2017 Middle School
Summer Engineering Technology Program

Web Design

Introduce students to basic web programming concepts to gain an understanding of real web applications development. Students will work in groups to design their own web application using basic web programming languages such as HTML5, CSS, JavaScript, PHP and Frameworks.

Offered: Week 1: June 12-16; and Week 2: June 19-23

Coordinator: Shihong Huang, Ph.D.

Schedule:

Day	Material
Monday	Intro to front end web design with HTML5 and Bootstrap • HTML5 Syntax • Bootstrap Templates • Overview of Bootstrap classes • Manage rows and columns of a webpage using Bootstrap • Begin a simple Bootstrap web application where student will be divided into groups
Tuesday	Expand on front end web design with CSS • CSS syntax • Overview of CSS styling to create a colorful webpage • Add static images to web page • Add custom texts, colors, backgrounds, etc., to a webpage • Borders, padding, margins, and other CSS formatting
Wednesday	Add JavaScript to add dynamic content to a webpage • JavaScript syntax • Overview of scripting to add effects to a webpage • Introduce students to JQUERY functions • Add dynamic contents such as buttons, scroll-to-top, carousel, image filters, etc.
Thursday	Introduce back end server side programming with PHP • PHP syntax • Overview of forms and posts • Introduce form and file handling • Form validation
Friday	Help students polish and finish their web application • Prepare projects for presentation • Final project presentation by each group • Overview of intellectual property, and copyrights • Resources and examples to learn more on web programming

The camp instructor will provide all resources required to participate, but students can bring materials of their own to get the most out of the camp.
- **Laptop:** Students will use text editors such Brackets, Sublime Text, Atom, etc., for the web programming. Nearly any laptop running Windows 7, 8, or 8.1 will work, as long as the student is able to install the software. MacBook running OS X are also compatible with the web programming software to be used for the project.
- **USB Drive:** Students who don't bring laptops will be working on school computers that get automatically wiped at the end of the day. Students are encouraged to bring USB drives they can save their work onto.