

## TEC-53 – Front-End Web Developer Certificate Program with Externship

### Professional Education Course Syllabus

**Program includes National Certification & an Externship Opportunity**

**Course Contact Hours: 22**

#### The Front-End Web Developer Profession

A front-end developer uses a combination of HTML, CSS, and JavaScript to build everything a user sees and interacts with on a website—that includes everything from front-end features like fonts, sliders, drop-down menus, and buttons, to the overall manner in which web content like photos, videos, and articles are displayed in your web browser. Front-end developer skills are often thought of in three levels depending on their experience. Developers start at the junior phase for the first few years, although the number of apps they've developed and the apps' complexity are far more important when you determine the right developer for your project. After working alongside more experienced developers, they move to the intermediate phase where they can work on more projects independently. A senior developer can not only code a project, but they can also make decisions about how to design products.

#### The Front-End Web Developer Program

The Front-End Web Developer content introduces students to front-end, or client-side, web development technologies, including JavaScript, HTML, CSS, and jQuery. Participants learn how to make interactive applications that run inside a web browser and can communicate with a web server running remotely. Participants also learn how to use the version control program Git and collaboration website GitHub. Once complete, participants will have the basic skills necessary to work as a front-end web developer.

#### Education and National Certifications

- Students should have or be pursuing a high school diploma or GED.
- There are no state approval and/or state requirements associated with this program.
- Since the languages and profession is constantly evolving there are no established national certification for coding and web development. Your program includes Microsoft Office Suite (MOS) which prepares you for a widely adopted employer recognized certification.
  - **Microsoft Office Specialist (MOS) Certification Exam.**

#### Program Objectives

At the conclusion of this program, students will be able to:

- Create simple web pages using HTML and CSS and get those pages up on a website
- Explain how JavaScript is used, format and execute code, define arrays, assign functions, and more
- Use JQuery to manipulate DOM and perform Ajax requests
- Verify that the individual functions that make up the application perform as expected using JsUnit

- Make rich user interface elements using jQuery UI
- Build an interactive application and add it to a GitHub repository to show prospective employers

### **National Certification**

Upon successful completion of this program, students would be eligible to sit for the Microsoft Office Specialist (MOS) exam. Although there are no state approval, state registration or other state requirements for this program, students who complete this program will be prepared and are eligible to sit for the national certification exams. Students who complete this program are encouraged to complete the externship option with their program. Students who complete this program can and do sit for the MOS national certification exams and are qualified, eligible and prepared to do so.

### **Externship / Hands on Training / Practicum**

Although not a requirement, once students complete the program, they have the ability to participate in an externship and/or hands on practicum so as to practice the skills necessary to perform the job requirements of a professional in this field. Students will be assisted with completing a resume and/or other requirements necessary to work in this field. All students who complete this program are eligible to participate in an externship and will be placed with a participating organization near their location.

### **Front-End Web Developer Program Detailed Student Objectives:**

#### **Pre-Requisite - HTML and CSS**

- Introduction HTML
- Building a basic HTML document
- Introducing CSS
- Building and Styling HTML TEXT
- Understanding HTML5 semantic elements
- Adding Images and multimedia
- Building and using HTML forms

#### **JavaScript**

- JavaScript – Getting Started
- JavaScript Basic Syntax —Part 1
- JavaScript Basic Syntax – Part 2
- JavaScript – Functions
- JavaScript – Objects

#### **HTML and CSS for JavaScript**

- HTML—a crash course, Part 1
- HTML— a crash course, Part 2
- CSS for JavaScript Developers – a crash course

#### **jQuery**

- JQUERY—Installation, Overview, and Getting Started
- Deploying Web Application with Eclipse and Tomcat
- JQUERY AJAX SUPPORT: Basics
- JQUERY AJAX SUPPORT: Sending Data to the Server
- JQUERY AJAX SUPPORT: Advanced Capabilities
- JQUERY AJAX SUPPORT: Promises and Deferred Objects

- JQUERY: Selectors and Dom Manipulation
- Unit Testing with JSUNIT

### **jQuery UI Basics**

- Rich Interfaces with JQUERY UI – Setup and Basic Widgets
- JQUERY UI— Dialog Boxes
- JQUERY UI—Tabbed Panels and Accordion Panels
- LESSON 20: JQUERY UI— Autocompleters
- LESSON 21: JQUERY UI— Animation effects and themes

### **Using Git and GitHub in Web Development**

- How to Install Git
- How to Create a GitHub Account
- Configuring GIT
- Getting Started with GIT
- Getting Started with GITHUB
- Files in GIT— Renaming, Deleting and Ignoring
- Branching, Merging and Rebasing
- Reviewing a project on GITHUB

### **Final Exam**

#### **MICROSOFT OFFICE Module**

- Use an integrated software package, specifically the applications included in the Microsoft Office suite
- Demonstrate marketable skills for enhanced employment opportunities
- Describe proper computer techniques for designing and producing various types of documents
- Demonstrate the common commands & techniques used in Windows desktop
- List the meaning of basic PC acronyms like MHz, MB, KB, HD and RAM
- Use WordPad and MSWord to create various types of documents
- Create headings and titles with Word Art
- Create and format spreadsheets, including the use of mathematical formulas
- Demonstrate a working knowledge of computer database functions, including putting, processing, querying and outputting data
- Define computer terminology in definition matching quizzes
- Use the Windows Paint program to alter graphics
- Use a presentation application to create a presentation with both text and graphics
- Copy data from one MS Office application to another application in the suite
- Use e-mail and the Internet to send Word and Excel file attachments
- Demonstrate how to use the Windows Taskbar and Windows Tooltips
- Explain how copyright laws pertain to data and graphics posted on the Internet
- Take the college computer competency test after course completion
- Follow oral and written directions and complete assignments when working under time limitations

## Fresno Pacific University Student Learning Outcomes (FPU-SLO)

FPU-SLO 1	<b>Student Learning Outcomes Oral Communication:</b> Students will <i>exhibit</i> clear, engaging, and confident oral communication – in both individual and group settings – and will critically <i>evaluate</i> content and delivery components.
FPU-SLO 2	<b>Written Communication:</b> Students will <i>demonstrate</i> proficient written communication by <i>articulating</i> a clear focus, <i>synthesizing</i> arguments, and utilizing standard formats in order to <i>inform</i> and <i>persuade</i> others.
FPU-SLO 3	<b>Content Knowledge:</b> Students will <i>demonstrate</i> comprehension of content-specific knowledge and the ability to apply it in theoretical, personal, professional, or societal contexts.
FPU-SLO 4	<b>Reflection:</b> Students will <i>reflect</i> on their personal and professional growth and <i>provide evidence</i> of how such reflection is utilized to manage personal and vocational improvement.
FPU-SLO 5	<b>Critical Thinking:</b> Students will <i>apply</i> critical thinking competencies by <i>generating</i> probing questions, <i>recognizing</i> underlying assumptions, <i>interpreting</i> and <i>evaluating</i> relevant information, and <i>applying</i> their understandings to new situations.
FPU-SLO 6	<b>Moral Reasoning:</b> Students will <i>identify</i> and <i>apply</i> moral reasoning and ethical decision-making skills, and <i>articulate</i> the norms and principles underlying a Christian world-view.
FPU-SLO 7	<b>Service:</b> Students will <i>demonstrate</i> service and reconciliation as a way of leadership.
FPU-SLO 8	<b>Cultural and Global Perspective:</b> Students will <i>identify</i> personal, cultural, and global perspectives and will employ these perspectives to <i>evaluate</i> complex systems.
FPU-SLO 9	<b>Quantitative Reasoning:</b> Students will accurately <i>compute</i> calculations and symbolic operations and <i>explain</i> their use in a field of study.
FPU-SLO 10	<b>Information Literacy:</b> Students will <i>identify</i> information needed in order to fully understand a topic or task, <i>explain</i> how that information is organized, <i>identify</i> the best sources of information for a given enquiry, <i>locate</i> and critically <i>evaluate</i> sources, and accurately and effectively <i>share</i> that information.

## Continuing Education Student Learning Outcomes (CE-SLO)

CE-SLO 1	Demonstrate proficient written communication by articulating a clear focus, synthesizing arguments, and utilizing standard formats in order to inform and persuade others, and present information applicable to targeted use.
CE-SLO 2	Demonstrate comprehension of content-specific knowledge and the ability to apply it in theoretical, personal, professional, or societal contexts.
CE-SLO 3	Reflect on their personal and professional growth and provide evidence of how such reflection is utilized to manage personal and professional improvement.
CE-SLO 4	Apply critical thinking competencies by generating probing questions, recognizing underlying assumptions, interpreting and evaluating relevant information, and applying their understandings to the professional setting.
CE-SLO 5	Reflect on values that inspire high standards of professional and ethical behavior as they pursue excellence in applying new learning to their chosen field.

CE-SLO 6	Identify information needed in order to fully understand a topic or task, organize that information, identify the best sources of information for a given enquiry, locate and critically evaluate sources, and accurately and effectively share that information.
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