Engineering and Design Course Offerings 2017-2018

Yearbook: Publication Design: 2-semester course, 1 credit elective
Prerequisites: None

Students who enroll in this course will become staff members of *The Silhouette*, Carolina Day's student-led organization dedicated to creating and publishing the annual yearbook. Students will have the opportunity to pursue their individual interests in digital media design, photography, journalism, and advertising. Students will experiment with tools such as the Adobe Creative Suite (Photoshop and InDesign) and DSLR cameras to craft aesthetically pleasing digital creations. Under the mentorship of senior editors and the instructor, students will critically analyze both their own and their peers' work to refine their skills in effective visual and textual communication. *Note: This course may be taken for art or elective credit and may be repeated for credit.

Fall Offerings -

Competitive Robotics 1: 1-semester course, Fall, 0.5 credit elective
Prerequisites: None

This course is all about building multi-use mechanical robots—engineering, medical and just for fun. Students will build robots, programming them to move, shift things from place to place, and accomplish specific tasks. Working in teams students will cooperate on the design and construction of robots and then compete against each other. Students learn engineering disciplines such as system design and modular development that are used in industry.

Advanced Competitive Robotics: 1-semester course, Fall, 0.5 credit elective
Prerequisites: Competitive Robotics 1 and 2 with teacher approval

This course will continue the student's opportunity to learn skills for building and programming multi-use mechanical robots, allowing the student to continue to be a part of this competitive team.

Digital Art and Media : 1-semester course, Fall, 0.5 credit art or elective
Prerequisites: None

In this course, students will playfully create a variety of image-based projects using tools employed by professional graphic designers, such as Adobe Photoshop, Indesign, and Illustrator. They will apply and manipulate the elements of effective design, such as balance, color harmony, and asymmetry, to fit specific purposes and audiences. Students will collaborate with artists, businesses, and organizations to gain real-world experience with graphic design. Students must have regular access to a computer.

Spring Offerings -

Competitive Robotics 2: 1-semester course, Spring, 0.5 credit elective

Prerequisites:

1. Competitive Robotics 1

Competitive Robotics 2 carries on where mechatronics 1 left off, allowing students more freedom to focus on designing their own robots and on competition both within the class and in NC competitions. Complexity of the robots is limited only by students' imagination.

Advanced Competitive Robotics: 1-semester course, Spring, 0.5 credit elective

Prerequisites: Competitive Robotics 1 and 2 with teacher approval

This course will continue the student's opportunity to learn skills for building and programming multi-use mechanical robots, allowing the student to continue to be a part of this competitive team.

Product Design: 1-semester course, Spring, 0.5 credit art or elective

Prerequisites: None

Using Design Thinking Methodology, students in this hands-on class work as a design team to collaboratively and creatively solve a product challenge. Product designers look at issues of form and function of everyday objects, with the important understanding of keeping the end-user in mind. When students complete this course, they will be able to work as a team, brainstorm ideas, create designs, conduct research, draw sketches, create models, and make functional prototypes. With their knowledge of the Design Thinking Methodology, students will learn to apply their skills and understandings to any problem. *Note: This course may be taken for art or elective credit and may be repeated for credit.