Career & Technology Education Course Information

Health Science

Health Care Therapeutic Program of Study

Course Options:

- Prin. of Health Science
- Medical Terminology
- Health Science Theory
- Practicum of Health Science
- DC Anatomy & Physiology

Arts, A/V Technology & Communication

Digital Communication Program of Study

Course Options:

- Principles of AV Technology & Communication
- AV Production I
- AV Production II
- Graphic Design and Illustration
- Practicum in AV Production

Business, Marketing & Finance

Program of Study: Business Management

Course Options

- Business Information Management I
- Business Information Management II
- Business Management

S.T.E.M

Engineering Program of Study

Course Options:

- Introduction to Engineering
- Principles of Applied Engineering
- Engineering & Development
- Engineering Design & Problem Solving

Program & Software Development Program of Study

Course Options:

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

Education & Training

Teaching & Training Program of Study

Course Options:

- Principles of Education
- Child Development
- Instructional Practice in Education & Training
- Practicum of Education & Training

Architecture & Construction

Carpentry Program of Study

Course Options:

- Principles of Construction
- Construction Technology I
- Construction Technology II
- Practicum in Construction Technology

Agriculture, Food & Natural Resources

Animal Science Program of Study

Course Options:

- Principles of Ag
- Small Animal Management
- Equine Science
- Livestock Production
- Veterinary Medical Applications
- Advanced Animal Science
- Practicum of Ag

Applied Agricultural Engineering Program of Study

Course Options:

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

Food Science & Technology Program of Study

Course Options:

- Principles of Ag
- Food Technology & Safety
- Food Processing
- Practicum of Ag

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 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.

Educación Técnica y Profesional
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.

Es política de Barbers Hill ISD no discriminar por motivos de raza, color, origen nacional, sexo o discapacidad en sus programas, servicios o actividades vocacionales, según lo requiere el Título VI de la Ley de Derechos Civiles de 1964, según enmendada; Título IX de las Enmiendas a la Educación de 1972; y la Sección 504 de la Ley de Rehabilitación de 1973, según enmendada.

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

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

Principles Principles of Agriculture, Food & Natural Resources **Grades 9-12 (1 Credit)**

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

One of the following:

Small Animal Management **Grades 10-12 (0.5 Credit)**

To be prepared for careers in the field of animal science, students need to enhance academic knowledge and skills, acquire knowledge and skills related to animal systems, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations. To prepare for success, students need opportunities to learn, reinforce, apply, and transfer knowledge and skills in a variety of settings. Suggested small animals which may be included in the course of study include, but are not limited to small mammals, amphibians, reptiles, dogs, and cats.

Equine Science **Grades 10-12 (0.5 Credit)**

To be prepared for careers in the field of animal science, students need to enhance academic knowledge and skills, acquire knowledge and skills related to animal systems, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations. To prepare for success, students need opportunities to learn, reinforce, apply, and transfer knowledge and skills in a variety of settings. Suggested small animals which may be included in the course of study include, but are not limited to horses, donkeys, and mules.

Livestock Production **Grades 10-12 (1 Credit)**

In Livestock Production, students will acquire knowledge and skills related to livestock and the livestock production industry. Livestock Production may address topics related to beef cattle, dairy cattle, swine, sheep, goats, and poultry.

One of the following:

Small Animal Management **Grades 10-12 (0.5 Credit)**

To be prepared for careers in the field of animal science, students need to enhance academic knowledge and skills, acquire knowledge and skills related to animal systems, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations. To prepare for success, students need opportunities to learn, reinforce, apply, and transfer knowledge and skills in a variety of settings. Suggested small animals which may be included in the course of study include, but are not limited to small mammals, amphibians, reptiles, dogs, and cats.

Equine Science **Grades 10-12 (0.5 Credit)**

To be prepared for careers in the field of animal science, students need to enhance academic knowledge and skills, acquire knowledge and skills related to animal systems, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations. To prepare for success, students need opportunities to learn, reinforce, apply, and transfer knowledge and skills in a variety of settings. Suggested small animals which may be included in the course of study include, but are not limited to horses, donkeys, and mules.

Livestock Production **Grades 10-12 (1 Credit)**

In Livestock Production, students will acquire knowledge and skills related to livestock and the livestock production industry. Livestock Production may address topics related to beef cattle, dairy cattle, swine, sheep, goats, and poultry.

Veterinary Medical Application **Grades 11-12 (1 Credit)**

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

One of the following:

Advanced Animal Science **Grades 11-12 (1 Credit)**

Advanced Animal Science examines the interrelatedness of human, scientific, and technological dimensions of livestock production. Instruction is designed to allow for the application of scientific and technological aspects of animal science through field and laboratory experiences.

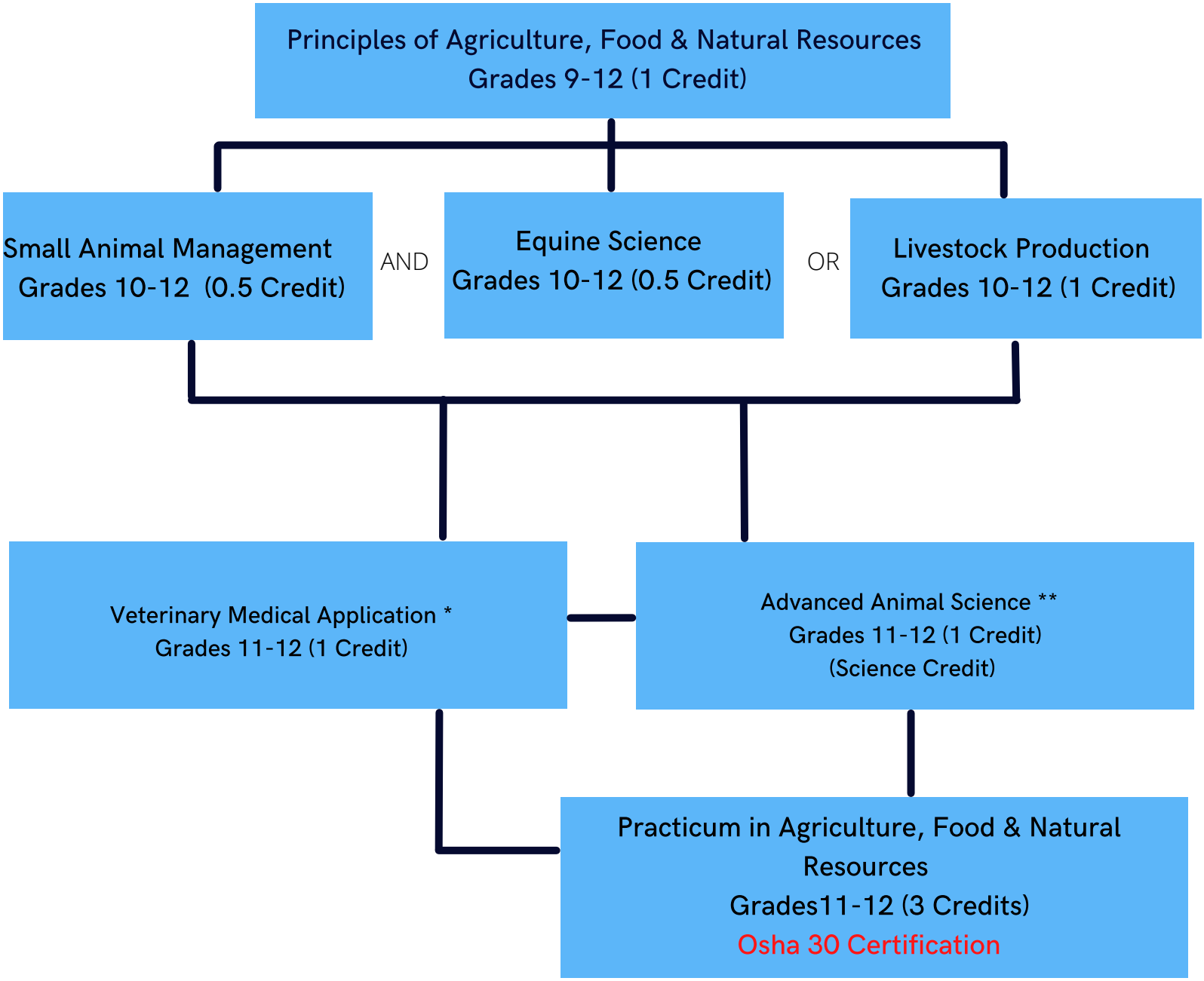
Practicum in Agriculture, Food & Natural Resources **Grades11-12 (3 Credits)** ***Osha 30 Certification***

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.

Graduation Endorsement: Business & Industry

Agriculture, Food & Natural Resources

Program of Study: Animal Science



* PREQ: Equine Science, Small Animal Management, or Livestock Production

PREQ: Biology **and Chemistry or Integrated Physics **and** Chemistry (IPC); Algebra I **and** Geometry; **and** either Small Animal Management, Equine Science, or Livestock Production

Graduation Endorsement: Business & Industry

Agriculture, Food and Natural Resources

Program of Study: Applied Agricultural Engineering

The Applied Agricultural Engineering 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 Principles of Agriculture, Food & Natural Resources **Grades 10-12 (1 Credit)**

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

Agricultural Mechanics and Metal **Grades 10-12 (1 Credit)**

To be prepared for careers in agricultural power, structural, and technical systems, students need to attain academic skills and knowledge; acquire technical knowledge and skills related to power, structural, and technical agricultural systems and the industry; and develop knowledge and skills regarding career opportunities, entry requirements, industry certifications, and industry expectations. To prepare for success, students need opportunities to learn, reinforce, apply, and transfer knowledge skills and technologies in a variety of settings. This course is designed to develop an understanding of agricultural mechanics as it relates to safety and skills in tool operation, electrical wiring, plumbing, carpentry, fencing, concrete, and metalworking techniques.

One of the following:

Agricultural Structures Design & Fabrication **Grades 10-12 (1 Credit)** ***AWS Welding Certification***

To be prepared for careers in mechanized agriculture and technical systems, students attain knowledge and skills related to agricultural facilities design and fabrication. Students explore career opportunities, entry requirements, and industry expectations. To prepare for success, students reinforce, apply, and transfer their academic knowledge and technical skills in a variety of settings.

Agricultural Equipment Design & Fabrication **Grades 11-12 (2 Credit Class)** ***AWS Welding Certification***

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

One of the following:

Agricultural Equipment Design & Fabrication **Grades 11-12 (2 Credit Class)** ***AWS Welding Certification***

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

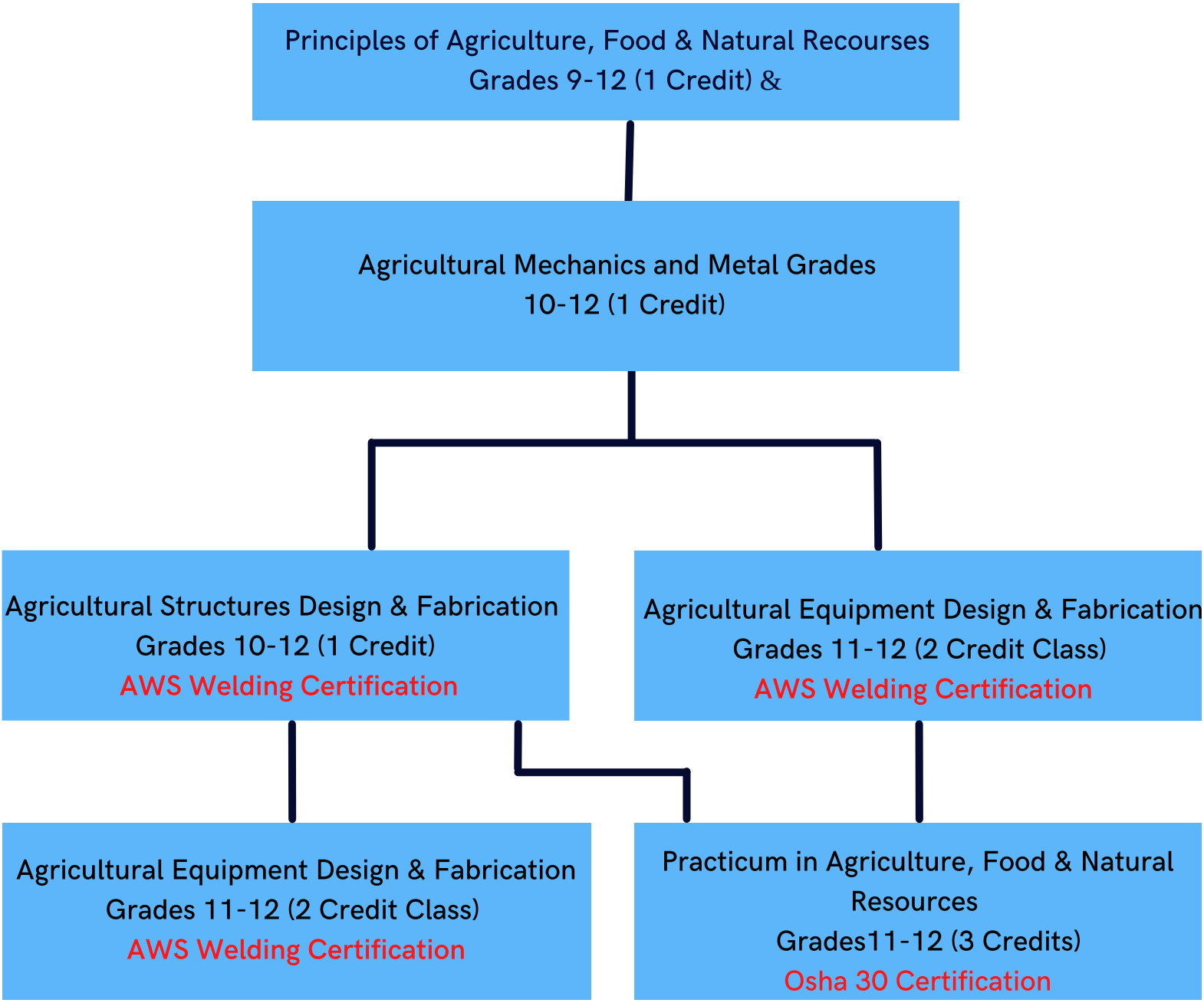
Practicum of Agriculture, Food & Natural Resources **Grades 11-12 (3 Credits)** ***Osha 30 Certification***

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.

Graduation Endorsement: Business & Industry

Agriculture, Food & Natural Resources

Program of Study: Applied Agricultural Engineering



Graduation Endorsement: Business & Industry

Agriculture, Food and Natural Resources

Program of Study: Food Science and Technology

The Food Science and Technology program of study explores the occupations and educational opportunities associated with working with agricultural and food scientists in food, fiber, and animal research, production, and processing. This program of study may also include assisting with animal breeding, nutrition, and conducting tests and experiments to improve the yield and quality of crops or to increase the resistance of plants and animals to disease or insects.

Principles Principles of Agriculture, Food & Natural Resources **Grades 9-12 (1 Credit)**

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 **Grades 10-12 (1 Credit)**

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

Food Processing **Grades 10-12 (1 Credit)**

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.

Practicum of Agriculture, Food & Natural Resources **Grades 11-12 (3 Credit Class)** ***Osha 30 Certification***

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.

Graduation Endorsement: Business & Industry

Agriculture, Food & Natural Resources

Program of Study: Food Science and Technology

Principles Principles of Agriculture, Food & Natural Resources
Grades 9-12 (1 Credit) &

Food Technology & Safety
Grades 10-12 (1 Credit)

Food Processing
Grades 10-12 (1 Credit)

Practicum of Agriculture, Food & Natural Resources
Grades 11-12
(3 Credit Class)
Osha 30 Certification

Graduation Endorsement: Business & Industry

Architecture and Construction

Program of Study: Carpentry

Principles of Architecture and Construction provides an overview of the various fields of architecture, interior design, construction science, and construction technology; technical skills; introduction to hand tools; introduction to power tools; basic rigging; and reading technical drawings.

Principles of Construction **Grades 9-12 (1 Credit)** ***NCCER Certification***

The Carpentry program of study explores the occupations and educational opportunities related to constructing, installing, or repairing structures and fixtures made of wood, such as concrete forms (including frameworks, partitions, joists, studding, rafters, and stairways). This program of study may also include exploration into installing, dismantling, or moving machinery and heavy equipment according to layout plans, blueprints, or other drawings

Construction Technology I **Grades 10-12 (2 Credits)** ***Osha 30 Certification***

In Construction Technology, students gain knowledge and skills specific to those needed to enter the workforce as carpenters or building maintenance supervisors or prepare for a postsecondary degree in construction management, architecture, or engineering. Students acquire knowledge and skills in safety, tool usage, building materials, codes, and framing.

Construction Technology II **Grades 10-12 (2 Credits)** ***Osha 30 Certification***

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

Practicum of Construction Technology **Grades 10-12 (2 Credits)** ***Osha 30 Certification***

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

Graduation Endorsement: Business & Industry

Architecture & Construction

Program of Study: Carpentry

prerequisite

Principles of Construction
Grades 9-12 (1 Credit)
NCCER Certification

Construction Technology I
Grades 10-12 (2 Credits)
Osha 30 Certification

Construction Technology II
Grades 10-12 (2 Credits)
Osha 30 Certification

Practicum of Construction Technology Grades 10-12 (2 Credits)
Osha 30 Certification

Graduation Endorsement: Business & Industry

Arts, A/V Technology and Communication

Program of Study: Digital Communication

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.

Principles of AV Technology & Communication **Grades 9-12 (1 Credit)**

Careers in Arts, Audio Video Technology and Communications career cluster require, in addition to 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 **Grades 10-12 (1 Credit)**

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

One of the following:

Audio/Video Production II **Grades 10-12 (2 Credits)** ***Adobe Certified Associate Certification***

Students study the role of media as a tool within the academic, social, and demographic processes as they influence tastes, behavior, purchasing, and voting decisions. In addition to developing advanced knowledge and skills needed for success in the Arts, Audio/Video Technology, and Communications Career Cluster, students will be expected to develop an advanced understanding of the industry with a focus on pre-production, production, and post-production activities with an opportunity to be a part of the Eagle Eye Production Team which helps run the district's video scoreboard.

Graphic Design and Illustration **Grades 9-12 (1 Credit)**

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.

One of the following:

Practicum in Audio/Video Production **Grades 11-12 (2 Credits)**

Building upon the concepts taught in Audio/Video Production II and its co-requisite Audio/Video Production II Lab, in addition to developing advanced technical knowledge and skills needed for success in the Arts, Audio/Video Technology, and Communications Career Cluster®, students will be expected to develop an increased 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.

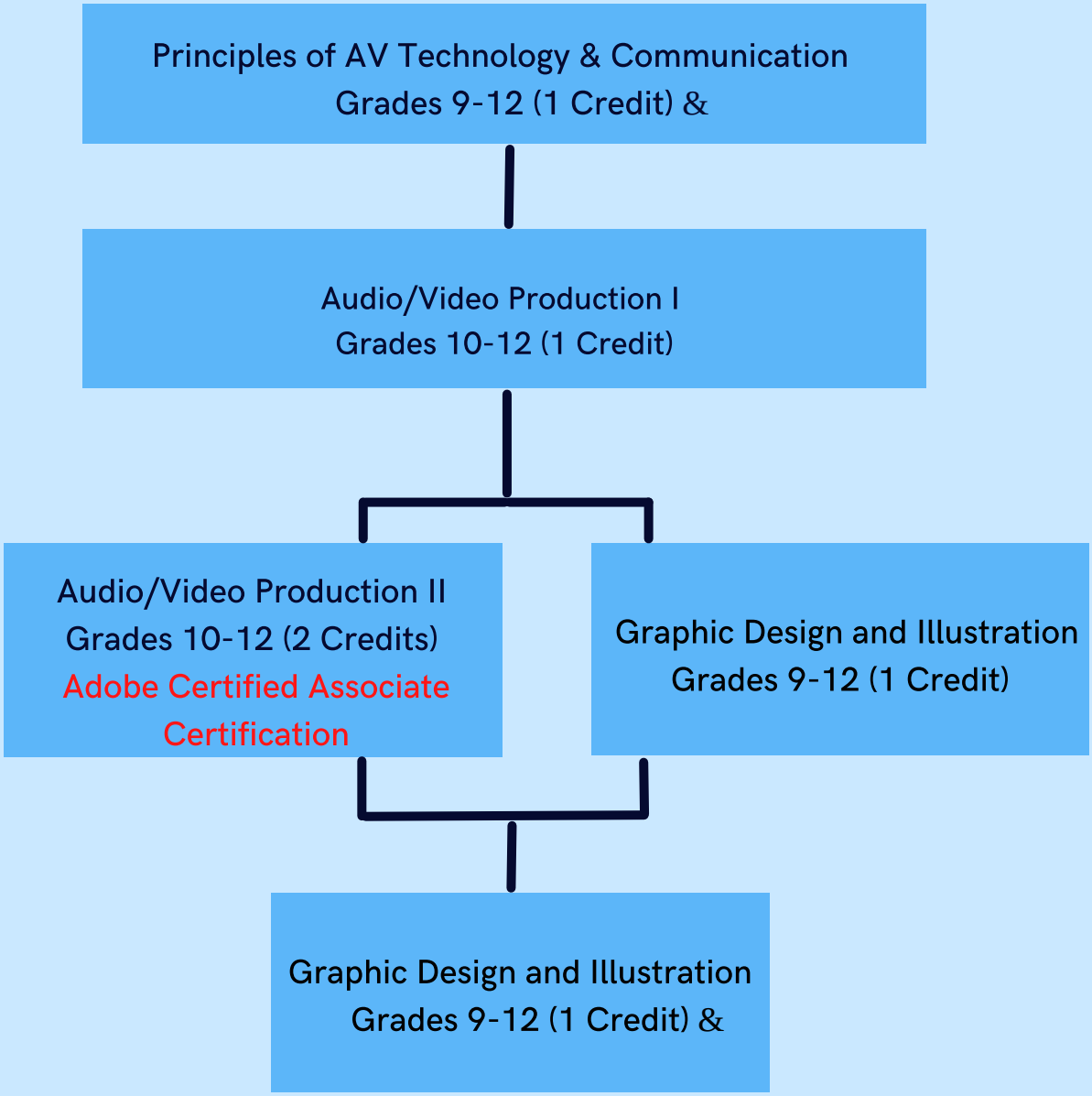
Graphic Design and Illustration **Grades 9-12 (1 Credit)**

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.

Graduation Endorsement: Business & Industry

Arts, A/V Technology & Communication

Program of Study: Digital Communication



Graduation Endorsement: Business & Industry

Business, Marketing, and Finance

Program of Study: Business Management

The Business Management program of study teaches CTE learners how to plan, direct, and coordinate the administrative services and operations of an organization. Through this program of study, students will learn the skills necessary to formulate policies, manage daily operations, and allocate the use of materials and human resources. This program of study will also introduce students to mathematical modeling tools and organizational evaluation methods.

Business Information Management I **Grades 9-12 (1 Credit)**

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

Business Information Management II **Grades 9-12 (1 Credit)** ***Microsoft Office Specialist Certification***

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

Business Management **Grades 10-12 (1 Credit)** ***Microsoft Office Specialist Certification***

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.

Graduation Endorsement: Business & Industry

Business, Marketing, & Finance

Program of Study: Business Management

prerequisite

Business Information Management I
Grades 9-12 (1 Credit) &

Business Information Management II
Grades 9-12 (1 Credit)
Microsoft Office Specialist Certification

Business Management
Grades 10-12 (1 Credit)
Microsoft Office Specialist Certification

Graduation Endorsement: Business & Industry

Education and Training

Program of Study: Teaching & 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 **Grades 9-12 (1 Credit)**

This course is designed to introduce learners to the various careers available within the education and training career cluster. Students will use self-knowledge and educational information to analyze various careers within the education and training career cluster. Students will gain an understanding of the basic knowledge and skills essential to careers within the education and training career cluster.

Child Development **Grades 10-12 (1 Credit)**

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.

Instructional Practices in Education & Training **Grades 11-12 (2 Credit Class)** ***Teachers Aide I Certification***

Instructional Practices in Education and Training is a field-based internship that provides students with background knowledge of child and adolescent development as well as principles of effective teaching and training practices. Students work under the joint direction and supervision of both a teacher with knowledge of early childhood education and exemplary educators or trainers in direct instructional roles with elementary, middle school and high school-aged students. Students learn to plan and direct individualized instruction and group activities, prepare instructional materials, develop materials for educational environments, assist with record keeping, and complete other responsibilities of teachers, trainers, paraprofessionals, or other educational personnel. A student must have an excellent discipline record to participate in this course.

Practicum of Education & Training **Grade 12 (2 Credit Class)** ***Teachers Aide I Certification***

Practicum in Education and Training is a field-based internship that provides students background knowledge of child and adolescent development principles as well as principles of effective teaching and training practices. Students in the course work under the joint direction and supervision of both a teacher with knowledge of early childhood, middle childhood, and adolescence education and exemplary educators in direct instructional roles with elementary-, middle school-, and high school-aged students. Students learn to plan and direct individualized instruction and group activities, prepare instructional materials, assist with record keeping, make physical arrangements, and complete other responsibilities of classroom teachers, trainers, paraprofessionals, or other educational personnel.

Graduation Endorsement: Public Service

Education & Training

Program of Study: Teaching & Training

Principles of Education and Training
Grades 9-12 (1 Credit) &

Child Development
Grades 10-12 (1 Credit)

Instructional Practices in Education & Training
Grades 11-12 (2 Credits)
Teachers Aide I Certification

Practicum in Education & Training*
Grades 11-12 (2 Credits)
Teachers Aide I Certification

*PREQ: Instructional Practices

Graduation Endorsement: Public Service

Health Science

Program of Study: Healthcare Therapeutic

The Healthcare Therapeutic 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 **Grades 9-12 (1 Credit)**

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 **Grades 10-12 (1 Credit)**

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 **Grades 11-12 (1 Credit)** ***EKG Certification***

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

One of the following:

Practicum in Health Science **Grades 11-12 (2 Credits)** ***Patient Care Technician Certification***

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.

Dual Credit Human Anatomy and Physiology (Lee College) **Grades 10-12 (1 Credit)**

BIOL 2401 – Human Anatomy and Physiology I

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

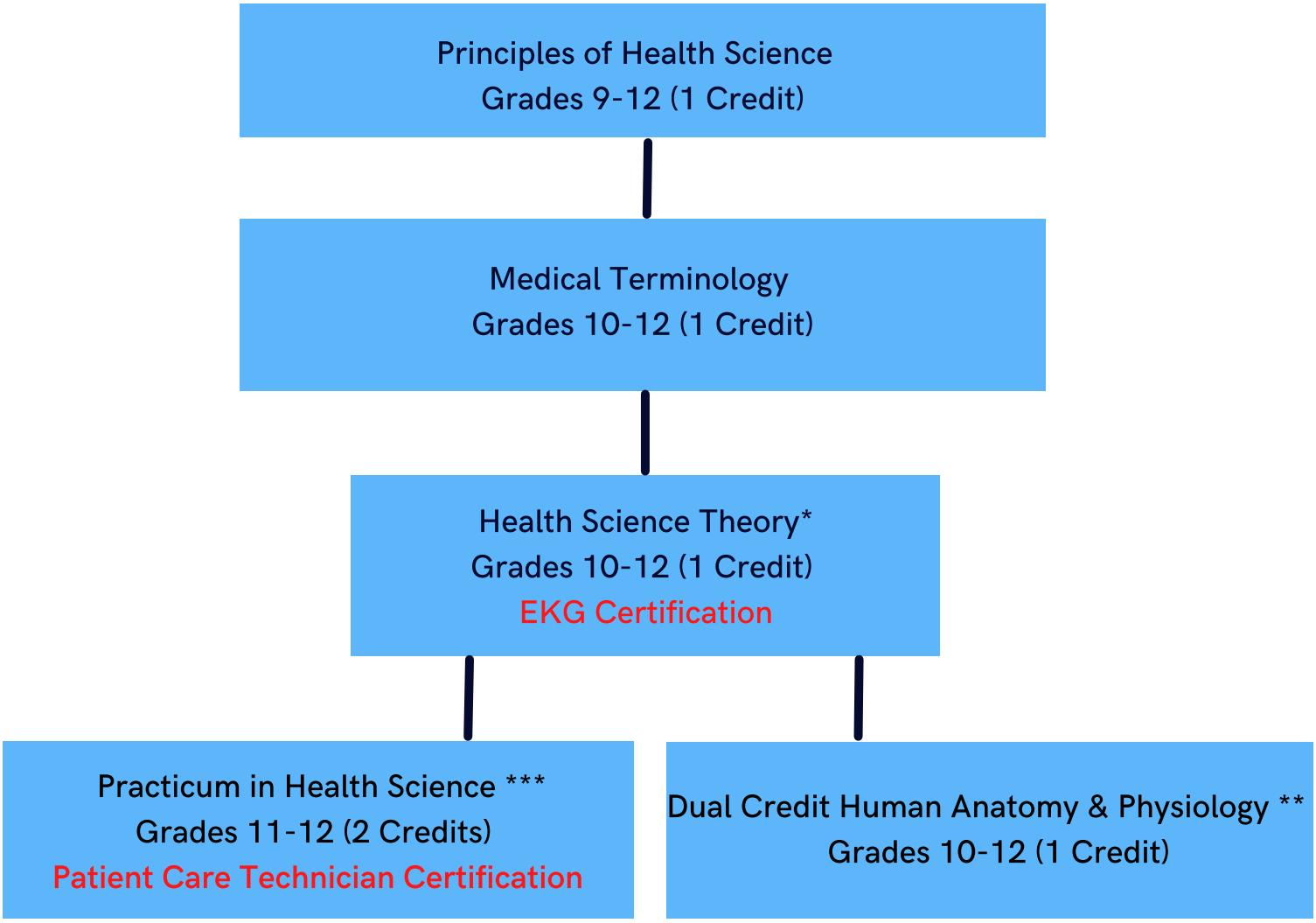
BIOL 2402 – Human Anatomy and Physiology II

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

Graduation Endorsement: Public Service

Health Science

Program of Study: Healthcare Therapeutic



* PREQ: Biology
** PREQ: Biology **and** a second science credit
***PREQ: Health Science Theory **and** Biology

Graduation Endorsement: Public Service

Science, Technology, Engineering, & Mathematics

Program of Study: Engineering

The Engineering program of study focuses on the design, development, and use of engines, machines, and structures. CTE learners will learn how to apply science, mathematical methods, and empirical evidence to the innovation, design, construction, operation, and maintenance of different manufacturing systems.

Introduction to Engineering **Grades 9-12 (1 Credit)**

Introduction to Engineering Design (IED) is a high school level course that is for students who are interested in design and engineering. The major focus of the IED course is to expose students to design process, research and analysis, teamwork, communication methods, global and human impacts, engineering standards, and technical documentation. IED gives students the opportunity to develop skills and understanding of course concepts through activities, project, and problem-based (APPB) learning. Used in combination with a teaming approach, APPB-learning challenges students to continually hone their interpersonal skills, creative abilities, and understanding of the design process. It also allows students to develop strategies to enable and direct their own learning, which is the ultimate goal of education.

Principles of Applied Engineering **Grades 10-12 (1 Credit)** ***Solidworks Certification***

Principles of Applied Engineering is the foundation high-school STEM course. In this course, students are introduced to the engineering profession and the engineering design process. Through both individual and collaborative team activities, students will solve problems using common engineering design and development protocols such as project management and peer review. Skills in technical representation and documentation of design solutions, according to accepted technical standards, and use of current 3D design and modeling software to represent and communicate solutions will be developed.

Engineering and Development (PLTW) **Grades 11-12 (1 Credit)** ***Solidworks Certification***

Students enrolled in Engineering Design & Development will demonstrate knowledge and skills of the process of design as it applies to engineering fields using multiple software applications and tools necessary to produce and present working drawings, solid model renderings, and prototypes. 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.

Engineering Design and Problem Solving **Grades 11-12 (1 Credit) (Science Credit)** ***Solidworks Certification***

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

Graduation Endorsement: S.T.E.M

Science, Technology, Engineering, & Mathematics

Program of Study: Engineering

Introduction to Engineering
Grades 9-12 (1 Credit) &

Principles of Applied Engineering
Grades 10-12 (1 Credit)
Solidworks Certification

Engineering and Development (PLTW)
Grades 11-12 (1 Credit)
Solidworks Certification

Engineering Design and Problem Solving
Grades 11-12 (1 Credit) (Science Credit)
Solidworks Certification

Graduation Endorsement: S.T.E.M

Science, Technology, Engineering, & Mathematics

Program of Study: Programming & Software Development

The Programming and Software Development program of study explores the occupations and education opportunities associated with researching, designing, developing, and testing 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 may also include exploration into creating, modifying, and testing the codes, forms, and scripts that allow computer applications to run.

Algebra I

One of the following:

Honors Computer Science I **Grades 9-12 (1 Credit)**

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 **Grades 10-12 (1 Credit)**

AP Computer Science A is a programming course designed to cover the Advance 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.

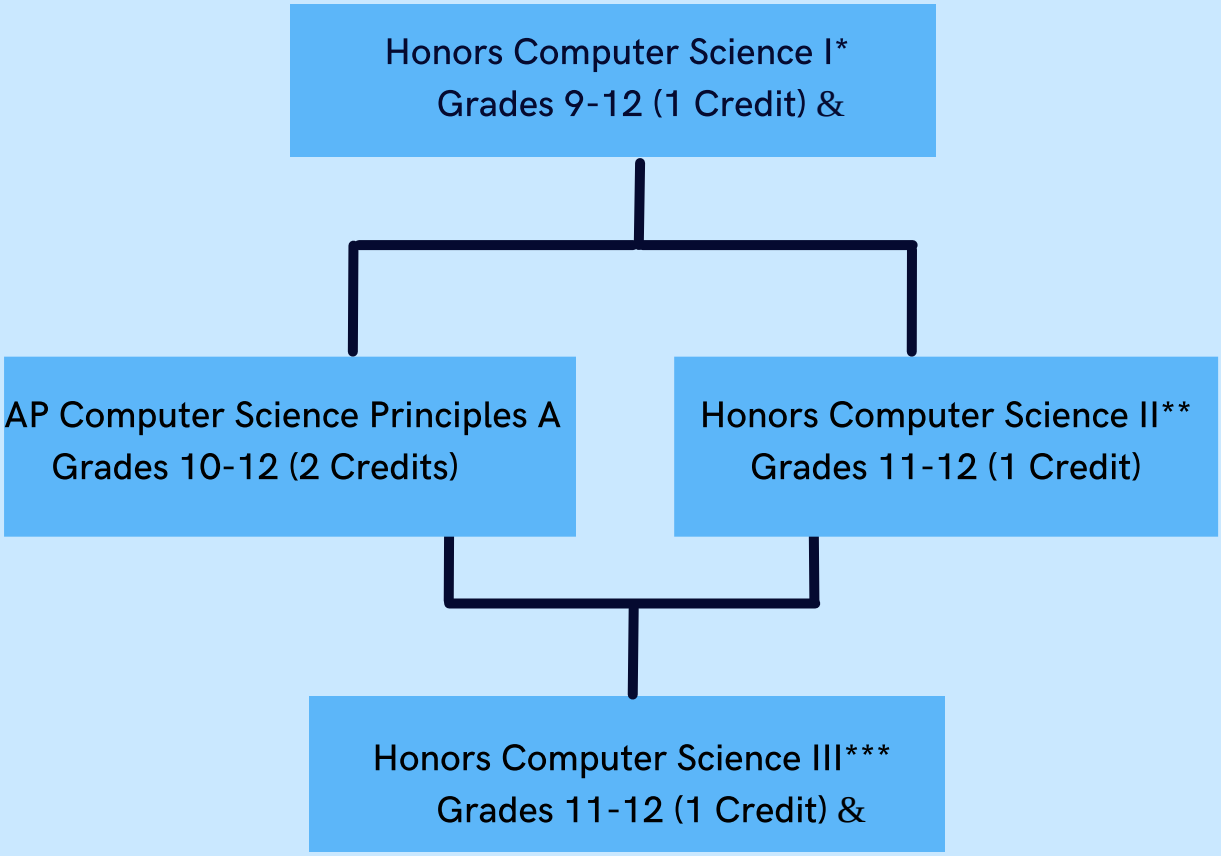
Honors Computer Science III **Grades 11-12 (1 Credit)**

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.

Graduation Endorsement: S.T.E.M

Science, Technology, Engineering, & Mathematics

Program of Study: Programming & Software Development



AP Computer Science Principles
Grades 9-12 (1Credit)

**REQ: Algebra I
**PREQ: Algebra I, Computer Science I, or Fundamentals of Computer Science
***PREQ: Computer Science II, AP Computer Science A

Graduation Endorsement: S.T.E.M