Web Development

Course Information Sheet 2019

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Course Overview

The course initially focuses in depth on three pillars of web design: HTML, CSS, and JavaScript. It is assumed that some students come in with no background at all and others have significant experience with coding already; as such, tests cover fundamentals while projects encourage students to push the limit of their current knowledge. These three languages are compulsary for all students, but once these units are completed, students are encouraged to split off into their respective areas of interest (jQuery, Python, PHP, SQL, Bootstrap, Adobe, Linux, etc.) with the goal of creating teams that combine a variety of talents into polished projects.

Units of Study

The plan is for the year to include the following units, plus digital ethics.

- **HTML: What's on the page.** This unit covers beginning to advanced HTML. The focus is on basic elements such as paragraphs, tables, and forms. More advanced topics, such as SVG, are presented with the expectation that all students understand their purpose but only advanced students make use of them in their own work.
- **CSS: What the page looks like.** This unit covers beginning to advanced CSS. Some foundational topics, such as color, border, margins, and padding, are covered in depth for all students. Some topics are covered only briefly, with the expectation that all students understand their purpose, but only advanced students make use of them in their own work.
- **JavaScript: What the page does.** This unit covers beginning to intermediate JavaScript. Part 1 includes programming fundamentals that tend to be similar across languages, such as dealing with variables, functions, and loops. Part 2 includes concepts JavaScript-specific concepts, such as event handling and the DOM. The goal is to achieve a decent level of fluency, but there is no expectation that students have all syntax memorized rather than referring to references (online or past work) for direction and examples.
- **More Tools.** This unit introduces a wide variety of other languages such as PHP, SQL, and Python, libraries such as jQuery and Bootstrap, and tools such as Adobe products and the unix command line. Each student chooses about two of these to focus on in depth. The expectation is that all students understand the purpose of each of these items enough to coordinate with other students as needed to complement their own areas of expertise.
- **Production.** This unit ties everything together. Importantly, it ties together components students have mastered with components that they have not mastered but other students have, creating an environment where teamwork is not merely beneficial, but essential. Students learn how to create and manage a project with significant scope, including management at the top to code-writing at its foundation, and everything in-between.

Assignments

There will be some traditional assessment, but the primary focus of the course will be on actual web development projects. Each section will include one project with explicitly delineated criteria.

Course Level

Although students who have experience with coding or design will be able to take their projects to a higher level, no prior experience is necessary, and the course is specifically designed to cater to all levels of experience. However, the coding component of web development can be challenging, and it requires logical thinking as well as perseverance. As such, it is recommended for students who have taken at least one advanced math or science course and who are not easily discouraged.

Signatures

We have read and understood this course information sheet.

Parent

Name: _____

Signature: _____

Student

Name: _____

Signature: _____