



I/O

AVE



ON-RAMP SYLLABUS

# I/O Avenue

## Intro to Web Development Syllabus | On-Ramp

12 Weeks | Part-time

---

### Overview

The On-Ramp program is our introductory course where students learn essential digital skills and the basics of software development. This program is designed to prepare students for our Highway program.

### Topics

- Computer Basics
- Tech Terminology
- Internet 101
- The Mindset of a Software Developer
- Intro to Software Development
- Intro to Web (HTML, CSS)
- Tools and Resources

### Dates & Times

*FALL cohort:* mid September - early December

*SPRING cohort:* early February - late April

*SUMMER cohort:* early May - late July

Classes take place on Monday and Wednesday from 5pm to 7pm.

# I/O Avenue

Intro to Web Development Syllabus | On-Ramp

12 Weeks | Part-time

---

## **WEEK 1      Evolution of Technology & Google Cloud**

The I/O Avenue On-Ramp introductory course covers the fundamentals of web development. In your first week, you will be able to identify the mandatory components of a working computer and learn about the evolution of computing. Students will develop an understanding of which computer parts perform which tasks, as well as create documents, surveys, and tables online using Google docs, Google Sheets, and Google Slides.

## **WEEK 2      Intro to Games and Boolean Logic**

In Week 2, you will learn how to make your very first unique program from the ground up using basic computer programming concepts. Then we will tackle Boolean logic and break down how computers think. On Wednesday, you will flesh out your first game by creating interaction between existing objects and creating/destroying instances during run time. Over the week you will have time to review the fundamentals so that you are in good shape for Week 3.

## **WEEK 3      Advanced Gaming Techniques**

In Week 3, students will dive deeper into game design and learn to create a working menu with the ability to access multiple rooms, with various layouts, and implement successful transitions. You will be able to debug and document your code, create a multi-user program from scratch, and have an understanding of how the computer handles loading new content.

# I/O Avenue

Intro to Web Development Syllabus | On-Ramp

12 Weeks | Part-time

---

## **WEEK 4**      **Working Game &Intro to Photoshop**

This week, students will have a working game complete with a title screen, path finding algorithms, and program timers. After completing the final gaming assignment, you will be learning the fundamentals of image manipulation in Photoshop. Students will be able to create and edit existing images, load pictures from the cloud, and perform digital transformations using tools such as the magic wand and the gradient tool.

## **WEEK 5**      **Photoshop Continued**

In our fifth full week tackling Photoshop, you will learn advanced photo manipulation techniques using various selection tools. Students will create their final Photoshop image consisting of a picture of themselves added into a movie scene. These will be showcased in front of the class.

## **WEEK 6**      **Audio&TheInternet**

In week 6, you will learn about frequency, range, decibel, echo, and how to enhance and augment audio sources dynamically. You will also learn about the physical representations of a digital idea using audio recordings. Students will have an understanding of how the Internet works and what keeps websites running in the background. For this week's project, you will mock up the look and feel of your website.

# I/O Avenue

Intro to Web Development Syllabus | On-Ramp

12 Weeks | Part-time

---

## **WEEK 7      The Web & Notepad ++**

This week we start exploring the Web 2.0! You will learn how to troubleshoot HTML problems with custom tags and how to navigate cPanel. You will turn-in a single .HTML file that will have several unique features created with raw HTML and information about who you are. By the end of this week, students will receive a domain name, registered in their name.

## **WEEK 8      Email Spoofing & Print Media**

This week, you will continue to explore additional features available to you on the web, such as various email service functions. Students will be able to set up a website to host multiple email catches. On day two, you will submit a .PDF file based on the walk-through instructions provided in class. You will have an understanding of what goes into printed documents and how to create your own print media.

## **WEEK 9      Print Media & Adv. Object Oriented**

Building on the previous week, you will continue to learn about Print Media and will create a custom flier for the purpose of advertising your imaginary product created during the audio unit in Week 6. On day two, we'll continue to learn about what goes into an image on a computer display. Using your previous game, you will create meaningful enhancements based on the information provided in class and the new tool acquired in the past two weeks.

# I/O Avenue

Intro to Web Development Syllabus | On-Ramp

12 Weeks | Part-time

---

## **WEEK 10**      **Future tech: VR and Pi**

This week we are going to learn about Virtual Reality (VR), its evolution in recent years, and the progression of technology into the future. Students will be able to talk intelligently about VR, draw comparison between old technologies and new, and explain technological failures and their successors.

## **WEEK 11**      **Web 2: Making a Website**

This week, you will create your own website and submit a deliverable URL link with your launched site for the world to see! Students will be able to navigate WordPress menus, set up and implement their own themes, differentiate between various popular CMSs, and enhance the website using favicons. You will deliver a link to your new enhanced website containing features from the various topics we have previously covered, as well as at least 3 pages of content and 5 images.

## **WEEK 12**      **Web 2: Finishing the site & Presenting!**

During our last week together, we will finish your website's content, submit your final version for class review, and present to the larger audience on Friday. You will be able to demonstrate what you have learned, speak intelligently on multiple facets of computers and apply for I/O Avenue's Highway Program.