

## TEC-054 – Stack Developer with Ruby-on-Rails Certificate Program with Externship

### Professional Education Course Syllabus

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

Course Contact Hours: 20

#### Stack Developer with Ruby-on-Rails Profession

A Ruby on Rails developer is responsible for writing server-side web application logic in Ruby, around the framework Rails. Ruby on Rails developers usually develop back-end components, connect the application with the other (often third-party) web services, and support the front-end developers by integrating their work with the application. Ruby on Rails, as a framework, has gained popularity tremendously over a very short period of time. The goal of the framework is to reduce the time and effort required to build a web application.

#### Stack Developer with Ruby-on-Rails Program

The Ruby on Rails Developer Complete Video Course introduces participants to building dynamic, database-backed web applications with the popular Rails web framework. Participants receive hands-on experience planning, designing, coding, securing, testing, and deploying dynamic web applications. Participants also learn how to use Rails-flavored Ruby language features, Git, Heroku, and other valuable web development tools. Once complete, students will have the basic skills necessary to work as a web application developer with Rails.

#### 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:

- Install and configure a complete Rails environment
- Build and deploy a complete Rails application from start to finish
- Transform static sites and pages into dynamic web applications
- Understand and work with the powerful Model-View-Controller (MVC) pattern
- Structure page layouts with Bootstrap, custom CSS, and Sass
- Take advantage of useful Ruby language features
- Secure sites with registration, password authentication, and SSL
- Support microposts, followers, and other user collaboration features

## **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.

## **Stack Developer with Ruby-on-Rails Program Detailed Student Objectives:**

### **Getting Started with a Static Website**

- From Zero to Deploy
- A Toy App
- Mostly Static Pages
- Rails-Flavored Ruby
- Filling in the Layout

### **Beginning Users**

- Modeling Users
- Sign Up
- Basic Login
- Advanced Login
- Updating, Showing, and Deleting Users

### **Advanced Users**

- Account Activation
- Password Reset
- User Microposts
- Following Users

### **Capstone Project**

- Capstone Project: Build a Collaborative Task Management Web Application

### **Final Exam**

### **MICROSOFT OFFICE**

- 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.