A student may earn an endorsement by completing a coherent sequence of courses for four or more credits in CTE that consists of at least two courses in the same career cluster and at least one advanced CTE course. CTE courses are offered based on student interests, teacher availability, and available lab space. Classes with insufficient enrollment may not be offered. If the number of students eligible to enroll in a course exceeds the limit, a scoring rubric will be used to determine who will be enrolled.

Some courses may have fees associated with them.

Students are expected to participate in the Career and Technical Student Organization associated with their pathway of study.
These CTE Courses appear in multiple pathways of study. The course descriptions only appear here in order to avoid duplication.

<table>
<thead>
<tr>
<th>Course</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional Communications</td>
<td>820210</td>
</tr>
<tr>
<td><strong>This course satisfies a high school Speech graduation requirement.</strong></td>
<td></td>
</tr>
<tr>
<td>Grade Level: 9-10</td>
<td>Credits: 0.5</td>
</tr>
<tr>
<td>Professional Communications blends written, oral, and graphic communication in a career-based environment. 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.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Course</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Touch System Data Entry</td>
<td>C11110</td>
</tr>
<tr>
<td>Grade Level: 9-10</td>
<td>Credits: 0.5</td>
</tr>
<tr>
<td>In Touch System Data Entry, students apply technical skills to address business applications of emerging technologies. Students refine reading, writing, computing, communication, and reasoning skills and apply them to the business environment. Students will need to apply touch system data entry for production of business documents.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Course</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Financial Mathematics</td>
<td>236100</td>
</tr>
<tr>
<td><strong>This course satisfies a high school mathematics graduation requirement.</strong></td>
<td></td>
</tr>
<tr>
<td>Grade Level: 11</td>
<td>Credits: 1.0</td>
</tr>
<tr>
<td><strong>Pre-Requisites: Algebra I.</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Recommended Pre-Requisites: Algebra EOC, &amp; Geometry</strong></td>
<td></td>
</tr>
<tr>
<td>Financial Mathematics is a course about personal money management. Students will apply critical-thinking skills to analyze personal financial decisions based on current and projected economic factors.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Course</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Business English</td>
<td>144100</td>
</tr>
<tr>
<td><strong>This course satisfies a high school advanced English graduation requirement.</strong></td>
<td></td>
</tr>
<tr>
<td><strong>This class does not satisfy the English 4 requirement for a multidisciplinary endorsement.</strong></td>
<td></td>
</tr>
<tr>
<td>Grade Level: 12</td>
<td>Credits: 1.0</td>
</tr>
<tr>
<td><strong>Pre-Requisites: English III.</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Recommended Pre-Requisites: Touch System Data Entry, English I EOC, English II EOC.</strong></td>
<td></td>
</tr>
<tr>
<td>In Business English, students enhance communication and research skills by applying them to the business environment, in addition to exchanging information and producing properly formatted business documents using emerging technology.</td>
<td></td>
</tr>
</tbody>
</table>
Business & Industry Endorsement
All students in AFNR courses are required to have a Supervised Agricultural Experience that may require time outside of the school day.

Agriculture Mechanics

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Professional Communications</td>
<td>0.5</td>
<td>820210</td>
</tr>
<tr>
<td>Touch Systems Data Entry</td>
<td>0.5</td>
<td>C111100</td>
</tr>
<tr>
<td>Principles of Agriculture, Food, &amp; Natural Resources</td>
<td>1.0</td>
<td>810100</td>
</tr>
</tbody>
</table>

Agriculture Mechanics and Metal Technologies

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial Mathematics</td>
<td>1.0</td>
<td>236100</td>
</tr>
<tr>
<td>Agriculture Equipment Design &amp; Fabrication</td>
<td>1.0</td>
<td>C31300</td>
</tr>
<tr>
<td>Business English</td>
<td>1.0</td>
<td>144100</td>
</tr>
<tr>
<td>Practicum in Agriculture, Food, &amp; Natural Resources</td>
<td>2.0</td>
<td>840700</td>
</tr>
</tbody>
</table>

Business & Industry Endorsement

2019-20 CTE Course Guide
<table>
<thead>
<tr>
<th>Course Title</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Principles of Agriculture, Food, &amp; Natural Resources</td>
<td>810100</td>
</tr>
<tr>
<td>Grade Level: 9</td>
<td></td>
</tr>
<tr>
<td>Credits: 1.0</td>
<td></td>
</tr>
<tr>
<td>Principles of Agriculture, Food, and Natural Resources will allow students to develop knowledge and skills regarding career and educational opportunities, personal development, globalization, industry standards, details, practices, and expectations. To prepare for careers in agriculture, food, and natural resources, students must attain academic skills and knowledge in agriculture. To prepare for success, students need opportunities to learn, reinforce, experience, apply, and transfer their knowledge and skills in a variety of settings.</td>
<td></td>
</tr>
</tbody>
</table>

| Agricultural Mechanics and Metal Technologies                    | 820700 |
| Grade Level: 10                                                 |        |
| Credits: 1.0                                                    |        |
| **Recommended Pre-Requisite:** Principles of ANFR               |        |
| Agricultural Mechanics and Metal Technologies is designed to develop an understanding of agricultural mechanics as it relates to safety and skills in tool operation, electrical wiring, plumbing, carpentry, fencing, concrete, and metal working techniques. To prepare for careers in agricultural power, structural, and technical systems, students must attain academic skills and knowledge; acquire technical knowledge and skills related to power, structural, and technical agricultural systems and the industry; and develop knowledge and skills regarding career opportunities, entry requirements, industry certifications, and industry expectations. To prepare for success, students need opportunities to learn, reinforce, apply, and transfer knowledge and skills and technologies in a variety of settings. |        |

| Agricultural Equipment Design and Fabrication                    | C31300 |
| Grade Level: 11                                                 |        |
| Credits: 1.0                                                    |        |
| **Recommended Pre-Requisite:** Ag Mechanics and Metal Technologies |        |
| In Agricultural Equipment Design and Fabrication, students will acquire knowledge and skills related to the design and fabrication of agricultural equipment. To prepare for careers in mechanized agriculture and technical systems, students must attain knowledge and skills related to agricultural equipment design and fabrication. |        |

| Practicum in Agriculture, Food, and Natural Resources            | 840700 |
| Grade Level: 12                                                 |        |
| Credits: 2.0                                                    |        |
| **Recommended Pre-Requisite:** one course from ANFR             |        |
| Practicum in Agriculture, Food, and Natural Resources is designed to give students supervised practical knowledge and skills related to the workplace, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations. To prepare for success, students need opportunities to learn, reinforce, apply, and transfer their knowledge and skills and technologies in a variety of settings. |        |
All students in AFNR courses are required to have a Supervised Agricultural Experience that may require time outside of the school day.
<table>
<thead>
<tr>
<th>Course</th>
<th>Code</th>
<th>Grade Level</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Principles of Agriculture, Food, &amp; Natural Resources</td>
<td>810100</td>
<td>9</td>
<td>1.0</td>
</tr>
<tr>
<td>Wildlife, Fisheries &amp; Ecology Management</td>
<td>C21200</td>
<td>10</td>
<td>1.0</td>
</tr>
<tr>
<td>Livestock Production</td>
<td>C21100</td>
<td>11</td>
<td>1.0</td>
</tr>
<tr>
<td>Advanced Animal Science</td>
<td>840200</td>
<td>12</td>
<td>1.0</td>
</tr>
</tbody>
</table>

**Principles of Agriculture, Food, & Natural Resources**

Grade Level: 9  
Credits: 1.0

Principles of Agriculture, Food, and Natural Resources will allow students to develop knowledge and skills regarding career and educational opportunities, personal development, globalization, industry standards, details, practices, and expectations. To prepare for careers in agriculture, food, and natural resources, students must attain academic skills and knowledge in agriculture. To prepare for success, students need opportunities to learn, reinforce, experience, apply, and transfer their knowledge and skills in a variety of settings.

**Wildlife, Fisheries & Ecology Management**

Grade Level: 10  
Credits: 1.0

Wildlife, Fisheries, and Ecology Management examines the management of game and non-game wildlife species, fish, and aqua crops and their ecological needs as related to current agricultural practices. To prepare for careers in natural resource systems, students must attain academic skills and knowledge, acquire technical knowledge and skills related to natural resources, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations.

**Livestock Production**

Grade Level: 11  
Credits: 1.0

In Livestock Production, students will acquire knowledge and skills related to livestock and the livestock production industry. Livestock Production may address topics related to beef cattle, dairy cattle, swine, sheep, goats, and poultry. To prepare for careers in the field of animal science, students must attain academic skills and knowledge, acquire knowledge and skills related to animal systems and the workplace, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations. To prepare for success, students need opportunities to learn, reinforce, apply, and transfer their knowledge and skills in a variety of settings.

**Advanced Animal Science**

Grade Level: 12  
Credits: 1.0

This course satisfies a high school Science graduation requirement.

Pre-Requisite: Biology and Chemistry or Integrated Physics & Chemistry (IPC); Algebra 1 and Geometry; Small Animal Management or Equine Science or Livestock Production

Advanced Animal Science 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 prepare for careers in the field of animal science, students must attain academic skills and knowledge, acquire knowledge and skills related to animal systems, and develop knowledge and skills regarding career opportunities, entry requirements, and industry standards. To prepare for success, students need opportunities to learn, reinforce, apply, and transfer their knowledge and skills in a variety of settings.
Floral Design

Professional Communications
0.5 Credits
820210

Touch Systems Data Entry
0.5 Credits
C111100

Principles of Agriculture, Food, & Natural Resources
1.0 Credits
810100

All students in AFNR courses are required to have a Supervised Agricultural Experience that may require time outside of the school day.

Financial Mathematics
3rd Math
1.0 Credits
236100
Pre-Requisite: Algebra I

Advanced Floral Design
1.0 Credits
C311100
Pre-Requisite: Floral Design

Business English
4th English
1.0 Credits
144100
Pre-Requisite: English III

Advanced Plant and Soil Science
4th Science Credit
1.0 Credits
840500
Advanced Level CTE Course

Business & Industry Endorsement

2019-20 CTE Course Guide
Principles of Agriculture, Food, & Natural Resources  810100

Grade Level: 9  Credits: 1.0

Principles of Agriculture, Food, and Natural Resources will allow students to develop knowledge and skills regarding career and educational opportunities, personal development, globalization, industry standards, details, practices, and expectations. To prepare for careers in agriculture, food, and natural resources, students must attain academic skills and knowledge in agriculture. To prepare for success, students need opportunities to learn, reinforce, experience, apply, and transfer their knowledge and skills in a variety of settings.

Floral Design  820300

*This course satisfies a high school fine arts graduation requirement.*

Grade Level: 10  Credits: 1.0

Floral Design 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. Through the analysis of artistic floral styles and historical periods, students will develop respect for the traditions and contributions of diverse cultures. Students will respond to and analyze floral designs, thus contributing to the development of lifelong skills of making informed judgments and evaluations. To prepare for careers in floral design, students must attain academic skills and knowledge, acquire technical knowledge and skills related to horticultural systems, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations. This course may have fees.

Advanced Floral Design  C311100

Grade Level: 11  Credits: 1.0

Pre-Requisite: Floral Design

Continued studies in floral design to prepare for careers in floral design; students must attain academic skills and knowledge, acquire technical knowledge and skills related to horticultural systems, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations. To prepare for success, students need opportunities to learn, reinforce, apply, and transfer their knowledge and skills and technologies in a variety of settings. This course may have fees.

Advanced Plant and Soil Science  840500

Grade Level: 12  Credits: 1.0

Recommended Pre-Requisite: one course in AFNR; Biology, Integrated Physics & Chemistry (IPC), Chemistry or Physics

Advanced Plant and Soil Science provides a way of learning about the natural world. Students should know how plant and soil science has influenced a vast body of knowledge, that there are still applications to be discovered, and that plant and soil science is the basis for many other fields of science. To prepare for careers in plant and soil science, students must attain academic skills and knowledge, acquire technical knowledge and skills related to plant and soil science and the workplace, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations. To prepare for success, students need opportunities to learn, reinforce, apply, and transfer their knowledge and skills and technologies in a variety of settings.
All students in AFNR courses are required to have a Supervised Agricultural Experience that may require time outside of the school day.

Horticulture Science
1.0 Credits
830300

Financial Mathematics
3rd Math
1.0 Credits
236100
Pre-Requisite: Algebra I

Greenhouse Operations & Production
1.0 Credits
C31200

Business English
4th English
1.0 Credits
144100
Pre-Requisite: English III

Advanced Plant and Soil Science
4th Science Credit
1.0 Credits
840500
Advanced Level CTE Course

Business & Industry Endorsement
2018-19 CTE Course Guide
Principles of Agriculture, Food, & Natural Resources

Grade Level: 9
Credits: 1.0

Principles of Agriculture, Food, and Natural Resources will allow students to develop knowledge and skills regarding career and educational opportunities, personal development, globalization, industry standards, details, practices, and expectations. To prepare for careers in agriculture, food, and natural resources, students must attain academic skills and knowledge in agriculture. To prepare for success, students need opportunities to learn, reinforce, experience, apply, and transfer their knowledge and skills in a variety of settings.

Horticulture Science

Grade Level: 10
Credits: 1.0

Horticultural Science is designed to develop an understanding of common horticultural management practices as they relate to food and ornamental plant production. To prepare for careers in horticultural systems, students must attain academic skills and knowledge, acquire technical knowledge and skills related to horticulture and the workplace, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations. To prepare for success, students need opportunities to learn, reinforce, apply, and transfer knowledge and skills in a variety of settings.

Greenhouse Operations & Production

Grade Level: 11
Credits: 1.0

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

Advanced Plant and Soil Science

Grade Level: 12
Credits: 1.0

Recommended Pre-Requisite: one course in AFNR; Biology, Integrated Physics & Chemistry (IPC), Chemistry or Physics

Advanced Plant and Soil Science provides a way of learning about the natural world. Students should know how plant and soil science has influenced a vast body of knowledge, that there are still applications to be discovered, and that plant and soil science is the basis for many other fields of science. To prepare for careers in plant and soil science, students must attain academic skills and knowledge, acquire technical knowledge and skills related to plant and soil science and the workplace, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations. To prepare for success, students need opportunities to learn, reinforce, apply, and transfer their

This course satisfies a high school Science graduation requirement.
All students in AFNR courses are required to have a Supervised Agricultural Experience that may require time outside of the school day.
### Principles of Agriculture, Food, & Natural Resources

**Grade Level:** 9  
**Credits:** 1.0

Principles of Agriculture, Food, and Natural Resources will allow students to develop knowledge and skills regarding career and educational opportunities, personal development, globalization, industry standards, details, practices, and expectations. To prepare for careers in agriculture, food, and natural resources, students must attain academic skills and knowledge in agriculture. To prepare for success, students need opportunities to learn, reinforce, experience, apply, and transfer their knowledge and skills in a variety of settings.

### Equine Science

**Grade Level:** 10  
**Credits:** 0.5

In Equine Science, students will acquire knowledge and skills related to equine animal systems and the equine industry. Equine Science may address topics related to horses, donkeys, and mules.

### Small Animal Management

**Grade Level:** 10  
**Credits:** 0.5

In Small Animal Management, students will acquire knowledge and skills related to small animals and the small animal management industry. Small Animal Management may address topics related to small mammals such as dogs and cats, amphibians, reptiles, and birds.

### Veterinary Medical Applications

**Pre-Requisite:** Equine Science, Small Animal Management  
**Grade Level:** 11  
**Credits:** 1.0

Veterinary Medical Applications covers topics relating to veterinary practices, including practices for large and small animal species. To prepare for careers in the field of animal science, students must attain academic skills and knowledge, acquire technical knowledge and skills related to animal systems and the workplace, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations.

### Advanced Animal Science

**Pre-Requisite:** Biology and Chemistry or Integrated Physics & Chemistry (IPC), Algebra 1 and Geometry, Small Animal Management, Equine Science or Livestock Production.  
**Grade Level:** 12  
**Credits:** 1.0

Advanced Animal Science 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 prepare for careers in the field of animal science, students must attain academic skills and knowledge, acquire knowledge and skills related to animal systems, and develop knowledge and skills regarding career opportunities, entry requirements, and industry standards. To prepare for success, students need opportunities to learn, reinforce, apply, and transfer their knowledge and skills in a variety of settings.
Construction

Professional Communications
0.5 Credits
820210

Touch Systems Data Entry
0.5 Credits
C111100

Principles of Agriculture,
Food, & Natural Resources
1.0 Credits
810100

Principles of Construction
1.0 Credits
C22100

Financial Mathematics
3rd Math
1.0 Credits
236100
Pre-Requisite: Algebra I

Construction Technology I
2.0 Credits
811200

Business English
4th English
1.0 Credits
144100
Pre-Requisite: English III

Construction Technology II
2.0 Credits
C42100
Pre-Requisite: Construction Technology I
Advanced Level CTE Course

Business & Industry Endorsement

2019-20 CTE Course Guide
### Principles of Agriculture, Food, & Natural Resources 810100

**Grade Level:** 9  
**Credits:** 1.0

Principles of Agriculture, Food, and Natural Resources will allow students to develop knowledge and skills regarding career and educational opportunities, personal development, globalization, industry standards, details, practices, and expectations.

### Principles of Construction C22100

**Grade Level:** 10  
**Credits:** 1.0

Principles of Construction is intended to provide an introduction and lay a solid foundation for those students entering the construction or craft skilled areas. The course provides a strong knowledge of construction safety, construction mathematics, and common hand and power tools. For safety and liability considerations, limiting course enrollment to 15 students is recommended. This course also provides communication and occupation skills to assist the student in obtaining and maintaining employment.

### Construction Technology I 811200

**Grade Level:** 11  
**Credits:** 2.0

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

### Construction Technology II C42100

**Grade Level:** 12  
**Credits:** 2.0

**Pre-Requisite: Construction Technology I**

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

**Professional Communications**
- 0.5 Credits
- 820210

**Touch Systems Data Entry**
- 0.5 Credits
- C111100

**Principles of Business, Marketing and Finance**
- 1.0 Credits
- C24100

**Animation I**
- 1.0 Credits
- 822100

**Financial Mathematics**
- 3rd Math
- 1.0 Credits
- 236100
- Pre-Requisite: Algebra I

**Animation II/Animations II Lab**
- 2.0 Credits
- 832100
- Pre-Requisite: Animation I

**Business English**
- 4th English
- 1.0 Credits
- 144100
- Pre-Requisite: English III

**Practicum in Animation**
- 2.0 Credits
- C43200
- Pre-Requisite: Animation II / Animation II Lab
- Advanced Level CTE Course

Business & Industry Endorsement

2019-20 CTE Course Guide
### Principles of Business, Marketing, and Finance  
**C24100**  
**Grade Level:** 9  
**Credits:** 1.0  
In Principles of Business, Marketing, and Finance, students gain knowledge and skills in economies and private enterprise systems, the impact of global business, the marketing of goods and services, advertising, and product pricing. Students analyze the sales process and financial management principles. This course allows students to reinforce, apply, and transfer academic knowledge and skills to a variety of interesting and relevant activities, problems, and settings in business, marketing, and finance.

### Animation I  
**822100**  
**Grade Level:** 10  
**Credits:** 1.0  
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.

### Animation II/Animation II Lab  
**832100**  
**Grade Level:** 11  
**Credits:** 2.0  
**Pre-Requisite: Animation I**  
Careers in animation span all aspects of motion graphics. 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 create two- and three-dimensional animations. The instruction also assists students seeking careers in the animation industry.

### Practicum in Animation  
**C43200**  
**Grade Level:** 12  
**Credits:** 2.0  
**Pre-Requisite: Animation II/Animation II Lab**  
Careers in animation span all aspects of the arts, audio/video technology, and communications industry. Building upon the concepts taught in Animation II and its co-requisite Animation II Lab, 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 animation products in a professional environment. Instruction may be delivered through lab-based classroom experiences or career preparation opportunities.
Principles of Business, Marketing, and Finance  
**C24100**

**Grade Level:** 9  
**Credits:** 1.0

In Principles of Business, Marketing, and Finance, students gain knowledge and skills in economies and private enterprise systems, the impact of global business, the marketing of goods and services, advertising, and product pricing. Students analyze the sales process and financial management principles. This course allows students to reinforce, apply, and transfer academic knowledge and skills to a variety of interesting and relevant activities, problems, and settings in business, marketing, and finance.

Audio/Video Production I  
**822400**

**Grade Level:** 10  
**Credits:** 1.0

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 products.

Audio/Video Production II/Audio/Video Production Lab II  
**C33400**

**Grade Level:** 11  
**Credits:** 2.0

**Pre-Requisite: Audio/Video Production I**

Careers in audio and video technology and film production span all aspects of the audio/video communications industry. Building upon the concepts taught in Audio/Video Production, 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 products. This course may be implemented in an audio format or a format with both audio and video.

Practicum in Audio/Video Production  
**842400**

**Grade Level:** 12  
**Credits:** 2.0

**Pre-Requisite: Audio Video Production II/Audio Video Production II Lab**

Careers in audio/video production span all aspects of the audio/video communications industry. Building upon the concepts taught in Audio/Video Production II and its corequisite Audio/Video Production II Lab, in addition to developing advanced technical knowledge and skills needed for success in the Arts, Audio/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 products in a professional environment. This course may be implemented in an advanced audio/video or audio format. Instruction may be delivered through lab-based classroom experiences or career preparation opportunities.
Fashion Design

Professional Communications
- 0.5 Credits
- 820210

Touch Systems Data Entry
- 0.5 Credits
- C11100

Principles of Human Services
- 1.0 Credits

Fashion Design I
- 1.0 Credits
- 822200

Financial Mathematics
- 3rd Math
- 1.0 Credits
- 236100
- Pre-Requisite: Algebra I

Fashion Design II
- 2.0 Credits
- C33300
- Pre-Requisite: Fashion Design I

Fashion Design II Lab

Business English
- 4th English
- 1.0 Credits
- 144100
- Pre-Requisite: English III

Practicum in Fashion Design
- 2.0 Credits
- 842200
- Pre-Requisite: Fashion Design II/Fashion Design Lab II
- Advanced Level CTE Course

Business & Industry Endorsement

2019-20 CTE Course Guide
<table>
<thead>
<tr>
<th>Course</th>
<th>Grade Level</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Principles of Human Services</strong></td>
<td>9</td>
<td>1.0</td>
</tr>
<tr>
<td>Principles of Human Services will enable students to investigate careers in Public Services such as Health Science, Barbering, Cosmetology, Culinary, Law Enforcement, early childhood development, family and community, personal care, and consumer services.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| **Fashion Design I**                        | 10          | 1.0     |
| Careers in fashion span all aspects of the textile and apparel industries. Within this context, in addition to developing technical knowledge and skills needed for success in the Arts, Audio/Video Technology, and Communications Career Cluster, students will be expected to develop an understanding of the fashion industry with an emphasis on design and construction. |

| **Fashion Design II/Fashion Design II Lab**  | 11          | 2.0     |
| Pre-Requisite: Fashion Design I |
| Careers in fashion span all aspects of the textile and apparel industries. Within this context, in addition to developing technical knowledge and skills needed for success in the Arts, Audio/Video Technology, and Communications Career Cluster, students will be expected to develop an understanding of the fashion industry with an emphasis on design and construction. |

| **Practicum in Fashion Design**              | 12          | 2.0     |
| Pre-Requisite: Fashion Design II/Fashion Design II Lab |
| Careers in fashion span all aspects of the textile and apparel industries. Within this context, in addition to developing advanced technical knowledge and skills needed for success in the Arts, Audio/Video Technology, and Communications Career Cluster, students will be expected to develop an advanced technical understanding of the business aspects of fashion, with emphasis on promotion and retailing. |
Graphic Design

Professional Communications
- 0.5 Credits
- 820210

Touch Systems Data Entry
- 0.5 Credits
- C11100

Principles of Business, Marketing and Finance
- 1.0 Credits
- C24100

Graphic Design & Illustration I
- 1.0 Credits
- 812100

Financial Mathematics
- 3rd Math
- 1.0 Credits
- 236100
- Pre-Requisite: Algebra I

Graphic Design & Illustration II
- 2.0 Credits
- C33100
- Pre-Requisite: Graphic Design and Illustration I

Graphic Design & Illustration II Lab

Business English
- 4th English
- 1.0 Credits
- 144100
- Pre-Requisite: English III

Practicum in Graphic Design and Illustration
- 2.0 Credits
- 842300
- Pre-Requisite: Graphic Design & Illustration II/Graphic Design & Illustration Lab II

Advanced Level CTE Course

Business & Industry Endorsement

2019-20 CTE Course Guide
Principles of Business, Marketing, and Finance  
C24100
Grade Level: 9  
Credits: 1.0

In Principles of Business, Marketing, and Finance, students gain knowledge and skills in economies and private enterprise systems, the impact of global business, the marketing of goods and services, advertising, and product pricing. Students analyze the sales process and financial management principles. This course allows students to reinforce, apply, and transfer academic knowledge and skills to a variety of interesting and relevant activities, problems, and settings in business, marketing, and finance.

Graphic Design & Illustration I  
812100
Grade Level: 10  
Credits: 1.0

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.

Graphic Design & Illustration II/Graphic Design & Illustration II Lab  
C33100
Grade Level: 11  
Credits: 2.0

Pre-Requisite: Graphic Design and Illustration I
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.

Practicum in Graphic Design & Illustration  
842300
Grade Level: 12  
Credits: 2.0

Pre-Requisite: Graphic Design and Illustration II/Graphic Design and Illustration II Lab
Careers in graphic design and illustration span all aspects of the advertising and visual communications industry. Within this context, in addition to developing technical knowledge and skills needed for success in the Arts, Audio/Video Technology, and Communications Career Cluster, students will be expected to develop a technical understanding of the industry with a focus on skill proficiency. Instruction may be delivered through lab-based classroom experiences or career preparation opportunities.
Photography

1.0 Credits
236100
Pre-Requisite: Algebra I

Commercial Photography II
Commercial Photography II Lab
2.0 Credits
C33200
Pre-Requisite: Commercial Photography II/Commercial Photography II Lab
Advanced Level CTE Course

Practicum in Commercial Photography
2.0 Credits
C43100
Pre-Requisite: Commercial Photography II/Commercial Photography II Lab
Advanced Level CTE Course

Business English
4th English
1.0 Credits
144100
Pre-Requisite: English III

Financial Mathematics
3rd Math
1.0 Credits
236100
Pre-Requisite: Algebra I

Professional Communications
0.5 Credits
820210

Touch Systems Data Entry
0.5 Credits
C111100

Principles of Business, Marketing and Finance
1.0 Credits
C24100

Commercial Photography
1.0 Credits
822600

Business & Industry Endorsement
2019-20 CTE Course Guide
### Principles of Business, Marketing, and Finance  
**C24100**

**Grade Level:** 9  
**Credits:** 1.0

In Principles of Business, Marketing, and Finance, students gain knowledge and skills in economies and private enterprise systems, the impact of global business, the marketing of goods and services, advertising, and product pricing. Students analyze the sales process and financial management principles. This course allows students to reinforce, apply, and transfer academic knowledge and skills to a variety of interesting and relevant activities, problems, and settings in business, marketing, and finance.

### Commercial Photography  
**822600**

**Grade Level:** 10  
**Credits:** 1.0

Careers in commercial photography require skills that span all aspects of the industry from setting up a shot to delivering products in a competitive market. In addition to developing knowledge and skills needed for success in the Arts, Audio/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.

### Commercial Photography II/Commercial Photography II Lab  
**C33200**

**Grade Level:** 11  
**Credits:** 2.0

**Recommended Pre-Requisite:** Commercial Photography I  
Careers in commercial photography span all aspects of the industry from setting up a shot to delivering products in a competitive market. In addition to developing advanced technical knowledge and skills needed for success in the Arts, Audio/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.

### Practicum in Commercial Photography  
**C43100**

**Grade Level:** 12  
**Credits:** 2.0

**Pre-Requisite:** Commercial Photography II/Commercial Photography II Lab  
Careers in commercial photography span all aspects of the industry from setting up a shot to delivering products in a competitive market. In addition to developing advanced technical knowledge and skills needed for success in the Arts, Audio/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.
<table>
<thead>
<tr>
<th>Course Name</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Principles of Business, Marketing, and Finance</td>
<td>C24100</td>
</tr>
<tr>
<td><strong>Grade Level:</strong> 9</td>
<td><strong>Credits:</strong> 1.0</td>
</tr>
<tr>
<td>In Principles of Business, Marketing, and Finance, students gain knowledge and skills in economies and private enterprise systems, the impact of global business, the marketing of goods and services, advertising, and product pricing. Students analyze the sales process and financial management principles. This course allows students to reinforce, apply, and transfer academic knowledge and skills to a variety of interesting and relevant activities, problems, and settings in business, marketing, and finance.</td>
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<table>
<thead>
<tr>
<th>Course Name</th>
<th>Code</th>
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</thead>
<tbody>
<tr>
<td>Business Information Management I</td>
<td>823100</td>
</tr>
<tr>
<td><strong>Grade Level:</strong> 11</td>
<td><strong>Credits:</strong> 1.0</td>
</tr>
<tr>
<td><strong>Recommended Pre-Requisite:</strong> Touch System Data Entry</td>
<td></td>
</tr>
<tr>
<td>In Business Information Management I, students implement personal and interpersonal skills to strengthen individual performance in the workplace and in society and make a successful transition to the workforce and postsecondary education. Students apply technical skills to address business applications of emerging technologies, create word-processing documents, develop a spreadsheet, formulate a database, and make an electronic presentation using appropriate software.</td>
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<table>
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<tr>
<th>Course Name</th>
<th>Code</th>
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</thead>
<tbody>
<tr>
<td>Business Information Management II</td>
<td>833100</td>
</tr>
<tr>
<td><strong>Grade Level:</strong> 12</td>
<td><strong>Credits:</strong> 1.0</td>
</tr>
<tr>
<td><strong>Pre-Requisite:</strong> Business Information Management I</td>
<td></td>
</tr>
<tr>
<td>In Business Information Management II, students implement personal and interpersonal skills to strengthen individual performance in the workplace and in society and make a successful transition to the workforce or postsecondary education. Students apply technical skills to address business applications of emerging technologies, create complex word-processing documents, develop sophisticated spreadsheets using charts and graphs, and make an electronic presentation using appropriate multi-</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Course Name</th>
<th>Code</th>
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</thead>
<tbody>
<tr>
<td>Practicum in Business</td>
<td>853200</td>
</tr>
<tr>
<td><strong>Grade Level:</strong> 12</td>
<td><strong>Credits:</strong> 2.0</td>
</tr>
<tr>
<td><strong>Pre-Requisite:</strong> Business Information Management II</td>
<td></td>
</tr>
<tr>
<td>Practicum in Business is designed to give students supervised practical application of previously studied knowledge and skills. Students apply technical skills to address business applications of emerging technologies. Students develop a foundation in the economic, financial, technological, international, social, and ethical aspects of business to become competent consumers, employees, and entrepreneurs.</td>
<td></td>
</tr>
<tr>
<td><strong>Principles of Business, Marketing, and Finance</strong></td>
<td>C24100</td>
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<tr>
<td><strong>Grade Level:</strong> 9</td>
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<td>In Principles of Business, Marketing, and Finance, students gain knowledge and skills in economies and private enterprise systems, the impact of global business, the marketing of goods and services, advertising, and product pricing. Students analyze the sales process and financial management principles. This course allows students to reinforce, apply, and transfer academic knowledge and skills to a variety of interesting and relevant activities, problems, and settings in business, marketing, and finance.</td>
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</table>

<table>
<thead>
<tr>
<th><strong>Accounting I</strong></th>
<th>823700</th>
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</thead>
<tbody>
<tr>
<td><strong>Grade Level:</strong> 11</td>
<td><strong>Credits:</strong> 1.0</td>
</tr>
<tr>
<td><strong>Recommended Pre-Requisite:</strong> Principles of Business, Marketing, &amp; Finance</td>
<td></td>
</tr>
<tr>
<td>In Accounting I, students will continue the investigation of the field of accounting, including how it is impacted by industry standards as well as economic, financial, technological, international, social, legal, and ethical factors. Students will reflect on this knowledge as they engage in the process of recording, classifying, summarizing, analyzing, and communicating accounting information. Students will formulate and interpret financial information for use in management decision making.</td>
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<table>
<thead>
<tr>
<th><strong>Accounting II</strong></th>
<th>833700</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Grade Level:</strong> 12</td>
<td><strong>Credits:</strong> 1.0</td>
</tr>
<tr>
<td><strong>This course satisfies a high school mathematics graduation requirement.</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Pre-Requisite:</strong> Accounting I</td>
<td></td>
</tr>
<tr>
<td>In Accounting II, students will continue the investigation of the field of accounting, including how it is impacted by industry standards as well as economic, financial, technological, international, social, legal, and ethical factors. Students will reflect on this knowledge as they engage in various managerial, financial, and operational accounting activities. Students will formulate, interpret, and communicate financial information for use in management decision making. Students will use equations, graphical representations, accounting tools, spreadsheet software, and accounting systems in real-world situations to maintain, monitor, control, and plan the use of financial resources.</td>
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</table>

<table>
<thead>
<tr>
<th><strong>Practicum in Business</strong></th>
<th>853200</th>
</tr>
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<tbody>
<tr>
<td><strong>Grade Level:</strong> 12</td>
<td><strong>Credits:</strong> 2.0</td>
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<tr>
<td><strong>Pre-Requisite:</strong> Accounting II</td>
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<td>Practicum in Business is designed to give students supervised practical application of previously studied knowledge and skills. Students apply technical skills to address business applications of emerging technologies. Students develop a foundation in the economic, financial, technological, international, social, and ethical aspects of business to become competent consumers, employees, and entrepreneurs.</td>
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<tr>
<td>Course</td>
<td>Code</td>
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<td>--------------------------------------------</td>
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</tr>
<tr>
<td>Principles of Human Services</td>
<td></td>
</tr>
<tr>
<td>Grade Level: 9</td>
<td></td>
</tr>
<tr>
<td>Credits: 1.0</td>
<td></td>
</tr>
<tr>
<td>Principles of Human Services will enable students to investigate careers in Public Services such as Health Science, Barbering, Cosmetology, Culinary, Law Enforcement, early childhood development, family and community, personal care, and consumer services.</td>
<td></td>
</tr>
<tr>
<td>Introduction to Culinary Arts</td>
<td>C28200</td>
</tr>
<tr>
<td>Grade Level: 10</td>
<td></td>
</tr>
<tr>
<td>Credits: 1.0</td>
<td></td>
</tr>
<tr>
<td>Introduction to Culinary Arts will emphasize the principles of planning, organizing, staffing, directing, and controlling the management of a variety of food service operations. The course will provide insight into the operation of a well-run restaurant. Introduction to Culinary Arts will provide insight into food production skills, various levels of industry management, and hospitality skills. This is an entry level course for students interested in pursuing a career in the food service industry. This course is offered as a classroom and laboratory-based course.</td>
<td></td>
</tr>
<tr>
<td>Culinary Arts</td>
<td>834200</td>
</tr>
<tr>
<td>Grade Level: 11</td>
<td></td>
</tr>
<tr>
<td>Credits: 2.0</td>
<td></td>
</tr>
<tr>
<td>Pre-Requisite: Introduction to Culinary Arts</td>
<td></td>
</tr>
<tr>
<td>Culinary Arts begins with the fundamentals and principles of the art of cooking and the science of baking and includes management and production skills and techniques. Students can pursue a national sanitation certification or other appropriate industry certifications. This course is offered as a laboratory-based course.</td>
<td></td>
</tr>
<tr>
<td>Advanced Culinary Arts</td>
<td>C48100</td>
</tr>
<tr>
<td>Grade Level: 12</td>
<td></td>
</tr>
<tr>
<td>Credits: 2.0</td>
<td></td>
</tr>
<tr>
<td>Pre-Requisite: Culinary Arts</td>
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</tr>
<tr>
<td>Advanced Culinary Arts will extend content and enhance skills introduced in Culinary Arts by in-depth instruction of industry-driven standards in order to prepare students for success in higher education, certifications, and/or immediate employment.</td>
<td></td>
</tr>
</tbody>
</table>
Hospitality at Bryan High School

- Professional Communications
  - 0.5 Credits
  - 820210

- Touch Systems Data Entry
  - 0.5 Credits
  - C111100

- Principles of Human Services
  - 1.0 Credits

- Introduction to Culinary Arts
  - 1.0 Credits
  - C28200

- Financial Mathematics
  - 3rd Math
  - 1.0 Credits
  - 236100
  - Pre-Requisite: Algebra I

- Hospitality Services
  - 2.0 Credits
  - 834100

- Business English
  - 4th English
  - 1.0 Credits
  - 144100
  - Pre-Requisite: English III

- Practicum in Hospitality Services /Extended Practicum in Hospitality Services
  - 3.0 Credits
  - C48200
  - OR
  - Career Prep
  - Advanced Level CTE Course

Rudder High School students wishing to enroll in Hospitality will need to apply for a full day transfer to Bryan High School.
Principles of Human Services

<table>
<thead>
<tr>
<th>Grade Level: 9</th>
<th>Credits: 1.0</th>
</tr>
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<tbody>
<tr>
<td>Principles of Human Services will enable students to investigate careers in Public Services such as Health Science, Barbering, Cosmetology, Culinary, Law Enforcement, early childhood development, family and community, personal care, and consumer services.</td>
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</table>

Introduction to Culinary Arts

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<th>Grade Level: 10</th>
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<tr>
<td>Introduction to Culinary Arts will emphasize the principles of planning, organizing, staffing, directing, and controlling the management of a variety of food service operations. The course will provide insight into the operation of a well-run restaurant. Introduction to Culinary Arts will provide insight into food production skills, various levels of industry management, and hospitality skills. This is an entry level course for students interested in pursuing a career in the food service industry. This course is offered as a classroom and laboratory-based course.</td>
<td></td>
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Hospitality Services

<table>
<thead>
<tr>
<th>Grade Level: 11</th>
<th>Credits: 2.0</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Recommended Pre-Requisite: Principles of Hospitality and Tourism.</strong> Hospitality Services provides students with the academic and technical preparation to pursue high-demand and high-skill careers in hospitality related industries. The knowledge and skills are acquired within a sequential, standards-based program that integrates hands-on and project-based instruction. Standards included in the Hospitality Services course are designed to prepare students for nationally recognized industry certifications, postsecondary education, and entry-level careers. In addition, Hospitality Services is designed so that performance standards meet employer expectations, enhancing the employability of students. Instruction may be delivered through laboratory training or through internships, mentoring, or job shadowing.</td>
<td></td>
</tr>
</tbody>
</table>

Practicum in Hospitality Services/Extended Practicum in Hospitality Services OR Career Prep

<table>
<thead>
<tr>
<th>Grade Level: 12</th>
<th>Credits: 3.0</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Recommended Pre-Requisite: Hospitality Services.</strong> Practicum in Hospitality Services is a unique practicum experience to provide opportunities for students to participate in a learning experience that combines classroom instruction with actual business and industry career experiences. Practicum in Hospitality Services integrates academic and career and technical education; provides more interdisciplinary instruction; and supports strong partnerships among schools, businesses, and community institutions with the goal of preparing students with a variety of skills in a fast-changing workplace. Students are taught employability skills, including job-specific skills applicable to their training plan, job interview techniques, communication skills, financial and budget activities, human relations, and portfolio development. Practicum in Hospitality Services is relevant and rigorous, supports student attainment of academic and technical standards, and effectively prepares students for college and career success.</td>
<td></td>
</tr>
</tbody>
</table>
Computer Programming

Professional Communications
0.5 Credits
820210

Touch Systems Data Entry
0.5 Credits
C11100

Principles of Business, Marketing and Finance
1.0 Credits
C24100

Web Technologies
1.0 Credits
827100

Financial Mathematics
3rd Math
1.0 Credits
236100
Pre-Requisite: Algebra I

Computer Programming I
1.0 Credits
827000

Business English
4th English
1.0 Credits
144100
Pre-Requisite: English III

Practicum in Information Technology
2.0 Credits
847100
Pre-Requisite: Minimum of two high school IT courses (such as Web Technologies and Computer Programming) Advanced Level CTE Course

Business & Industry Endorsement
Principles of Business, Marketing, and Finance  C24100

Grade Level: 9
Credits: 1.0

In Principles of Business, Marketing, and Finance, students gain knowledge and skills in economies and private enterprise systems, the impact of global business, the marketing of goods and services, advertising, and product pricing. Students analyze the sales process and financial management principles. This course allows students to reinforce, apply, and transfer academic knowledge and skills to a variety of interesting and relevant activities, problems, and settings in business, marketing, and finance.

Web Technologies  827100

Grade Level: 10
Credits: 1.0

In Web Technologies, students will learn to make informed decisions and apply the decisions to the field of IT. Students will implement personal and interpersonal skills to prepare for a rapidly evolving workplace environment. The knowledge and skills acquired and practiced will enable students to successfully perform and interact in a technology-driven society. Students will enhance reading, writing, computing, communication, and critical thinking and apply them to the IT environment.

Computer Programming I  827000

Grade Level: 11
Credits: 1.0

Recommended Pre-Requisites: Algebra 1

In Computer Programming I, students will acquire knowledge of structured programming techniques and concepts appropriate to developing executable programs and creating appropriate documentation. Students will analyze the social responsibility of business and industry regarding the significant issues relating to the environment, ethics health, safety, and diversity in society and in the workplace as related to computer programming. Students will apply technical skills to address business applications of emerging technologies.

Practicum in Information Technology  847100

Grade Level: 12
Credits: 2.0

Pre-Requisites: Minimum of two high school IT courses

Students will gain advanced knowledge and skills in the application, design, production, implementation, maintenance, evaluation, and assessment of products, services, and systems. Knowledge and skills in the proper use of analytical skills and application of IT concepts and standards are essential to prepare students for success in a technology-driven society.
Welding

Professional Communications
0.5 Credits
820210

Touch Systems Data Entry
0.5 Credits
C111100

Introduction to Welding
1.0 Credits
C20200

Principles of Agriculture, Food, & Natural Resources
1.0 Credits
810100

Financial Mathematics
3rd Math
1.0 Credits
236100
Pre-Requisite: Algebra I

Business English
4th English
1.0 Credits
144100
Pre-Requisite: English III

Welding I
2.0 Credits
829200

Welding II
2.0 Credits
839200
Pre-Requisite: Welding I
Advanced Level CTE Course

Business & Industry Endorsement

2019-20 CTE Course Guide
<table>
<thead>
<tr>
<th>Course</th>
<th>Code</th>
<th>Grade Level</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Principles of Agriculture, Food, &amp; Natural Resources</td>
<td>810100</td>
<td>9</td>
<td>1.0</td>
<td>Principles of Agriculture, Food, and Natural Resources will allow students to develop knowledge and skills regarding career and educational opportunities, personal development, globalization, industry standards, details, practices, and expectations.</td>
</tr>
</tbody>
</table>
| Introduction to Welding                    | C20200| 10          | 1.0     | Recommended Pre-Requisite: Algebra I  
Introduction to Welding will provide an introduction to welding technology with an emphasis on basic welding laboratory principles and operating procedures. Students will be introduced to the three basic welding processes. Topics include: industrial safety and health practices, hand tool and power machine use, measurement, laboratory operating procedures, welding power sources, welding career potentials, and introduction to welding codes and standards. Introduction to Welding will provide students with the knowledge, skills, and technologies required for employment in welding industries. Students will develop knowledge and skills related to welding and apply them to personal career development. This course supports integration of academic and technical knowledge and skills. Students will reinforce, apply, and transfer knowledge and skills to a variety of settings and problems. Knowledge about career opportunities, requirements, and expectations and the development of workplace skills will prepare students for future success. |
| Welding I                                  | 829200| 11          | 2.0     | Recommended Pre-Requisites: Algebra I, Introduction to Welding  
Welding I provides the knowledge, skills, and technologies required for employment in metal technology systems. Students will develop knowledge and skills related to this system and apply them to personal career development. This course supports integration of academic and technical knowledge and skills. Students will reinforce, apply, and transfer knowledge and skills to a variety of settings and problems. Knowledge about career opportunities, requirements, and expectations and the development of workplace skills prepare students for future success. |
| Welding II                                 | 839200| 12          | 2.0     | Pre-Requisite: Welding I.  
Recommended Pre-Requisite: Algebra I or Geometry.  
Welding II builds on the knowledge and skills developed in Welding I. Students will develop advanced welding concepts and skills as related to personal and career development. Students will integrate academic and technical knowledge and skills. Students will have opportunities to reinforce, apply, and transfer knowledge and skills to a variety of settings and problems. |
# Automotive Technology

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>Professional Communications</td>
<td>0.5</td>
<td>820210</td>
</tr>
<tr>
<td>Touch Systems Data Entry</td>
<td>0.5</td>
<td>C111100</td>
</tr>
<tr>
<td>Principles of Agriculture, Food, &amp; Natural Resources</td>
<td>1.0</td>
<td>810100</td>
</tr>
<tr>
<td>Automotive Basics</td>
<td>1.0</td>
<td>C20100</td>
</tr>
<tr>
<td>Financial Mathematics</td>
<td>3rd Math</td>
<td>236100</td>
</tr>
<tr>
<td>Pre-Requisite: Algebra I</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Business English</td>
<td>4th English</td>
<td>144100</td>
</tr>
<tr>
<td>Pre-Requisite: English III</td>
<td></td>
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</tr>
<tr>
<td>Automotive Technology I: Maintenance &amp; Light Repair</td>
<td>2.0</td>
<td>829100</td>
</tr>
<tr>
<td>Automotive Technology II: Automotive Service</td>
<td>2.0</td>
<td>839100</td>
</tr>
<tr>
<td>Pre-Requisite: Automotive Technology I</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Advanced Level CTE Course</td>
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</tr>
</tbody>
</table>

**Business & Industry Endorsement**

2019-20 CTE Course Guide
Automotive Basics

Grade Level: 10
Credits: 1.0

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

Automotive Technology I: Maintenance and Light Repair

Grade Level: 11
Credits: 2.0

Recommended Pre-Requisite: Automotive Basics

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

Automotive Technology II: Automotive Service

Grade Level: 12
Credits: 2.0

Pre-Requisites: Automotive Technology I: Maintenance and Light Repair

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

Professional Communications
0.5 Credits
820210

Financial Mathematics
3rd Math
1.0 Credits
236100
Pre-Requisite: Algebra I

Business English
4th English
1.0 Credits
144100
Pre-Requisite: English III

Touch Systems Data Entry
0.5 Credits
C11100

Instructional Practices
2.0 Credits
834400
Pre-Requisite: Instructional Practices
Advanced Level CTE Course

Practicum in Education and Training
2.0 Credits
844400
Pre-Requisite: Instructional Practices
Advanced Level CTE Course

Child Development
1.0 Credits
824300

Public Services Endorsement

2019-20 CTE Course Guide
## Principles of Human Services

**Grade Level:** 9  
**Credits:** 1.0

Principles of Human Services will enable students to investigate careers in Public Services such as Health Science, Barbering, Cosmetology, Culinary, Law Enforcement, early childhood development, family and community, personal care, and consumer services.

## Child Development

**Grade Level:** 10  
**Credits:** 1.0

Child Development is a technical laboratory course that 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.

## Instructional Practices

**Grade Level:** 11  
**Credits:** 2.0

**Recommended Pre-Requisite: Child Development**

Instructional Practices provides students knowledge of child and adolescent development as well as principles of effective teaching and training practices. 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.

## Practicum in Education and Training

**Grade Level:** 12  
**Credits:** 2.0

**Pre-Requisite: Instructional Practices**

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, middle childhood, and adolescence education and exemplary educators in direct instructional roles with elementary-, middle school-, and high school aged students. Students learn to plan and direct individualized instruction and group activities, prepare instructional materials, assist with record keeping, make physical arrangements, and complete other responsibilities of classroom teachers, trainers, paraprofessionals, or other educational personnel.
Health Sciences Academy

Junior Block
- Health Science Theory
- Health Science Clinical
- Anatomy & Physiology
  - 3rd Science
  - 3.0 Credits
  - 005330
  - Courses taken at Bryan High School
  - Pre-Requisite: Principles of Health Science, Biology, Health Science Clinical, 2nd Science credit

Senior Block
- Practicum in Health Science
- Medical Microbiology
  - 4th Science
  - 3.0 Credits
  - 007440
  - Courses taken at Bryan High School

Business English
- 4th English
- 1.0 Credits
  - 144100
  - Pre-Requisite: English III
  - Courses taken on home campus

Transportation will be provided for Rudder students participating in the 3 hour block of Health Science Academy.
Principles of Human Services

Grade Level: 9  
Credits: 1.0

Principles of Human Services will enable students to investigate careers in Public Services such as Health Science, Barbering, Cosmetology, Culinary, Law Enforcement, early childhood development, family and community, personal care, and consumer services.

Principles of Health Science  

Grade Level: 10  
Credits: 1.0

Required Pre-Requisite: Biology

The Principles of Health Science course is designed to provide an overview of the therapeutic, diagnostic, health informatics, support services, and biotechnology research and development systems of the health care industry.

Health Science Theory/Health Science Clinical  

Grade Level: 11  
Credits: 2.0

Pre-Requisite: Principles of Health Science, Biology  
Corequisite: Health Science Clinical

This Health Science Clinical is designed to provide for the development of advanced knowledge and skills related to a wide variety of health careers. Students will employ hands-on experiences for continued knowledge and skill development.

Anatomy and Physiology

This course satisfies a high school Science graduation requirement.

Grade Level: 11  
Credits: 1.0

Pre-Requisites: Biology and 2nd Science credit  
Recommended Pre-Requisite: One course from Health Science Cluster

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

Medical Microbiology

This course satisfies a high school Science graduation requirement.

Grade Level: 12  
Credits: 1.0

Pre-Requisites: Biology and Chemistry.  
Recommended Pre-Requisite: one course from Health Science cluster

The Medical Microbiology course is designed to explore the microbial world, studying topics such as pathogenic and non-pathogenic microorganisms, laboratory procedures, identifying microorganisms, drug resistant organisms, and emerging diseases.

Practicum in Health Science  

Grade Level: 12  
Credits: 2.0

Pre-Requisites: Principles in Health Science, Health Science Theory, Biology

The Practicum in Health Science course is designed to give students practical application of previously studied knowledge and skills. Practicum experiences can occur in a variety of locations appropriate to the nature and level of experience.
Career Preparation

Financial Mathematics
3rd Math
1.0 Credits
236100
Pre-Requisite: Algebra I

Business English
4th English
1.0 Credits
144100
Pre-Requisite: English III

Lifetime Nutrition & Wellness
0.5 Credits
824110

Dollars & Sense
0.5 Credits
824510

Principles of Human Services
1.0 Credits

Career Preparation I / Extended Career Preparation I
3.0 Credits
835200
Pre-Requisite: Career Preparation I / Extended Career Preparation I
Advanced Level CTE Course
Lifetime Nutrition & Wellness

Grade Level: 10
Credits: 0.5

Lifetime Nutrition and Wellness is a laboratory course that allows students to use principles of lifetime wellness and nutrition to help them make informed choices that promote wellness as well as pursue careers related to hospitality and tourism, education and training, human services, and health sciences.

Dollars & Sense

Grade Level: 10
Credits: 0.5

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

Career Preparation I/Extended Career Preparation I

Grade Level: 11
Credits: 3.0

Career Preparation I provides opportunities for students to participate in a work-based learning experience that combines classroom instruction with business and industry employment experiences. The goal is to prepare students with a variety of skills for a changing workplace. Career preparation is relevant and rigorous, supports student attainment of academic standards, and effectively prepares students for college and career success. Students enrolled in this course must have wage-earning job that they keep for the entire year of school. Further, students must work a minimum of 15 hours per week.

Career Preparation II/Extended Career Preparation II

Grade Level: 12
Credits: 3.0

Pre-Requisites: Career Preparation I /Extended Career Preparation

Career Preparation II develops essential knowledge and skills through advanced classroom instruction with business and industry employment experiences. Career Preparation II maintains relevance and rigor, supports student attainment of academic standards, and effectively prepares students for college and career success. Students enrolled in this course must have wage-earning job that they keep for the entire year of school. Further, students must work a minimum of 15 hours per week.
Cosmetology

Professional Communications
0.5 Credits
820210

Touch Systems Data Entry
0.5 Credits
C111100

Principles of Human Services
1.0 Credits

Introduction to Cosmetology
1.0 Credits
C28300

Financial Mathematics
3rd Math
1.0 Credits
236100
Pre-Requisite: Algebra I

Cosmetology I / Cosmetology I Lab
3.0 Credits
C34600
Pre-Requisite: Intro to Cosmetology

Business English
4th English
1.0 Credits
144100
Pre-Requisite: English III

Cosmetology II/ Cosmetology II Lab
3.0 Credits
C48700
Pre-Requisite: Cosmetology I
Advanced Level CTE Course

Public Services Endorsement

2019-20 CTE Course Guide
Principles of Human Services

Grade Level: 9  Credits: 1.0

Principles of Human Services will enable students to investigate careers in Public Services such as Health Science, Barbering, Cosmetology, Culinary, Law Enforcement, early childhood development, family and community, personal care, and consumer services.

Introduction to Cosmetology  C28300

Grade Level: 10  Credits: 1.0

In Introduction to Cosmetology, students explore careers in the cosmetology industry. To prepare for success, students must have academic and technical knowledge and skills relative to the industry. Students may begin to earn hours toward state licensing requirements. This course has a fee of $75.00 for TDLR registration.

Cosmetology I / Cosmetology I Lab  C34600

Grade Level: 11  Credits: 2.0

BISD Pre-Requisite: Introduction to Cosmetology
In Cosmetology I, 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, hair care, nail care, and skin care and meets the Texas Department of Licensing and Regulation requirements for licensure upon passing the state examination. Students apply, combine, and justify knowledge and skills to a variety of settings and problems. This course has a fee of $525.00 (approximately) for personal tools. Payment plan is available.

Cosmetology II / Cosmetology II Lab  C48700

Grade Level: 12  Credits: 3.0

Pre-Requisite: Cosmetology I
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, hair care, nail care, and skin care and meets the Texas Department of Licensing and Regulation requirements for licensure upon passing the state examination. Students apply, combine, and justify knowledge and skills to a variety of settings and problems. This course has a fee of $380.00 (approximately) for personal tools. Payment plan is available.
Barbering
At Rudder High School

Professional Communications
0.5 Credits
820210

Principles of Human Services
1.0 Credits

Financial Mathematics
3rd Math
1.0 Credits
236100
Pre-Requisite: Algebra I

Touch Systems Data Entry
0.5 Credits
C111100

Barbering I
3.0 Credits
C38400

Business English
4th English
1.0 Credits
144100
Pre-Requisite: English III

Barbering II
3.0 Credits
C48600
Pre-Requisite: Barbering I
Advanced Level CTE Course

Bryan High School students wishing to enroll in Barbering will need to apply for a full day transfer to Rudder High School.
### Principles of Human Services

<table>
<thead>
<tr>
<th>Grade Level: 10</th>
<th>Credits: 1.0</th>
</tr>
</thead>
</table>

Principles of Human Services will enable students to investigate careers in Public Services such as Health Science, Barbering, Cosmetology, Culinary, Law Enforcement, early childhood development, family and community, personal care, and consumer services.

### Barbering I

<table>
<thead>
<tr>
<th>Grade Level: 11</th>
<th>Credits: 3.0</th>
</tr>
</thead>
</table>

Students will develop knowledge and skills regarding various cosmetology/barbering design elements such as form, lines, texture, structure and illusion or depth as they relate to the art of hair. Instruction includes sterilization and sanitation procedures, hair care, nail care, and skin care and meets the TDLR requirements for licensure upon passing the state examination. Analysis of career opportunities, license requirements, knowledge and skills expectations, and development of workplace skills are included. This course provides students with an opportunity to build self-esteem and pride in workmanship. Students will develop an understanding of the relationship between academic skills, competencies and acquisition, and ultimate career success. This course will have fees.

### Barbering II

<table>
<thead>
<tr>
<th>Grade Level: 12</th>
<th>Credits: 3.0</th>
</tr>
</thead>
</table>

**Pre-Requisite: Barbering I**

Analysis of career opportunities, license requirements, knowledge and skills expectations, and development of workplace skills are included. This course provides students with an opportunity to build self-esteem and pride in workmanship. Students will develop an understanding of the relationship between academic skills, competencies and acquisition, and ultimate career success.
Law Enforcement

Professional Communications
0.5 Credits
820210

Touch Systems Data Entry
0.5 Credits
C111100

Principles of Human Services
1.0 Credits

Law Enforcement I
1.0 Credits
823500

Financial Mathematics
3rd Math
1.0 Credits
236100
Pre-Requisite: Algebra I

Law Enforcement II
1.0 Credits
833500

Business English
4th English
1.0 Credits
144100
Pre-Requisite: English III

Forensic Science
4th Science
1.0 Credits
853500
Pre-Requisite: English III

Criminal Investigation
1.0 Credits
C49100
Advanced Level CTE Course

Public Services Endorsement

2019-20 CTE Course Guide
Principles of Human Services

<table>
<thead>
<tr>
<th>Grade Level: 9</th>
<th>Credits: 1.0</th>
</tr>
</thead>
</table>
| Principles of Human Services will enable students to investigate careers in Public Services such as Health Science, Barbering, Cosmetology, Culinary, Law Enforcement, early childhood development, family and community, personal care, and consumer services.

Law Enforcement I

<table>
<thead>
<tr>
<th>Grade Level: 10</th>
<th>Credits: 1.0</th>
</tr>
</thead>
</table>
| Law Enforcement I is an overview of the history, organization, and functions of local, state, and federal law enforcement. Students will understand the role of constitutional law at local, state, and federal levels; the U.S. legal system; criminal law; and law enforcement terminology and the classification and elements of crime.

Law Enforcement II

<table>
<thead>
<tr>
<th>Grade Level: 11</th>
<th>Credits: 1.0</th>
</tr>
</thead>
</table>
| Recommended Pre-Requisite: Law Enforcement I
| Law Enforcement II provides the knowledge and skills necessary to prepare for a career in law enforcement. Students will understand ethical and legal responsibilities, patrol procedures, first responder roles, telecommunications, emergency equipment operations, and courtroom testimony.

Criminal Investigation

<table>
<thead>
<tr>
<th>Grade Level: 12</th>
<th>Credits: 1.0</th>
</tr>
</thead>
</table>
| Recommended Pre-Requisite: any Law, Public Safety, Corrections, and Security Career Cluster
| Criminal Investigation is a course that introduces students to the profession of criminal investigations. Students will understand basic functions of criminal investigations and procedures and will learn how to investigate or follow up during investigations. Students will learn terminology and investigative procedures related to criminal investigation, crime scene processing, evidence collection, fingerprinting, and courtroom presentation. Through case studies and simulated crime scenes, students will collect and analyze evidence such as fingerprint analysis, bodily fluids, hairs, fibers, shoe and tire impressions, bite marks, drugs, tool marks, firearms and ammunition, blood spatter, digital evidence, and other types of evidence.

Forensic Science

<table>
<thead>
<tr>
<th>Grade Level: 12</th>
<th>Credits: 1.0</th>
</tr>
</thead>
</table>
| Pre-Requisites: Biology and Chemistry.
| Recommended Pre-Requisite: any Law, Public Safety, Corrections, and Security Career Cluster
| Forensic Science is a course that introduces students to the application of science to connect a violation of law to a specific criminal, criminal act, or behavior and victim. Students will learn terminology and procedures related to the search and examination of physical evidence in criminal cases as they are performed in a typical crime laboratory. Using scientific methods, students will collect and analyze evidence such as fingerprints, bodily fluids, hairs, fibers, paint, glass, and cartridge cases. Students will also learn the history and the legal aspects as they relate to each discipline of forensic science.

This course satisfies a high school Science graduation requirement.
STEM
Endorsement
**Engineering**

Project Lead the Way Engineering at Rudder High School

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Touch Systems Data Entry</td>
<td>0.5</td>
<td>C111100</td>
</tr>
<tr>
<td>Professional Communications</td>
<td>0.5</td>
<td>820210</td>
</tr>
<tr>
<td>Introduction to Engineering Design</td>
<td>1.0</td>
<td>C10100</td>
</tr>
<tr>
<td>Engineering Science</td>
<td>3rd Science</td>
<td>1.0</td>
</tr>
<tr>
<td>Civil Engineering and Architecture</td>
<td>1.0</td>
<td>C30300</td>
</tr>
<tr>
<td>Business English</td>
<td>4th</td>
<td>144100</td>
</tr>
<tr>
<td>Engineering Design and Development</td>
<td>1.0</td>
<td>C30400</td>
</tr>
<tr>
<td>Scientific Research and Design</td>
<td>4th</td>
<td>326100</td>
</tr>
</tbody>
</table>

Pre-Requisite: Introduction to Engineering Design; Algebra; Biology or Chemistry or Integrated Chemistry and Physics or Physics

Bryan High School students wishing to enroll in STEM: Engineering (Project Lead the Way) will need to apply for a full day transfer to Rudder High School.

Pre-Requisite: English III

Pre-Requisite: IED; Engineering Science; Civil Engineering Advanced Level CTE Course

Pre-Requisite: Biology and Chemistry or Integrated Physics and Chemistry (IPC) or Physics

Advanced Level CTE Course

Advanced Level CTE Course
Introduction to Engineering Design (IED)  
Grade Level: 9  
Credits: 1.0

Students dig deep into the engineering design process, applying math, science, and engineering standards to hands-on projects like designing a new toy or improving an existing product.

Engineering Science  
Grade Level: 10  
Credits: 1.0

This course satisfies a high school Science graduation requirement.

Pre-Requisites: Introduction to Engineering Design (IED), Algebra I, Biology, and Chemistry, Integrated Physics & Chemistry, or Physics

Recommended Pre-Requisite: Geometry

Students explore a broad range of engineering topics including mechanisms, strength of structure and materials, and automation, and then apply what they know to take on challenges like designing a self-powered car.

Civil Engineering and Architecture (CEA)  
Grade Level: 11  
Credits: 1.0

Pre-Requisite: Introduction to Engineering Design (IED); Engineering Science

Students learn important aspects of building and site design and development. They apply math, science, and standard engineering practices to design both residential and commercial projects and document their work using 3-D architectural design software.

Engineering Design and Development (EDD)  
Grade Level: 12  
Credits: 1.0

Pre-Requisite: Introduction to Engineering Design (IED); Engineering Science; Civil Engineering

The knowledge and skills students acquire throughout PLTW Engineering come together in Engineering Design and Development as they identify an issue and then research, design, and test a solution, ultimately presenting their solution to a panel of engineers. Student apply the professional skills they have developed to document a design process to standards, completing Engineering Design and Development ready to take on any post-secondary program or career.

Scientific Research and Design  
Grade Level: 12  
Credits: 1.0

This course satisfies a high school Science graduation requirement.

Pre-Requisites: Biology and Chemistry or Integrated Physics & Chemistry (IPC) or Physics

Scientific Research and Design is a broad-based course designed to allow districts and schools considerable flexibility to develop local curriculum to supplement any program of study or coherent sequence. The course has the components of any rigorous scientific or engineering program of study from the problem identification, investigation design, data collection, data analysis, formulation, and presentation of the conclusions. All of these components are integrated with the career and technical education emphasis of helping students gain entry-level employment in high-skill, high-wage jobs and/or continue their education.
### Robotics

*At Bryan High School*

These courses are not part of a CTE pathway, but rather support students in a non-CTE STEM endorsement.

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Code</th>
<th>Year Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Robotics I</td>
<td>1.0</td>
<td>838100</td>
<td>2018-2019</td>
</tr>
<tr>
<td>Robotics II</td>
<td>1.0</td>
<td>C30100</td>
<td>2018-2019</td>
</tr>
</tbody>
</table>

2019-20 CTE Course Guide

150
### Robotics I

<table>
<thead>
<tr>
<th>Code</th>
<th>Grade Level</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>838100</td>
<td>10</td>
<td>1.0</td>
</tr>
</tbody>
</table>

In Robotics I, students will transfer academic skills to component designs in a project-based environment through implementation of the design process. Students will build prototypes or use simulation software to test their designs. Additionally, students will explore career opportunities, employer expectations, and educational needs in the robotic and automation industry.

### Robotics II

<table>
<thead>
<tr>
<th>Code</th>
<th>Grade Level</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>C30100</td>
<td>11</td>
<td>1.0</td>
</tr>
</tbody>
</table>

In Robotics II, students will explore artificial intelligence and programming in the robotic and automation industry. Through implementation of the design process, students will transfer academic skills to component designs in a project-based environment. Students will build prototypes and use software to test their designs.
CTEC
Complex
The Bryan Career and Technical Education Complex (CTEC) is a half a day program for juniors and seniors in one of the following courses:

- Automotive Technology
- Construction Technology
- Industrial Engineering & Robotics
- Welding

Students interested in attending the CTEC must apply to be accepted. Students who attend the CTEC will continue to be Bryan Vikings or Rudder Rangers. Students who attend the CTEC will either drive themselves or transportation will be provided. While attending the CTEC, students will be provided curriculum, equipment, qualified instructors, tools, and business partners necessary to train the highly skilled program they are attending.

Students who attend the CTEC are expected to leave with all of the following exit points:

- Marketable Skills
- Dual Credit
- Industry Recognized Certifications
These CTE Courses appear in multiple pathways of study.
The course descriptions only appear here in order to avoid duplication.

<table>
<thead>
<tr>
<th>Course</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional Communications</td>
<td>820210</td>
</tr>
<tr>
<td>This course satisfies a high school Speech graduation requirement.</td>
<td></td>
</tr>
<tr>
<td>Grade Level: 9-10</td>
<td>Credits: 0.5</td>
</tr>
<tr>
<td>Professional Communications blends written, oral, and graphic communication in a career-based environment. 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.</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Course</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Touch System Data Entry</td>
<td>C11110</td>
</tr>
<tr>
<td>This course satisfies a high school advanced English graduation requirement.</td>
<td></td>
</tr>
<tr>
<td>This class does not satisfy the English 4 requirement for a multidisciplinary endorsement.</td>
<td></td>
</tr>
<tr>
<td>Grade Level: 9-10</td>
<td>Credits: 0.5</td>
</tr>
<tr>
<td>In Touch System Data Entry, students apply technical skills to address business applications of emerging technologies. Students refine reading, writing, computing, communication, and reasoning skills and apply them to the business environment. Students will need to apply touch system data entry for production of business documents.</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Course</th>
<th>Code</th>
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</thead>
<tbody>
<tr>
<td>Business English IV</td>
<td></td>
</tr>
<tr>
<td>This course satisfies a high school advanced English graduation requirement.</td>
<td></td>
</tr>
<tr>
<td>This pre-requisites: English III.</td>
<td></td>
</tr>
<tr>
<td>Recommended Pre-requisites: Touch System Data Entry, English I EOC, English II EOC.</td>
<td></td>
</tr>
<tr>
<td>In Business English, students enhance communication and research skills by applying them to the business environment, in addition to exchanging information and producing properly formatted business documents using emerging technology.</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Course</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dual Credit English: ENGL 1301 and ENGL 1302</td>
<td></td>
</tr>
<tr>
<td>This course satisfies a high school advanced English graduation requirement.</td>
<td></td>
</tr>
<tr>
<td>Prerequisite: Acceptable TSIA score or the ability to exempt; students must pay Blinn tuition and purchase texts for each course; students must earn credit for ENGL 1301 in order to take ENGL 1302</td>
<td></td>
</tr>
<tr>
<td>English 1301, an introduction to academic writing, focuses on expository and persuasive research essays, analytical reading and critical thinking. With an emphasis on writing from various sources, English 1301 will focus on all stages of the writing process and will require students to use documentation.</td>
<td></td>
</tr>
<tr>
<td>English 1302 is designed to advance the writing skills and analytical skills in the reading and appreciation of literature. For the teaching of English 1302, unity or the sense of purpose tying together an essay or literary work, is the starting point; while plot or organization, character, theme and style provide the topics for subsequent units. The course grants both high school (English IV) and college credit.</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Course</th>
<th>Code</th>
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</thead>
<tbody>
<tr>
<td>English IV</td>
<td></td>
</tr>
<tr>
<td>This course satisfies a high school advanced English graduation requirement.</td>
<td></td>
</tr>
<tr>
<td>Prerequisite: Successful completion of English I-III</td>
<td></td>
</tr>
<tr>
<td>English IV is organized into the following strands: Reading, where students will read and understand different genres of literature; Writing, where students will compose a variety of written texts; Research, where students will locate, evaluate, synthesize, and present information; Listening and Speaking, where students will develop communication skills; and Oral and Written Conventions, where students will learn how to use the oral and written conventions of the English language in speaking and writing. Standards are cumulative, and students will engage in activities that build on prior knowledge and skills from previous standards in order to strengthen reading, writing, and oral language skills. Students will read and write on a daily basis.</td>
<td></td>
</tr>
</tbody>
</table>
Automotive Technology
At the Career and Technical Education Complex

Professional Communications
0.5 Credits
820210

Touch Systems Data Entry
0.5 Credits
C111100

Principles of Agriculture, Food, & Natural Resources
1.0 Credits
810100

Automotive Basics
1.0 credits
C20100
taken at home campus

Students MUST apply and be accepted to CTEC

Junior Block at CTEC: earn 3.0 credits

Automotive Technology I
&
Scientific Research & Design *
* fulfills a required Science for graduation

Senior Block Options at the CTEC: earn 3.0 credits
Graduation Needs and Student Interest will determine which block is scheduled

English IV*
All Levels, incl. Dual Credit and Business
English; does NOT include AP
&
Automotive Technology II
3.0 credits
*fulfills a required English for graduation

Automotive Technology II with Advanced Lab
3.0 credits

Business & Industry Endorsement

Page 156
Automotive Technology I

Grade Level: 11

Credits: 2.0

Recommended Pre-Requisite: Automotive Basics.

This course includes knowledge of the major automotive systems and the principles of diagnosing and servicing these systems. This course includes applicable safety and environmental rules and regulations. In Automotive Technology I: Maintenance and Light Repair, students will gain knowledge and skills in the repair, maintenance, and diagnosis of vehicle systems. The focus of this course is to teach safety, tool identification, proper tool use, and employability skills.

Scientific Research & Design

Grade Level: 11

Credits: 1.0

Pre-Requisites: Biology and Chemistry or Integrated Physics & Chemistry (IPC) or Physics

Scientific Research and Design is a broad-based course designed to allow districts and schools considerable flexibility to develop local curriculum to supplement any program of study or coherent sequence. The course has the components of any rigorous scientific or engineering program of study from the problem identification, investigation design, data collection, data analysis, formulation, and presentation of the conclusions.

Automotive Technology II with Advanced lab

Grade Level: 12

Credits: 3.0

Pre-Requisite: Automotive Technology I

In this capstone course, students will gain knowledge and skills in the repair, maintenance, and diagnosis of vehicle systems. Automotive Technology II: Automotive Service also includes applicable safety and environmental rules and regulations.

Automotive Technology II

Grade Level: 12

Credits: 2.0

Pre-Requisite: Automotive Technology I

In this capstone course, students will gain knowledge and skills in the repair, maintenance, and diagnosis of vehicle systems. Automotive Technology II: Automotive Service also includes applicable safety and environmental rules and regulations.
Construction
At the Career and Technical Education Complex

Junior Block options at CTEC: earn 3.0 credits

- Construction Technology I & Scientific Research & Design *
  * fulfills a required Science for graduation

- Principles of Construction
  C22100
  1.0 credits
  taken at home campus

- Touch Systems Data Entry
  0.5 credits
  C111100

- Principles of Agriculture, Food, & Natural Resources
  1.0 credits
  810100

- Students MUST apply and be accepted to CTEC

Senior Block Options at the CTEC: earn 3.0 credits
Graduation Needs and Student Interest will determine which block is scheduled

- English IV *
  All Levels, incl. Dual Credit and Business English;
  does NOT include AP
  & Practicum in Construction Technology
  3.0 credits
  *fulfills a required English for graduation

- Extended Practicum in Construction Technology
  3.0 credits
Principles of Agriculture, Food, & Natural Resources

Grade Level: 9
Credits: 1.0

Principles of Agriculture, Food, and Natural Resources will allow students to develop knowledge and skills regarding career and educational opportunities, personal development, globalization, industry standards, details, practices, and expectations.

Principles of Construction

Grade Level: 10
Credits: 1.0

Principles of Construction is intended to provide an introduction and lay a solid foundation for those students entering the construction or craft skilled areas. The course provides a strong knowledge of construction safety, construction mathematics, and common hand and power tools. For safety and liability considerations, limiting course enrollment to 15 students is recommended.

Construction Technology I

Grade Level: 11
Credits: 2.0

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

Scientific Research & Design

Grade Level: 11
Credits: 1.0

This course satisfies a high school Science graduation requirement.

Pre-Requisites: Biology and Chemistry or Integrated Physics & Chemistry (IPC) or Physics
Scientific Research and Design is a broad-based course designed to allow districts and schools considerable flexibility to develop local curriculum to supplement any program of study or coherent sequence.

Extended Practicum in Construction Technology

Grade Level: 12
Credits: 3.0

Pre-Requisite: Construction Technology I
In this capstone course, students will gain advanced knowledge and skills needed to enter the workforce as carpenters, building maintenance technicians, or supervisors or to prepare for a postsecondary degree in construction management, architecture, or engineering. Students will build on the knowledge base from Construction Technology I and are introduced to exterior and interior finish out skills.

Practicum in Construction Technology

Grade Level: 12
Credits: 2.0

Pre-Requisite: Construction Technology I.
In this capstone course, students will gain advanced knowledge and skills needed to enter the workforce as carpenters, building maintenance technicians, or supervisors or to prepare for a postsecondary degree in construction management, architecture, or engineering. Students will build on the knowledge base from Construction Technology I and are introduced to exterior and interior finish out skills.
## Industrial Engineering and Robotics

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Reference Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional Communications</td>
<td>0.5</td>
<td>820210</td>
</tr>
<tr>
<td>Touch Systems Data Entry</td>
<td>0.5</td>
<td>C111100</td>
</tr>
<tr>
<td>Principles of Business, Marketing and Finance</td>
<td>1.0</td>
<td>C24100</td>
</tr>
</tbody>
</table>

**Students who have successfully completed any one of these courses:**
- Principles of Applied Engineering
- Robotics Programming and Design
- Introduction to Engineering Design

**Students currently taking one of the following courses:**
- Ag Mech
- Automotive Basics
- Robotics I or II
- Principles of Business
- Engineering Science

**Taken at the home campus**

**Junior Block at CTEC: earn 3.0 credits**

- Precision Metals Manufacturing &
- Scientific Research & Design *
  - *fulfills a required Science for graduation*

**Senior Block Options at the CTEC: earn 3.0 credits**

Graduation needs and Student Interest will determine which block is scheduled

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Reference Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>English IV *</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
  - All Levels, incl. Dual Credit and Business English;
  - does NOT include AP
  &
  Practicum in Manufacturing
  (Industrial Engineering & Robotics)
  - 3.0 credits
  - *fulfills a required English for graduation*

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Reference Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extended Practicum I in Manufacturing (Industrial Engineering &amp; Robotics)</td>
<td>3.0</td>
<td></td>
</tr>
</tbody>
</table>
**Precision Metals Manufacturing I**

**Grade Level:** 11  
**Credits:** 2.0

This course will provide the knowledge, skills, and technologies required for employment in precision machining. A variety of materials, such as plastics, ceramics, wood, and metal, will be addressed. Students will develop knowledge of the concepts and skills related to precision metal manufacturing. All of these components are integrated with the career and technical education emphasis of helping students gain entry-level employment in high-skill, high-wage jobs and/or continue their education.

**Scientific Research & Design**

**Grade Level:** 11  
**Credits:** 1.0

*This course satisfies a high school Science graduation requirement.*

**Pre-Requisites:** Biology and Chemistry or Integrated Physics & Chemistry (IPC) or Physics

Scientific Research and Design is a broad-based course designed to allow districts and schools considerable flexibility to develop local curriculum to supplement any program of study or coherent sequence. The course has the components of any rigorous scientific or engineering program of study from the problem identification, investigation design, data collection, data analysis, formulation, and presentation of the conclusions.

**Extended Practicum in Manufacturing I (Industrial Engineering & Robotics)**

**Grade Level:** 12  
**Credits:** 3.0

This course focuses on planning, managing, and performing the processing of materials into intermediate or final products and related professional and technical support activities such as production planning and control, maintenance, and manufacturing/process engineering. The practicum course is a capstone experience for students participating in a coherent sequence of career and technical education courses in the Manufacturing Career Cluster.

**Practicum in Manufacturing I (Industrial Engineering & Robotics)**

**Grade Level:** 12  
**Credits:** 2.0

The Manufacturing Career Cluster focuses on planning, managing, and performing the processing of materials into intermediate or final products and related professional and technical support activities such as production planning and control, maintenance, and manufacturing/process engineering. The practicum course is a capstone experience for students participating in a coherent sequence of career and technical education courses in the Manufacturing Career Cluster.
Welding
At the Career and Technical Education Complex

Junior Block at CTEC: earn 3.0 credits

- **Professional Communications**
  - 0.5 Credits
  - **820210**

- **Touch Systems Data Entry**
  - 0.5 Credits
  - **C111100**

- **Principles of Agriculture, Food, & Natural Resources**
  - 1.0 Credits
  - **810100**

  **Introduction to Welding**
  - 1.0 credits
  - **C20200**
  - taken at home campus

  Students MUST apply and be accepted to CTEC

Senior Block Options at the CTEC: earn 3.0 credits

Graduation Needs and Student Interest will determine which block is scheduled

- **English IV * **
  - All Levels, incl. Dual Credit and Business English; does NOT include AP
  - **820210**

- **Practicum in Manufacturing**
  - 3.0 credits
  - *fulfills a required English for graduation

- **Extended Practicum in Manufacturing**
  - 3.0 credits

Business & Industry Endorsement

2019-20 CTE Course Guide
<table>
<thead>
<tr>
<th>Course</th>
<th>Code</th>
<th>Grade Level</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Principles of Agriculture, Food, &amp; Natural Resources</td>
<td>810100</td>
<td>9</td>
<td>1.0</td>
<td>Principles of Agriculture, Food, and Natural Resources will allow students to develop knowledge and skills regarding career and educational opportunities, personal development, globalization, industry standards, details, practices, and expectations.</td>
</tr>
</tbody>
</table>
| Introduction to Welding            | C20200  | 10          | 1.0     | Recommended Pre-Requisite: Algebra I  
Introduction to Welding will provide an introduction to welding technology with an emphasis on basic welding laboratory principles and operating procedures. Students will be introduced to the three basic welding processes. Topics include: industrial safety and health practices, hand tool and power machine use, measurement, laboratory operating procedures, welding power sources, welding career potentials, and introduction to welding codes and standards. |
| Welding I                          |          | 11          | 2.0     | Recommended Pre-Requisites: Algebra I, Introduction to Welding  
Welding I provides the knowledge, skills, and technologies required for employment in metal technology systems. Students will develop knowledge and skills related to this system and apply them to personal career development. |
| Scientific Research & Design       |          | 11          | 1.0     |  
*This course satisfies a high school Science graduation requirement.*  
Pre-Requisites: Biology and Chemistry or Integrated Physics & Chemistry (IPC) or Physics  
Scientific Research and Design is a broad-based course designed to allow districts and schools considerable flexibility to develop local curriculum to supplement any program of study or coherent sequence. |
| Extended Practicum in Manufacturing |          | 12          | 3.0     | Pre-Requisite: Welding I  
Recommended Pre-Requisite: Algebra I or Geometry  
Extended Practicum in Manufacturing builds on the knowledge and skills developed in Welding I. Students will develop advanced welding concepts and skills as related to personal and career development. |
| Practicum in Manufacturing         |          | 12          | 2.0     | Pre-Requisite: Welding I  
Recommended Pre-Requisite: Algebra I or Geometry  
Practicum in Manufacturing builds on the knowledge and skills developed in Welding I. Students will develop advanced welding concepts and skills as related to personal and career development. |
Public Notification of Nondiscrimination in Career and Technical Education Programs

Bryan Independent School District offers career and technical education programs in Business and Industry, Public Services, and STEM endorsement areas. Admission to these programs is based on student interest, grade level appropriateness, and class availability.

It is the policy of Bryan Independent School District not to discriminate on the basis of race, color, national origin, sex or handicap in its career and technical education programs, services, or activities as required by Title VI of the Civil Rights Act of 1964, as amended; Title IX of the Education Amendments of 1972; and Section 504 of the Rehabilitation Act of 1973, as amended.

Bryan independent School District will take steps to assure that lack of English language skills will not be a barrier to admission and participation in all educational and vocational programs.

For Information about your rights or grievance procedures, contact the Title IX coordinator, Carol Cune, 101 N. Texas Avenue, Bryan, Texas 77803, 979-209-1073, or Ronnie O’Neal, 101 N. Texas Avenue, Bryan, Texas, 77803, 979-209-1094, and/or the Section 504 Coordinator, Donna Willett, 101 N. Texas Avenue, Bryan, Texas 77803, 979-209-1000.

Notificación Publica de No Discriminación en Programas de Educación Técnica y Vocacional

Bryan Independent School District ofrece programas de educación técnica y vocacional en Comercio y la Industria, Servicios Público, y STEM áreas de respaldo. La admisión a estos programas se basa en el interés del estudiante, adecuación del nivel de grado, la disponibilidad de clases.

Es norma de Bryan Independent School District no discriminar en sus programas, servicios o actividades en programas de educación técnica y vocacional por motivos de raza, color, origen nacional, sexo o impedimento, tal como lo requieren el Título VI de la Ley de Derechos Civiles de 1964, según enmienda; Título IX de las Enmiendas en la Educación de 1972, y la Sección 504 de la Ley de Rehabilitación de 1973, según enmienda.

Bryan Independent School District tomará las medidas necesarias para asegurar que la falta de habilidad en el uso del inglés no sea un obstáculo para la admisión y participación en todos los programas educativos y vocacionales.

Para información sobre sus derechos o procedimientos de quejas, comuníquese con el Coordinador del Título IX, Carol Cune, 101 N. Texas Avenue, Bryan, Texas 77803,979-209-1073 o Ronnie O’Neal, 101 N. Texas Avenue, Bryan, Texas 77803, 979-209-1094, y/o el Coordinador de la Sección 504, Donna Willett, en 101 N. Texas Avenue, Bryan, Texas 77803,979-209-1000.
Career and Technical Student Organizations