

STEM COURSES

Agriscience		<u>Courses must be taken in sequence:</u>	
		Agriscience I (Year 1) CTS195A/JTS195A CTS195B/JTS195B	
		Agriscience II (Year 2) CTS261A/JTS261A CTS261B/JTS261B	
		Agriscience III (Year 3) CTS262A/JTS262A CTS262B/JTS262B	
		Agriculture SOE (Required in conjunction with another Agriscience class) CTS199A/CTS199B	
		Agriscience Internship (Optional) CTS263A/CTS263B	
Grade: 9-12	3 Year Program	Program offered at: AHS	
<p>Current trends point to a national shortage of college graduates in agricultural science. Develop skills working with various species of livestock.</p> <ul style="list-style-type: none"> • Acquire an understanding of plant and animal organisms, their tissues, cells, functions, interdependencies, and interactions with each other and the environment • Operate and manage aspects of livestock production, reproduction, health, feeding • Conduct research and study the agriculture industry, natural resource systems, agriculture mechanics, food sciences, and more • Study nutritional requirements of animals and nutritive values of animal feed materials 			Fee required

Architectural Drafting & Design		<u>Courses must be taken in sequence:</u>	
		Architectural Drafting I (Year 1) CTS144A/JTS144A CTS144B/JTS144B	
		Architectural Drafting II (Year 2) CTS145A/JTS145A CTS145B/JTS145B	
		Architectural Drafting III (Optional Year 3) CTS146A/JTS146A CTS146B/JTS146B (6 credits from PCC available)	
		Architectural Drafting IV (Optional Year 4) CTS148A/JTS148A CTS148B/JTS148B	
		Architectural Drafting Internship (Optional) CTS147A/CTS147B	
Grade: 9-12	2 Year Program	Program offered at: CDO	
<p>There is a high demand for skilled drafters and plenty of professional growth opportunities in today's market.</p> <ul style="list-style-type: none"> • Learn techniques of sketching, drafting, computer aided drafting (CAD) programs, layout, design, blueprint Interpretation, and all phases of drawing house plans • Instruction in construction and structural design, architectural and engineering drawings, problem solving, and 3D architectural rendering • Build 3D house models from wood and foam board along with designing and constructing various projects and other real-life projects • Students can demonstrate their skills in regional, state, and national SkillsUSA competitions 			Fee required

Digital Photography		<u>Courses must be taken in sequence:</u>	
		Introduction to Photography (Year 1) CTS155A/JTS155A CTS155B/JTS155B	
		Photography (Year 2) CTS156A/JTS156A CTS156B/JTS156B	
		Advanced Photography (Year 3) CTS157A/JTS157A CTS157B/JTS157B	
Grade: 9-12	2 Year Program	Program offered at: AHS CDO IRHS	
<p>Students will be prepared for immediate employment in entry-level jobs such as Photography Studio Assistant and Portrait Photographer and to continue to study photography at a 2-year or 4-year college or university.</p> <ul style="list-style-type: none"> • Create innovative photographs using professional cameras, computers, Adobe Photoshop and Lightroom (image editing software), studio lighting, and large format printers • Develop and present a professional portfolio for review, critique, and publication • Experience working for clients to design, produce, and publish photos • Third year students run and show in the Noble Street Gallery, as well as produce gift shop items (CDO) 			Fee required

Engineering		<u>Courses must be taken in sequence:</u>
		Introduction to Engineering Design (Year 1 or Year 2) CTS132A/JTS117A CTS132B/JTS117B
		Algebra II (Year 2) MTH003A/MTH003B
		Engineering 102 (Year 2 or Year 3, weighted grade)* SCL013A/JTS129B SCL013B/JTS129B
		Engineering Internship (Optional) CTS130
Grade: 10-12	3 Year Program	Program offered at: CDO IRHS
Prerequisites: <i>Algebra I must be completed prior to Introduction to Engineering Design</i>		
Prerequisites for Engineering 102: <i>Successful completion of Introduction to Engineering Design and concurrent enrollment in Pre-Calculus or beyond</i>		
Build an airplane, design the longest bridge, or change how we deliver food to the world. <ul style="list-style-type: none">Hands-on projects using the engineering design process, creative problem solving, and collaborationIntroduction to a wide variety of engineering careers such as mechanical, software, architectural, civil/structural, electrical, chemical, environmental, and miningLearn computer modeling and solve real-world problems by applying math and physics <p><i>Students enrolled in Engineering 102 can be dual enrolled with the University of Arizona's Engineering 102 for 3 credits, fully transferable to the University of Arizona by paying tuition.</i></p>		Fee required

Film & TV Production		<u>Courses must be taken in sequence:</u>	
		Intro TV/Video (Year 1) CTS153A/JTS153A CTS153B/JTS153B	
		TV/Video Productions (Year 2) CTS176A/JTS176A CTS176B/JTS176B	
		Advanced TV/ Video Productions (Optional Year 3) CTS178A/JTS178A CTS178B/JTS178B	
		TV/Video Production Internship (Optional) CTS177A/CTS177B	
Grade: 9-12	2 Year Program	Program offered at: IRHS	
Be a part of this huge industry using both creativity and technology. <ul style="list-style-type: none"> • Create movies, advertisements, and incredible special effects using professional software • Watch and discuss film, television, and advertising as art and entertainment, and their place in society • Star or work behind the scenes on the school's weekly announcements show • Select the appropriate equipment, from the type of lens, to the appropriate lighting • Operate computer editing systems, video switching equipment, and digital video effects units to produce a final video product 			Fee required

Graphic Design		<u>Courses must be taken in sequence:</u>	
		Intro to Graphic Design (Year 1) CTS154A/JTS154A CTS154B/JTS154B	
		Graphic Design II (Year 2) CTS151A/JTS151A CTS151B/JTS151B	
		Graphic Design III (Optional Year 3) CTS152A/JTS152A CTS152B/JTS152B	
		Graphic Design IV (Optional Year 4) CTS226A/JTS226A CTS226B/JTS226B	
		Graphic Design Internship (Optional) CTS216A/CTS216B	
Grade: 9-12	2 Year Program	Program offered at: IRHS	
Prepare to be part of this growing industry. <ul style="list-style-type: none"> • Produce and design high-quality artwork using professional graphic design, layout, and photo editing software (Adobe Photoshop, InDesign, and Illustrator) • Run a full-scale design firm and create advertising campaigns • Usher a product from design to production • Create product packaging and learn screen-printing 			Fee required

Music and Audio Production		<u>Courses must be taken in sequence:</u>	
		Music and Audio Production I (Year 1) CTS240A/JTS240A CTS240B/JTS240B	
		Music and Audio Production II (Year 2) CTS241A/JTS241A CTS241B/JTS241B	
		Music and Audio Production III (Optional Year 3) CTS242A/JTS242A CTS242B/JTS242B	
Grade: 9-12		2 Year Program	
		Program offered at: IRHS	
<p>Music and sound can be made, but it has to be captured and mixed to be heard and remembered.</p> <ul style="list-style-type: none"> • Intensive study of the history of sound recording and hands-on experience with studio equipment • Students will apply technical knowledge and skills to the production of sound recordings as finished products or as components of film/video, broadcast, live, or mixed media production • In-depth practical understanding of the three phases of the media creation process; pre-production, production, and post-production 			Fee required

Photo Design (YK)		<u>Courses must be taken in sequence:</u>	
		Photo Design I (YK) (Year 1) CTS220A/JTS220A CTS220B/JTS220B	
		Photo Design II (YK) (Year 2) CTS221A/JTS221A CTS221B/JTS221B	
		Photo Design III (YK) (Optional Year 3) CTS222A/JTS222A CTS222B/JTS222B	
Grade: 9-12		2 Year Program	
		Program offered at: AHS CDO IRHS	
Prerequisite: <i>Introduction to Photography (CTS155A/CTS155B)</i>			
<p>Learn every aspect of the publication industry while creating the yearbook.</p> <ul style="list-style-type: none"> • Photograph school events, interview students and teachers, and write stories and captions for yearbook photographs • Produce and design a high-quality yearbook using professional graphic design, layout, and photo editing software (Adobe Photoshop, InDesign) • Manage the yearbook staff through leadership positions (Editor-in-Chief, Editor, Story Editor, Photo Editor) • Promote the yearbook by creating advertising campaigns (posters, events, announcements) 			Fee required

Software & App Design		<u>Courses must be taken in sequence:</u> Software & App Design I (Year 1) CTS203A/JTS203A CTS203B/JTS203B Advanced Placement Computer Science Principles (Year 1, weighted grade) CTS149A/JTS120A CTS149B/JTS120B	
		Software & App Design II (Year 2) CTS179A/JTS179A CTS179B/JTS179B Advanced Placement Computer Science A (Year 2, weighted grade) CTS182A/JTS182A CTS182B/JTS182B	
		Software & App Design Internship (Optional Year 3 & 4) CTS185A/CTS185B	
Grade: 9-12	2 Year Program	Program offered at: AHS CDO IRHS	
Combine your creative and technology skills to prepare for one of the fastest growing industries. <ul style="list-style-type: none"> • Develop skills that are adaptable across all careers, disciplines, and pathways - including medicine, engineering, and visual and performing arts. Having a fundamental understanding of computer science is critical in today's global economy • Classes mirror the collaborative & creative culture of the software & app design industry, engaging in problem-solving, teamwork, and user-centered design • Develop websites, apps, and other projects based on personal interests and working with community partners • For more information about AP Computer Science Principles, please visit this AP site. This course carries a weighted grade. • For more information about AP Computer Science A, please visit this AP site. This course carries a weighted grade. <i>College credit opportunities available.</i>			Fee required