

Engineering and Technology

2021-2022



Instructor Information

Instructor	Email	Office Location & Hours
Mr. Hunter Shinault	hshinault@gatewayacademy.us	Available by apt. via Zoom, phone

Instructor's Welcome

Hello wonderful Parents and Students! I am Mr. Hunter, this is my third year here at Gateway having moved up this year to work in the High School. I graduated from Arizona State University in 2018 with a Bachelor of Arts Degree in History. Alongside this I have had a long standing passion for technology. Having begun working with computer hardware as a child and carried on learning circuits, PC building, game development and further into mechanical and structural engineering. Throughout my college studies, I pursued a career in education by working in classrooms as a tutor within the Mesa Public School district, as well as working as a writing mentor with the School of Social Transformation at ASU. Finding Gateway was a dream come true! Gateway allows me to take a creative and adaptive approach with its smaller class sizes and emphasis on meeting student levels. I am thrilled to be with the high school to work with a unique subject that will turn our technologically literate students into more fit members of a STEAM (Science, Technology, Engineering, Arts, and Mathematics) workforce.

General Information

Description

As children of the 21st century our students were born in a world where technology is constantly in use. As such, they are often already experts or possess great strengths in hardware and software knowledge. Turning this pre-existing knowledge base into a slew of practical skills and potential careers is the goal of this class. We will be exploring various topics and career fields within engineering and technology and utilizing hands-on project based learning with real-life based discussions so students have a use for their knowledge outside of a hobby.

Expectations and Goals

Aside from Gateway's standard practices include the Honor Code, students are expected to give their best effort, contributing in class and completing work to the best of their ability. More so, students are expected to advocate for themselves as issues arise, forming communication skills with their teachers and peers.

Students are expected to attend class daily and engage in the material. Material is adaptable to meet students who fall above and below grade level as determined by our curriculum. Student are expected to have materials for writing, typing, and research. In this classroom this would be a writing utensil, paper, and computer.

Required Materials

Materials for the course are generally provided, this will include coding resources, circuits, a development PC, and project materials. Students are expected to have writing utensils and notebooks for knowledge checks in the form of assessments or notated projects.

Course Topic Areas

Unit # **Topic**

1	Electricity, Heat, and Circuits	
2	Video Game Development and Coding	
3	CAD and 3D Design	
4	Robotics	
5	Mechanics	
6	Architecture and Civil Engineering	
7	Industrial Engineering	
8	Engineering, Computer Science, and Business	