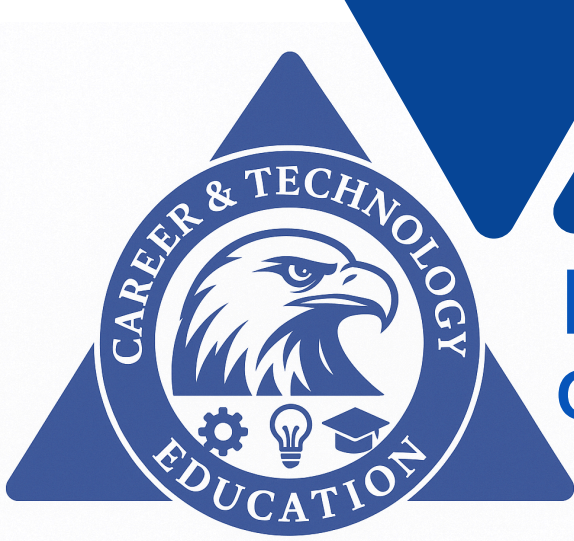




Barbers Hill ISD

Career and Technology Education

Course Guide

Empowering the Future, One Student at a Time



**Agriculture, Food
& Natural Resources**



Health Science



**Information
Technology**



**Business, Marketing
and Finance**



Engineering



**Arts, A/V Technology
and Communication**



**Architecture and
Construction**



**Education and
Training**



Human Services



JROTC



ENERGY



**HOSPITALITY
& TOURISM**

Career Clusters						Program of Study Map					
Food, Agriculture, and Natural Resources	Animal Science	Agricultural Technology and Mechanical Systems	Environmental and Natural Resources	Food Science and Technology	Plant Science						
Architecture and Construction	Carpentry										
Arts, Audio Visual Technology, and Communications	Graphic Design and Interactive Media	Digital Communications									
Business, Marketing, and Finance	Business Management										
Education and Training	Teaching and Training										
Energy	Oil and Gas Exploration and Production										
Engineering	Engineering Foundations	Mechanical and Aerospace Engineering	Electrical Engineering	Civil Engineering							
Health Science	Exercise Science, Wellness, and Restoration	Health Informatics	Diagnostic and Therapeutic Services	Nursing Science							
Hospitality and Tourism	Culinary Arts										
Human Services	Health and Wellness										
Information Technology	Cybersecurity	Programming and Software Development									
Air Force Junior Reserve Officer Training Corps (JROTC)	Air Force JROTC										

2026-2027 CTE Course Offerings

Food, Agriculture, and Natural Resources *Business & Industry Endorsement*

Animal Science

- Principles of Agriculture
- Small Animal Management/ Equine Science
- Veterinary Science
- Livestock & Poultry Production
- Advanced Animal Science (Science Credit)
- **Practicum of Agriculture**

Applied Agricultural Engineering

- Principles of Agriculture,
- Agricultural Mechanics & Metal Technologies
- Ag Structures Design & Fabrication
- **Ag Equipment Design & Fabrication**
- **Practicum of Agriculture**

Environmental and Natural Resources

- Principles of Agriculture
- Wildlife, Fisheries, and Ecology Management
- Energy and Natural Resources Technology
- **Practicum of Agriculture**

Food Science & Technology

- Principles of Agriculture
- Food Technology & Safety
- Food Processing
- Food Science
- **Practicum of Agriculture**

Plant Science

- Principles of Agriculture
- Entrepreneurship I
- Floral Design I Advanced Floral Design
- **Practicum of Agriculture**

Health Science *Public Service Endorsement*

Exercise Science, Wellness, and Restoration

- Principles of Health Science
- Medical Terminology
- Entrepreneurship I
- Anatomy and Physiology (Dual Credit)
- Health Science Theory
- **Practicum of Health Science**

Health Informatics

- Principles of Health Science
- Medical Terminology
- Health Science Theory
- **Practicum of Health Science**

Diagnostic and Therapeutic Services

- Principles of Health Science
- Medical Terminology
- Anatomy and Physiology (Dual Credit)
- Clinical Ethics
- Health Science Theory
- **Practicum of Health Science**

Nursing Science

- Principles of Health Science
- Medical Terminology
- Anatomy and Physiology (Dual Credit)
- Clinical Ethics
- Health Science Theory
- **Practicum of Health Science**

2026-2027 CTE Course Offerings

Architecture and Construction *Business & Industry Endorsement*

Carpentry

- Principles of Construction
- Entrepreneurship
- **Construction Technology I**
- **Construction Technology II**
- **Practicum of Construction**

Business, Marketing & Finance *Business & Industry Endorsement*

Business Management

- Foundations of Business Communication & Technologies
- Business Communication & Technologies
- Entrepreneurship
- Business Management
- **Practicum of Business Management**

Arts, Audio Visual Technology, and Communications *Business & Industry Endorsement*

Digital Communication

- Principles of Arts, A/V Technology & Communication
- Audio/Video Production I
- Audio/Video Production II
- **Practicum of Arts, A/V Technology & Communication**

Graphic Design & Multimedia Arts

- Principles of Arts, A/V Technology & Communication
- Graphic Design & Illustration I
- Graphic Design & Illustration II
- **Practicum of Graphic Design & Multimedia Arts**

Education and Training *Public Service Endorsement*

Teaching & Training

- Principles of Education & Training
- Child Development
- **Instructional Practices in Education & Training**
- **Practicum of Education & Training**

Human Services Career Cluster *Public Service Endorsement*

Health and Wellness

- Principles of Human Services
- Child Development
- Entrepreneurship
- Family and Community
- Food Science

Hospitality and Tourism *Public Service Endorsement*

Culinary Arts

- Introduction to Culinary Arts
- Food Technology & Safety
- Food Processing
- Food Science

2026-2027 CTE Course Offerings

Engineering *S.T.E.M Endorsement*

Engineering Foundations

- Principles of Applied Engineering
- Engineering Design Process
- Engineering Design & Presentation I
- Engineering Design & Problem Solving (Science Credit)

Mechanical and Aerospace Engineering

- Introduction to Computer-Aided Design and Drafting (Dual Credit)
- Intermediate to Computer-Aided Design and Drafting (Dual Credit)
- Engineering Design & Presentation I
- Engineering Design & Problem Solving (Science Credit)

Civil Engineering

- Introduction to Computer-Aided Design and Drafting (Dual Credit)
- Intermediate to Computer-Aided Design and Drafting (Dual Credit)
- Engineering Design & Presentation I
- Engineering Design & Problem Solving (Science Credit)

Electrical Engineering

- Introduction to Computer-Aided Design and Drafting (Dual Credit)
- Intermediate to Computer-Aided Design and Drafting (Dual Credit)
- Engineering Design & Presentation I
- Engineering Design & Problem Solving (Science Credit)

Information Technology *Business & Industry Endorsement*

Programming & Software Development

- Honors Computer Science I
- AP Computer Science Principles
- Honors Computer Science II
- AP Computer Science A
- Honors Computer Science III

Cybersecurity

- Honors Computer Science I
- AP Computer Science Principles
- AP Computer Science A
- AP Cybersecurity

Energy *Business & Industry Endorsement*

Oil and Gas Exploration and Production

- Oil and Gas Production I (Dual Credit PT 1332/ PT 1410)
- Oil and Gas Production II (Dual Credit PT 2420)
- Oil and Gas Production III (Dual Credit PT 2438)

Air Force Junior Reserve Officer Training Corps (JROTC) *Public Service Endorsement*

- Air Force JROTC I
- Air Force JROTC II
- Air Force JROTC III
- Air Force JROTC IV

*Science Credit

2 Credit Course

Note: All course are listed in recommended order.

Public Notification of Nondiscrimination

Barbers Hill ISD offers career and technical education programs in Agriculture, Food, and Natural Resources; Arts, A/V Technology, and Communications; Architecture and Construction; Business Marketing and Finance; Education and Training; Health Science; Science, Technology, Engineering, and Math (STEM); Human Services, Manufacturing. Admission to these programs is based on open enrollment.

It is the policy of Barbers Hill ISD not to discriminate on the basis of race, color, national origin, sex or handicap in its vocational programs, services or activities and provides equal access to the Boy Scouts and other designated youth groups 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.

It is the policy of Barbers Hill ISD not to discriminate on the basis of race, color, national origin, sex, handicap, or age in its employment practices as required by Title VI of the Civil Rights Act of 1964, as amended; Title IX of the Education Amendments of 1972; the Age Discrimination Act of 1975, as amended; and Section 504 of the Rehabilitation Act of 1973, as amended.

BHISD 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 regarding employee rights or grievance procedures regarding discrimination based on sex, including sexual harassment, contact Barbara Ponder, Title IX Coordinator at **barbara.ponder@bhisd.net**, (281)576-2221 during normal business hours.

For information regarding student rights or grievance procedures regarding discrimination based on sex, including sexual harassment, sexual assault, dating violence, domestic violence, stalking, or gender-based harassment, contact Mandy Malone, Title IX Coordinator at **mandy.malone@bhisd.net**, (281)576-2221 during normal business hours.

For information regarding discrimination based on disability, contact Jessica Ackerman, Section 504 Coordinator **jessica.ackerman@bhisd.net**, (281)576-2221 during normal business hours.

For information relating to discrimination for any other reason, contact the Superintendent's office, (281)576-2221 during normal business hours.

Notificación Publica de No Discriminación

Barbers Hill ISD ofrece programas de educación técnica y profesional en agricultura, alimentos y recursos naturales; Artes, Tecnología audiovisual y Comunicaciones; Arquitectura y Construcción; Mercadotecnia y Finanzas Empresariales; Educación y entrenamiento; Ciencia de la salud; Ciencia, Tecnología, Ingeniería y Matemáticas (STEM); Servicios humanos, fabricación. La admisión a estos programas se basa en la inscripción abierta.

No discriminar en sus programas, servicios o actividades vocacionales y brinda igualdad de acceso a los Boy Scouts y otros grupos juveniles designados 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..

La política de Barbers Hill ISD es no discriminar por motivos de raza, color, origen nacional, sexo, discapacidad o edad en sus prácticas laborales según lo exige el Título VI de la Ley de Derechos Civiles de 1964, según enmendada; Título IX de las Enmiendas a la Educación de 1972; la Ley de Discriminación por Edad de 1975, enmendada; y la Sección 504 de la Ley de Rehabilitación de 1973, según enmendada.

BHISD tomará medidas para asegurar que la falta de habilidades en el idioma inglés no sea una barrera para la admisión y participación en todos los programas educativos y vocacionales.

Para obtener información sobre los derechos de los empleados o los procedimientos de quejas con respecto a la discriminación basada en el sexo, incluido el acoso sexual, comuníquese con Barbara Ponder, Coordinadora del Título IX en barbara.ponder@bhisd.net, (281)576-2221 durante el horario laboral normal.

Para obtener información sobre los derechos de los estudiantes o los procedimientos de quejas con respecto a la discriminación basada en el sexo, incluido el acoso sexual, la agresión sexual, la violencia en el noviazgo, la violencia doméstica, el acecho o el acoso por motivos de género, comuníquese con Mandy Malone, Coordinadora del Título IX en mandy.malone@bhisd.net, (281)576-2221 durante el horario laboral normal.

Para obtener información sobre la discriminación basada en la discapacidad, comuníquese con Jessica Ackerman, Coordinadora de la Sección 504 jessica.ackerman@bhisd.net, (281)576-2221 durante el horario laboral normal.

Para obtener información relacionada con la discriminación por cualquier otro motivo, comuníquese con la oficina del Superintendente al (281)576-2221 durante el horario laboral normal.

Agriculture, Food, and Natural Resources Career Cluster

Program of Study: Animal Science

The Animal Science program of study focuses on the science, research, and business of animals and other living organisms. It teaches students how to apply biology and life science to real-world life processes of animals and wildlife, either in laboratories or in the field, which could include a veterinary office, a farm or ranch, or any outdoor area harboring animal life. Students may also research and analyze the growth and destruction of species, and research or diagnose diseases and injuries of animals.

Principle of Agriculture, Food & Natural Resources

Level: 1 Credit:1

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

Small Animal Management

Level: 2 Credit: 0.5

In Small Animal Management, students acquire knowledge and skills related to the small animal management industry. Small Animal Management may address topics related to small animals such as dogs and cats, rabbits, pocket pets, amphibians, reptiles, and birds. To prepare for careers in the field of animal science, students must enhance academic knowledge and skills, acquire knowledge and skills related to small animal systems, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations.

Equine Science

Level: 2 Credit: 0.5

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

Livestock and Poultry Production

Level: 3 Credit:1

In Livestock and Poultry Production, students acquire knowledge and skills related to the livestock and poultry production industry. Livestock and Poultry Production may address topics related to beef cattle, dairy cattle, swine, sheep, goats, and poultry. To prepare for careers in the field of animal science, students must attain academic knowledge and skills, acquire knowledge and skills related to livestock and poultry systems and the workplace, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations.

Continue on the next page.

Agriculture, Food, and Natural Resources Career Cluster

Program of Study: Animal Science

The Animal Science program of study focuses on the science, research, and business of animals and other living organisms. It teaches students how to apply biology and life science to real-world life processes of animals and wildlife, either in laboratories or in the field, which could include a veterinary office, a farm or ranch, or any outdoor area harboring animal life. Students may also research and analyze the growth and destruction of species, and research or diagnose diseases and injuries of animals.

Veterinary Science

Level: 4 Credit:1

Prerequisite: Equine Science, Small Animal Management, or Livestock Production

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

Advanced Animal Science

Level: 4 Credit:1

Prerequisites: Biology and chemistry or Integrated Physics and Chemistry (IPC); Algebra I and Geometry; and either Small Animal

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

Note: This course satisfies a high school science graduation requirement.

Practicum in Agriculture, Food & Natural Resources

Level: 4 Credit:2

Practicum in Agriculture, Food, and Natural Resources is designed to give students supervised practical application of knowledge and skills. Practicum experiences can occur in a variety of locations appropriate to the nature and level of experiences, such as employment, independent study, internships, assistantships, mentorships, or laboratories. To prepare for careers in agriculture, food, and natural resources, students must attain academic knowledge and skills, acquire technical knowledge and skills related to the workplace, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations. To prepare for success, students need opportunities to learn, reinforce, apply, and transfer their knowledge and skills and technologies in a variety of settings.

Agriculture, Food, and Natural Resources

Program of Study: Agricultural Technology and Mechanical Systems

The Agricultural Technology and Mechanical Systems program of study explores the occupations and educational opportunities associated with applying knowledge of engineering technology and biological science to agricultural problems concerned with power and machinery, electrification, structures, soil and water conservation, and processing agricultural products. This program of study may also include exploration into diagnosing, repairing, or overhauling farm machinery and vehicles, such as tractors, harvesters, dairy equipment, and irrigation systems.

Principles of Agriculture, Food & Natural Resources

Level: 1 Credit:1

In Principles of Agriculture, Food, and Natural Resources, students explore major areas of agriculture, food, and natural resources, including organizations, agribusiness leadership and communications, plant science, animal science, food science and technology, agricultural technology and mechanical systems, and environmental and natural resources. To prepare for careers in agriculture, food, and natural resources, students must attain academic knowledge and skills, acquire technical knowledge and skills related to the workplace, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations.

Agricultural Mechanics and Metal Technologies

Level: 2 Credit:1

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 metalworking 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.

Agricultural Structures Design & Fabrication

Level: 3 Credit:1

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

Agricultural Equipment Design & Fabrication

Level: 4 Credits:2

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

Continued to the next page.

Agriculture, Food, and Natural Resources

Program of Study: Agricultural Technology and Mechanical Systems

The Agricultural Technology and Mechanical Systems program of study explores the occupations and educational opportunities associated with applying knowledge of engineering technology and biological science to agricultural problems concerned with power and machinery, electrification, structures, soil and water conservation, and processing agricultural products. This program of study may also include exploration into diagnosing, repairing, or overhauling farm machinery and vehicles, such as tractors, harvesters, dairy equipment, and irrigation systems.

Practicum of Agriculture, Food & Natural Resources

Level: 4 Credits:2

Practicum in Agriculture, Food, and Natural Resources is designed to give students supervised practical application of knowledge and skills. Practicum experiences can occur in a variety of locations appropriate to the nature and level of experiences, such as employment, independent study, internships, assistantships, mentorships, or laboratories. To prepare for careers in agriculture, food, and natural resources, students must attain academic knowledge and skills, acquire technical knowledge and skills related to the workplace, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations. To prepare for success, students need opportunities to learn, reinforce, apply, and transfer their knowledge and skills and technologies in a variety of settings.

Agriculture, Food, and Natural Resources

Program of Study: Food Science and Technology

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

Principles of Agriculture, Food & Natural

Level: 1 Credit:1

To be prepared for careers in agriculture, food, and natural resources, students must attain academic skills and knowledge in agriculture. This course allows students to develop knowledge and skills regarding career 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 to have opportunities to learn, reinforce the experience, apply, and transfer their knowledge and skills in a variety of settings

Food Technology & Safety (E) (Course offered in even years)

Level: 2 Credit:1

A course teaching the importance of being concerned with world food production; the processing, preparing, and packaging of foods; government regulations regarding foods; exploring career opportunities; and leadership development.

Food Processing (O) (Course offered in odd years)

Level: 3 Credit:1

A laboratory-oriented course designed to develop skills in the processing of meat. The course emphasizes equipment care and sanitation, meat quality, identification, grading, fabrication, preparation and preservation, and merchandising and consumer trends. Instruction will include information on career opportunities, leadership activities, and record-keeping practices related to the industry.

Food Science

Level: 4 Credit:1

Prerequisites: One credit in biology, one credit in chemistry, and at least one credit in a Level 2 or higher course from the Hospitality and Tourism or Agriculture, Food, and Natural Resources career clusters

In Food Science, students examine the nature and properties of foods, food microbiology, and the principles of science in food production, processing, preparation, and preservation; use scientific methods to conduct laboratory and field investigations; and make informed decisions using critical thinking and scientific problem solving. This course provides students with a foundation for further study that leads to occupations in food and beverage services; the health sciences; agriculture, food, and natural resources; and human services.

Note: This course satisfies a high school science graduation requirement.

Practicum of Agriculture, Food & Natural Resource

Level: 4 Credits:2

To be prepared for careers in natural resource systems, students need to attain academic skills and knowledge, acquire technical knowledge and skills related to natural resources, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations. To prepare for success, students need opportunities to learn, reinforce, apply, and transfer knowledge and skills in a variety of settings.

Agriculture, Food, and Natural Resources

Program of Study: Environmental and Natural Resources

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

Principles of Agriculture, Food & Natural

Level: 1 Credit:1

To be prepared for careers in agriculture, food, and natural resources, students must attain academic skills and knowledge in agriculture. This course allows students to develop knowledge and skills regarding career 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 to have opportunities to learn, reinforce the experience, apply, and transfer their knowledge and skills in a variety of settings

Wildlife, Fisheries, and Ecology Management

Level: 2 Credit:1

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

Energy and Natural Resource Technology

Level: 3 Credit:1

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

Practicum of Agriculture, Food & Natural Resource

Level: 4 Credits:2

To be prepared for careers in natural resource systems, students need to attain academic skills and knowledge, acquire technical knowledge and skills related to natural resources, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations. To prepare for success, students need opportunities to learn, reinforce, apply, and transfer knowledge and skills in a variety of settings.

Agriculture, Food, and Natural Resources

Program of Study: Plant Science

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

Principles of Agriculture, Food & Natural Resources

Level: 1 Credit:1

In Principles of Agriculture, Food, and Natural Resources, students explore major areas of agriculture, food, and natural resources, including organizations, agribusiness leadership and communications, plant science, animal science, food science and technology, agricultural technology and mechanical systems, and environmental and natural resources. To prepare for careers in agriculture, food, and natural resources, students must attain academic knowledge and skills, acquire technical knowledge and skills related to the workplace, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations.

Floral Design

Level: 2 Credit:1

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

Note: This course satisfies the fine arts graduation requirement.

Advanced Floral Design

Level: 3 Credit:1

Prerequisites: Floral Design

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

F

Continue on the next page.

Agriculture, Food, and Natural Resources

Program of Study: Plant Science

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

Practicum of Agriculture, Food & Natural Resources

Level: 4 Credits:2

Practicum in Agriculture, Food, and Natural Resources is designed to give students supervised practical application of knowledge and skills. Practicum experiences can occur in a variety of locations appropriate to the nature and level of experiences, such as employment, independent study, internships, assistantships, mentorships, or laboratories. To prepare for careers in agriculture, food, and natural resources, students must attain academic knowledge and skills, acquire technical knowledge and skills related to the workplace, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations. To prepare for success, students need opportunities to learn, reinforce, apply, and transfer their knowledge and skills and technologies in a variety of settings.

Architecture and Construction Career Cluster

Program of Study: Carpentry

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

Principles of Construction

Level: 1 Credit:1

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 occupational skills to assist the student in obtaining and maintaining employment.

Entrepreneurship

Level: 2 Credit:1

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

Construction Technology I

Level: 2 Credits:2

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.

Construction Technology II

Level: 3 Credits:3

Prerequisite: Construction Management 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 will be introduced to exterior and interior finish-out skills.

Continue on the next page.

Architecture and Construction Career Cluster

Program of Study: Carpentry

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

Practicum of Construction Technology

Level: 4 Credit:2

Prerequisites: Construction Technology I

In Practicum in Construction Technology, students will be challenged with the application of knowledge and skills gained in previous construction-related coursework. In many cases, students will be allowed to work at a job (paid or unpaid) outside of school or be involved in local projects that the school has approved for this class.

Arts, A/V Technology and Communication Career Cluster

Program of Study: Digital Communication

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

Principles of AV Technology & Communication

Level: 1 Credit:1

The Digital Communications program of study explores the occupations and educational opportunities associated with the production of audio and visual media formats for various purposes, such as TV broadcasts, advertising, video production, or motion pictures. This program of study may also include exploration into operating machines and equipment to record sound and images, such as microphones, sound speakers, video screens, projectors, video monitors, sound and mixing boards, and related electronic equipment.

Graphic Design and Illustration I*

Level: 2 Credit:1

Careers in graphic design and illustration span all aspects of the advertising and visual communications industries. Within this context, in addition to developing technical knowledge and skills needed for success in the Arts, Audio-Video Technology, and Communications careers cluster, students will be expected to develop an understanding of the print industry with a focus on fundamental elements and principles of visual art and design. Through project-based learning, the students will develop various graphic design materials, including the Barbers Hill High School Yearbook. *Must have yearbook teacher approval.

Graphic Design and Illustration II*

Level: 3 Credit:1

Prerequisite: 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 Visual Technology, and Communications career cluster, students will be expected to develop an advanced understanding of the industry with a focus on mastery of content knowledge and skills.

Practicum in Graphic Design and Illustration

Level: 4 Credits:2

Prerequisite: Graphic Design and Illustration II

Practicum in Graphic Design and Illustration course scope and sequence within the Arts, A/V Technology, and Communications Career Cluster® summarizes the content to be taught, and one possible order for teaching the units of instruction. Through project-based learning, the students will develop various graphic design materials, including the Barbers Hill High School Yearbook. *Must have yearbook teacher approval.

Arts, A/V Technology and Communication Career Cluster

Program of Study: Graphic Design and Interactive Media

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

Principles of AV Technology & Communication

Level: 1 Credit:1

Careers in the Arts, Audio Visual Technology, and Communications career cluster require a creative aptitude, a strong background in computer and technology applications, a strong academic foundation, and a proficiency in oral and written communication. Within this context, students will be expected to develop an understanding of the various and multifaceted career opportunities in this cluster and the knowledge, skills, and educational requirements for those opportunities

Audio/Video Production I

Level: 2 Credit:1

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

Audio/Video Production II

Level: 3 Credit:1

Prerequisite: Digital Audio Technology 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 I, in addition to developing advanced knowledge and skills needed for success in the Arts, Audio Visual Technology, and Communications career cluster, students will be expected to develop an advanced understanding of the industry with a focus on pre-production, production, and post-production products. This course may be implemented in an audio format or a format with both audio and video, with an opportunity to be a part of the Eagle Eye Production Team, which helps run the district's video scoreboard.

Practicum in Audio/Video Production

Level: 4 Credits:2

Prerequisite: Digital Audio Technology II

Building upon the concepts taught in Audio/Video Production II in addition to developing advanced technical knowledge and skills needed for success in the Arts, Audio Visual Technology, and Communications career cluster, students will be expected to develop an increasing understanding of the industry with a focus on applying pre-production, production, and post-production audio and video products in a professional environment. This course may be implemented in an advanced audio/video or audio format. Instruction may be delivered through lab-based classroom experiences or career preparation opportunities.

Business, Marketing, and Finance Career Cluster

Program of Study: Business Management

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

Foundations of Business Communications and Technology

Level: 1 Credit:1

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

Business Communications and Technology

Level: 2 Credit:1

Prerequisite: Foundations of Business Communication and Technologies

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

Entrepreneurship

Level: 2 Credit:1

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

Continue on the next page.

Business, Marketing, and Finance Career Cluster

Program of Study: Business Management

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

Business Management

Level: 3 Credit:1

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

Practicum of Business Management

Level: 4 Credits:2

Practicum in Business Management is designed to give students supervised practical application of previously studied knowledge and skills. Practicum experiences occur in a paid or unpaid arrangement and in a variety of locations appropriate to the nature and level of experience. Students implement personal and interpersonal skills to strengthen individual performance in the workplace and in society and to make a successful transition to the workforce or postsecondary education. Students apply technical skills to address business applications of emerging technologies. Students develop a foundation in the economic, financial, technological, international, social, and ethical aspects of business to become competent consumers, employees, and entrepreneurs. Students enhance reading, writing, computing, communication, and reasoning skills and apply them to the business environment. Students incorporate a broad base of knowledge that includes the legal, managerial, marketing, financial, ethical, and international dimensions of business to make appropriate business decisions.

Education and Training Career Cluster

Program of Study: Teaching and Training

The Teaching and Training program of study prepares CTE learners for careers related to teaching, instruction, and the creation of instructional and enrichment materials. The program of study introduces CTE learners to a wide variety of student groups and their corresponding needs. It familiarizes them with the processes for developing curriculum, coordinating educational content, and coaching groups and individuals.

Principles of Education & Training

Level: 1 Credit:1

Principles of Education and Training is designed to introduce learners to the various careers within the Education and Training career cluster. Students use self-knowledge as well as educational and career information to analyze various careers within the Education and Training career cluster. Students are introduced to societal influences of education and various school models. Additionally, students learn the role and responsibilities of a classroom educator. Students will develop a graduation plan that leads to a specific career choice in the student's area.

Child Development

Level: 2 Credit:1

Child Development is a course that addresses knowledge and skills related to child growth and development from prenatal through school-age children. Students use these skills to promote the well-being and healthy development of children and investigate careers related to the care and education of children.

Instructional Practices in Education & Training

Level: 3 Credits:2

Prerequisite: At least one credit in a course from the Education and Training career cluster

Instructional Practices is a field-based (practicum) course that provides students with background knowledge of child and adolescent development as well as principles of effective teaching and training practices. Students work under the joint direction and supervision of both a teacher with knowledge of early childhood, middle childhood, and adolescence education, and exemplary educators or trainers in direct instructional roles with elementary-, middle school-, and high school-aged students. Students learn to plan and direct individualized instruction and group activities, prepare instructional materials, develop materials for educational environments, assist with record keeping, and perform other duties of teachers, trainers, paraprofessionals, or other educational personnel.

Practicum of Education & Training

Level: 4 Credits:2

Prerequisite: Instructional Practices

Practicum in Education and Training is a field-based course that provides students with 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.

Education and Training Career Cluster

Program of Study: Teaching and Training

The Teaching and Training program of study prepares CTE learners for careers related to teaching, instruction, and the creation of instructional and enrichment materials. The program of study introduces CTE learners to a wide variety of student groups and their corresponding needs. It familiarizes them with the processes for developing curriculum, coordinating educational content, and coaching groups and individuals.

Dual Credit

EDUC 1301Ω - Introduction to the Teaching Profession

Credits: 3

An enriched, integrated pre-service course with content experience that provides the student with an introduction to and analysis of the culture of schooling and classrooms. The course includes a minimum of 16 contact hours of field observation in P-12 classrooms and aligns with the State Board of Educator Certification Pedagogy and Professional Responsibilities standards.

Lecture Hrs. = 2, Lab Hrs. = 2

Prerequisite: ENRD 401 or equivalent

EDUC 2301Ω - Introduction to Special Populations

Credits: 3

An enriched, integrated pre-service course with content experience that provides an overview of schooling and classrooms from the perspectives of language, gender, socioeconomic status, ethnic, and academic diversity and equity with an emphasis on learning. The course includes a minimum of 16 contact hours of field observation in P-12 classrooms and aligns with the State Board of Educator Certification Pedagogy and Professional Responsibilities standards.

Lecture Hrs. = 2, Lab Hrs. = 2

Prerequisite: ENRD 402 or equivalent

Human Service

Program of Study: Health and Wellness

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

Principles of Human Services

Level: 1 Credit:1

Principles of Human Services is a laboratory course that will enable students to investigate careers in the Human Services career cluster, including counseling and mental health, early childhood development, family and community, personal care, and consumer services. Each student is expected to complete the knowledge and skills essential for success in high-skill, high-wage, or in-demand human services careers.

Child Development

Level: 2 Credit:1

Child Guidance is a technical laboratory course that addresses the knowledge and skills related to child growth and guidance, equipping students to develop positive relationships with children and effective caregiver skills. Students use these skills to promote the well-being and healthy development of children, strengthen a culturally diverse society, and pursue careers related to the care, guidance, and education of children, including those with special needs.

Entrepreneurship I

Level: 2 Credit:1

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

Family and Community Services

Level: 3 Credit:1

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

Continue on the next page.

Human Service

Program of Study: Health and Wellness

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

Food Science

Level: 4 Credit:1

Prerequisites: One credit in biology, one credit in chemistry, and at least one credit in a Level 2 or higher course from the Hospitality and Tourism or Agriculture, Food, and Natural Resources career clusters

In Food Science, students examine the nature and properties of foods, food microbiology, and the principles of science in food production, processing, preparation, and preservation; use scientific methods to conduct laboratory and field investigations; and make informed decisions using critical thinking and scientific problem solving. This course provides students with a foundation for further study that leads to occupations in food and beverage services; the health sciences; agriculture, food, and natural resources; and human services.

Note: This course satisfies a high school science graduation requirement.

Health Science Career Cluster

Program of Study: Diagnostic and Therapeutic Services

The Diagnostic and Therapeutic Services program of study introduces students to occupations and educational opportunities related to diagnosing and treating acute, episodic, or chronic illness independently or as part of a healthcare team. This program of study also includes an introduction to the opportunities associated with providing treatment and counsel to patients, as well as rehabilitative programs that help build or restore daily living skills to persons with disabilities or developmental delays.

Principles of Health Science

Level:1 Credit:1

The Principles of Health Science provides an overview of the therapeutic, diagnostic, health informatics, support services, and biotechnology research and development systems of the healthcare industry. Students will learn to reason, think critically, make decisions, solve problems, and communicate effectively. Students will be expected to work well with others.

Medical Terminology

Level: 2 Credit:1

The Medical Terminology course is designed to introduce students to the structure of medical terms, including prefixes, suffixes, word roots, singular and plural forms, and medical abbreviations. The course allows students to achieve comprehension of medical vocabulary appropriate to medical procedures, human anatomy and physiology, and pathophysiology.

Health Science Theory

Level: 3 Credit:1

Prerequisites: One credit in Biology and at least one credit in a course from the Health Science career cluster

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

Clinical Ethics

Level: 3 Credit: 1

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

Continued on the next page.

Health Science Career Cluster

Program of Study: Diagnostic and Therapeutic Services

The Diagnostic and Therapeutic Services program of study introduces students to occupations and educational opportunities related to diagnosing and treating acute, episodic, or chronic illness independently or as part of a healthcare team. This program of study also includes an introduction to the opportunities associated with providing treatment and counsel to patients, as well as rehabilitative programs that help build or restore daily living skills to persons with disabilities or developmental delays.

Dual Credit Human Anatomy and Physiology

Level: 3 Credit:1

Prerequisites: One credit in Biology and one credit in Chemistry, Integrated Physics and Chemistry, or Physics

BIOL 2401 – Human Anatomy and Physiology I (Lee College)

This course consists of the fundamentals of human anatomy and physiology with an emphasis on the etiology and functions of anatomical systems. The laboratory includes the dissection of a mammal, the study of selected mammalian organs, histological studies, and physiological experiments.

BIOL 2402 – Human Anatomy and Physiology II (Lee College)

This course is a continuation of the fundamentals of human anatomy and physiology with an emphasis on the etiology and functions of anatomical systems. The laboratory includes the dissection of a mammal, the study of selected mammalian organs, histological studies, and physiological experiments.

Practicum in Health Science

Level: 4 Credits:2

Prerequisites: Health Science Theory and 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.

Health Science Career Cluster

Program of Study: Exercise Science, Wellness, and Restoration

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

Principles of Health Science

Level: 1 Credit:1

The Principles of Health Science provides an overview of the therapeutic, diagnostic, health informatics, support services, and biotechnology research and development systems of the healthcare industry. Students will learn to reason, think critically, make decisions, solve problems, and communicate effectively. Students will be expected to work well with others.

Medical Terminology

Level: 2 Credit:1

The Medical Terminology course is designed to introduce students to the structure of medical terms, including prefixes, suffixes, word roots, singular and plural forms, and medical abbreviations. The course allows students to achieve comprehension of medical vocabulary appropriate to medical procedures, human anatomy and physiology, and pathophysiology.

Entrepreneurship I

Level:2 Credit:1

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

Health Science Theory

Level: 3 Credit:1

Prerequisites: Health Science Theory and Biology

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

Continued on next page.

Health Science Career Cluster

Program of Study: Exercise Science, Wellness, and Restoration

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

Practicum in Health Science

Level: 4 Credits:2

Prerequisites: Health Science Theory and 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.

Health Science Career Cluster

Program of Study: Health Information

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

Principles of Health Science

Level: 1 Credit:1

The Principles of Health Science provides an overview of the therapeutic, diagnostic, health informatics, support services, and biotechnology research and development systems of the healthcare industry. Students will learn to reason, think critically, make decisions, solve problems, and communicate effectively. Students will be expected to work well with others.

Medical Terminology

Level: 2 Credit:1

The Medical Terminology course is designed to introduce students to the structure of medical terms, including prefixes, suffixes, word roots, singular and plural forms, and medical abbreviations. The course allows students to achieve comprehension of medical vocabulary appropriate to medical procedures, human anatomy and physiology, and pathophysiology.

Health Science Theory

Level: 3 Credit:1

Prerequisites: One credit in Biology and at least one credit in a course from the Health Science career cluster

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

Practicum in Health Science

Level: 4 Credits:2

Prerequisites: Health Science Theory and 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.

Health Science Career Cluster

Program of Study: Nursing Science

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

Principles of Health Science

Level: 1 Credit:1

The Principles of Health Science provides an overview of the therapeutic, diagnostic, health informatics, support services, and biotechnology research and development systems of the healthcare industry. Students will learn to reason, think critically, make decisions, solve problems, and communicate effectively. Students will be expected to work well with others.

Medical Terminology

Level: 2 Credit:1

The Medical Terminology course is designed to introduce students to the structure of medical terms, including prefixes, suffixes, word roots, singular and plural forms, and medical abbreviations. The course allows students to achieve comprehension of medical vocabulary appropriate to medical procedures, human anatomy and physiology, and pathophysiology.

Clinical Ethics

Level: 3 Credit:1

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

Health Science Theory

Level: 3 Credit:1

Prerequisites: One credit in Biology and at least one credit in a course from the Health Science career cluster

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

Continue on the next page.

Health Science Career Cluster

Program of Study: Nursing Science

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

Dual Credit Human Anatomy and Physiology

Level: 3 Credit:1

Prerequisites: One credit in Biology and one credit in Chemistry, Integrated Physics and Chemistry, or Physics

BIOL 2401 – Human Anatomy and Physiology I (Lee College)

This course consists of the fundamentals of human anatomy and physiology with an emphasis on the etiology and functions of anatomical systems. The laboratory includes the dissection of a mammal, the study of selected mammalian organs, histological studies, and physiological experiments.

BIOL 2402 – Human Anatomy and Physiology II (Lee College)

This course is a continuation of the fundamentals of human anatomy and physiology with an emphasis on the etiology and functions of anatomical systems. The laboratory includes the dissection of a mammal, the study of selected mammalian organs, histological studies, and physiological experiments.

Practicum in Health Science

Level: 4 Credits:2

Prerequisites: Health Science Theory and 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.

Hospitality and Tourism Career Cluster

Program of Study: Culinary Arts

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

Introduction to Culinary Arts

Level: 1 Credit:1

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.

Food Technology & Safety (E) (Course offered in even years) *

Level: 2 Credit:1

A course teaching the importance of being concerned with world food production; the processing, preparing, and packaging of foods; government regulations regarding foods; exploring career opportunities; and leadership development.

Entrepreneurship I

Level: 2 Credit:1

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

Food Processing (O) (Course offered in odd years) *

Level: 3 Credit:1

A laboratory-oriented course designed to develop skills in the processing of meat. The course emphasizes equipment care and sanitation, meat quality, identification, grading, fabrication, preparation and preservation, and merchandising and consumer trends. Instruction will include information on career opportunities, leadership activities, and record-keeping practices related to the industry.

Continue on the next page.

Hospitality and Tourism Career Cluster

Program of Study: Culinary Arts

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

Food Science

Level: 4 Credit:1

Prerequisites: One credit in biology, one credit in chemistry, and at least one credit in a Level 2 or higher course from the Hospitality and Tourism career cluster

In Food Science, students examine the nature and properties of foods, food microbiology, and the principles of science in food production, processing, preparation, and preservation; use scientific methods to conduct laboratory and field investigations; and make informed decisions using critical thinking and scientific problem solving. This course provides students with a foundation for further study that leads to occupations in food and beverage services; the health sciences; agriculture, food, and natural resources; and human services.

Note: This course satisfies a high school science graduation requirement.

Engineering Career Cluster

Program of Study: Engineering Foundations

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

Principles of Applied Engineering

Level: 1 Credit:1

Principles of Applied Engineering provides an overview of the various fields of science, technology, engineering, and mathematics and their interrelationships. Students develop engineering communication skills, which include computer graphics, modeling, and presentations, by using a variety of computer hardware and software applications to complete assignments and projects. Upon completing this course, students will have an understanding of the various fields of engineering and be able to make informed career decisions.

Engineering Design Process

Level: 2 Credit:1

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

Engineering Design and Presentation

Level: 3 Credit:1

Prerequisites: Algebra I and at least one credit in a course from the Engineering career cluster

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

Continue on the next page.

Engineering Career Cluster

Program of Study: Engineering Foundations

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

Engineering Design and Problem-Solving

Level: 4 Credit:1

Prerequisites: Algebra I, Geometry, and at least one credit in a Level 2 or higher course in the STEM career cluster

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

Note: This course satisfies a high school science graduation requirement.

Engineering Career Cluster

Program of Study: Mechanical and Aerospace Engineering

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

Introduction to Computer-Aided Design and Drafting

Level: 1 Credit:1

Introduction to Computer-Aided Design and Drafting (CADD) allows students to acquire knowledge and skills needed to use design software, including an introduction to CADD equipment and software selection, and interfaces. Students gain skills in setting up a CADD workstation; upgrading a computer to run advanced CADD software; working with storage devices; storing, retrieving, backing up, and sharing databases, file servers, and local area networks (LANs); and transferring drawing files over the internet.

Intermediate Computer-Aided Design and Drafting

Level: 2 Credit:1

Prerequisites: Introduction to Computer-Aided Design and Drafting

In Intermediate Computer-Aided Design and Drafting (CADD), students develop practices and techniques used in computer-aided drafting, emphasizing the development and use of prototype drawings, construction of pictorial drawings, construction of three-dimensional drawings, interfacing two-dimensional and three-dimensional environments, and extracting data. Basic rendering techniques will also be developed. Emphasis is placed on drawing set-up; creating and modifying geometry; storing and retrieving predefined shapes; placing, rotating, and scaling objects; adding text and dimensions; using layers and coordinating systems, as well as using input and output devices.

Engineering Design and Presentation

Level: 3 Credit:1

Prerequisites: Algebra I and at least one credit in a course from the Engineering career cluster

Engineering Design and Presentation I is a continuation of the knowledge and skills learned in Principles of Applied Engineering. Students enrolled in this course will demonstrate knowledge and skills of the design process as it applies to engineering fields using multiple software applications and tools necessary to produce and present working drawings, solid model renderings, and prototypes. Students will use a variety of computer hardware and software applications to complete assignments and projects. Through the implementation of the design process, students will transfer advanced academic skills to component designs. Additionally, students explore career opportunities in engineering, technology, and drafting, and what is required to gain and maintain employment in these areas.

Continue on the next page.

Engineering Career Cluster

Program of Study: Mechanical and Aerospace Engineering

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

Engineering Design and Problem-Solving

Level: 4 Credit:1

Prerequisites: Algebra I, Geometry, and at least one credit in a Level 2 or higher course in the STEM career cluster

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

Note: This course satisfies a high school science graduation requirement.

Engineering Career Cluster

Program of Study: Electrical Engineering

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

Introduction to Computer-Aided Design and Drafting (Dual Credit)

Level: 1 Credit:1

Introduction to Computer-Aided Design and Drafting (CADD) allows students to acquire knowledge and skills needed to use design software, including an introduction to CADD equipment and software selection, and interfaces. Students gain skills in setting up a CADD workstation; upgrading a computer to run advanced CADD software; working with storage devices; storing, retrieving, backing up, and sharing databases, file servers, and local area networks (LANs); and transferring drawing files over the internet.

Intermediate Computer-Aided Design and Drafting (Dual Credit)

Level: 2 Credit:1

Prerequisites: Introduction to Computer-Aided Design and Drafting

In Intermediate Computer-Aided Design and Drafting (CADD), students develop practices and techniques used in computer-aided drafting, emphasizing the development and use of prototype drawings, construction of pictorial drawings, construction of three-dimensional drawings, interfacing two-dimensional and three-dimensional environments, and extracting data. Basic rendering techniques will also be developed. Emphasis is placed on drawing set-up; creating and modifying geometry; storing and retrieving predefined shapes; placing, rotating, and scaling objects; adding text and dimensions; using layers and coordinating systems, as well as using input and output devices.

Engineering Design and Presentation

Level: 3 Credit:1

Prerequisites: Algebra I and at least one credit in a course from the Engineering career cluster

Engineering Design and Presentation I is a continuation of the knowledge and skills learned in Principles of Applied Engineering. Students enrolled in this course will demonstrate knowledge and skills of the design process as it applies to engineering fields using multiple software applications and tools necessary to produce and present working drawings, solid model renderings, and prototypes. Students will use a variety of computer hardware and software applications to complete assignments and projects. Through the implementation of the design process, students will transfer advanced academic skills to component designs. Additionally, students explore career opportunities in engineering, technology, and drafting, and what is required to gain and maintain employment in these areas.

Continue on the next page.

Engineering Career Cluster

Program of Study: Electrical Engineering

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

Engineering Design and Problem-Solving

Level: 4 Credit:1

Prerequisites: Algebra I, Geometry, and at least one credit in a Level 2 or higher course in the Engineering career cluster

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

Note: This course satisfies a high school science graduation requirement.

Engineering Career Cluster

Program of Study: Civil Engineering

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

Introduction to Computer-Aided Design and Drafting

Level: 4 Credit:1

Introduction to Computer-Aided Design and Drafting (CADD) allows students to acquire knowledge and skills needed to use design software, including an introduction to CADD equipment and software selection, and interfaces. Students gain skills in setting up a CADD workstation; upgrading a computer to run advanced CADD software; working with storage devices; storing, retrieving, backing up, and sharing databases, file servers, and local area networks (LANs); and transferring drawing files over the internet.

Intermediate Computer-Aided Design and Drafting

Level: 2 Credit:1

Prerequisites: Introduction to Computer-Aided Design and Drafting

In Intermediate Computer-Aided Design and Drafting (CADD), students develop practices and techniques used in computer-aided drafting, emphasizing the development and use of prototype drawings, construction of pictorial drawings, construction of three-dimensional drawings, interfacing two-dimensional and three-dimensional environments, and extracting data. Basic rendering techniques will also be developed. Emphasis is placed on drawing set-up; creating and modifying geometry; storing and retrieving predefined shapes; placing, rotating, and scaling objects; adding text and dimensions; using layers and coordinating systems, as well as using input and output devices.

Engineering Design and Presentation

Level: 3 Credit:1

Prerequisites: Algebra I and at least one credit in a course from the Engineering career cluster

Engineering Design and Presentation I is a continuation of the knowledge and skills learned in Principles of Applied Engineering. Students enrolled in this course will demonstrate knowledge and skills of the design process as it applies to engineering fields using multiple software applications and tools necessary to produce and present working drawings, solid model renderings, and prototypes. Students will use a variety of computer hardware and software applications to complete assignments and projects. Through the implementation of the design process, students will transfer advanced academic skills to component designs. Additionally, students explore career opportunities in engineering, technology, and drafting, and what is required to gain and maintain employment in these areas.

Continue on the next page.

Information Technology Career Cluster

Program of Study: Civil Engineering

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

Engineering Design and Problem-Solving

Level: 4 Credit:1

Prerequisites: Algebra I, Geometry, and at least one credit in a Level 2 or higher course in the Engineering career cluster

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

Note: This course satisfies a high school science graduation requirement.

Information Technology Career Cluster

Program of Study: Programming and Software Development

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

Honors Computer Science I

Level: 1 Credit:1

Computer Science is an introduction to the automated processing of information, including computer programming. This course gives students the conceptual background necessary to understand and construct programs, including the ability to specify computations, understand evaluation models, and utilize major constructs such as functions and procedures, data storage, conditionals, recursion, and looping. At the end of this course, students should be able to read and write small programs in the language of Java in response to a given problem or scenario, preparing them to continue on to Computer Science II or AP Computer Science A. This course may count as a world language (cannot count as technology credit AND world language credit). Students should also be aware of university admission requirements when making the decision to forgo LOTE courses, as many universities require foreign language credit.

Prerequisites: Algebra I

Honors Computer Science II

Level: 2 Credit:1

Prerequisites: Algebra I and Computer Science I or AP Computer Science Principles

Computer Science II teaches college-level computer science concepts. The curriculum will build upon the topics addressed in Computer Science I. Object-oriented components in the language of Java will be stressed. Other topics include decision-making, looping, arrays, inheritance, interfaces, abstract classes, Java collections, sorting, and searching. This course may count as a world language (Cannot count as technology credit AND world language credit). Students should also be aware of university admission requirements when making the decision to forgo LOTE courses, as many universities require foreign language credit.

AP Computer Science Principles

Level: 2 Credit:1

AP Computer Science Principles is an introductory college-level computing course that introduces students to the breadth of the field of computer science. Students learn to design and evaluate solutions and apply computer science to solve problems through the development of algorithms and programs. They incorporate abstraction into programs and use data to discover new knowledge. Students also explain how computing innovations and computing systems—including the internet—explore their potential impacts and contribute to a computing culture that is collaborative and ethical. (cannot count as a world language/LOTE credit)

Continue on the next page.

Information Technology Career Cluster

Program of Study: Programming and Software Development

AP Computer Science A

Level: 3 Credit:1

AP Computer Science A is a programming course designed to cover the Advanced Placement (AP) Computer Science AP Exam topics. The curriculum will build upon the topics addressed in Computer Programming I. Object-oriented components in the language of Java will be stressed. Other topics include decision-making, looping, arrays, inheritance, interfaces, abstract classes, Java collections, sorting, searching, and the AP Case Study. This course qualifies as a math credit in the first semester and a world language credit in the second semester. Students should also be aware of university admission requirements when making the decision to forgo LOTE courses, as many universities require foreign language credit.

Honors Computer Science III

Level: 4 Credit:1

Prerequisite: Computer Science II, Advanced Placement (AP) Computer Science A, or International Baccalaureate (IB) Computer Science Standard Level or IB Computer Science Higher Level

Advanced Computer Science is a continuation of Computer Science AP and builds upon such topics as object-oriented programming, inheritance, and classes. Students go on to address advanced topics such as stacks, queues, advanced recursion, linked lists, binary trees, advanced sorting, and searching topics in preparation for and alignment with college-level computer science. This course may count as a foreign language (cannot count as technology credit AND world language credit). Students should also be aware of university admission requirements when making the decision to forgo LOTE courses, as many universities require foreign language credit.

Information Technology Career Cluster

Program of Study: Cybersecurity

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

Honors Computer Science I

Level: 1 Credit:1

Computer Science is an introduction to the automated processing of information, including computer programming. This course gives students the conceptual background necessary to understand and construct programs, including the ability to specify computations, understand evaluation models, and utilize major constructs such as functions and procedures, data storage, conditionals, recursion, and looping. At the end of this course, students should be able to read and write small programs in the language of Java in response to a given problem or scenario, preparing them to continue on to Computer Science II or AP Computer Science A. This course may count as a world language (cannot count as technology credit AND world language credit). Students should also be aware of university admission requirements when making the decision to forgo LOTE courses, as many universities require foreign language credit.

AP Computer Science Principles

Level: 2 Credit:1

AP Computer Science A is a programming course designed to cover the Advanced Placement (AP) Computer Science AP Exam topics. The curriculum will build upon the topics addressed in Computer Programming I. Object-oriented components in the language of Java will be stressed. Other topics include decision-making, looping, arrays, inheritance, interfaces, abstract classes, Java collections, sorting, searching, and the AP Case Study. This course qualifies as a math credit in the first semester and a world language credit in the second semester. Students should also be aware of university admission requirements when making the decision to forgo LOTE courses, as many universities require foreign language credit.

AP Computer Science Principles A

Level: 3 Credit:1

AP Computer Science Principles is an introductory college-level computing course that introduces students to the breadth of the field of computer science. Students learn to design and evaluate solutions and apply computer science to solve problems through the development of algorithms and programs. They incorporate abstraction into programs and use data to discover new knowledge. Students also explain how computing innovations and computing systems—including the internet—explore their potential impacts and contribute to a computing culture that is collaborative and ethical. (cannot count as a world language/LOTE credit)

Continue on the next page.

Information Technology Career Cluster

Program of Study: Cybersecurity

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

AP Cybersecurity

Level: 4 Credit:1

The AP Cybersecurity Credential validates an emerging cyber defender's skills to determine, evaluate, and recommend a comprehensive set of security mitigations on computer networks, individual devices, physical spaces, and data/applications. Credential holders demonstrate mastery through their ability to apply these skills in scenarios and performance tasks reflecting real-world challenges, emerging cybersecurity trends, and existing and novel technologies.

Air Force Junior Reserve Officer Training Corps (JROTC)

Air Force JROTC I, II, III, and IV

Grades 9-12 Credit: 1

Students are introduced to the Air Force JROTC program with instruction focusing on aerospace science, including aviation history, principles of aircraft flight and navigation, development of aerospace power, aerospace vehicles, rocketry, space and technology programs, and the aerospace industry. Students explore Air Force traditions, customs, and courtesies, character, and the foundations of U.S citizenship. Leadership education develops leadership skills, acquaints students with the practical applications of life skills, and includes a drill and ceremonies component. Instruction in personal wellness and health, and fitness encourages cadets to lead healthy, active lifestyles into adulthood.