Academy for the Arts, Science, & Technology

Program of Studies

"Realize the Possibilities"

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#koipride * Updated October 2023, information subject to change

Realize the Possibilities

The Academy for the Arts, Science, and Technology's (AAST) curriculum guide has been prepared to assist students and their parents in course selection for long-range academic and career planning. This guide includes information on graduation requirements, instructional courses, and programs offered at AAST.

It is important that students and parents take note of course descriptions and prerequisites when considering a course or a program of study. In addition, students should select courses that contribute to their educational, personal, and career goals.

Students enrolled at AAST are highly encouraged to enroll in a rigorous course of study and to enroll in higher level courses when possible. Although guidance counselors are available for academic advising, students and parents are responsible for ensuring that the student's academic plan meets the requirements for both the South Carolina high school diploma and the post-secondary school of choice.

AAST makes every effort to ensure that the information in this document is informative and accurate. However, new regulations may impact, negate, or change the implementation of the programs and/or courses described. This Program of Studies should not be viewed as a contract but as a guideline for students and parents.

Our Mission

AAST is a Cognia STEM certified school committed to preparing its students to be college and career-ready global citizens by fostering creativity, innovation, systematic problem-solving, and critical-thinking through participation in rigorous and authentically collaborative academic and career experiences.

Programs of Study

AAST strives to offer a well-rounded educational experience that provides both mental and physical opportunities for student growth and achievement. The AAST experience is organized around specific career majors to ensure that students are successfully prepared to enter their career of choice or their next level of education.

STEM (Science, Technology, Engineering, and Math) teaching and learning are integrated throughout all programs of study at AAST as well as core academic courses and electives offered at the school. This educational philosophy is focused on the following best practices: Project-Based Learning that is authentically interdisciplinary in nature, student inquiry, and academic work that is centered around understanding and solving real-world problems. Each STEM Career Pathway at AAST requires students to work closely with faculty experts as well as community mentors in job shadowing, internships, and a culminating academic presentation which demonstrates the depth of learning that each student has obtained throughout his/her time at AAST. AAST offers the following STEM Career Pathways:

Arts and Entertainment

- Advanced Art
- Entertainment Technology

Engineering

- Aerospace Engineering
- Environmental Engineering with Clean Energy
- Innovation in STEM with Core Engineering

Health Science

- Biomedical Science
- Pre-Medicine
- Public Health

Information Technology

- Computer Science
- Global Logistics and Supply Chain Management
- Informatics
- Networking
- Web and Digital Communications

*AP Capstone: Students may choose to pair AP Capstone with any STEM Career Pathway. Students may also choose to explore multiple pathways.

Enrollment Process

The Academy for the Arts, Science, and Technology (AAST) is a program school that serves students from nine high schools in Horry County. Students may participate in extracurricular activities at their base school if the same activity is not offered at AAST. In order to apply to AAST, students must first enroll in their base school. Students who apply to AAST must follow the district-established timeline when submitting their applications. Online applications will be available on the AAST website and the Horry County Schools website in early January.

Sophomores from any of the nine Horry County base high schools may apply for entrance into any of our career pathways for their junior and senior years. STEM Career Pathways at AAST are Advanced Art, Aerospace Engineering, Biomedical Science, Entertainment Technology, Environmental Engineering, Computer Science, Global Logistics and Supply Chain Management, Informatics, Innovations in STEM with Core Engineering, Networking, Pre-Engineering, Pre-Medicine, Public Health and Web and Digital Communications. Students must meet all academic requirements, have earned enough credits to be classified as eleventh grade students, and be prepared to make a two-year commitment to AAST and their chosen pathways. Students will be notified of their acceptance and asked, along with their parents, to sign a commitment form to participate in the major during the upcoming school year. All commitment forms must be returned by the stated deadline.

At AAST, seniors enrolled in any of the thirteen career pathways will complete a Senior Mastery with their major teacher. If a student decides to pair the STEM Career Pathway with AP Capstone, the Senior Mastery can encompass both areas of study.

Graduation Requirements

The Academy for the Arts, Science, and Technology (AAST) does not graduate students. All students who attend AAST will receive their South Carolina High School Diploma from their base high school.

To be eligible to receive a South Carolina High School Diploma, students must earn 24 units. Based on state law, those requirements are:

English	4 units
Math	4 units
Science	3 units
US History	1 unit
Physical Education/ROTC	1 unit
Government/Economics	1 unit
Social Studies	1 unit
Electives	7 units
Computer Technology	1 unit
Foreign Language/Business Technology	1 unit

Class Rank and Honor Graduates

High schools uniformly determine the class rankings of students based on the Grade Point Ratios (GPRs) of students in grade twelve. GPRs are calculated after the seniors' grades are finalized at the end of the school year. GPRs will be used to determine honor graduates at the graduation ceremony for the individual base high school. AAST is not a diploma issuing institution. All students graduate for the individual base high schools.

HCSD uses the Latin Honor system as follows:
Summa Cum Laude - GPR of 4.750 or higher on the SC Uniform Grading Scale.

Magna Cum Laude - GPR of 4.250 or higher, but less than 4.750 on the SC Uniform Grading Scale.
Cum Laude - GPR of 3.750 or higher, but less than 4.250 on the SC Uniform Grading Scale.

The GPR will also be used to determine the Valedictorian (senior with the highest weighted GPR) and the Salutatorian (senior with the second highest weighted GPR) at each base school. Preliminary Class Ranking of seniors for college admissions and/or scholarships will occur on the 135th day of school.
To determine Junior Marshals for base school graduation ceremonies, eleventh graders will be preliminarily ranked on the 135th day of school.

Grading Policy

The uniform grading policy applies in all SC high schools. The complete text of the grading policy can be obtained by accessing the State Department of Education's website at www.state.sc.us/sde.

The Academy for the Arts, Science, and Technology uses a computer system, PowerSchool, for grade reporting and issuing of interim reports every four and one-half (4 ½) weeks and report cards at the end of each nine (9) week period. Number grades are reported on report cards and permanent records. This grading system is mandated by he state, and each individual grade point is assigned a point value. Parents and students should contact the guidance department if further clarification is needed.

All grades on report cards and transcripts in SC public high schools will be numerical. A student's GPA and rank in class will be figured from a grade-point conversion table available on the website listed above and printed on transcripts.

Students and parents should choose courses carefully. The guidelines that outline consequences for students who withdraw from a course are: Students who withdraw from a course after 3 days in a 45-day course or 5 days in a 90-day course, or 10 days in a 180-day course shall be assigned a Withdraw Failure (WF), earning a grade of 50 and 0 quality points. The F will be calculated in the student's overall grade point ratio.

Promotion Requirements:
Grade 10 to 11: The student must successfully complete eleven (11) Carnegie units. Two units must be English and two units must be math. Grade 11 to 12: The student must successfully complete sixteen (16) Carnegie units. Three units must be English and three must be math.

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Grading Scale

The South Carolina Uniform Grading Scale is used at the Academy for Arts, Science, &Technology. The grading scale is as follows:

10 Point Grading Scale

South Carolina Uniform Grading Scale Conversions				
Numerical Average	Letter Grade	College Prep Weighting	Honors Weighting	AP/IB/Dual Credit Weighting
100	A	5.000	5.500	6.000
99	A	4.900	5.400	5.900
98	A	4.800	5.300	5.800
97	A	4.700	5.200	5.700
96	A	4.600	5.100	5.600
95	A	4.500	5.000	5.500
94	A	4.400	4.900	5.400
93	A	4.300	4.800	5.300
92	A	4.200	4.700	5.200
91	A	4.100	4.600	5.100
90	A	4.000	4.500	5.000
89	B	3.900	4.400	4.900
88	B	3.800	4.300	4.800
87	B	3.700	4.200	4.700
86	B	3.600	4.100	4.600
85	B	3.500	4.000	4.500
84	B	3.400	3.900	4.400
83	B	3.300	3.800	4.300
82	B	3.200	3.700	4.200
81	B	3.100	3.600	4.100
80	B	3.000	3.500	4.000
79	C	2.900	3.400	3.900
78	C	2.800	3.300	3.800
77	C	2.700	3.200	3.700
76	C	2.600	3.100	3.600
75	C	2.500	3.000	3.500
74	C	2.400	2.900	3.400
73	C	2.300	2.800	3.300
72	C	2.200	2.700	3.200
71	C	2.100	2.600	3.100
70	C	2.000	2.500	3.000
69	D	1.900	2.400	2.900
68	D	1.800	2.300	2.800
67	D	1.700	2.200	2.700
66	D	1.600	2.100	2.600
65	D	1.500	2.000	2.500
64	D	1.400	1.900	2.400
63	D	1.300	1.800	2.300
62	D	1.200	1.700	2.200
61	D	1.100	1.600	2.100
60	D	1.000	1.500	2.000
59	F	0.900	1.400	1.900
58	F	0.800	1.300	1.800
57	F	0.700	1.200	1.700
56	F	0.600	1.100	1.600
55	F	0.500	1.000	1.500
54	F	0.400	0.900	1.400
53	F	0.300	0.800	1.300
52	F	0.200	0.700	1.200
51	F	0.100	0.600	1.100

Educational Lottery Scholarships

The South Carolina legislature provides several opportunities for students to receive scholarships:

PALMETTO FELLOWS:
Value: $6,700
Requirements: 1200 SAT/25 ACT (through June), 3.5 GPA on Uniform Grading, top 6 percent of sophomore, junior or senior class OR 1400 SAT/31 ACT (through June), 4.0 GPA on Uniform Grading

LIFE SCHOLARSHIP:
Value: $5,000
Requirements: 3.0 GPA on Uniform Grading Scale and one of the following: 1100 SAT/22 ACT, top 30 percent of graduating class

HOPE SCHOLARSHIP:
Value: $2,500 plus (one time award)
Requirements: 3.0 GPA

Enhanced Awards: Enhanced awards are available to students who meet the eligibility requirements for the Life Scholarship or Palmetto Fellows scholarships and major in special areas. For more information, visit the South Carolina Commission on Higher Education's Web site at www.che.sc.gov and click on CHE Approve Programs for Scholarship Enhancements.

A student convicted of any felonies or any alcohol or drug related misdemeanor offenses may lose the opportunity to receive a state scholarship or grant. These requirements are subject to change by the State Legislature. You can find more information on the Internet at www.che.sc.us.

Advanced Placement Courses

Advanced Placement (AP) courses are available at AAST. Students must meet the established criteria before they can enroll in an AP course. The specific criteria are explained in the course descriptions. These courses offer college-level instruction in high school and prepare the student for the rigors of college.

Students must take the AP Exam and the Extension Honors linked course, if required, to receive AP weighted credit. Successful scores on the AP Exam may qualify students for college credit and advanced standing in colleges and universities throughout the United States. Because AP courses are college-level courses, students should expect intensified study and greater demands placed on their time and energy.

The Academy for the Arts, Science, and Technology offers the following AP courses:

AP Art History
AP Art Studio Drawing
AP Psychology
AP Art 2D Design
AP Human Geography
AP Art 3D Design
AP Biology
AP Calculus AB
AP Calculus BC
AP Chemistry
AP Computer Science Principles
AP English Language and Composition
AP English Literature and Composition
AP European History
AP Government
AP Environmental Science
AP Physics
AP Statistics
AP US History
AP Microeconomics
AP Seminar & AP Research (AP Capstone)
AP Computer Science A

Dual Enrollment Courses

Dual enrollment/PACE courses are university-parallel courses as listed in Horry Georgetown Technical College (HGTC) Statewide Articulation Agreement that are transferable to South Carolina senior institutions and satisfy the requirements for a South Carolina high school diploma. Students can take these classes during the regular school day. Students may only enroll in Dual Enrollment classes during the junior and/or senior year at AAST; however, those students interested in taking Dual Enrollment Courses should meet with their guidance counselor to determine eligibility in individual cases. To be eligible for dual enrollment courses, students must have an eligible SAT or ACT score, or transcript review.

Dual-Enrollment Course Costs:
Students will be responsible for the tuition and cost of textbooks for college-transfer core courses (English, math, science, history) unless one of the following applies:

- A face-to-face core course for equivalent credit is not offered at the base high school.
- The student has taken all equivalent core courses in a core subject offered at the base school. (For example, English III and IV AP before taking English 101 and 102)
- Students will be responsible for the tuition and cost of textbooks for career and technology courses unless courses are required for specific approved career and technology majors as outlined in the articulation agreements between HCS and HGTC.

For more information on Dual Enrollment courses, please contact the Guidance Department.

AAST STEM Career Pathways

Arts and Entertainment

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Advanced Art

The Advanced Art Major program provides students with the skills needed to work as art professionals or pursue a college degree in the visual arts. The program is designed to promote in students the skills necessary for producing visual art pieces that are creative, well crafted, convey content and meaning through compositional choices, and effectively use the elements and principles of art. Students will engage in all stages of the artistic process, conducting a sustained investigation into the topics, mediums, and techniques that interest them. They will create a professional-quality digital portfolio of their artwork and develop soft skills such as communication, organization, and presentation of self. Over the course of their junior and senior year, students in the Advanced Art Major will discover and develop their own artistic strengths, which will allow them to create and develop their Senior Exhibition of Mastery - a collection of 24 original works of art, accompanied by relevant research and artist's statements, formally presented as the capstone of their senior year.

Students in this program of study are afforded many unique opportunities, including entry into local and regional art competitions, tours of the arts facilities of several colleges and universities, NAHS membership (for qualifying students), potential mentorships by professional artists and business professionals, and field experiences relating to the creation and exhibition of the visual arts. The serious art student will use this two year program to prepare his or her portfolio for entrance into an art school, a liberal arts college, or directly into the workplace.

Art Major Required Courses:
Junior Year - Art 3 Honors (three blocks)
Senior Year - Art 4 Honors (three blocks)

Art Major Elective Courses:
AP Art and Design: Drawing, 2D and 3D
AP Art History
AP Capstone Seminar
AP Capstone Research

Art 3 Honors (Junior Year)
In this studio art course, students produce creative, sophisticated and well-crafted artwork in a variety of mediums, including drawing, sculpture, printmaking, painting, photography, ceramics, and digital art. Students are encouraged to explore a wide range of art mediums, techniques, and approaches to develop their own artistic voice and style. Art products in this course are based on provided themes and concepts, which builds to the senior year and the Senior Exhibition of Mastery. Students will maintain a sketchbook/journal that contains preliminary sketches and notes for all assigned work, exploration of ideas, self-critiques, and documentation of artistic research and experimentation with art mediums.

In this course, students will develop their visual art interpretation skills through guided and independent in-depth analyses of historic and contemporary artworks. Throughout this course, focus is maintained on increasing student knowledge of how to use the elements and principles of art and design, how to create effective compositions, and how to communicate concepts through artwork.

Art 4 Honors (Senior Year)
This studio art course is the Advanced Art Major capstone. In their senior year, each student will research and develop a Senior Mastery topic that represents their unique point of view by combining their visual style, personal interests, and ongoing artistic growth. The student will create a research based series of 24 original, technically sound works of art which demonstrate coherent formal, conceptual, and procedural relationships to one another, all falling under the topic of their Senior Exhibition of Mastery. A Senior Exhibition of Mastery is an extensive endeavor through which the student demonstrates mastery of content competencies and standards, growth in work habits, time management, literacy skills and a variety of 21st Century skills. Senior Art Majors are required to formally present their research and portfolio of 24 works in a panel reviewed Senior Exhibition of Mastery Presentation.

In this course students are also required to maintain a sketchbook/journal with evidence of sustained investigation into artistic processes, ideas, and techniques. They will write an in-depth research-based essay on their selected Senior Mastery topic and develop a professional website and digital portfolio. For each completed work of art, students will write an artist's statement that explains their concept and a rationale that explains their use of materials, art process and idea based on the foundation of the elements and principles of art.

AP Art and Design: Drawing, 2D, 3D
The AP Art and Design program includes 3 different courses and portfolio exams: Drawing, 2-D, and 3D. The goal is to create a portfolio of college level work and submit it for evaluation by the College Board. A qualifying score may earn college credit and or advanced placement. The portfolio is to be prepared and submitted in accordance with specifications required by the College Board. Each portfolio contains two sections: Sustained Investigation (10 works) requiring you to conduct an inquiry guided investigation through practice, experimentation, and revision; Selected Works (5 exemplary artworks) demonstrating skillful synthesis of materials, processes and ideas.

AP Art History
AP Art History offers a unique perspective into our world's rich and diverse cultural heritage through study of the history and development of art and architecture from antiquity to present. The AP Art History course welcomes students into the global art world to engage with its forms and content as they research, discuss, read, and write about art, artists, art making, and responses to and interpretations of art. Students learn and apply skills of visual, contextual, and comparative analysis to engage with a variety of art forms, developing understanding of individual works and interconnections across history. Students who successfully complete the requirements can request credit from the college or university they will attend. Credit will be awarded upon passing the AP Art History exam by the AP College Board.

Entertainment Technology

The Entertainment Technology major provides students opportunities to study and develop technical skills that support the media and entertainment industry. Each student will develop a general portfolio of work through research, experience, and knowledge acquired in video production. The second year of the program is designed to allow students opportunities to explore one specific aspect of the entertainment industry and focus the majority of his/her time on this issue as part of the Senior Exhibition of Mastery. Students can prepare a portfolio for entrance into a film school, a liberal arts college, or directly into the workplace. All seniors have the opportunity to explore different career areas in the industry.

In order to be enrolled in the following Media Technology courses, the student must be accepted into the Entertainment Technology Major.

Entertainment Technology Required Courses:
Junior Year - Media Tech 1
Media Tech 2 double block

Senior Year - Media Tech 3
Media Tech 4 double block

Media Technology 1 and 2
Students explore the general field of communications and focus primarily on audio and motion media industries. Students also learn about related fields such as radio, advertising, creative writing, stop-motion animation, special effects, public relations, and corporate communications. Students receive hands-on experience in basic production techniques for audio, video, and television. Students also learn how to use industry-standard equipment and develop skills including digital photography, script writing, directing, producing, and editing video pieces of increasing complexity. Students will take these courses during the junior year.

Media Technology 3 and 4
Prerequisite: Media Technology 1 and 2
This course is a continuation of Media Technology 1 and 2, and is designed to provide senior students with the opportunity to work on various independent study projects facilitated by the instructor. Students focus on compiling finished polished projects for a professional digital portfolio. Students also have the opportunity to participate in an internship or job shadowing experiences and will work on schoolwide media related projects. Students will research and produce a Senior Exhibition of Mastery project that will be presented near the end of the senior year.

AAST STEM Career Pathways

Engineering

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Aerospace Engineering

This project-based learning course engages students who are curious about aviation and aerospace careers. This course will introduce students to an engineering design process, tools to collect and analyze data, the science of aviation, materials and structures, and safety. Students will participate in real-world experiences such as designing, building and testing a pilot seat, kite, straw rocket and launcher, motor-powered rocket and a model glider.

Aerospace Engineering Required Courses:
Junior Year - Fundamentals of Aerospace Technology Honors (H)
Advanced Aerospace Technology Honors (H)

Senior Year - Aeronautics Engineering Applications Honors (H)
Astronautics Engineering Applications Honors (H)

Course 1: Fundamentals of Aerospace Technology H
This project-based learning course engages students who are curious about aviation and aerospace careers. This course will introduce students to an engineering design process, tools to collect and analyze data, the science of aviation, materials and structures, and safety. Students will participate in real-world experiences such as designing, building and testing a pilot seat, kite, straw rocket and launcher, motor-powered rocket and a model glider.

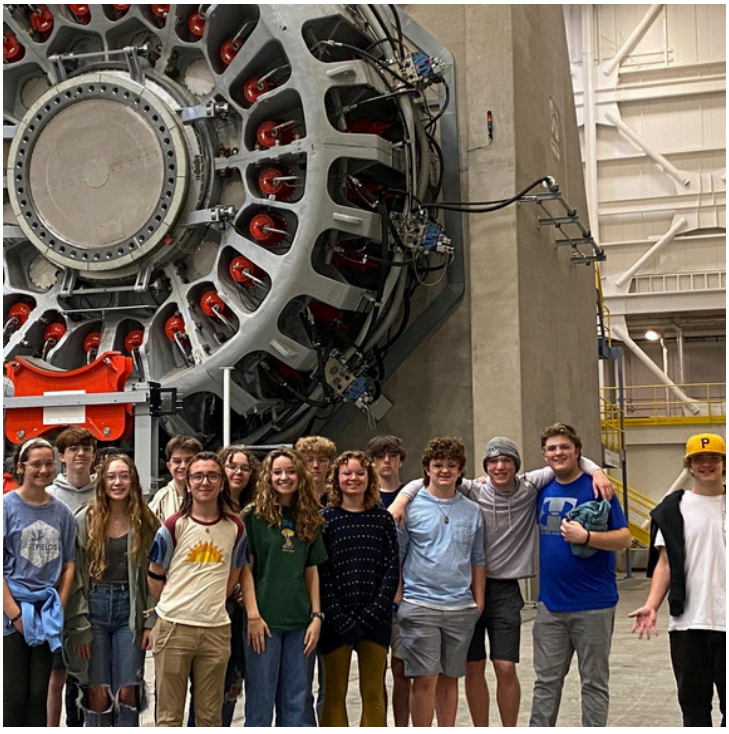
Course 2: Advanced Aerospace Technology H
This course builds on the foundation of Course 1 and engages students in applying the design process, using tools to collect and analyze data, exploring a deeper level of the science of aviation and discovering how quality control systems work in the aviation field. Students will work collaboratively in teams to design, build and test a wing; plot a course for a plane to take off and land; design, build and test a wing attachment system; test materials under stress; and design, build and test an electric-powered plane. Students will demonstrate their newly acquired knowledge and skills by presenting their innovative ideas, techniques and solutions to business and industry partners.

Course 3: Aeronautics Engineering Applications H

This project-based learning course is for students who have successfully completed Courses 1 and 2. Students will learn about systems such as flight control, remote-control vehicles and the virtual world. Students will learn to fly using flight simulators. They will work collaboratively to propose a shift from a VOR navigation system to a GPS system and determine the cost savings. In addition, students will develop rotor blades for helicopters and design and program an unmanned flying vehicle.

Course 4: Astronautics Engineering Applications H

Students in this capstone course will focus on outer space and underwater applications. During the six projects, they will work collaboratively to design, build and test a laser communication system; develop a plan for space survivability in hostile environments; and utilize software to create a three-dimensional model of a satellite orbit and a team remote vehicle for underwater exploration. Depending on articulation agreements or state policy, students who successfully complete the course may be able to earn dual credit.



Environmental Engineering with Clean Energy

This career pathway exposes students to three sources of renewable energy: wind, solar and biofuels. Working with solar, thermal, chemical and mechanical sources of clean energy teaches students how to apply physics, geography, chemistry, biology, geometry, algebra and engineering fundamentals. Students learn the most efficient and appropriate use of energy production as they explore the relevant relationships among work, power and energy. Students will engage in a wide variety of hands-on projects and lab activities that both test their knowledge and illustrate the interrelationships between the various forms of clean energy.

Environmental Engineering Required Courses:

Junior Year - Clean Energy Systems Honors (H)
Clean Energy Applications Honors (H)

Senior Year - Clean Energy Strategies Honors (H)
Clean Energy Innovations Honors (H)

Course 1: Clean Energy Systems Honors

This course exposes students to three sources of renewable energy: wind, solar and biofuels. Working with solar, thermal, chemical and mechanical sources of clean energy teaches students how to apply physics, geography, chemistry, biology, geometry, algebra and engineering fundamentals. Students learn the most efficient and appropriate use of energy production as they explore the relevant relationships among work, power and energy. Students will engage in a wide variety of hands-on projects and lab activities that both test their knowledge and illustrate the interrelationships between the various forms of clean energy.

Course 2: Clean Energy Applications Honors

This course builds on the foundation of Course 1 and introduces nuclear power, steam generation, fuel cells, geothermal power, water power, AC/DC power generation, heat transfer and the laws of thermodynamics. In addition, students now use chemical and thermal energy principles to create, store and use energy efficiently to power a variety of mechanical and electrical devices. Students will engage in a variety of hands-on design projects to demonstrate principles using advanced technology hardware and software.

Course 3: Clean Energy Strategies Honors

Students in this course utilize applicable skills from the foundational courses to tackle challenges associated with the implementation of clean energy technology. The hands-on projects encountered during this course will require students to address specific issues related to providing portable power in any situation, developing new energy storage systems, increasing the efficiency of the modern home, and designing more energy efficient buildings and homes.

Course 4: Clean Energy Innovations Honors

The innovations course is the fourth and final course in the Clean Energy Technology Pathway Program. The course will provide students the opportunity to work independently with open-ended, problem-solving scenarios to create an original solution in the area of clean energy entrepreneurship or clean energy research and development. Students will collaborate with a mentor to conduct applied research around a defined research problem, develop solutions, collect and analyze relevant data, evaluate their solutions, and present their findings in public venues and competitions.

Innovations in STEM with Core Engineering

Innovations in STEM will appeal to students who want to use a hands-on approach to solving STEM-related projects and problems that are authentic to the real world and the global workforce. The Innovations in STEM program will develop students' technological literacy and stimulate their interest in pursuing a career in science, technology, engineering and mathematics (STEM). This STEM program will provide students with the knowledge and hands-on experiences they need to be successful in the new global workforce. The ideal candidate for this curriculum has an enthusiastic curiosity and enjoys challenges that involve solving complex real-world problems.

Junior Year - The Nature of Science and Technology Honors (H)
Core Applications of Science and Technology Honors (H)
Core Engineering 1

Senior Year - Impacts of Science and Technology Honors (H)
Creativity and Innovations Honors (H)
Core Engineering 2

Course 1: The Nature of Science and Technology (H)
This is a contextual-based course that introduces students to the core fundamental concepts of science and technology through authentic projects. Through these projects, students will develop an understanding of the relationship between the physical, biological and social world. Students will gain an understanding of the differences between science and technology, and learn that technology is a process for applying science. Students will develop a deeper understanding of scientific inquiry and the engineering design process when solving real-world problems. Students will experience the interaction of science, technology, engineering, math and literacy through a problem-based learning environment. Finally, the process will require students to use mathematics to analyze costs, develop budgets and make precise measurements to successfully implement project goals.

Course 2: Core Applications of Science and Technology (H)
This course uses the concepts learned from Course 1 to further develop students' problem-solving strategies and skills needed by the 21st-century workforce. Students will continue to explore emerging technologies and techniques in the context of addressing authentic projects. Key concepts introduced in this course include sustainability and environmental trends, systems thinking, and trend analysis and prediction. Through engagement, students will experience the necessary connection between literacy, mathematics and science in a variety of hands-on, real-world projects requiring them to apply academic and technical concepts and skills and technology to complete.

Course 3: Impacts of Science and Technology (H)
This course will examine the past, present and future impact of science and technology on culture, society and the environment. Students will explore how their predecessors worked to solve some problems that still exist today, and examine the potential of using modern technology to solve those problems. From these explorations, students will engage in a variety of hands-on design projects that will address tradeoffs, optimization, interconnectivity and the nature of complex systems.

Course 4: Creativity and Innovations (H)
This course will allow students to brainstorm, use invention, innovation, creativity, predictive analysis and use technology to solve real-world problems. Dimensions covered will include research and development, troubleshooting, experimentation, design failures, patents and trademarks, and design under constraints.

Core Engineering 1
The junior year of Core Engineering explores the world of engineering through many lenses. Students will work on various engineering modules, shadow professionals to gather information about career fields in engineering, communicate their findings to the class, and work with robotics kits and curriculum for preparation for a variety of competitions. 3D Solid Modeling software will be utilized to prepare students for Certification in SolidWorks. Students will also participate in several off campus STEM experiences to enhance and explore different aspects of a career in engineering.

Core Engineering 2
Seniors will focus on their Senior Exhibition of Mastery project. Each student will submit a detailed proposal identifying and describing all components of their mastery project. For the final stage of mastery, students will create a formal presentation to communicate their findings to the class, a panel of business partners, parents, and guests. Students will also gain experience in robotics. Robotic challenges will be used to develop and test designs for drive trains, robotic arms, end effectors (grippers), programming, pneumatic systems, and advanced electronic applications using sensors of many types (line tracking, range finding, motion detectors, and photoelectric light tracking with infrared cameras). Students will continue to utilize 3D Solid Modeling software to prepare for Certification in SolidWorks.

AAST STEM Career Pathways

Health Science

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Biomedical Science

Working with the same equipment and tools used by lab professionals, Biomedical Science students are empowered to explore and find solutions to some of today's most pressing medical challenges. Through scaffolded activities that connect learning to life, students step into the roles of biomedical science professionals and investigate topics including human medicine, physiology, genetics, microbiology, and public health. Students work together in teams to find unique solutions, and in the process, learn in-demand, transferable skills like critical thinking and communication.

Biomedical Science Required Courses:

Junior Year - The Principles of Biomedical Science Honors (H)
Human Body Systems Honors (H)

Senior Year - Medical Interventions Honors (H)
Biomedical Innovations Honors (H)

Course 1: The Principles of Biomedical Science H

This course provides an introduction to biomedical science through exciting hands-on projects and problems. Students investigate concepts of biology and medicine as they explore health conditions including heart disease, diabetes, sickle-cell disease, hypercholesterolemia, and infectious diseases. They will determine the factors that led to the death of a fictional woman as they sequentially piece together evidence found in her medical history and her autopsy report. Students will investigate lifestyle choices and medical treatments that might have prolonged the woman's life and demonstrate how the development of disease is related to changes in human body systems.

Course 2: Human Body Systems H

In the Human Body Systems (HBS) course, students examine the interactions of body systems as they explore identity, communication, power, movement, protection, and homeostasis. Students design experiments, investigate the structures and functions of the human body, and use data acquisition software to monitor body functions such as muscle movement, reflex and voluntary action, and respiration. Exploring science in action, students build organs and tissues on a skeletal manikin, work through interesting real world cases, and often play the role of biomedical professionals to solve medical mysteries. Students practice problem solving with structured activities and progress to open-ended projects and problems that require them to develop planning, documentation, communication, and other professional skills.

Course 3: Medical Interventions H

Medical Interventions (MI) allows students to investigate the variety of interventions involved in the prevention, diagnosis, and treatment of disease as they follow the lives of a fictitious family. A "How-To" manual for maintaining overall health and homeostasis in the body, the course will explore how to prevent and fight infection, how to screen and evaluate the code in our DNA, how to prevent, diagnose, and treat cancer, and how to prevail when the organs of the body begin to fail. Through these scenarios students will be exposed to the wide range of interventions related to immunology, surgery, genetics, pharmacology, medical devices, and diagnostics. Each family case scenario will introduce multiple types of interventions, reinforce concepts learned in the previous two courses, and present new content. Interventions may range from simple diagnostic tests to treatment of complex diseases and disorders. These interventions will be showcased across the generations of the family and will provide a look at the past, present, and future of biomedical science. Lifestyle choices and preventive measures are emphasized throughout the course as well as the important role that scientific thinking and engineering design play in the development of interventions of the future.

Course 4: Biomedical Innovations H

In the Biomedical Innovation course, students will be asked to apply what they have learned in the previous three courses to solve unique problems in science, medicine, and healthcare. Students will work systematically through required problems before completing optional directed problems or independent work. Each problem is staged as a mission – a unique set of tasks the students must work through to achieve their desired objective. Students are presented with each problem in a Mission File – a document that includes a case brief, a list of completion tasks, links to available resources, as well as a reflection section. Students will use what they learn in these missions as they develop and implement their independent project at the end of the year. A teacher may use additional resources in the community – the guidance of other teachers in the school, the advice of scientists or biomedical professionals, or the knowledge presented in scientific literature to help students achieve each goal.

Pre-Medicine

Pre-Medicine is a two-year program that provides exposure to any career in the rapidly expanding medical/health care field. The program includes classroom instruction, clinical experiences, research and community service, and a focus on the 21st Century Skills necessary in the field. The goal of the program is to allow students to assess their interests and abilities regarding a career in any professional medical field such as nursing, physical therapy, radiology, dentistry, veterinary and/or medical school and to prepare them for post-secondary education and/or transition from school to work in the field. Pre-Medicine opens doors to exciting career exploration and allows the student to participate in medical experiences which may inform their future education and career plans.

Pre-Medicine Required Courses:

Junior Year - Medical Terminology
Health Science 1
Health Science 2

Senior Year - Health Science 3 Honors (H)
Health Science Clinical Study (double block)

Pre-Medicine Electives:

EMS
Anatomy and Physiology Honors
Pharmacology for Medical Careers
Foundations of Public Health

Health Science 1

Health Science 1 course students are introduced to healthcare history, careers, and ethics, cultural diversity, healthcare language and math, infection control, professionalism, communication, basics of the organization of healthcare facilities, and types of healthcare insurance. Students will be introduced to “Standard Precautions” and learn about confidentiality through HIPPA. The skills and knowledge that students learn in Health Science 1 serve to prepare them for future clinical experiences such as internships as they advance in the Health Science courses. Health Science 1 affords students the opportunity to obtain 10 hour OSHA certification and first aid certification.

Health Science 2

In this course students will learn about “Transmission Based Precautions” and become more familiar with OSHA, HIPPA, and the CDC. Students will learn how to take vital signs, record them and learn what the data means. Basic Pharmacology is introduced to students and students will have an understanding of pharmacy math computations. Students will be certified in First Aid and CPR.

Health Science 3 Honors

This course focuses on the human body. Students will gain knowledge of all human bold systems and how they work (Anatomy and Physiology). This course will emphasize the study of disease, prevention and treatment (Pathophysiology). Students will participate in teamwork activities for assigned projects. Medical Terminology is incorporated throughout the course.

Medical Terminology Honors

This course is designed to introduce the language of medicine. Students are instructed in word parts and their meanings in order to interpret medical reports, lab tests, orders, and other medical documents. This course is articulated with Horry-Georgetown Technical College.

Health Science Clinical Study

Health Science Clinical Study is designed to give students a clinical experience. Students will have classroom time to review the necessary skills and qualities needed to complete rotating internships that will require travel to worksites. CPR and FA certifications can be renewed during this course if needed. Students should be certified in CPR and FA before being placed at a medical facility. The electrocardiogram technician program includes a full curriculum that consists of hands-on lessons along with the industry expertise to guide students toward successful certification completion. This course will include important practice and background information about heart anatomy and physiology, cardiac disease processes, and terminology, along with ethics training specific to patient care. Students will practice with equipment and perform hands-on labs for proper 12-lead torso placement and interpretation of EKG strip. Students will have the opportunity to obtain a National certification upon completion.

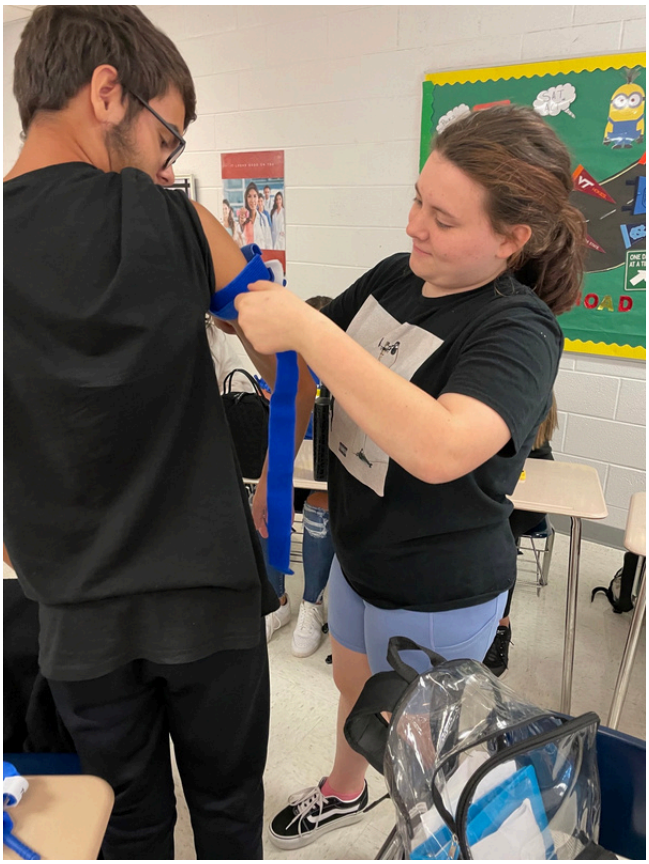
Anatomy and Physiology Honors
Prerequisite: Biology I and Chemistry

Honors anatomy and physiology is an introductory course focusing on the structure of the human body, from the cellular level to the body system level, and the main functions of those structures. Anatomy will include the muscles, bones, nerves, veins, and organs necessary for normal body functions. Physiology is the study of what goes on inside the “anatomy” during everyday life and during physical exertion. In addition, all body systems will be explored - skeletal, muscular, nervous, sensory, endocrine, circulatory, respiratory, digestive, urinary, and reproductive systems. The lab units will consist of hands-on animal dissection, and physical activity labs.

Pre-Medicine, cont'd

Pharmacology for Medical Careers Honors
Pharmacology is a full-year, honors-level course designed to inform senior level students about pharmacology in the medical field. Through project-based activities, classroom lab experiences, and work-based learning opportunities, students are exposed to pharmacy careers and benefit from pharmacology, math, and science standards included in this course. Upon successful completion of this course students may sit for the national pharmacy technician certification exam (PTCB). Once students are nationally certified and have met the state requirements through work experiences, they will be eligible for SC state certification. Students must be a completer in any health science pathway with a minimum grade of 75% in previous courses to enroll in this course. This course is beneficial to everyone interested in the healthcare field, not just pharmacy, as knowledge of current drugs is required in multiple healthcare careers.

Foundations of Public Health
This foundational course will provide introductory information for students interested in public health. This course will provide an understanding of the various components that influence personal, community, and population health. The students will be introduced to epidemiology and biostatistics while analyzing foundational principles of public health education.



Advanced Principles of Public Health
This advanced course will provide information for students to acquire an understanding of various kinds of research that promote public health. This course will provide an understanding of the various topics and concepts including epidemiology, the immune system, outbreak investigation, public health surveillance, ethics, and research study designs. The inquiry-based instruction of this course allows students to engage in problem solving, decision-making, critical thinking, and applied learning.

Emergency Medical Services 1
Introduction to Emergency Medical Services (EMS) is designed to introduce students to the emergency medical field. Through classroom and laboratory instruction, students will gain knowledge in medical, legal and ethical issues; safety and infection control; personal wellness; disaster preparedness; and hazardous materials recognition and response.

Public Health

Public health is an allied health science field that focuses on the prevention of diseases, illnesses, and injuries in populations. Public health is a rapidly growing field with many job opportunities. Students who major in public health are prepared to pursue further education at the postsecondary level in a variety of health care fields.

Public health professionals work in areas such as: health promotion, health policy, epidemiology, healthcare management, advocacy, biostatistics, global health, and environmental health.

Students who earn degrees in public health work in a variety of environments, including hospitals, government agencies, nonprofit organizations, schools and colleges, and private industries.

Public health is also a great pre-professional program for students who want to pursue any of the following career fields: medicine, nursing, physical therapy, occupational therapy, nutrition, speech pathology, child life specialist, social work, psychology, and law.

Public Health Required Courses:

Junior Year - Health Science 1 OR
Principles of Biomedical Science
Foundations of Public Health

Senior Year - Advanced Principles of Public Health
Health Science Clinical Study (double block) OR
Pharmacology for Medical Careers

Public Health Electives:

Medical Terminology Honors
Health Science 2
Health Science 3
Anatomy and Physiology

Health Science 1

Health Science 1 course students are introduced to healthcare history, careers, and ethics, cultural diversity, healthcare language and math, infection control, professionalism, communication, basics of the organization of healthcare facilities, and types of healthcare insurance. Students will be introduced to “Standard Precautions” and learn about confidentiality through HIPPA. The skills and knowledge that students learn in Health Science 1 serve to prepare them for future clinical experiences such as internships as they advance in the Health Science courses. Health Science 1 affords students the opportunity to obtain 10 hour OSHA certification and first aid certification. To advance to Health Science 2, it is recommended that students have an 80% score or higher in Health Science 1, or teacher recommendation.

Pharmacology for Medical Careers Honors

Pharmacology is a full-year, honors-level course designed to inform senior level students about pharmacology in the medical field. Through project-based activities, classroom lab experiences, and work-based learning opportunities, students are exposed to pharmacy careers and benefit from pharmacology, math, and science standards included in this course. Upon successful completion of this course students may sit for the national pharmacy technician certification exam (PTCB). Once students are nationally certified and have met the state requirements through work experiences, they will be eligible for SC state certification.

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AAST STEM Career Pathways

Information Technology

AAST

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Computer Science

Computer Science is designed to focus on the understanding and design of computers and computational processes. Students enrolled in this major will think both concretely and abstractly to solve problems that require creativity, careful reasoning, and precision. This major spans theory and practice.

Computer Science Required Courses:
Junior Year - Introduction to Computer Programming
Computer Science Essentials (PLTW)
Computer Science Elective

Senior Year - Intermediate Computer Programming
Computer Science elective
Computer Science elective
(AP Computer Science Principles encouraged)

Computer Science Elective Courses:
AP Computer Science Principles (PLTW)
AP Computer Science A (PLTW)
Cybersecurity (PLTW)
Game Design and Development
GIS Technology 1
GIS Technology 2
Global Logistics Course 1 Honors
Informatics Course 1 Honors
Informatics Course 2 Honors
Networking Fundamentals

Introduction to Computer Programming
This course of study is designed to emphasize computer programming using the Python programming language. Topics include the software development cycle, program design and development, and practical experience in programming. Students will pseudocode and flowchart the program using a digital curriculum also used at the collegiate level. Students are also introduced to programming as it relates to virtual and augmented reality.

Cybersecurity (PLTW)
Whether seeking a career in the growing field of cybersecurity or learning to defend their own personal data or a company's data, students in Cybersecurity establish an ethical code of conduct while learning to defend data in today's complex cyberworld.

Computer Science Essentials (PLTW)
Students will experience the major topics, big ideas, and computational thinking practices used by computing professionals to solve problems and create value for others. This course will empower students to develop computational thinking skills while building confidence that prepares them to advance to Computer Science Principles and Computer Science A.

Intermediate Computer Programming
This course of study is a continuation of Programming I and is designed to extend prior knowledge of computer programming using the Python programming language. Students will also explore other programming languages and their applications, how programming is taught in college and career pathways for programmers.

AP Computer Science Principles (PLTW)
The purpose of AP Computer Science Principles is to introduce students to the foundational concepts of computer science and will include 3D animation, app development, visual design and robotics. The course will also allow students to explore and understand how computing and technology can impact the world by focusing on creative problem solving and real-world applications.

Geographic Information Systems 1 (GIS)
This course is designed to include fundamentals of Geographical Information Systems (GIS) and remote sensing concepts, project management strategies, and essential basic computer skills. Students will acquire a basic understanding of geographic terms and concepts necessary for the appropriate use of GIS, including concepts of spatial variables, scale, map projection, and map coordinate systems. Students will also be exposed to the history of GIS, how GIS fits into overall information management systems, and a variety of applications in which GIS can contribute to analysis and decision-making.

AP Computer Science A (PLTW)
Students cultivate their understanding of coding through analyzing, writing, and testing code as they explore concepts like modularity, variables, and control structures. This course is endorsed by the College Board, giving students the opportunity to take the AP Computer Science A exam for college credit.

Students may also complete the Computer Science pathway by taking all four Project Lead the Way courses listed below:

Required Courses
PLTW - Computer Science Essentials
PLTW - Cybersecurity
PLTW - AP Computer Science Principles
PLTW - AP Computer Science A

Global Logistics and Supply Chain Management

Global logistics and supply chain management connect internal functions of an organization with other institutions around the globe. It is vital to understand the roles of logistics and supply chain management in a global economy where individuals and organizations have access to markets across the world. This field requires critical thinking and problem-solving skills to coordinate the movement of goods and services that may be separated by a few feet or thousands of miles. In an industry always striving for optimization, decision-making skills are paramount.

Global Logistics Required Courses:

Junior Year - Introduction to Logistics Honors
Functional Areas in Logistics Honors

Senior Year - Global Logistics Management Honors
Logistics and Supply Chain Management Honors

Course 1: Introduction to Logistics Honors
This course engages students in solving contextual problems related to the concepts of supply chains, warehouse location, contingency planning, insourcing and outsourcing, and expanding existing supply chains. These concepts form the basis of global logistics and supply chain management and help Students understand how professionals examine options to maximize the use of resources across distribution networks.

Course 2: Functional Areas in Logistics Honors
This course compels students to explore deeper understandings of the concepts they discovered in the previous course as they navigate projects on warehouse design, inventory management, transportation optimization, information technology, emergency responsiveness and the supply chain for manufacturing.Students use their experiences in this course to discover ways that professionals minimize the outlay of resources while improving efficiency and ability in the global market.

Course 3: Global Logistics Management Honors
This advanced course offers challenging projects that require students to look at the global implications of the industry in more earnest as they experiment with decisions over intermodal transportation, route selection, international shipping regulations, emergency preparedness, cultural awareness, business ethics and international trade restrictions related to a distribution strategy. Students develop their understanding of the industry in this course and truly build their awareness of the challenges of doing business in a world with multiple borders that must be traversed.

Course 4: Logistics and Supply Chain Management Honors
This advanced course allows students to see the implications of all the concepts they learned in the previous three courses as they consider environmental impact, selecting business partners in a global and domestic chain, information technologyand decisions regarding e-commerce. Students explore the ongoing need to balance dependability and resource outlay in meeting customer demands around the world. Projects will expand students' decision-making skills as they tackle issues related to transportation, distribution networks and manufacturing.

Informatics

Informatics is the process of designing systems that take raw data and convert it into new knowledge that can be applied to any field while considering the impact on individuals, organizations and society. For example, students design, build and test a database to collect data on customers' shopping habits that will lead to target marketing of products customers will purchase. In today's global market, the ability to collect vast amounts of information cost-effectively is changing the way business manages information, creates knowledge and makes decisions. This program will prepare students with the knowledge and skills to be successful in both college and the global workforce. Career opportunities include new fields and transformed traditional fields.

Informatics Required Courses:

Junior Year - Computers, Networks and Databases Honors (H)
Design for the Digital World Honors (H)

Senior Year - Databases in the Cloud Honors (H)
Developing a Cloud Presence Honors (H)

Course 1: Computers, Networks and Databases H

This project-based-learning course engages students who are curious about informatics. In this course, students will learn how to use a design process to create systems that acquire, store and communicate data for a variety of career fields. Students will work collaboratively in teams to design systems, solve problems, think critically, be creative and communicate with each other and business partners. Students will participate in real-world experiences such as designing an inventory system for a retail store, comparing stores in a company to project future sales, track customer buying habits and more.

Course 2: Design for the Digital World H

This project-based-learning course engages students who are interested in applying the design process to create systems such as a cloud-based digital storage system for images. Students will design a system to automatically collect and report data on highway usage. They will apply a geospatial system to map a store and develop a database that studies shopping habits. Through these projects, students will learn about data management and logic-based queries by collecting data, using the Global Positioning System (GPS) and analyzing data utilizing a geographic information system (GIS). They will learn how to automate data collection to make processes more effective and efficient. Students will work collaboratively in teams and demonstrate their knowledge and skills by presenting new and innovative ideas, techniques and solutions to business and industry partners.

Course 3: Databases in the Cloud H

This project-based-learning course is for students who successfully completed courses one and two and who want to tackle the more complex challenges that business and industry face. Students at this level will learn about Web technologies, cloud storage, information security, data, animation, introductory computer programming and database applications. Students will take more responsibility for their own learning, problem solving and thinking outside of the box. Real-world challenges will require higher levels of research, building, testing, analyzing and improving systems. Students will develop solutions for real-world problems by designing a database for ticket sales; designing security for a database; creating a game with animation; reporting information based on population data in a community; and designing, building and testing an application for a database.

Course 4: Developing a Cloud Presence (H)

Students in this capstone course will focus on the ethics of privacy, social networking, designing for clients and artificial intelligence through six authentic projects. Students will select a business partner and design, build and test a Web presence for a company that will apply the concepts from the three prior courses. Student teams will work collaboratively with a business partner to develop a proposal for the project with evaluation criteria. Once the business partner accepts the proposal, the student team will implement it by designing, planning, building the system, and testing and revising the system to meet the needs of the business. Depending on articulation agreements or state policy, opportunity for dual credit may be available to students who successfully complete this course.

Networking

Networking introduces students to industry domains including: network architecture; network operations; network security; network troubleshooting; industry standards, practices, and network theory; and workplace readiness and leadership skills. In addition, instruction and training are provided for the proper care, maintenance, and use of networking software, tools, and equipment. Particular emphasis is given to the use of critical thinking skills and problem-solving techniques. Careers in Network Systems involve network analysis, planning, and implementation; including design, installation, maintenance, and management of network systems. Individuals in Networking Systems design and manage sets of computers called networks that are connected to each other or to one main computer. They also develop and install network software, operating systems, and hardware.

Networking Required Courses:

Junior Year - Networking Fundamentals
Networking Program Elective
Informatics Course 1- Computers, Networks, and Databases (H)
OR
Global Logistics Course 1- Introduction to Logistics (H)

Senior Year - Advanced Networking
Networking Elective
Informatics Course 2 - Design for the Digital World (H)
OR
Global Logistics Course 2 - Functional Areas in Logistics (H)

Networking Elective Courses:

AP Computer Science Principles (PLTW)
Cybersecurity (PLTW)
GIS Technology 1
GIS Technology 2
Global Logistics Course 1 Honors (H)
Informatics Course 1 Honors (H)
Informatics Courrse 2 Honors (H)
Computer Science Essentials (PLTW)

Advanced Networking

Advanced Networking is designed to provide students with classroom, laboratory, and hands-on experience in current and emerging networking technologies. Upon successful completion of the course sequence within the networking major, students will be able to seek employment or further their education and training in the information technology field.

Global Logistic Course 1- Introduction to Logistics H

This course engages students in solving contextual problems related to the concepts of supply chains, warehouse location, contingency planning, insourcing and outsourcing, and expanding existing supply chains. These concepts form the basis of global logistics and supply chain management and help students understand how professionals examine options to maximize the use of resources across distribution networks.

Informatics: Course 1- Computers, Networks, and Databases (H)

This project-based-learning course engages students who are curious about informatics. In this course, students will learn how to use a design process to create systems that acquire, store and communicate data for a variety of career fields. Students will work collaboratively in teams to design systems, solve problems, think critically, be creative and communicate with each other and business partners. Students will participate in real-world experiences such as designing an inventory system for a retail store, comparing stores in a company to project future sales, track customer buying habits and more.

Networking Fundamentals

Networking Fundamentals provides students with classroom, laboratory, and hands-on experience in current and emerging networking technologies. Upon successful completion of the course sequence in the networking major, students will be able to seek employment or further their education and training in the information technology field. The networking student will benefit most from the curriculum if he or she possesses a strong background in reading, math, and problem-solving skills.

Web and Digital Communications

The Web and Digital Communications major is designed for students with a desire to pursue careers such as Photo Editor, Graphic Artist, Web Page Developer, Webmaster, Illustrator, 3D Animator, and Multimedia Specialist. Students will have the opportunity to participate in local, regional, and national projects and contests as well as local shadowing and internship experiences. Through an articulation agreement with Horry Georgetown Technical College students have the opportunity to earn nine credit hours toward a Digital Arts degree.

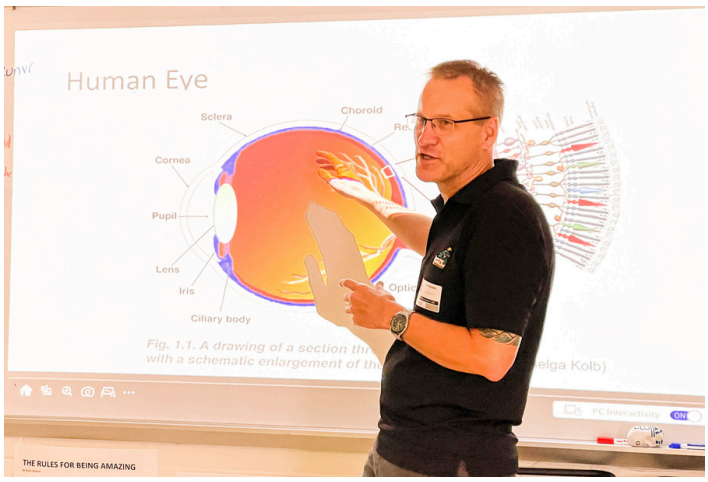
All juniors will participate in job shadowing/career experiences for the purpose of experiencing real world application of their education along with focusing on the 21st Century STEM skills to help them realize the importance that these competencies and skills play in the business and professional world. Juniors will blog weekly about the skills they learn, along with reflecting on the many experiences offered to them through the major.

All seniors are required to complete a senior exhibition of mastery portfolio in order to receive course credit. Students will spend a great deal of time researching and producing a portfolio centered on specific areas of Digital Communications. Seniors will blog weekly about the progress and development of their senior projects.

Web and Digital Communications Design Required Courses:

Junior Year - Fundamentals of Web Page Design and Development 1
Image Editing 1
Digital Design 1

Senior Year - Advanced Web Page Design and Development 2
Digital Design 2
Digital Design 3



Advanced Web Page Design and Development
This course focuses on scripting, developing searching strategies, publishing skills, and serving information on a web server. Students develop World Wide Web pages that incorporate text, audio, video, and graphics using web authoring software, JAVA scripting, XHTML, and CSS. Students determine and employ methods to evaluate the design, functionality, and security of online information in various settings. This course teaches students how to use networks, including the Internet, for research and resource sharing.

Digital Arts 1
This program provides instruction in layout, computer design, electronic art, color enhancement, and digital photography. Students use design concepts, principles, and processes that meet client expectations using Adobe Creative Suite Software.

Digital Arts 2
This program expands on instruction in layout, computer design, electronic art, color enhancement, and digital photography. Students use design concepts, principles, and processes that meet client expectations using Adobe Creative Suite Software. This program challenges the student to apply the concepts from Digital Arts I and incorporate design skills into their Senior Mastery.

Digital Arts 3
This program provides advanced instruction in layout, computer design, electronic art, color enhancement, and digital photography. Students use design concepts, principles, and processes that meet client expectations using Adobe Creative Suite Software: Career development and employability skills are the foundation of all career and technology education. Students will compile their works for inclusion in a portfolio, for use in this program of study, the workforce, or postsecondary education.

Fundamentals of Web Page Design and Development
This course is designed to provide students with the knowledge and skills needed to design, implement and maintain a website. Students create Web pages using HTML, Advanced HTML and a popular Web page software. Students develop a plan for posting, publicizing and promoting a Website.

Image Editing I
This course is designed for the student interested in Web and Digital Communications. Students are instructed in the fundamental features of using digital imaging software in editing and designing both photos and graphics. Students also learn the use of technologies related to digital imaging such as: basic computer operations; file sharing across networks; digital scanning; digital photography; preparing documents for output to various types of high resolution printers, and color calibration.

*AP Capstone: Students may choose to pair AP Capstone with any STEM Career Pathway. Students must take AP Capstone-Seminar in their junior year followed by AP Capstone-Research their senior year. Students may also choose to complete multiple pathways.

Core Academic Courses

English

AP Language and Composition
Prerequisite: English 2 Honors
This course follows a curriculum prescribed and endorsed by the College Board. AP Language and Composition involves students in the study of rhetoric as well as language and composition at the college level. Students read and analyze non-fiction works encompassing a wide range of mediums (written, visual, and auditory) in addition to writing arguments, essays, and research papers. Students must possess strong skills in analytical reading and written expression. Students write timed essays in class in preparation for the AP exam given in May. This is a semester-long course.

AP Literature and Composition
Prerequisite: English 2 Honors
or AP Language and Composition
AP Literature and Composition follows a curriculum prescribed and endorsed by the College Board and is designed to involve students in the study of literature and composition at the college level. Students read and write literary analysis on literary classics, fiction and poetry. Students must possess strong skills in analytical reading and written expression. Course content requires extensive reading outside of class and timed writings in class as preparation for the AP exam given in May. This is a year-long course.

English 3 CP
Prerequisite: English 2 CP
This course offers an in-depth study of American literature. Students will refine skills in the areas of literary analysis, grammar, composition, vocabulary development, and public speaking. Students will have multiple research experiences and complete at least one formal research paper. Students will create a portfolio of writing samples.

English 3 Honors
Prerequisite: English 2 Honors
This course incorporates the standards of English III but is characterized by a higher degree of complexity and more in-depth study. This course is a survey of American literature with an emphasis on literary analysis. Expository and persuasive writing are stressed to promote critical writing skills as well as critical thinking skills. Students will refine skills in the areas of grammar, vocabulary development, and public speaking. Students will have multiple research experiences and complete at least one formal research paper. Students will create a portfolio of writing samples.

English 4 CP
Prerequisite: English 3 CP
This course offers an in-depth study of British literature. Literary criticism, expository, persuasive writing, and critical thinking are emphasized. Students will have multiple research experiences and complete at least one formal research paper. Students will create a portfolio of writing samples. Completion of specific summer reading assignments is highly recommended.

English 4 Honors
Prerequisite: English 3 Honors
This course incorporates the standards of English IV but is characterized by a higher degree of complexity and more in-depth study. British literature and writing skills are emphasized, and students must read independently and pursue in-depth, complex literary analysis. Students will refine skills in the areas of grammar, vocabulary development, and public speaking. Students will have multiple research experiences and complete at least one formal research paper. Students will create a portfolio of writing samples. Completion of specific summer reading assignments is highly recommended.

Math

Algebra 2 CP
Prerequisite: Algebra 1
This course is an in-depth study of functions, patterns, relations, and concepts of number systems. This includes linear, quadratic, absolute value, radical, and rational functions. Conic sections and transcendental functions may also be addressed.

Algebra 2 Honors
Prerequisite: Algebra 1 H
Algebra 2 Honors covers the standards for Algebra 2 with greater depth and complexity. The honors course also includes the study of logarithmic and polynomial functions. This course prepares students for Pre-Calculus Honors.

AP Calculus (AB)
Prerequisite Precalculus Honors
Advanced Placement Calculus (AB) focuses on topics in analytic geometry, functions, and differential and integral calculus. This is a two-semester course with the student receiving honors credit for Calculus Honors first semester and AP Calculus credit for second semester. The competencies of this course are prescribed by the College Board. Students are expected to take the AP exam. This is a year-long course.

AP Calculus (BC)
Prerequisite: AP Calculus AB
The course content includes areas of regions bounded by polar graphs, the calculus of parametric equations, integration using partial fractions and trigonometric substitution and associated applications. Other topics of interest include series and sequences, tests of convergence, absolute and conditional convergence, power series, and the Taylor and Maclaurin series. The competencies of this course are prescribed by the College Board. Students are expected to take the AP BC exam. This is a semester-long course.

AP Statistics
Prerequisites: Probability and Statistics Honors
The purpose of the AP course in statistics is to introduce students to the major concepts and tools for collecting, analyzing and drawing conclusions from data. Students are exposed to four broad conceptual themes - Exploring Data: Describing patterns and departures from patterns; Sampling and Experimentation: Planning and conducting a study; Anticipating Patterns: Exploring random phenomena using probability and simulation; Statistical Inference: Estimating population parameters and testing hypotheses. This is a semester-long course.

Calculus Honors
Prerequisite: Precalculus Honors
The course is a continuation of concepts and skills from earlier courses with an in-depth study of polynomial, rational, exponential, logarithmic, and trigonometric functions. Calculus Honors also includes the study of computing limits, derivatives, and integrals. Students will solve problems applying these concepts. This one-semester course is for students choosing not to continue in AP Calculus.

Precalculus CP
Prerequisite: Algebra 2
The course will include a study of polynomial, rational, exponential, logarithmic, and trigonometric functions. Pre-calculus focuses on the development of the student's ability to understand and apply the study of functions and advanced mathematics concepts to solve problems.

Precalculus Honors
Prerequisite: Algebra 2 Honors
The course will include an in-depth study of polynomial, rational, exponential, logarithmic, and trigonometric functions. Honors Precalculus also includes the study of sequences, series, conic sections, parametric equations, and polar curves. This course prepares students for Calculus Honors and AP Calculus.

Probability and Statistics CP
Prerequisite: Algebra 1 or equivalent and Geometry
In this course, students will learn how to gather, organize, and analyze data. They will learn the fundamental principles of probability and statistics and apply these principles to data analysis. The course topics include foundations of data analysis, univariate data displays, interpret graphic displays, bivariate data and scatter plots, basic probability concepts and applications, and probability distributions.

Probability and Statistics Honors
Prerequisite: Algebra 1 or equivalent and Geometry
Probability and Statistics Honors covers the standards for Probability and Statistics with greater depth and complexity. In this course, students will learn how to gather, organize, and analyze data. They will learn the fundamental principles of probability and statistics and apply these principles to data analysis. The course topics include foundations of data analysis, univariate data displays, interpret graphic displays, bivariate data and scatter plots, basic probability concepts and applications, probability distributions, statistical inference, hypothesis testing, and project design.

Science

Anatomy and Physiology Honors
Prerequisite: Biology I and Chemistry
Honors anatomy and physiology is an introductory course focusing on the structure of the human body, from the cellular level to the body system level, and the main functions of those structures. Anatomy will include the muscles, bones, nerves, veins, and organs necessary for normal body functions. Physiology is the study of what goes on inside the "anatomy" during everyday life and during physical exertion. In addition, all body systems will be explored - skeletal, muscular, nervous, sensory, endocrine, circulatory, respiratory, digestive, urinary, and reproductive systems. The lab units will consist of hands-on animal dissection, and physical activity labs.

AP Biology
Prerequisites: Biology and Chemistry Honors
Students will be expected to develop a conceptual framework for modern biology. In order to develop a conceptual framework, students will be expected to develop an understanding of the major concepts in biology; Science as a Process, Evolution, Energy Transfer, Continuity and Change, Relationships of Structure and Function, Regulation, Interdependence in Nature and Science, Technology, and Society. Descriptive and experimental laboratory exercises will be assigned to promote deeper understanding of the content. These laboratory exercises will focus on higher order thinking, generating ideas, and formulating hypotheses. At the end of the course, students will be expected to take the Advanced Placement Exam. This is a year-long course.

AP Chemistry
Prerequisite: Chemistry Honors
For students who wish to pursue a science-oriented college degree. Further develops chemical topics with an emphasis on environmental chemistry, chemical industries, and physical chemistry. Substantial time will be devoted to laboratory work. Student will be expected to take the AP exam. This is a year-long course.

AP Environmental Science
Prerequisites: Biology Honors and either Chemistry or Physics Honors
The AP Environmental Science course is designed to be the equivalent of a one-semester, introductory college course in environmental science. Unlike most other introductory-level college science courses, environmental science is offered from a wide variety of departments, including geology, biology, environmental studies, environmental science, chemistry, and geography. In both breadth and level of detail, the content of the course reflects what is found in many introductory college courses in environmental science.

AP Physics
Prerequisite: Physics Honors
AP Physics 1 is the equivalent of a first-semester college course in algebra-based physics. It is designed to enable AP students to develop a deep understanding of the content and to focus on applying their knowledge through inquiry labs. The full course also allows time for inclusion of physics content specified by state standards. The course covers Newtonian mechanics (including rotational dynamics and angular momentum); work, energy, and power; mechanical waves and sound. It also introduces electric circuits

Chemistry CP
Prerequisite: Biology I
This course includes a study of the structure and organization of matter, chemical bonding, chemical equilibrium, chemical reactions, and environmental effects.

Chemistry Honors
Prerequisite: Biology I Honors, Algebra II (or concurrent)
This course includes a study of the structure and organization of matter, chemical bonding, chemical equilibrium, chemical reactions, and environmental effects. Students will be expected to complete an Honors Science Portfolio for this course.

Forensic Science CP
Prerequisites: Biology I
Recommended: Chemistry
This course is designed to help students to develop concept mastery, problem-solving skills, and critical/creative thinking. Because the skills presented in forensics are summative in nature with all being necessary to the field, it is highly recommended that you complete every assignment in a timely and thorough manner. Topics include Introduction to Forensics, Biological and Physical Evidence, Impression Evidence, Science of Homicide, Other Crimes, Document Analysis, and Forensic Psychology --Diagnostic Medicine may be incorporated throughout.

Forensic Science Honors
The goal of this course is to foster critical thinking in students as they incorporate prior knowledge from other science disciplines (biology, chemistry, physics, and anatomy), utilize inductive and deductive reasoning skills to make decisions about the relevance of information and the importance of what is collected, and analyze evidence to make decisions concerning criminal ramifications. Moreover, the goal of this course is to promote an understanding for processing crimes and a respect for those involved in that process. Students will be expected to complete an Honors Science Portfolio for this course.

Science, cont'd

Marine Science Honors
Prerequisite: Biology 1
This course is designed to meet the needs of the student who wishes to obtain an in-depth awareness of coastal and marine systems. The course will include a study of the biological, physical, chemical, and geological aspects of oceanography, marine biology, coastal environment, and the interrelationships among the disciplines. Instructional strategies include inquiry-based laboratory and field experiences, speakers, and projects. Because experimentation is the basis of science, laboratory investigations are an integral part of this course. Investigative, hands-on lab activities that address high school inquiry standards and science and engineering practices are central to effective instruction in this course. Students will be expected to complete an Honors Science Portfolio for this course.

Physics CP
Prerequisite: Biology I
This is a laboratory-based course which will include investigations into topics such as electricity, mechanics, light, wave and particle nature of matter, and thermodynamics. These investigations will draw heavily on math skills for data collection, manipulation, and analysis.

Physics Honors
Prerequisite: Biology I, Chemistry Recommended
This course will include an extensive experience in laboratory work to investigate topics such as electricity, mechanics, light, wave and particle nature of matter, and thermodynamics. These investigations will draw heavily upon the students' math skills for data collection, manipulation, and analysis. Students will be expected to complete an Honors Science Portfolio for this course.

Social Studies

AP European History
Prerequisite: None

The objective of the course is to increase the students' understanding and appreciation of European history since 1450, while also preparing them to succeed on the AP European History exam. Students will be introduced to the cultural, economic, political, and social developments that have played a fundamental role in shaping today's world. The goals of AP European History are to develop (a) an understanding of the principal themes in modern European history, (b) an ability to analyze historical evidence and historical interpretation, and (c) an ability to express historical understanding in writing. Students take the AP European History exam in May to determine if college credit will be earned for the course. This is a year-long course.

AP Government
Prerequisite: None
Recommended: AP Human Geography, AP European History or AP US History

This course presents an analytical perspective and government and politics in the United States. Its goals are to help students develop a critical understanding of the strengths and weaknesses of the American political system and recognize the rights and responsibilities of citizens. In order to achieve these objectives, the course will include both the study of general concepts used to interpret U.S. politics, and the analysis of specific examples. It also requires students to become familiar with the various institutions, groups, beliefs, and ideas that constitute the U.S. political system. Students take the AP U.S. Government and Politics exam in May. This is a year-long course taught on an AB schedule; its companion course is AP Microeconomics. Students who take the AP Government/AP Microeconomics course should be aware that if they drop this course after the first 5 days, they will receive a WF on their transcript.

AP Human Geography
Prerequisite: None

Advanced Placement (AP) Human Geography is designed to introduce highly motivated students to the systematic study of the patterns and processes that have shaped human understanding, use, and alteration of Earth's surface. Students employ geographic themes to examine human social organization and its environmental consequences. They learn about the methods and tools geographers use in their science and practice. This course follows the prescribed curriculum provided by the College Board. Students take the AP examination in May.

AP Microeconomics
Prerequisite: None
Recommended: AP Human Geography, AP European History or AP US History

AP Microeconomics is an introductory college-level course that focuses on the principles that apply to individual consumers, producers and single-goods markets. The course places particular emphasis on the study of cost/benefit analysis and market systems; it also develops students' familiarity with the interplay between consumer and producer markets, game theory, and market failures. Students learn to use graphs, charts, and data to analyze, describe, and explain economic concepts. This is a year-long course taught on an AB schedule; its companion course is AP Government. Students who take the AP Government/AP Microeconomics course should be aware that if they drop this course after the first 5 days, they will receive a WF on their transcript.

AP US History
Prerequisite: None

In AP U.S. History, students investigate significant events, individuals, developments, and processes in nine historical periods from approximately 1491 to the present. Students develop and use the same skills and methods employed by historians: analyzing primary and secondary sources; developing historical arguments; making historical connections; and utilizing reasoning about comparison, causation, and continuity and change. The course also provides eight themes that students explore throughout the course in order to make connections among historical developments in different times and places: American and national identity; work, exchange, and technology; geography and the environment; migration and settlement; politics and power; America in the world; American and regional culture; and social structures. This course fulfills the requirement for graduation. In addition to the AP exam the SC EOC will be administered to all students enrolled in this course.

Government and Economics CP
Prerequisite: None

In the economics portion of the course students will study financial literacy and the structure of the American economic system. The focus is on economic principles, with an emphasis on the efficient allocation of resources through the market forces of demand and supply. Students are given instruction in banking and financial institutions, credit card and credit management, and stock and bond markets. On the government portion of the course, students will primarily examine operation of the major American institutions such as the Presidency, the National Courts, and Congress.

Social Studies, cont'd

Government/Economics Honors
Prerequisite: None
This is a rigorous course designed for high school seniors. One semester will deal with Economics. Its goal is to increase students' financial literacy and to study the structure of the American economic system. The focus is on economic principles, with an emphasis on the efficient allocation of resources through the market forces demand and supply. With regard to financial literacy, students are also given instruction in banking and financial institutions, credit card and credit management, and stock and bond markets. The second semester will deal with the U.S. National Government. Students will primarily examine the operation of major American institutions such as the Presidency, the National Courts, and Congress. Civil rights, civil liberties and civic responsibilities will also be discussed.

US History CP
Prerequisite: None
This survey course covers the social, economic, and political developments in the United States from the earliest settlement of North America to the present. This span includes the Native Americans, establishment of colonies, creation of a new nation, the U.S. Constitution, territorial expansion to the west, Civil War and Reconstruction, industrialization and immigration of the late nineteenth century, and our nation's role in world affairs in the twentieth and twenty-first century. Students will analyze historical documents, understand varying viewpoints, and evaluate the historical interpretations of others. This course is required for graduation. The SC EOC will be administered to all students enrolled in this course.

US History Honors
Prerequisite: None
This course is an in-depth study of the social, economic, and political developments in the United States from the earliest settlement of North America to the present. This span includes the Native Americans, establishment of colonies, creation of a new nation, the U.S. Constitution, territorial expansion to the west, Civil War and Reconstruction, industrialization and immigration of the late nineteenth century, and our nation's role in world affairs in the twentieth and twenty-first century. Students will analyze historical documents, understand varying viewpoints, and evaluate the historical interpretations of others. This course fulfills the requirement for graduation. The SC EOC will be administered to all students enrolled in this course.

World Language

The study of a foreign language enriches the student's understanding of world cultures and provides the student with the skills to live in a diverse world and to compete in a global economy and job market. Although a foreign language is not required for graduation, two units of the same foreign language are required for admission to most colleges and universities. Some colleges and universities require three units of the same foreign language. Contact the admissions office at the college or university that you are interested in attending for specific foreign language requirements.

Spanish I
Prerequisite: None
This course is the first in a series in which students develop communication skills, cultural knowledge, connections to their subject areas, comparisons to their own language and culture, and participation in multilingual communities. Students will study vocabulary, the basic grammatical mechanics of the language, pronunciation, and culture. Emphasis is placed on developing interpretive, interpersonal, and presentational skills within an authentic cultural context.

Spanish II
Prerequisite: Spanish I
This course is a continued study of the language principles developed in Spanish I. Students will expand their basic knowledge of the language. Students will learn additional vocabulary and will be exposed to more complex grammar concepts and cultural contexts. Interpretive, interpersonal, and presentational skills will continue to be developed and applied.

Spanish III Honors
Prerequisite: Spanish II
This third level of language study again advances what has been acquired in Spanish I and II. All concepts and vocabulary learned in the first two levels are utilized and expanded. The course includes an intensified study of vocabulary, grammar, and culture to further develop interpretive, interpersonal, and presentational skills in language. Students will be expected to exhibit higher levels of comprehension in all standards.

Spanish IV Honors
Prerequisite: Spanish I, II, and III
This advanced Spanish language course emphasizes speaking and oral comprehension of current topics. Students also study the structure of the Spanish language, development of writing skills and expanded reading comprehension. Students will be expected to exhibit higher levels of comprehension in all standards.

Electives

AP Art History
Prerequisite: None
The AP Art History course welcomes students into the global art world to engage with its forms and content as they research, discuss, read, and write about art, artists, art making, and responses to and interpretations of art. By investigating specific course content of 250 works of art characterized by diverse artistic traditions from prehistory to the present, the students develop in-depth, holistic understanding of the history of art from a global perspective. Students learn and apply skills of visual, contextual, and comparative analysis to engage with a variety of art forms, developing understanding of individual works and interconnections across history.

Computer Science Principles (PLTW)
Prerequisite: Fundamentals of Computing Programming I
Using Python® as a primary tool, students explore and become inspired by career paths that utilize computing, discover tools that foster creativity and collaboration, and use what they've learned to tackle challenges like app development and simulation. This course is endorsed by the College Board, giving students the opportunity to take the AP Computer Science Principles exam for college credit.

AP Computer Science A
Throughout the Computer Science A course experience, students cultivate their understanding of coding through analyzing, writing, and testing code as they explore concepts like modularity, variables, and control structures. Fundamental topics in this course include the design of solutions to problems, the use of data structures to organize large sets of data, the development and implementation of algorithms to process data and discover new information, the analysis of potential solutions, and the ethical and social implications of computing systems. The course emphasizes object-oriented programming and design using the Java programming language. PLTW is recognized by the College Board as an endorsed provider of curriculum and professional development for AP® Computer Science A (AP CSa). This endorsement affirms that all components of PLTW CSa's offerings are aligned to the AP Curriculum Framework standards and the AP CSA assessment.

AP Psychology
Prerequisite: None
AP Psychology is an introductory college-level psychology course. Students cultivate their understanding of the systematic and scientific study of human behavior and mental processes through inquiry-based investigations as they explore concepts like the biological bases of behavior, sensation and perception, learning and cognition, motivation, developmental psychology, testing and individual differences, treatment of abnormal
behavior, and social psychology.

AP Research Course
(Capstone may be paired with any STEM Career Pathway)
Prerequisite: AP Seminar Course
This course allows students to deeply explore an academic topic, problem, issue, or idea of individual interest. Students design, plan, and implement a yearlong investigation to address a research question. Through this inquiry, they further the skills they acquired in the AP Seminar Course by learning research methodology, employing ethical research practices, and
accessing, analyzing, and synthesizing information. Students reflect on their skill development, document their processes, and curate the artifacts of their scholarly work through a process and reflection portfolio. The course culminates in an academic paper of 4,000-5,000 words (accompanied by a performance, exhibit, or product where applicable) and a presentation with an oral defense. This is a year-long course.

AP Seminar Course
(Capstone may be paired with any STEM Career Pathway)
Prerequisite: None
Recommended: Advanced Grammar and Composition
AP Seminar is a foundational course that engages students in cross-curricular conversations that explore the complexities of academic and real-world topics and issues by analyzing divergent perspectives. Using an inquiry framework, students practice reading and analyzing articles, research studies, and foundational, literary, and philosophical texts; listening to and viewing speeches, broadcasts, and personal accounts; and experiencing artistic works and performances. Students learn to synthesize information from multiple sources, develop their own perspectives in written essays, and design and deliver oral and visual presentations, both individually and as part of a team. Ultimately, the course aims to equip students with the power to analyze and evaluate information with accuracy and precision in order to craft and communicate evidence-based
arguments. This is a year-long course.

Electives, cont'd

Advanced Principles of Public Health
This advanced course will provide information for students to acquire an understanding of various kinds of research that promote public health. This course will provide an understanding of the various topics and concepts including epidemiology, the immune system, outbreak investigation, public health surveillance, ethics, and research study designs. The inquiry-based instruction of this course allows students to engage in problem solving, decision-making, critical thinking, and applied learning.

Advanced Web Page Design and Development
Prerequisite: Fundamentals of Web Page Design and Development
This course focuses on scripting, developing searching strategies, publishing skills, and hosting information on a web server. Students develop World Wide Web pages that incorporate text, audio, video, and graphics using web authoring software, JAVA scripting, XHTML, and CSS. Students determine and employ methods to evaluate the design, functionality, and security of online information in various settings. This course teaches students how to use networks, including the Internet, for research and resource sharing.

Art 1
Art 1 is a basic foundation course which analyzes and interprets art elements and principles of art and design in different art media. Students experience various studies in media processes, techniques, and control in drawing, painting, printmaking, 2D design, and 3D design.

Art 2
Art 2 is a continuation course that is still based on the elements and principles of art and design but has a greater concentration on the essential art fundamentals and application. Students apply learned principles from drawing, 2D, and 3D media. Students extend processes and techniques in all media used in Art 1. Classes are designed to promote self-choice, organization, and time on task. Quality art standards are encouraged.

Introduction to Computer Programming
This course of study is designed to emphasize the fundamentals of computer programming. Topics include computer software, program design and development, and practical experience in programming, using modern, object-oriented languages.

Current Events
This course enables students to become more knowledgeable about matters discussed and debated by U.S. policy makers. Emphasis is placed on the use of analytical and interpretive skills as students explore domestic and foreign policy issues and research background information (arguments both pro and con). A major goal of the course is to produce civic participation based on informed perspectives.

Cyber Security (PLTW)
This course will include studies of real-world cybersecurity issues, breaches and threats. Students will learn how governments, businesses, schools and individuals can guard against cyber threats. Students will also study computer forensics defined as analyzing digital data as it relates to cybersecurity.

Emergency Medical Services 1
Introduction to Emergency Medical Services (EMS) is designed to introduce students to the emergency medical field. Through classroom and laboratory instruction, students will gain knowledge in medical, legal and ethical issues; safety and infection control; personal wellness; disaster preparedness; and hazardous materials recognition and response.

Emergency Medical Services 2
Emergency Medical Services (EMS) 2 is the second course in a sequence of courses. Emergency Medical Services (EMS) 2 is a continuation of EMS 1. The course includes content and skills that first responders need, to provide appropriate initial care, regardless of the type of emergency. EMS 2 stresses the steps to follow in an emergency until more advanced medical personnel arrive. The skills and content taught at this level become more specific and rigorous. Students in this course will be certified in FA/CPR/AED if not certified before course attendance. Recertification may take place as needed. *Successful completion of this course may result in First Responder certification available through various national certifying bodies.

Foundations of Public Health
This foundational course will provide introductory information for students interested in public health. This course will provide an understanding of the various components that influence personal, community, and population health. The students will be introduced to epidemiology and biostatistics while analyzing foundational principles of public health education.

Electives, cont'd

Fundamentals of Web Page Design and Development CP
This course leads students through the entire web site creation process, from start to finish, while developing and enhancing their HTML, CSS, and visual design skills along the way. Students will learn how to create accessible web sites that let users easily and quickly navigate through information, regardless of browser type, connection speed, or browsing device. Students will also explore the principles of responsive design, a new method of designing web sites that adapt to devices ranging from mobile phones to desktop monitors. Whether students are building a site from scratch or redesigning an existing site, the principles presented in this course will help them to deliver web content in a more responsive, accessible, and visually exciting way. The purpose of this course is for students to be able to properly harness fundamental Web design skills. The course covers Hypertext Markup Language (HTML), CSS Style Sheets and introduces students to Dreamweaver, Photoshop along with other potential interests as it pertains to Web Design. Major projects will focus on Design skills along with building a portfolio Website building upon their skills as they learn. Many fields of industry value an employee who is proficient in the basics of HTML, Adobe Dreamweaver and Photoshop as they can be applied to different facets of job performance. This class will provide you with the skills necessary to apply these technologies in such a way that they could be used to create various educational and personal projects for the student.

Geographic Information Systems 1 (GIS)
This course is designed to include fundamentals of Geographical Information Systems (GIS) and remote sensing concepts, project management strategies, and essential basic computer skills. Students will acquire a basic understanding of geographic terms and concepts necessary for the appropriate use of GIS, including concepts of spatial variables, scale, map projection, and map coordinate systems. Students will also be exposed to the history of GIS, how GIS fits into overall information management systems, and a variety of applications in which GIS can contribute to analysis and decision-making.

Geographic Information Systems 2 (GIS)
Geographical Information Systems (GIS) 2 is designed to enable/prepare students to use their knowledge of mapping and cataloging to complete numerous geospatial applications. They will learn techniques in displaying, managing, querying, symbolizing, and creating geospatial data. Students will learn the skills required to work on and/or build advanced GIS/RS projects.

Global Logistics Course 1- Introduction to Logistics Honors
This course engages students in solving contextual problems related to the concepts of supply chains, warehouse location, contingency planning, insourcing and outsourcing, and expanding existing supply chains. These concepts form the basis of global logistics and supply chain management and help students understand how professionals examine options to maximize the use of resources across distribution networks.

Image Editing I
This course is designed for the student interested in Web and Digital Communications. Students are instructed in the fundamental features of using digital imaging software in editing and designing both photos and graphics. Students also learn the use of technologies related to digital imaging such as: basic
computer operations; file sharing across networks; digital scanning; digital photography; preparing documents for output to various types of high resolution printers, and color calibration.

Game Design and Development
Game Design and Development provides students with the opportunity to design and develop fully-functional video games with product design documentation. This course emphasizes game control and logic, design tools, and the physics of games using computer programming.

Informatics: Course 1- Computers, Networks, and Databases Honors
This project-based-learning course engages students who are curious about informatics. In this course, students will learn how to use a design process to create systems that acquire, store and communicate data for a variety of career fields. Students will work collaboratively in teams to design systems, solve problems, think critically, be creative and communicate with each other and business partners. Students will participate in real-world experiences such as designing an inventory system for a retail store, comparing stores in a company to project future sales, track customer buying habits and more.

Informatics: Course 2- Design for the Digital World Honors
This project-based-learning course engages students who are interested in applying the design process to create systems such as a cloud-based digital storage system for images. Students will design a system to automatically collect and report data on highway usage. They will apply a geospatial system to map a store and develop a database that studies shopping habits. Through these projects, students will learn about data management and logic-based queries by collecting data, using the Global Positioning System (GPS) and analyzing data utilizing a geographic information system (GIS). They will learn how to automate data collection to make processes more effective and efficient. Students will work collaboratively in teams and demonstrate their knowledge and skills by presenting new and innovative ideas, techniques and solutions to business and industry partners.

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Electives, cont’d

Networking Fundamentals CP
Networking Fundamentals provides students with classroom, laboratory, and hands-on experience in current and emerging networking technologies. Upon successful completion of the course sequence in the networking major, students will be able to seek employment or further their education and training in the information technology field. The networking student will benefit most from the curriculum if he or she possesses a strong background in reading, math, and problem-solving skills. Knowing how to install, configure, and troubleshoot a computer network is a highly marketable and exciting skill. This course first introduces the fundamental building blocks that form a modern network, such as protocols, topologies, hardware, and network operating systems. It then provides in-depth coverage of the most important concepts in contemporary networking, such as TCP/IP, Ethernet, wireless transmission, and security. The course will prepare students to select the best network design, hardware, and software for their environment. Students will also have the skills to build a network from scratch and maintain, upgrade, and troubleshoot an existing network. Finally, students will be well prepared to pass CompTIA’s (the Computing Technology Industry Association’s) Network+ certification exam.

Pharmacology for Medical Careers
This course is designed to inform senior level students about pharmacology in the medical field. Through project-based activities, classroom lab experiences, and work-based learning opportunities students are exposed to pharmacy careers and benefit from pharmacology, math, and science standards included in this course.

Upon successful completion of the course students may be prepared to sit for the national pharmacy technician certification exam (PTCB, ExCPT).

Teacher Cadet - Dual Enrollment
This course is for four-year college bound students and students who plan to begin post-secondary education at a two-year institution and transfer to a four-year college. Emphasis is placed on analytical and interpretive skills. The course content focuses on introducing the profession of education andlooks at all facets of education, K-12. Applicants are screened according to the admission criteria

Theatre 1
Learn basic theater principles in stage movement, voice, diction, script analysis, character development, and theatrical design. Study the history and vocabulary of theater. Practice techniques to overcome stage-fright, develop self-confidence and oral presentation skills that will be applicable across many disciplines.

Theatre 2
Apply the basic principles of stage movement, voice, diction, script analysis, character development, and theatrical design to the production and public performance of a one-act play. The course emphasizes collaboration and ensemble building skills that will be applicable to many disciplines.

Technical Theatre Arts
Learn how lights, sound, set, projection, props, costumes, and makeup design function together to communicate scripted stories. Develop basic theatrical design skills in each area of technical theatre, including industry-standard software and hardware associated with each aspect of design. The course emphasizes engineering and artistic design processes and will include working collaboratively as part of a design team to support public performances.

Dual Enrollment—HGTC

English 101
Prerequisite: English 3 Honors or AP Literature or Language
Students must have English 101 and 102 to replace English 4. This course presents the following topics: a study of composition in conjunction with appropriate literary selections, with frequent theme assignments to reinforce effective writing. A review of standard usage and the basic techniques of research are presented. This course is transferable to public senior institutions as part of the South Carolina Commission on Higher Education Statewide Articulation Agreement. Only seniors are allowed to enroll in this course.

English 102
Prerequisite: C avg. or higher in English 101
Students must have English 101 and 102 to replace English 4. This course presents the following topics: development of writing skills through logical organization, effective style, literacy analysis and research. An introduction to literary genre is also included. This course is transferable to public senior institutions as part of the South Carolina Commission on Higher Education Statewide Articulation Agreement. Only seniors are allowed to enroll in this course.

Music Appreciation 105
This course will focus on the elements of music and their relationships, the musical characteristics of representative works and composers, common musical forms and genres of various Western and non-Western historical style periods and appropriate listening experiences.

Speech 205
This course is an introduction to principles of public speaking with application of speaking skills.

Sociology 101
This course emphasizes the fundamental concepts of sociology, including culture, socialization, interaction, social groups and stratification, effects of population growth, and technology. Fee Required.

Psychology 201
This course includes the following topics: scientific method, biological basis for behavior, perception, motivation, learning, memory, development, personality, abnormal behavior, therapeutic techniques, and social psychology. Fee Required.

Spanish 101
This university parallel transfer course is a study of the four basic language skills: listening, speaking, reading, and writing, including an introduction to the Spanish culture.

Spanish 102
Prerequisite: C or higher in Spanish 101
Continues development of basic language skills and the study of Spanish culture.