



## 2018 Course Descriptions

### Introduction to Computer Science

**Recommended for Ages 10-14**

This introductory course uses Scratch, a drag-and-drop programming language, and Makey Makey to introduce girls to the fundamentals and creative power of computer science and physical computing. During week one, girls will spend their mornings working on projects that are designed to teach the Girls Who Code Core4 Programming Concepts (loops, variables, conditionals, and functions) which are used to build everything from websites to apps and robots. In the afternoons they will dive into the world of physical computing with Makey Makey, learning about circuits and how to design devices that interact with the programs they code. In week two, girls will use their knowledge and skills developed in week one to design, build, and present a team project about a topic or issue that matters to them. At the end of the program each student will be able to take home their Scratch projects and their Makey Makey invention kits.

---

### Website Design & Development

**Recommended for Ages 13-18**

In this course girls will use JavaScript, HTML and CSS to learn the fundamentals of website design and development. In week one, girls will launch a personal website portfolio and work together on projects that are designed to teach them essential programming concepts including variables, conditionals, and functions in JavaScript. Girls will also learn and practice implementing design principles to build more effective and usable websites and web applications. In week two, girls will take what they have learned and use it to influence the world around them by designing, building, and presenting an interactive website that highlights a topic or issue that matters to them. At the end of the program each student will leave with a digital portfolio of their projects that they can use and share in the future.

---

### Wearable Tech & Fashion Design

**Recommended for Ages 13-18**

Girls enrolled in this course not only learn the basics of the programming language C, but will also explore the ever-expanding world of wearable tech using LilyPad Arduino. In week one, students will learn about circuits, wearables, and build small projects that are designed to teach them the basics of the C programming language and the GWC Core4 programming Concepts: loops, variables, conditionals, and functions. In week two, girls will take what they have learned and use it to influence the world around them by designing, building, and presenting a piece of wearable tech that solves a social problem or that reflects their personal interests. At the end of the program each girl will take home their arduino accounts, project code, and a personal piece of wearable tech they designed during the course!

---

### iPhone App Development

**Recommended for Ages 13-18**

In this course girls will use the programming language Swift and Apple's XCode development environment to design and build their own iPhone apps. In week one, girls will learn the fundamentals of the Swift programming language and build confidence developing in the XCode environment by working on small projects that are designed to teach them the GWC Core4 programming Concepts: loops, variables, conditionals, and functions. In week two, girls will develop their teamwork and leadership skills while applying the Core4 to design, build, and present an iPhone app that solves a social problem or that reflects their interests. At the end of the program each girl will be able to take home their iPhone or iPad app and their project code.