 CREDIT: 2**

*PREREQUISITES: None*

Offered at LASA only. The activities are designed to meet the needs of the individual students through hands-on, project-driven training that models industry standard job skills. Included are such activities as designing, building, maintaining small to medium-sized networks utilizing both the hardware and software matched with current industry standards. Articulated credit may be awarded upon successful completion of a sequence of courses.

**INTERNETWORKING TECHNOLOGIES II – CISCO (weighted)**

**TEA #N1302804**

**(Yearlong) 8564.H(Y)**

**GRADE: 11-12 CREDIT: 1**

*PREREQUISITES: Internetworking Technologies I*

Offered at LASA only. This second year course is project-driven and models industry standard job skills. Included are such activities as installation, testing, operation, customization and maintenance of computer networking software, hardware systems, wireless LANS and network security. Articulated credit may be awarded upon successful completion of a sequence of courses.

## Law, Public Safety, Corrections, and Security Cluster

This cluster includes the study of providing legal, public safety, protective, and homeland security services.

### PRINCIPLES OF LAW, PUBLIC SAFETY, CORRECTIONS AND SECURITY

**TEA #13029200**

**(Semester) 8572.R(X)**  
**GRADE: 9-12 CREDIT: 1/2**  
**(Yearlong) 8572.R(Y)**  
**GRADE: 9-12 CREDIT: 1**

*PREREQUISITE: None*

Principles of Law, Public Safety, Corrections, and Security introduces students to professions in law enforcement, security, corrections, and fire and emergency management services. Students will examine the roles and responsibilities of police, courts, corrections, private security, and protective agencies of fire and emergency services. The course provides students with an overview of the skills necessary for careers in law enforcement, fire service, security, and corrections.

### LAW ENFORCEMENT I

**TEA #13029300**

**(Yearlong) 8574.R(Y)**  
**GRADE: 10-12 CREDIT: 1**  
**(Yearlong) 8574.H(Y)**  
 (weighted if the teacher is approved to offer for college credit)

**GRADE: 10-12 CREDIT: 1**

*PREREQUISITE: None*

Law Enforcement I 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. Articulated credit may be awarded upon

successful completion of a sequence of courses.

### LAW ENFORCEMENT II

**TEA #13029400**

**(Yearlong) 8580.R (Y)**  
**GRADE: 11-12 CREDIT: 1**

*PREREQUISITE: Law Enforcement I and BCIS I or Business Information Management*

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, civil law and procedure, and courtroom testimony.

### LAW ENFORCEMENT II – EMERGENCY COMMUNICATIONS

**TEA #13029400**

**(Yearlong) 8578.H(Y)**  
 (weighted if the teacher is approved to offer for college credit)

**GRADE: 11-12 CREDIT: 1**

*PREREQUISITE: Law Enforcement I and BCIS I or Business Information Management*

Offered at Lanier High School only. This course is a study of the history of public safety communications and of the federal and state laws affecting public safety communication. In addition, telephone and radio communications systems are studied, as are communication documentation; emergency management; 911 and stress and crisis management. Articulated credit may be awarded upon successful completion of a sequence of courses.

### FORENSIC SCIENCE

**TEA #13029500**

**(Yearlong) 8582.R(Y)**  
**GRADE: 11-12 CREDIT: 1**

*PREREQUISITE: Biology and Chemistry*

Forensic Science is a course that 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. Students 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 and simulated crime scenes such as fingerprint analysis, ballistics, and blood spatter analysis. Students will learn the history, legal aspects, and career options for forensic science. To qualify as a fourth year science credit, this course must contain 40% laboratory and fieldwork experiences by Texas law and must be taught by a NCLB approved or science certified teacher.

### COURT SYSTEMS AND PRACTICES

**TEA #13029600**

**(Yearlong) 8584.R(Y)**  
**GRADE: 10-12 CREDIT: 1**  
**(Yearlong) 8584.H(Y)**

(weighted if the teacher is approved to offer for college credit)

**GRADE: 10-12 CREDIT: 1**

*PREREQUISITES: Law Enforcement I*

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

### CORRECTIONAL SERVICES

**TEA #13029700**

**(Yearlong) 8588.R(Y)**  
**GRADE: 11-12 CREDIT: 1**  
**(Yearlong) 8588.H(Y)**

(weighted if the teacher is approved to offer for college credit)

**GRADE: 11-12 CREDIT: 1**

**(Yearlong) 8590.H(Y)**

(weighted if the teacher is approved to offer for college credit)

**GRADE: 11-12 CREDIT: 2**

*PREREQUISITES: Law Enforcement I, Intro to Security Services, or Security Services*

In Correctional Services, students prepare for 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. Articulated credit may be awarded upon successful completion of a sequence of courses.

### SECURITY SERVICES

**TEA #13029800**

**(Yearlong) 8592.R(Y)**  
**GRADE: 11-12 CREDIT: 1**

*PREREQUISITE: None*

Security Services provides the knowledge and skills necessary to prepare for certification in security 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. Instruction is based on the content required by the Texas Board of

Private Investigators and Private Security Agency as a recommended prerequisite to licensing by the state.

### **FIREFIGHTER I**

**TEA #13029900**

**(Yearlong)**

**GRADE: 10-12**

*PREREQUISITE: None*

Offered at LBJ High School only. Firefighter I introduces students to firefighter safety and development. Students will analyze Texas Commission on Fire Protection rules and regulations, proper incident reporting and records, proper use of personal protection equipment, and the principles of fire safety. Students will be introduced to candidate physical ability training. The course is taught by the Austin Fire Department.

### **FIREFIGHTER II (weighted)**

**TEA #13030000**

**(Yearlong)**

**GRADE: 11-12**

*PREREQUISITE: Firefighter I completion with a grade of 75 or better*

Offered at LBJ High School only. Firefighter II is the second in a series for students studying firefighter safety and development. Students will understand Texas Commission on Fire Protection rules and regulations, proper incident reporting and records, proper use of personal protections equipment, and the principles of fire safety. Students will learn procedures for use of fire extinguishers, ladder, fire hose, and water supply apparatus. Upon completion of the two year program, a student may be eligible to receive the TCFP Basic Fire Suppression Certification. This course is taught by the Austin Fire Department. Articulated credit may be awarded upon successful completion of a sequence of courses.

### **PRACTICUM IN LAW, PUBLIC SAFETY, CORRECTIONS, AND SECURITY**

**TEA #13030100**

**(Yearlong)**

**GRADE: 11-12**

*PREREQUISITE: One credit in Law, Public Safety and Security Cluster*

The practicum course is a capstone experience for students participating in a coherent sequence of courses in the Law, Public Safety, Corrections, and Security cluster. 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.

**8598.R(Y)**

**CREDIT: 2**

**8600.H(Y)**

**CREDIT: 2**

**8604.R(Y)**

**CREDIT: 2**

## **Manufacturing Cluster**

This cluster includes the study of processing materials into intermediate or final products.

### **PRINCIPLES OF MANUFACTURING**

**TEA #13032200**

**(Semester)**

**GRADE: 9-12**

**(Yearlong)**

**GRADE: 9-12**

*PREREQUISITE: Algebra I or Geometry*

In Principles of Manufacturing, students gain an understanding of career opportunities available in manufacturing and what employers require to gain and maintain employment in these careers.

**8614.R(X)**

**CREDIT: 1/2**

**8614.R(Y)**

**CREDIT: 1**

### **MANUFACTURING ENGINEERING**

**TEA #13032900**

**(Yearlong)**

**GRADE: 11-12**

**(Yearlong)**

**GRADE: 11-12**

*PREREQUISITE: Algebra II, Computer Science I, and Physics*

In Manufacturing Engineering, 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. Knowledge and skills in the proper application of Manufacturing Engineering, the design of technology, efficient manufacturing technology, and the assessment of the effects of production technology prepare students for success in the global economy. The study of Manufacturing Engineering 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.

**8616.R(Y)**

**CREDIT: 1**

**8618.R(Y)**

**CREDIT: 2**

### **PRACTICUM IN MANUFACTURING**

**TEA #13033000**

**(Yearlong)**

**GRADE: 12**

*PREREQUISITE: One credit in Manufacturing Cluster*

The practicum course is a capstone experience for students participating in a coherent sequence of career and technical education courses in the manufacturing cluster. 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.

**8622.R(Y)**

**CREDIT: 2**

## **Marketing Cluster**

This cluster includes the study of performing marketing activities to reach organizational objective. All courses allow student 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.

### **PRINCIPLES OF BUSINESS, MARKETING, AND FINANCE**

**TEA #13011200**

**(Semester)**

**GRADE: 9-12**

**(Yearlong)**

**GRADE: 9-12**

**(Yearlong)**

*(weighted if the teacher is approved to offer for college credit)*

**GRADE: 9-12**

*PREREQUISITE: None*

In Principles of Business, Marketing, and Finance, students study economies 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. Articulated credit may be awarded upon successful completion of a sequence of courses if course completed for one credit.

**8318.R(X)**

**CREDIT: 1/2**

**8318.R(Y)**

**CREDIT: 1**

**8318.H(Y)**

**CREDIT: 1**

### **ADVERTISING AND SALES PROMOTION**

**TEA #13034200**

**(Semester)**

**GRADE: 9-12**

**(Yearlong)**

**GRADE: 9-12**

*PREREQUISITE: Principles of Business, Marketing, and Finance*

Advertising and Sales Promotion 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, ethical, and legal issues of advertising, historical influences, strategies, and media decision processes as well as integrated marketing communications. The course provides an overview of how communication tools can be used to reach target audiences and increase consumer knowledge.

**8650.R(X)**

**CREDIT: 1/2**

**8650.R(Y)**

**CREDIT: 1**

## ENTREPRENEURSHIP

**TEA #13034400**

**(Semester)** 8654.R(X)  
**GRADE: 9-12** CREDIT: 1/2  
**(Yearlong)** 8654.R(Y)  
**GRADE: 9-12** CREDIT: 1  
**(Yearlong)** 8654.H(Y)

(weighted if the teacher is approved to offer for college credit)

**GRADE: 9-12** CREDIT: 1

*PREREQUISITE: Principles of Business, Marketing, and Finance*

Students will gain the knowledge and skills needed to become an entrepreneur. Students will learn 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. Articulated credit may be awarded upon successful completion of a sequence of courses if course completed for one credit.

## RETAILING AND E-TAILING

**TEA #13034500**

**(Semester)** 8656.R(X)  
**GRADE: 9-12** CREDIT: 1/2  
**(Yearlong)** 8656.R(Y)  
**GRADE: 9-12** CREDIT: 1

*PREREQUISITE: Principles of Business, Marketing, and Finance*

Students will have the opportunity to develop skills that involve electronic media techniques necessary for a business to compete in a global economy. Students will coordinate online and off-line marketing. Students will demonstrate critical-thinking skills using decision-making models, case studies, various technologies, and business scenarios.

## SPORTS AND ENTERTAINMENT MARKETING

**TEA #13034600**

**(Semester)** 8658.R(X)  
**GRADE: 9-12** CREDIT: 1/2  
**(Yearlong)** 8658.R(Y)  
**GRADE: 9-12** CREDIT: 1

*PREREQUISITE: Principles of Business, Marketing, and Finance*

This course will provide students with a thorough understanding of the marketing concepts and theories that apply to sports and sporting events and entertainment. The areas this course will include basic marketing, target marketing and

segmentation, sponsorship, event marketing, promotions, sponsorship proposals, and implementation of sports and entertainment marketing plans. This course will also provide students an opportunity to develop promotional plans, sponsorship proposals, endorsement contracts, sports and entertainment marketing plans, and evaluation and management techniques.

## MARKETING DYNAMICS

**TEA #13034700**

**(Yearlong)** 8660.R(Y)  
**GRADE: 11-12** CREDIT: 1

*PREREQUISITE: None*

Marketing is a series of dynamic activities that focus 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.

## PRACTICUM IN MARKETING DYNAMICS I

**TEA #13034800**

**(Yearlong)** 8668.R(Y)  
**GRADE: 12** CREDIT: 2  
**(Yearlong)** 8670.R(Y)  
**GRADE: 12** CREDIT: 3

*PREREQUISITE: One credit in a Career and Technical Education related course, 16 years of age, requires own transportation*

Students will illustrate appropriate management and research skills to create the marketing mix. 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. This course provides work based learning opportunities in marketing careers. Students meet daily for classroom instruction and complete a minimum of 15 hours (3 credits), ten of which must be completed during the school week, or 10 hours (2 credits), five of which must be completed during the school week.

## PRACTICUM IN MARKETING DYNAMICS II

**TEA #13034810**

**(Yearlong)** 8672.R(Y)  
**GRADE: 12** CREDIT: 2  
**(Yearlong)** 8674.R(Y)  
**GRADE: 12** CREDIT: 3

*PREREQUISITE: Practicum in Marketing*

*Dynamics I, instructor approval, requires own transportation*

This is the second level of study to provide work-based learning opportunities in marketing careers. Students meet daily for classroom instruction and complete a minimum of 15 hours (3 credits), ten of which must be completed during the school week, or 10 hours (2 credits), five of which must be completed during the school week.

## Science, Technology, Engineering and Mathematics Cluster

This cluster includes the study of performing scientific research and professional technical services.

## CONCEPTS OF ENGINEERING AND TECHNOLOGY

**TEA #13036200**

**(Semester)** 8680.R(X)  
**GRADE: 9-10** CREDIT: 1/2  
**(Yearlong)** 8680.R(Y)  
**GRADE: 9-10** CREDIT: 1

*PREREQUISITE: None*

Concepts of Engineering and Technology provides an overview of the various fields of science, technology, engineering, and mathematics and their interrelationships. Upon completing this course, students will have an understanding of the various fields and will be able to make informed decisions regarding a coherent sequence of subsequent courses. Further, students will have worked on a design team to develop a product or system. Students will use multiple software applications to prepare and present course assignments/projects.

## ADVANCED BIOTECHNOLOGY (weighted)

**TEA #13036400**

**(Yearlong)** 8686.H(Y)  
**GRADE: 11-12** CREDIT: 1

*PREREQUISITE: Biology and Chemistry*

This course is offered at Anderson, Bowie, and LASA only. Students enrolled in this course will apply advanced academic knowledge and skills to the emerging fields of biotechnology such as agricultural, medical, regulatory, and forensics. Students will have the opportunity to use sophisticated laboratory equipment, perform statistical analysis, and practice quality-control techniques. To qualify as a

fourth year science credit, this course must contain 40% laboratory and fieldwork experiences by Texas law and must be taught by a NCLB approved or science certified teacher. This course is articulated with Austin Community College.

**ENGINEERING DESIGN AND PRESENTATION (weighted)**

**TEA #13036500**  
**(Yearlong) 8688.H(Y)**  
**GRADE: 10-12 CREDIT: 1**

*PREREQUISITE: Keyboarding*

Students will demonstrate knowledge and skills of the process of design as it applies to engineering fields using multiple software applications and tools necessary to produce and present working drawings, solid model renderings, and prototypes. Through implementation of the design process, students will transfer advanced academic skills to component designs. Additionally, students explore career opportunities in engineering, technology, and drafting and what is required to gain and maintain employment in these areas. Articulated credit may be awarded upon successful completion of a sequence of courses.

**ADVANCED ENGINEERING DESIGN AND PRESENTATION**

**TEA #13036600**  
**(Yearlong) 8692.H(Y)**  
 (weighted if the teacher is approved to offer for college credit)  
**GRADE: 11-12 CREDIT: 1**

*PREREQUISITE: Engineering Design and Presentation*

This course will provide students the opportunity to master computer software applications in a variety of engineering and technical fields. This course further develops the process of engineering thought and application of the design process. Articulated credit may be awarded upon successful completion of a sequence of courses.

**ENGINEERING MATHEMATICS**

**TEA #13036700**  
**(Yearlong) 8699.R(Y)**  
**GRADE: 11-12 CREDIT: 1**

*PREREQUISITES: Algebra II*

Engineering Mathematics is a course in which students solve and model robotic design problems. Students use a variety of mathematical methods and models to represent and analyze problems involving data acquisition, spatial applications, electrical measurement, manufacturing processes, materials engineering, mechanical drives, pneumatics, process control systems, quality control, and robotics with computer

programming. This course satisfies a 4th math credit if taught by a NCLB approved or math certified teacher.

**ELECTRONICS (weighted)**

**TEA #13036800**  
**(Yearlong) 8700.H(Y)**  
**GRADE: 10-12 CREDIT: 1**  
**(Yearlong) 8702.H(Y)**  
**GRADE: 10-12 CREDIT: 2**

*PREREQUISITE: Keyboarding*

Students enrolled in this course will demonstrate knowledge and applications of circuits, electronic measurement, and electronic implementation. Through use of the design process, students will transfer academic skills to component designs in a project-based environment. Students explore career opportunities, employer expectations, and educational needs in the electronics industry. Articulated credit may be awarded upon successful completion of a sequence of courses.

**ADVANCED ELECTRONICS (weighted)**

**TEA #13036900**  
**(Yearlong) 8704.H(Y) (**  
**GRADE: 11-12 CREDIT: 1**  
**Yearlong) 8706.H(Y)**  
**GRADE: 11-12 CREDIT: 2**

*PREREQUISITES: Electronics*

Students enrolled in this course will demonstrate knowledge and applications of advanced circuits, electrical measurement, and electrical implementation used in the electronics and computer industries. Through use of the design process, students will transfer advanced academic skills to component designs in a project-based environment. Articulated credit may be awarded upon successful completion of a sequence of courses.

**PRINCIPLES OF TECHNOLOGY**

**TEA #13037100**  
**(Yearlong) 8714.R(Y)**  
**GRADE: 10-12 CREDIT: 1**

*PREREQUISITES: One unit of high school Science and Algebra I*

In Principles of Technology, students conduct laboratory and field investigations, use scientific methods during investigations, and make informed decisions using critical thinking and scientific problem solving. Various systems will be described in terms of space, time, energy, and matter. Students will study a variety of topics that include laws of motion, conservation of energy, momentum, electricity, magnetism, thermodynamics, and characteristics and behavior of waves. Texas law requires 40% laboratory and fieldwork.

**SCIENTIFIC RESEARCH AND DESIGN**

**TEA #13037200**  
**(Yearlong) 8716.R(Y)**  
**GRADE: 11-12 CREDIT: 1**

**TEA #13037200**  
**(Yearlong) 8716.H(Y)**  
 (weighted option allowed with district approval)

**GRADE: 11-12 CREDIT: 1**  
*PREREQUISITES: One unit of science and Algebra I.*

Science, as defined by the National Academy of Sciences, is the "use of evidence to construct testable explanations and predictions of natural phenomena, as well as the knowledge generated through this process." This vast body of changing and increasing knowledge is described by physical, mathematical, and conceptual models. Students should know that some questions are outside the realm of science because they deal with phenomena that are not scientifically testable. Texas law requires 40% laboratory and fieldwork to qualify as a fourth year option for science credit.

**ENGINEERING DESIGN AND PROBLEM SOLVING**

**TEA #13037300**  
**(Yearlong) 8730.R(Y)**  
**GRADE: 11-12 CREDIT: 1**

*PREREQUISITES: Geometry, Algebra II, Chemistry, and Physics*

Engineering Design and Problem Solving reinforces and integrates skills learned in previous mathematics and science courses. This course emphasizes solving problems, moving from well defined toward more open ended, with real-world application. Students apply critical-thinking skills to justify a solution from multiple design options. Additionally, the course promotes interest in and understanding of career opportunities in engineering. Texas law requires 40% laboratory and fieldwork to qualify as a fourth year option for science credit.

**PRACTICUM IN SCIENCE, TECHNOLOGY, ENGINEERING, AND MATHEMATICS**

**TEA #13037400**  
**(Yearlong) 8732.R(Y)**  
**GRADE: 12 CREDIT: 2**

*PREREQUISITE: One credit in Science, Technology, Engineering and Mathematics credit*

The practicum course is a capstone experience for students participating in a coherent sequence of career and technical education courses in the science, technology,

engineering, and mathematics career cluster. 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.

## Project Lead The Way (PLTW)

These courses may be offered at Akins High School, Ann Richards School, Eastside Green Tech, and LBJ High School which have PLTW programs.

### INTRODUCTION TO ENGINEERING DESIGN (weighted)

TEA #N1303742

(Yearlong)

GRADE: 9-12

8760.H(Y)

CREDIT: 1

*PREREQUISITES: Keyboarding and Algebra I*  
Introduction to Engineering Design is an introductory course, which develops student problem solving skills, with emphasis placed upon the concept of developing a 3-D model or solid rendering of an object. Students focus on the application of visualization processes. The course will emphasize the design development process of a product and how a model of that product is produced, analyzed and evaluated, using a Computer Aided Design System. Various design applications will be explored with discussion of possible career opportunities. A student may be awarded articulated credit upon successful completion of the college level end-of-course exam.

### PRINCIPLES OF ENGINEERING (weighted)

TEA #N1303743

(Yearlong)

GRADE: 10-12

8762.H(Y)

CREDIT: 1

*PREREQUISITE: Intro to Engineering Design*  
Principles of engineering is a broad-based survey course designed to help students understand the field of engineering and engineering technology and its career possibilities. Students will develop engineering problem solving skills that are involved in post-secondary education programs and engineering careers. They will explore various engineering systems and manufacturing processes. They will also learn how engineers address concerns about the social and political consequences of technological change. The main purpose of this course is to experience through theory and hands-on problem solving activities what engineering is all about to answer the question, "Is a career in engineering or

engineering technology for me?" A student may be awarded articulated credit upon successful completion of the college level end-of-course exam.

### DIGITAL ELECTRONICS (weighted)

TEA #N1303744

(Yearlong)

GRADE: 10-12

8764.H(Y)

CREDIT: 1

*PREREQUISITES: Intro to Engineering Design*

Digital electronics is a course of study in applied digital logic. The course is patterned after the first semester course in Digital Electronics taught in two and four year colleges. Students will study the application of electronic logic circuits and devices and apply Boolean logic to the solution of problems. Such circuits are found in watches, calculators, video games, computers, and thousands of other devices. The use of smart circuits is present in virtually all aspects of our lives and its use is increasing rapidly, making digital electronics an important course of study for a student exploring a career in engineering/engineering technology using Electronics Workbench (EWB), the industry standard. Students will test and analyze simple and complex digital circuitry. Students will design circuits, using EWB, export their designs to a printed circuit auto routing program that generates printed circuit boards and construct the design using chips and other components. A student may be awarded articulated credit upon successful completion of the college level end-of-course exam.

### COMPUTER INTEGRATED MANUFACTURING (weighted)

TEA #N1303748

(Yearlong)

GRADE: 10-12

8770.H(Y)

CREDIT: 1

*PREREQUISITE: Intro to Engineering Design, Principles of Engineering and Digital Electronics*

This course builds upon the computer solid modeling design skills developed in the Introduction to Engineering Design. Students will be presented with design problems that require the use of Mechanical Desktop to develop solutions to the problems. They will evaluate the solutions using mass property analysis (study of the relationship among the design, function and materials used), make appropriate modifications and use rapid prototyping equipment to produce three-dimensional models of the solutions. Students will be expected to communicate the process and results of their work through oral and written reports. A student may be

### CIVIL ENGINEERING & ARCHITECTURE (weighted)

TEA #N1303747

(Yearlong)

GRADE: 11-12

8768.H(Y)

CREDIT: 1

*PREREQUISITES: Introduction to Engineering Design, Principles of Engineering, and Digital Electronics*

This course provides an overview of the fields of civil engineering and architecture, while emphasizing the interrelationship and dependence of both fields on each other. Students use state of the art software to solve real work problems and communicate solutions to hands-on projects and activities. A student may be awarded articulated credit upon successful completion of the college level end of course exam.

### AEROSPACE ENGINEERING (weighted)

TEA #N1303745

(Yearlong)

GRADE: 11-12

8766.H(Y)

CREDIT: 1

*PREREQUISITE: Introduction to Engineering Design, Principles of Engineering, and Digital Electronics*

Through hands-on engineering projects developed with NASA, students learn about aerodynamics, astronautics, space-life sciences, and systems engineering.

### ENGINEERING DESIGN & DEVELOPMENT (weighted)

TEA #N1303749

(Yearlong)

GRADE: 11-12

8772.H(Y)

CREDIT: 1

*PREREQUISITES: Intro to Engineering Design, Digital Electronics, Principles of Engineering*

In this course, students will work in teams of two to four to design and construct the solution to an engineering problem, applying the principles developed in the preceding four courses. The problem may be selected from a database of engineering problems, be a recognized national challenge or be an original engineering problem identified by the team and approved by the teacher. The problems will involve a wide range of engineering applications (e.g. a school robot-mascot, automated solar water heater, remote control hovercraft). Students will maintain a journal as part of a portfolio that will be invaluable as the students apply to college.

**PRINCIPLES OF BIOMEDICAL SCIENCE**

**TEA #N1302092**  
**(Yearlong)**                      **8434.R(Y)**  
**GRADE: 11-12**                      **CREDIT: 1**

*PREREQUISITE: None*  
 Offered at Ann Richards School only. Student work involves the study of human medicine, research processes and an introduction to bioinformatics. Students investigate the human body systems and various health conditions including heart disease, diabetes, sickle-cell disease, hypercholesterolemia, and infectious diseases. A theme through the course is to determine the factors that led to the death of a fictional person. After determining the factors responsible for the death, the students investigate lifestyle choices and medical treatments that might have prolonged the person's life. Key biological concepts including: homeostasis, metabolism, inheritance of traits, feedback systems, and defense against disease are embedded in the curriculum. Engineering principles including: the design process, feedback loops, fluid dynamics, and the relationship of structure to function are incorporated in the curriculum where appropriate. The course is designed to provide an overview of all the courses in the Biomedical Sciences program and to lay the scientific foundation necessary for student success in the subsequent courses.

**HUMAN BODY SYSTEMS**

**TEA #N1302093**  
**(Yearlong)**                      **8436.R(Y)**  
**GRADE: 10-12**                      **CREDIT: 1**

*PREREQUISITES: Biology, Chemistry and Principles of Biomedical Science*  
 Offered at Ann Richards School only. Students engage in the study of the processes, structures, and interactions of the human body systems. Important concepts in the course include: communication, transport of substances, locomotion, metabolic processes, defense, and protection. The central theme is how the body systems work together to maintain homeostasis and good health. The systems are studied as "parts of a whole," working together to keep the amazing human machine functioning at an optimal level. Students design experiments, investigate the structures and functions of body systems, and use data acquisition software to monitor body functions such as muscle movement, reflex and voluntary actions, and respiratory operation. Students work through interesting real world cases and often play the role of biomedical professionals to solve medical mysteries.

**MEDICAL INTERVENTIONS**

**TEA #TBD**  
**(Yearlong)**                      **TBD(Y)**  
**GRADE: 11-12**                      **CREDIT: 1**

*PREREQUISITE: Human Body Systems*  
 This course is offered at Ann Richards School only. Students investigate the variety of interventions involved in the prevention, diagnosis and treatment of disease as they follow the lives of a fictitious family. The course is a "How-To" manual for maintaining overall health and homeostasis in the body as students explore how to prevent and fight infection, how to screen and evaluate the code in human DNA, how to prevent, diagnose and treat cancer, and how to prevail when the organs of the body begin to fail. Through these scenarios, students are exposed to the wide range of interventions related to immunology, surgery, genetics, pharmacology, medical devices, and diagnostics. Each family case scenario introduces multiple types of interventions and reinforces concepts learned in the previous two courses, as well as presenting new content. Interventions may range from simple diagnostic tests to treatment of complex diseases and disorders. These interventions are showcased across the generations of the family and provide a look at the past, present and future of biomedical science. Lifestyle choices and preventive measures are emphasized throughout the course as well as the important roles scientific thinking and engineering design play in the development of interventions of the future.

**BIOMEDICAL INNOVATION**

**TEA #TBD**  
**(Yearlong)**                      **TBD (Y)**  
**GRADE: 12**                      **CREDIT: TBD**

*PREREQUISITE: Medical Interventions*  
 This capstone course allows students to apply their knowledge and skills to answer questions or solve problems related to the biomedical sciences. Students design innovative solutions for the health challenges of the 21st century as they work through progressively challenging open-ended problems, addressing topics such as clinical medicine, physiology, biomedical engineering, and public health.

**Transportation, Distribution, and Logistics Cluster**

This cluster includes the study of managing movement of people, materials, and goods by road, pipeline, air, rail, and water.

**PRINCIPLES OF TRANSPORTATION, DISTRIBUTION, AND LOGISTICS**

**TEA #13039200**  
**(Semester)**                      **8774.R(X)**  
**GRADE: 9-12**                      **CREDIT: 1/2**  
**(Yearlong)**                      **8774.R(Y)**  
**GRADE: 9-12**                      **CREDIT: 1**

*PREREQUISITE: None*  
 In Principles of Transportation, Distribution, and Logistics, students gain knowledge and skills in the safe application, design, production, and assessment of products, services, and systems. This knowledge includes the history, laws and regulations, and common practices used in the logistics of warehousing and transportation systems. Students should apply knowledge and skills in the application, design, and production of technology as it relates to the transportation, distribution, and logistics industries.

**ENERGY, POWER, AND TRANSPORTATION SYSTEMS**

**TEA #13039300**  
**(Semester)**                      **8776.R(X)**  
**GRADE: 10-12**                      **CREDIT: 1/2**  
**(Yearlong)**                      **8776.R(Y)**  
**GRADE: 10-12**                      **CREDIT: 1**

*PREREQUISITE: None*  
 Students study the interaction between various vehicle systems, the logistics used to move goods and services to consumers, and the components of transportation infrastructure. Students prepared to meet the expectations of employers in this industry must be able to interact and relate to others and understand the technologies used in order to provide products and services in a timely manner.

**AUTOMOTIVE TECHNOLOGY (weighted)**

**TEA #13039600**  
**(Yearlong)**                      **8780.H(Y)**  
**GRADE: 11-12**                      **CREDIT: 2**

*PREREQUISITE: Energy, Power and Transportation Systems or Intro to Transportation Systems*  
 In Automotive Technology, students gain knowledge and skills in the repair, maintenance, and diagnosis of vehicle systems. The focus of this course is to teach

the theory of operation of automotive vehicle systems and associated repair practices. Articulated credit may be awarded upon successful completion of a sequence of courses.

**ADVANCED AUTOMOTIVE TECHNOLOGY (weighted)**

**TEA #13039700**  
**(Yearlong)** **8782.H(Y)**  
**GRADE: 12** **CREDIT: 2**

*PREREQUISITE: Automotive Technology*  
 In Advanced Automotive Technology, students gain expanded knowledge and skills in the repair, maintenance, and diagnosis of vehicle systems. The focus of this course is to teach the theory of operation of automotive vehicle systems and associated repair practices. Articulated credit may be awarded upon successful completion of a sequence of courses.

**COLLISION REPAIR AND REFINISHING (weighted)**

**TEA #13039800**  
**(Yearlong)** **8788.H(Y)**  
**GRADE: 11-12** **CREDIT: 2**

*PREREQUISITE: Energy, Power and Transportation Systems or Intro to Transportation Careers*  
 Collision repair and refinishing services include knowledge of the processes, technologies, and materials used in the reconstruction and alteration of vehicles. This course is designed to teach the concepts and theory of systems related to automotive collision repair and refinishing. Articulated credit may be awarded upon successful completion of a sequence of courses.

**ADVANCED COLLISION REPAIR AND REFINISHING (weighted)**

**TEA #13039900**  
**(Yearlong)** **8790.H(Y)**  
**GRADE: 12** **CREDIT: 2**

*PREREQUISITE: Collision Repair and Refinishing*  
 Collision repair and refinishing services include advanced knowledge of the processes, technologies, and materials used in the reconstruction and alteration of vehicles. This course is designed to teach the application of advanced technical skills and practices related to collision repair and refinishing. Articulated credit may be awarded upon successful completion of a sequence of courses.

**Career Development**

**CAREER PREPARATION I**

**TEA #12701300**  
**(Yearlong)** **8900.R(Y)**  
**GRADE: 11-12** **CREDIT: 2**  
**(Yearlong)** **8905.R(Y)**  
**GRADE: 11-12** **CREDIT: 3**

*PREREQUISITE: One credit in a Career and Technical Education course, Instructor approval, 16 years of age and own transportation to training site*  
 Career Preparation I provides opportunities for students to participate in a learning experience that combines classroom instruction with paid business and industry employment experiences. The goal is to prepare students with a variety of skills for a fast-changing workplace. This instructional arrangement should be an advanced component of a student's individual program of study. Students are taught employability skills, which include job-specific skills applicable to their training station, job interview techniques, communication skills, financial and budget activities, human relations, and portfolio development. Students meet daily for classroom instruction and complete a minimum of 15 hours (3 credits), ten of which must be completed during the school week, or 10 hours (2 credits), five of which must be completed during the school week.

**CAREER PREPARATION II**

**TEA #12701400**  
**(Yearlong)** **8910.R(Y)**  
**GRADE: 12** **CREDIT: 2**  
**(Yearlong)** **8915.R(Y)**  
**GRADE: 12** **CREDIT: 3**

*PREREQUISITE: Career Preparation I, Instructor approval, 16 years of age and own transportation to training site*  
 This course is a continuation of Career Prep I. Career Preparation II develops essential knowledge and skills through classroom technical instruction and on-the-job training in an approved business and industry training area. Students will develop skills for lifelong learning, employability, leadership, management, work ethics, safety, and communication as a group; however, each student will have an individual training plan that will address job-specific knowledge and skills. Approved training sponsors will assist the teacher in providing the necessary knowledge and skills for the student's specific career preparation. Students meet daily for classroom instruction and complete a minimum of 15 hours (3 credits), ten of which must be completed during the school week, or 10 hours (2 credits), five of which

must be completed during the school week.

**PROBLEMS AND SOLUTIONS I**

**TEA #12701500**  
**(Semester)** **8920.R(X)**  
**GRADE: 11-12** **CREDIT: 1/2**  
**(Yearlong)** **8920.R(Y)**  
**GRADE: 11-12** **CREDIT: 1**

*PREREQUISITE: One credit in a Career and Technical Education course*  
 Problems and Solutions is a project-based research course for students who have the ability to research a real-world problem. Students develop a project on a topic related to career interests, use scientific methods of investigation to conduct in-depth research, are matched with a mentor from the business or professional community, compile findings, and present their findings to an audience that includes experts in the field. To attain academic success, students must have opportunities to learn, reinforce, apply, and transfer their knowledge, skills, and technologies in a variety of settings. This course is designed to provide students an opportunity to earn one advanced measure for the Distinguished Achievement Program.

**PROFESSIONAL COMMUNICATIONS**

**TEA #13009900**  
**(Semester)** **8314.R(X)**  
**GRADE: 9-12** **CREDIT: 1/2**  
**(Yearlong)** **8314.R(Y)**  
**GRADE: 9-12** **CREDIT: 1**

*PREREQUISITE: BCIS I, Business Information Management or Principles of Information Technology*  
 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.

**COLLEGE TRANSITION**

**TEA #N1290050**  
**(Semester)** **8930.R(X)**  
**GRADE: 9-12** **CREDIT: 1/2**  
**(Yearlong)** **8930.R(Y)**  
**GRADE: 11-12** **CREDIT: 1**

*PREREQUISITE: None*  
 College Transition is designed to equip students with the knowledge, skills, and abilities necessary to be active and successful learners both in high school and

in college. Students examine numerous research-based learning strategies that are proven to lead to academic success such as goal-setting, effective time management, handling stress, not-taking, active reading, test-taking strategies, and conducting research to name just a few. The college Transition course provides the means and training for students to research financial scholarships and grant opportunities, complete applications, and explore technical schools, colleges and universities.

## Military Science

The Junior Reserve Officers Training Corps (JROTC) is a four year program co-sponsored by the school district and the U.S. Air Force and Navy. The JROTC program provides students the opportunity to become informed and responsible citizens, develop leadership and self-discipline skills, and become involved in their school and community. The JROTC is coeducational and includes extracurricular activities. After school activities are voluntary. There is no military obligation associated with or incurred by being in the JROTC program. The JROTC class can satisfy the PE requirements for graduation.

### AIR FORCE SCIENCE I (AFJROTC 1)

TEA #PES00004

(Yearlong) 9013.R(Y)

GRADE: 9-12 CREDIT: 1

PREREQUISITE: None

This course focuses on the development of flight throughout the centuries. The emphasis on civilian and military contributions to aviation; the development, modernization, and transformation of the Air Force; and a brief astronomical and space exploration history. Leadership I introduces cadets to AFJROTC. It contains sections on cadet and Air Force organizational structure; uniform wear; customs, courtesies, other military traditions, and the importance of good citizenship. Instruction is given on military drill and ceremonies. The wellness program focuses on nutrition, exercise, and physical fitness.

### AIR FORCE SCIENCE II (AFJROTC 2)

TEA #03160200

(Yearlong) 9023.R(Y)

GRADE: 10-12 CREDIT: 1

PREREQUISITE: AFJROTC I or Senior Air Force Science instructor approval

Students will be introduced to various regions of the world (Europe, the Middle East,

South Asia, East Asia, Africa, and Latin America). The course provides increased international awareness of other cultures and enhanced knowledge of America's interests and role in the world. Geopolitical issues such as terrorism, economics, politics, religion, environmental concerns, human rights, and other cultural issues will be examined. This course may also expand on the Theory of Flight discussed in AS-1. Leadership II stresses communications skills and cadet corps activities. Information is provided on communicating effectively, understanding groups and teams, preparing for leadership, solving conflicts and problems, and personal development. Instruction is given on military drill and ceremonies. The wellness program focuses on nutrition, exercise, and physical fitness.

### AIR FORCE SCIENCE III (AFJROTC 3)

TEA #03160300

(Yearlong) 9033.R(Y)

GRADE: 11-12 CREDIT: 1

PREREQUISITE: AFJROTC II or Senior Air Force Science instructor approval

This course can be a continuation of studies of various regions of the world. It may also examine Earth, the Moon and the planets, the latest advances in space technology, and continuing challenges of space and manned space flight. This course may also cover an introduction to astronomy. Leadership III helps students decide which path to take after high school. Information is provided on job search and how to apply for admission to college or to a vocational or technical school. Financial planning is covered on how to save, invest, and spend money wisely. There is information on how to prepare a resume and the importance of good interviewing skills. Instruction is given on military drill and ceremonies. The wellness program focuses on nutrition, exercise, and physical fitness.

### AIR FORCE SCIENCE IV (AFJROTC 4)

TEA #03160400

(Yearlong) 9043.R(Y)

GRADE: 12 CREDIT: 1

PREREQUISITE: AFJROTC III or Senior Air Force Science instructor approval

Upper class cadets manage the entire corps under AFJROTC instructor supervision. Cadets are provided hands-on experience to put the theories of previous leadership courses into practice. All the planning, organizing, coordinating, directing, controlling, and decision-making will be done by the cadets. The Leadership IV course covers the fundamentals of management. Emphasis is placed on allowing the student to see himself/herself as a leader/manager.

Instruction is given on military drill and ceremonies. The wellness program focuses on nutrition, exercise, and physical fitness.

### NAVAL SCIENCE I (NJROTC 1)

TEA #PES00004

(Yearlong) 9013.R(Y)

GRADE: 9-12 CREDIT: 1

PREREQUISITE: None

This course introduces students to the precepts of citizenship, the basic elements of leadership and the value of scholarship in attaining life goals. Students learn about military drill and ceremonies, the importance of a healthy life style, including physical fitness, a proper diet, and controlling stress, drug awareness, the principles of health and first aid, geography and survival skills, and Navy ships and aircraft.

### NAVAL SCIENCE II (NJROTC 2)

TEA #03160200

(Yearlong) 9023.R(Y)

GRADE: 10-12 CREDIT: 1

PREREQUISITE: NJROTC I or Senior Naval Science instructor approval

This course provides students with an overview of the role sea power has played in the world from early civilization to the present, and an appreciation of the U.S. naval history and heritage from the American Revolution to now. Course content also includes maritime geography, meteorology, and the fundamentals of electricity, the principles of effective leadership, and the importance of discipline. Students develop teamwork through military drill.

### NAVAL SCIENCE III (NJROTC 3)

TEA #03160300

(Yearlong) 9033.R(Y)

GRADE: 11-12 CREDIT: 1

PREREQUISITE: NJROTC II or Senior Naval Science instructor approval

This course further develops students' understanding of the importance of sea power and national security, naval operations and support functions, military law, and international law of the sea. Content also includes basic seamanship, nautical rules of the road, marine navigation and naval weapons and aircraft. Students demonstrate confidence and proficiency in military drill.

### NAVAL SCIENCE IV (NJROTC 4)

TEA #03160400

(Yearlong) 9043.R(Y)

GRADE: 12 CREDIT: 1

PREREQUISITE: NJROTC III or Senior Naval Science instructor approval

This course builds on the basic qualities of a

good follower and an effective leader provided in earlier Naval Science courses. Students are provided an in-depth look at the qualities of an outstanding leader and shown how to maximize their leadership skills. Positive, effective communication skills are practiced and reinforced. Students are put in positions of increased responsibility and leadership. Students demonstrate the ability to lead a group of individuals in various military drills.

## Technology Applications Graduation Credit Courses

\* THE FOLLOWING TECHNOLOGY APPLICATION COURSES SATISFY TECHNOLOGY APPLICATIONS CREDIT FOR GRADUATION:

**COMPUTER SCIENCE I (weighted)**  
**TEA #03580200**  
**(Yearlong)** **3803.H000.Y**  
**GRADE: 9–12** **CREDIT: 1**

*PREREQUISITE: Algebra I, Keyboarding or demonstrated keyboarding proficiency*  
 Students study computer programming and the development of good coding techniques and apply these skills to relevant applications. This course satisfies the Technology Applications graduation requirement. Articulated credit may be awarded upon successful completion of a sequence of courses.

**COMPUTER SCIENCE II (weighted)**  
**TEA #03580300** **3804.H000.Y**  
**GRADE PLACEMENT: 10–12** **CREDIT: 1**

*PREREQUISITE: Computer Science I*  
 Students apply computer skills to relevant applications such as: text processing, simulation, modeling, data management and graphics. They continue study of abstract data types (trees), algorithm analysis of searches and sorts. Students produce a complex project which may include learning another language.

**AP COMPUTER SCIENCE A**  
**TEA #A3580100** **3803.P000.Y**  
**GRADE PLACEMENT: 10–12** **CREDIT: 1**

*PREREQUISITE: Computer Science I*  
 This course prepares students to design and implement solutions to problems by writing, running, and debugging computer programs. The course emphasizes programming methodology, procedural abstraction, and in-depth study of algorithms, data structures, and data abstractions. Students will code fluently in an object-oriented paradigm using

Java. Students will examine the ethical and social implications of computer technology. Course requirements include producing a complex project which applies programming tools to real-life examples.

**IB COMPUTER SCIENCE I**  
**TEA #I3580200**  
**(Yearlong)** **7800.I000.Y**  
**GRADE: 9–12** **CREDIT: 1**

*PREREQUISITE: Algebra I, Keyboarding or demonstrated keyboarding proficiency*  
 Students study computer programming and the development of good coding techniques and apply these skills to relevant applications. This course satisfies the Technology Applications graduation requirement. This course offered at Anderson only.

**IB COMPUTER SCIENCE II**  
**TEA #I3580300**  
**(Yearlong)** **7801.I000.Y**  
**GRADE: 12** **CREDIT: 1**

*PREREQUISITE: Computer Science IB*  
 Applies computer skills to relevant applications such as text processing, simulation, modeling, data management and graphics. Continues study of abstract data types (trees), algorithm analysis of searches and sorts. Students produce a complex project which may include learning another language, or intensive preparation for the Computer Science IB TEST. This course satisfies the Technology Applications graduation requirement. This course offered at Anderson only.

**INDEPENDENT STUDY IN TECHNOLOGY APPLICATIONS (weighted)**  
**TEA #03580900**

**(Yearlong)** **9224.H000.Y**  
**(Yearlong)** **9225.H000.Y**  
**GRADE: 10–12** **CREDIT:**

*PREREQUISITES: Completion of two high school technology applications courses*  
 The student learns to make informed decisions about technologies and technology applications terms, concepts, efficient acquisition, identification of task requirements search strategies access, analyzes, and evaluates the acquired information. Technology Applications are tools that support the work of individuals and groups in solving problems; students will select the technology appropriate for the task, synthesize knowledge, create a solution, and evaluate the results. Students communicate information in different formats and to diverse audiences. A variety of technologies will be used. Students will analyze and evaluate the results. This course

satisfies the Technology Applications graduation requirement.

**WEB MASTERING**  
**TEA #03580800**  
**(Yearlong)** **9223.R000.Y**  
**GRADE: 10–12** **CREDIT: 1**

*PREREQUISITES: Keyboarding or demonstrated keyboarding proficiency*  
 Through the study of technology-related terms, concepts, and data input strategies; students will select the technology appropriate for the task, synthesize knowledge, create a solution, and evaluate the results. A variety of technologies will be used. This course satisfies the Technology Applications graduation requirement. Articulated credit may be awarded upon successful completion of a sequence of courses.

**VIDEO TECHNOLOGY**  
**TEA #03580700**  
**(Yearlong)** **8755.R000.Y**  
**GRADE: 10–12** **CREDIT: 1**

*PREREQUISITE: Keyboarding or demonstrated keyboarding proficiency*  
 Through the study of video technology-related terms, concepts, and video strategies, students will select the video technology appropriate for the task, synthesize knowledge, create a solution, evaluate the results and produce a video presentation project. This course satisfies the Technology Applications graduation requirement.

**DESKTOP PUBLISHING**  
**TEA #03580400**  
**(Yearlong)** **8750.R000.Y**  
**GRADE PLACEMENT: 9–12** **CREDIT: 1**

*PREREQUISITE: Keyboarding or demonstrated keyboarding proficiency*  
 Desktop Publishing combines the skills of electronic design, editing, and production of a product using a variety of hardware and software tools. This project-based course focuses on real-world audiences as customers. Students use a collection of software and design techniques to create a variety of formatted products. Articulated credit may be awarded upon successful completion of a sequence of courses.

**DIGITAL GRAPHICS AND ANIMATION**  
**TEA #03580500**  
**(Yearlong)** **8752.R000.Y**  
**GRADE: 9–12** **CREDIT: 1**

*PREREQUISITE: Keyboarding or Demonstrated Keyboarding Proficiency*  
 Digital Graphics and Animation is an

introductory course in design, typography, and imaging techniques. The course includes topics such as digital composition, color, imaging, editing, and animation. The student will use the computer's set of tools to produce and edit digital designs as well as to incorporate design principles when capturing digital images with tools like scanners and cameras. Animation, both 2-D and 3-D, will be introduced in this course.

**MULTIMEDIA**

**TEA #03580600**

**(Yearlong)**

**8756.R000.Y**

**GRADE PLACEMENT: 9–12 CREDIT: 1**

*PREREQUISITE: Keyboarding or*

*Demonstrated Keyboarding Proficiency*

Multimedia is a laboratory-based course designed to provide an overview of and experience in multimedia technology. Sounds, images, graphics, and video are the informational projects from which student will construct media-rich knowledge structures. Students will use technology tools to build linear and non-linear interactive products.

**\*THE FOLLOWING CAREER AND TECHNICAL EDUCATION COURSES WILL SATISFY THE COMPUTER TECHNOLOGY APPLICATIONS REQUIREMENT ON ALL THREE GRADUATION PLANS:**

<b>CTE Course</b>	<b>TEA #</b>	<b>Cluster</b>
Principles of Architecture and Construction	13004200	Arch
Architectural Design	13004600	Arch
Advanced Architectural Design	13004700	Arch
Principles of Arts, A/V Tech. and Communications	13008200	Arts A/V
Animation	13008300	Arts A/V
Advanced Animation	13008400	Arts A/V
Audio Video Production	13008500	Arts A/V
Adv. Audio Video Production	13008600	Arts A/V
Graphic Design and Illustration	13008800	Arts A/V
Adv. Graphic Design and Illustration	13008900	Arts A/V
Video Game Design	N1300993	Arts A/V
Business Information Management I	13011400	Business
Business Information Management II	13011500	Business
Virtual Business	13012000	Business
Principles of Information Technology	13027200	Info Tech
Computer Maintenance	13027300	Info Tech
Telecommunications and Networking	13027400	Info Tech
Computer Programming	13027600	Info Tech
Advanced Computer Programming	13027700	Info Tech
Digital and Interactive Media	13027800	Info Tech
Web Technologies	13027900	Info Tech
Internetworking Technologies I (Cisco)	N1302803	Info Tech
Engineering Design and Presentation	13036500	STEM
Advanced Engineering Design and Presentation	13036600	STEM
Electronics	13036800	STEM
Advanced Electronics	13036900	STEM
Intro. to Engineering Design (PLTW)	N1303742	STEM

For course descriptions see the Career and Technical section pages 86-110