PHS Rising 8th Grade Course Descriptions for

Career Technical Education (CTE) Courses

For current 8th graders who will be 9th graders in 2024 – 2025

Art of Video Production: In Art of Video Production, students compare the media of film, television and video, including the aesthetics, cultural elements and history. Students develop skills to produce their own videos, and take an in-depth look at the nature of video communication, exploring aspects of pre-production and post-production, script writing, camera-work, lighting and sound. Students utilize skills in directing and editing to produce a variety of projects, including school newscasts, documentaries, and video productions. ***Meets UC/CSU F Requirement.***

Auto 1:   Auto 1 is the introductory course to the Automotive pathway. This pathway is unique in that it focuses on electric and hybrid cars, and even includes autonomous technology. Auto 1 will introduce you to the automotive industry and provide a basic overview of the eight areas of certification as specified by the National Institute for Automotive Service Excellence (ASE Alliance). You will explore the modern automobile, its major systems, and careers in industries such as Transportation, Engineering, IT, Robotics, and more! The emphasis of this course is on entry level skills and car owner knowledge. Topics will include safety, tools, tires, wheel alignments, multipoint inspections, engines, transmissions, suspensions, steering, brakes, and electrical systems including computer controls. This course is primarily in the classroom in conjunction with hands-on activities in the shop to apply the concepts learned in the classroom.   ***College Credit earned (articulated)***

Computer Graphics: 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: Computer Science Discoveries is an introductory computer science course that empowers students to 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.***

Digital Photography: 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: 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 hands-on training in the use of professional audio

hardware and software and 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.***

Drone Pilot: 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 course will introduce you to the FAA (Federal Aviation Administration) Licensing requirements to become a Commercial Drone Pilot under Part 107 (Unmanned Aircraft Systems – UAS operator). Topics include Aerial photography, Videography, Surveying, Mapping, USA Safety Test (TRUST) Certification, Block Coding, Drone design, Drone Troubleshooting, Drone Block Simulator, Python programming, etc. You will work both individually and in groups. This course will allow you to leave high school with a Federal/National and internationally recognized license and skills as a Commercial Drone Pilot. ***Meets the UC/CSU g requirement. College Credit earned (articulated).***

Game Design: 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 g requirement. College Credit earned (articulated), in process.***

Intro to Engineering Design: [Note: this is an _Engineering_ class.] 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. College Credit earned (articulated).***

Robotics: 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, and program a variety of robots using a specialized materials and equipment. Students will have the opportunity to program in RobotC, Labview, HTML, and Java. They will also have the opportunity to use Inventor to create 3D models of their robots, as well as get to meet industry professionals and have access to specialized scholarships. **This is a 7th Period course**. ***Meets the UC/CSU g requirement.***

Wood: (Also known as Construction Tech 1) Construction Tech 1 prepares students for 1.) employment, 2.) continued education in the occupations of Construction and/or 3.) entrance to post-secondary education. Students are introduced to OSHA safety standards (Certificate of Achievement), tool use, construction math, overview of basic stages of construction such as site preparations, layout and excavation for foundation, forming and pouring concrete, floor systems, wall construction, roof systems, etc. A variety of hand tools and skills are taught and practiced. Tools include hammers, multiple types of saws, nails, ladders, etc. Skills learned include hammering, sawing, measuring, etc.