PHS 9th grade Course Selection Choices

Science Options

Principles of Biomedical Science Honors: Year – 10 credits. The Principles of Biomedical Science (PBS) 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. ***Meets the UC/CSU d requirement.***

Biology P: Year – 10 credits. A college preparatory course that fulfills one year of laboratory life science. Topics include cells, genetics, evolution, ecology, and physiology. ***Meets the UC/CSU d requirements***.

World Language

Beginning Language 1 P: Year – 10 credits. An elementary course with emphasis on vocabulary, pronunciation, basic grammar, verb conjugations, conversation and typical speech patterns. This also includes learning to speak the language clearly and be well understood. In addition, learning to comprehend the written language and write it correctly is continually stressed. One of the great advantages to studying any foreign language is that the student will acquire a new awareness and appreciation of other cultures and lands. As a result, he/she will develop increased knowledge and awareness of English and the American Culture. Students must have a passing grade at the end of the semester to continue. ***Meets the UC/CSU e requirement.***

Elective Course Descriptions

AP Human Geography: Year - 10 credits. AP Human Geography introduces students to the systematic study of patterns and processes that have shaped human understanding, use, and alteration of Earth's surface. Students employ spatial concepts and landscape analysis to examine socioeconomic organization and its environmental consequences. They also learn about the methods and tools geographers use in their research and applications. The curriculum reflects the goals of the National Geography Standards (2012). ***Meets the UC/CSU a requirement.***

Auto 1: Year – 10 credits. Auto 1 is a year-long course designed for students interested in a career as an auto mechanic. Students learn a variety of skills ranging from simple repairs (brakes) to complex troubleshooting and replacement. Our auto program has an articulation agreement with Los Medanos College whereby students who complete two years of auto technology at Pittsburg High are able to enter year #2 of the auto program at the college.

Beginning Art: Year **-** 10 credits. Beginning Art, formulated around the Standards for Visual Arts, allows students to explore the fundamentals of drawing, painting, lettering, and composition. Students will be given technical instruction in the use of various media and explore creative approaches in artistic expression. Students will study art history in relation to the art concepts they are studying in class and the projects they are creating. Students will also complete reading, writing and sketchbook assignments for class. Students will demonstrate their ability to apply the knowledge learned in class to artwork critiques through various assessment opportunities including written tests and projects. ***Meets the UC/CSU f requirement.***

Commercial Drone Pilot: Year - 10 credits. Have you ever flown a drone? Have you ever wanted to fly a drone? Did you know that *many* jobs/careers highly value drone experience? PHS is offering a NEW Commercial Drones Pilot ("Drones" for short) class next year. You will not only learn how to fly drones, you will learn how to diagnose problems and repair them, how different industries use drones (they're not just for taking cool aerial pictures!), the laws and regulations that govern them, and you'll have the opportunity to take the Commercial Drone Pilot license test! No experience is necessary, you'll be learning how to fly drones using different simulators, then, once you're ready, you'll be flying the drones. This class is open to all grade levels. Prerequisites are completion of Algebra 1 with a grade of C or higher and with a co-requisite of Geometry with a grade of C or higher. Introduces students to the FAA (Federal Aviation Administration) Licensing requirements to become a Commercial Drone Pilot under FAR (Federal Aviation Regulations) Part 107 (Unmanned Aircraft Systems – UAS operator). These include Aerospace Engineering concepts, Drone designs, mechanical systems, propulsion systems, programming and control systems. Students work both individually and in groups. Using the engineering principles, the students explore the various designs and performance with projects while using state of the art

computer software, simulations and drone equipment. Students learn about aircraft and drone operations within the FAA controlled airspace. It prepares the student to be able to successfully pass the FAA (Federal Aviation Administration) Part 107 UAS Licensing and written Knowledge Test requirements to become an industry recognized, certificated and Federal licensed Commercial Drone Pilot. They learn how to take their own ideas and concepts to develop them into solutions while taking notes, data and making sketches which would be documented in their Engineering Notebooks/ Journals. Along with coordinating with industry partners and fields (i.e. Los Medanos College, Volansi, Hodge Flight Services, Pilot City, video production, Civil Engineering, and others) the students will help develop solutions and designs, prototypes, testing and presenting their solutions / ideas to industry / public. This course can allow students to leave high school with not just a local or state certification, but a Federal/National and internationally recognized license and skills as a Commercial Drone Pilot. This course will follow the already established and recognized PHS Engineering and Technology pathway at Pittsburg High School. The AOPA curriculum is a nationally recognized high school aviation related curriculum that many U.S. high schools have already adopted and adapted to their Engineering curriculums. ***Meets the UC/CSU g requirement.***

Computer Graphics *(ROP)*: Year – 10 credits. Computer Graphics offers students an opportunity to learn hands-on skills using the same computer equipment and software applications found in professional production shops and design studios. Software includes Pagemaker, Adobe Illustrator, and Adobe Photoshop. Students develop desktop publishing skills including PostScript Illustration, scanning, digital photo retouching and advanced composition techniques. Students create business cards, flyers, brochures, magazine layouts, and newspaper advertisements. This course is a prerequisite for Advanced Computer Graphics. ***Meets UC/CSU f requirement.***

Computer Science Discoveries: Year – 10 credits. Computer Science Discoveries (CS Discoveries) is an introductory computer science course that empowers students to create authentic artifacts and engage with computer science as a medium for creativity, communication, problem solving, and fun. CS Discoveries focuses on the skills that enable students to create and express themselves in a variety of contexts and media, whether they are developing their own website, designing an app, building a game, or creating a physical computing device, students are empowered to bring their ideas to life. ***Meets the UC/CSU d requirement.***

Construction Tech 1: Year – 10 credits. A Variety of hand tools and machines are used to. Planning materials, cutting, joining, and finishing wood projects are emphasized.

Digital Photography: Year – 10 credits. Digital Photography is a creative art and technology course that will provide students with an opportunity to advance their knowledge and skills in the art of Photography and the technology of Digital Photography. This course will familiarize the student with basic and advanced digital photographic equipment, materials, and processes, including the use of computer hardware and software programs. Students will develop their creative ability, aesthetic eye, and critical assessment of photographic works. ***Meets the UC/CSU f requirement)***

Digital Recording Studio: Year – 10 credits. Digital Recording Studio is a course where students learn the art and science of Audio Engineering as practiced by professional Recording Engineers, Broadcast Audio Engineers and Sound Reinforcement Technicians. Students receive rigorous hands-on training in the use of professional audio hardware and software in professional workflows. Students gain experience recording, mixing, mastering, and final distribution of projects by working with professional analog and digital audio technology. Integrated throughout the course are career technical education standards, which include basic academic skills, communication, career planning, technology, problem solving, safety, responsibility, ethics, teamwork, and technical knowledge. ***Meets UC/CSU f requirement.***

Ethnic Studies: Year- 10 credits. Ethnic Studies focuses on themes of social justice, social responsibility, and social change**.** The course spans from past to present, from politics to social reform, allowing students to identify similar social patterns and universal qualities present in other societies, including their own. ***Meets the UC/CSU g requirement.***

Game Design and Development: Year- 10 credits Game Design introduces students to the entire process of how a video game is conceived, how it is put together, and how it is published using industry leading software, and concludes with students producing a functioning game by the end of the course. ***Meets the UC/CSU f requirement.***

Intro to Design: Year – 10 credits. Introduction to Design is the first in a series of engineering classes based on Project Lead the Way's national curriculum. The course counts as an art class & can lead to industry certification and/or college credit. The course focuses on three areas: The Design Process used by engineers and other creative professions. 3D modelling using Inventor software, an industry standard software, and career readiness skills. Students will learn: how to keep an engineering journal with all of their creative work. How to do basic technical sketches. How to use Inventor to create 3D Models, Multiview Drawings, and how to use a 3D printer to print their designs. ***Meets the UC/CSU f requirement.***

Introduction to Theater Year – 10 credits. This year long course is an introduction to theater through exercises in stage movement and oral interpretation. Students learn basic acting techniques through the use of improvisation, mime, and selected scenes. Students place more emphasis on acting scenes from contemporary plays and improvisation. Drama history is studied in relation to styles of acting. This course may not be repeated for credit. ***Meets the UC/CSU f requirement.***

Music Appreciation: Year- 10 credits. Music Appreciation is an introductory course to music. Students will explore music's various functionalities in order to gain a deeper understanding and appreciation for all types of music. The course examines basic music literacy and core musical elements such as melody, rhythm, harmony, form, and texture**.**

Robotics: Year – 10 credits. Robotics prepares students to compete in FIRST Robotics and VEX robotics Competitions. Focusing on hands-on experience in the field of robotics, students design, build, & program a variety of robots using a variety of materials and equipment. Students will have the opportunity to program in RobotC, Labview, HTML, and Java. Students will have the opportunity to use Inventor to create 3D models of their robots. Students will also have opportunities to meet industry professionals and have access to specialized scholarships. **This is a 7th Period course and it meets the UC elective admissions requirement**. ***Meets the UC/CSU g requirement.***

Vocal Ensemble: Year – 10 credits. A training group for students who love to sing and want to improve their skills. Students work on proper vocal technique, pitch matching, harmony parts, intonation, music reading skills, music vocabulary, listening skills, rehearsal techniques, and a wide variety of repertoire. Outside- of-class-time performances are required. This class may be repeated as many times as desired.

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