Course Code/Course Title:

FSW100 Coding from Scratch

Course Description: This course will cover the basics of web development. Students will learn how a website is composed of html, css, and javascript and how to use each one.

Course Length:	**Prerequisites:**	**Proficiency Exam**	
40 hours	None	☐Yes ☒ No	
Course Start Date: **Course End Date:**	**Meeting Days/Times**		

Required Resources:

Online students are required to have a laptop or desktop computer with internet access. Minimum: PC (Windows) or MacBook laptop. 4GB ram, 256GB HD, Core i5
Recommended: PC (Windows) or MacBook laptop. 8GB ram, 256GB SSD, Core i5

It is required that you are able to download programming resources to your laptop/desktop.

Additional Resources:

Students are expected to supply their own notebooks, pens, pencils, highlighters, folders, ring binders, calculators, USB storage devices and other general supplies as needed to aid in the collection and storage of information in their courses.

For Classes Delivered in an Online Format (for approved courses). Online courses are delivered via **https://wozu.exeterlms.com** in an asynchronous format. Students enrolled in online courses/programs are expected to spend an equivalent amount of time on task, as campus-based students, in meeting course objectives. For Online Courses the total expected hours required for completion of course objectives are identified on the syllabus as **Total Contact Hours** and reflect the sum of theory, laboratory, and outside hours.

Examinations are formal, structured assessments used to validate students' attainment of course objectives. Examinations may include a comprehensive final examination.

Students are expected to maintain a 70 or higher average throughout their studies. A student earning a grade below a 70 has failed a course. A failed course must be repeated and passed to meet graduation requirements.

A student must complete all required examinations.

Educational Objectives:

Upon successful completion of this course, students will be able to:

1. Learn the basics of a webpage, how html, css, and javascript work together.
2. Learn the basic way the internet works with clients and servers and request/response.
3. Demonstrate core coding skills that are applicable to any programming language with emphasis on JavaScript
4. Learn how to refactor code so that it is maintainable and efficient
5. Learn how to host your applications and databases on the web
6. Develop soft skills of effective communication and public speaking

Course Outline

Lessons:

Week 1

1. **Thinking Like a Programmer**: Includes conversion, breaking down problems, and imposter syndrome
2. **HTML Part 1**: HTML Basics including tags, document structure, structure tags, anchors, inputs, buttons, attributes, and lists
3. **HTML Part 2**: HTML Elements including sematic tags, tables, forms, HTML5 validation, dropdown list, form checkboxes, form radio buttons, and submitting the form

Week 2

4. **CSS Part 1**: CSS Selection including CSS syntax, properties and values, background color, font, pseudo classes, and linking CSS to HTML
5. **CSS Part 2**: CSS Styling including web fonts, border width and color, positioning and displaying content, box-model, margin, padding, and layout
6. **JavaScript 1**: Includes console, data types, variables, strings, numbers, booleans, if statements, conditionals, if else statements, else if statements, comparison operators, and multiple if statements
7. **JavaScript 2**: Includes arrays, array properties and methods, objects, loops, for loop, and looping through an array
8. **JavaScript 3**: Includes functions, invoking functions, scope, DOM, retrieving DOM elements, retrieving input values, DOM innerHTML, and events

Week 3

9. **Terminal and Source Control**: Includes command line interface, files and directories, source control, repositories, branches, GIT, local vs. remote, working with your repo, and branching
10. **Final Project**

Outline:

- **L1 Hands On – Thinking Like a Programmer:** You have a bag filled with jelly beans of three different colors: pink, green, and yellow and 3 cups *that cannot be moved* arranged in a line in front of you. The result should be that all the jelly beans have been removed from the bag and placed into cups. Each cup should only contain 1 color. The jelly beans should be placed into the cups so that the pile that is the smallest is on the left, and the pile that is the largest is on the right. Jelly beans cannot be placed anywhere except in the bag or in a cup.
- **L2 Practice Hands On –HTML Part 1:** Create a page to input your name information, along with a button and an image of yourself.
- **L3 Practice Hands On –HTML Part 2:** Create a page that includes a form that has inputs and radio buttons.
- **L4 Practice Hands On –: CSS Part 1:** Create *all* styling within the CSS page and add a lot of color to the page based on the directions.
- **L5 Hands On –CSS Part 2:** Create *all* styling within the CSS page and add a lot of color to the page based on the directions.
- **L6 Hands On –JavaScript Part 1:** Create a simple quiz that, when a user inputs a number grade, will return the letter grade.

- **L7 Practice Hands On –JavaScript Part 2:** Create and loop through an array of birds which have different alerts.
- **L8 Hands On –JavaScript Part 3:** Create a function and three variables that the DOM can access. Create another variable that will add the three variables together. In your HTML create a <p> tag that will access the full name and add a button with an onclick to call your function.
- **L10 Final Project**

Final Project:

Using HTML CSS and JavaScript, create a website with a form to gather information from the user in order to generate an ID Card.