

TEC-55 – Stack Developer with MEAN Certificate Program with Externship

Professional Education Course Syllabus

Program includes National Certification & an Externship Opportunity

Course Contact Hours: 14

Stack Developer with MEAN Profession

MEAN Stack Developer is a software engineer who is specialized in developing web applications with so called MEAN, a collection of JavaScript-based technologies. Responsibilities include building interactive consumer data from multiple systems and RESTfully abstract to the UI through a Node.js backend; define code architecture decisions to support a high-performance and scalable product with a minimal footprint

Address and improve any technical issues; and collaborate well with engineers, researchers, and data implementation specialists to design and create advanced, elegant and efficient systems.

Stack Developer with MEAN Program

The MEAN Stack Web Developer Complete Video Course introduces students to building dynamic web applications with MongoDB, Express, AngularJS, and Node.js. Students learn about essential JavaScript-based technologies, async programming, and MVC design techniques. Students also walk through establishing database connectivity and secure user authentication. Once complete, students will have the basic skills they need to create full-fledged JavaScript-based web solutions from server to browser, and integrate all MEAN stack technologies into full working systems.

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 all components of the MEAN stack
- Work with the JavaScript features all MEAN stack developers need to know
- Write and extend JSON web servers and Node modules
- Simplify web development with Express web servers
- Build AngularJS apps with directives, filters, MVC, and modules
- Create databases, collections, and documents with MongoDB
- Authenticate your users

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 MEAN Program Detailed Student Objectives:

Learning NodeJS

- GETTING STARTED
- A CLOSER LOOK AT JAVASCRIPT
- ASYNCHRONOUS PROGRAMMING
- WRITING APPLICATIONS
- MODULES
- EXPANDING OUR WEB SERVER
- BUILDING WEB APPLICATIONS EASIER WITH EXPRESS

Learning AngularJS

- GETTING STARTED
- WORKING WITH ANGULARJS BUILDING BLOCKS: BINDING-DIRECTIVES AND FILTERS
- PUTTING IT ALL TOGETHER WITH MODULES
- LOADING AND SAVING DATA
- FILLING IN THE BLANKS-FILTERS, DIRECTIVES, COOKIES, AND MORE

Using MongoDB with NodeJS and AngularJS

- MONGODB FUNDAMENTALS
- USING MONGODB WITH NODEJS
- IMPLEMENTING FULL NODESJS, MONGODB & ANGULARJS STACK TO ADD USER AUTHENTICATION TO WEBSITE

Capstone Project

- Create a Bookstore
- Capstone Solution

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	Student Learning Outcomes Oral Communication: 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	Written Communication: 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	Content Knowledge: 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	Reflection: 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	Critical Thinking: 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	Moral Reasoning: 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	Service: Students will <i>demonstrate</i> service and reconciliation as a way of leadership.
FPU-SLO 8	Cultural and Global Perspective: Students will <i>identify</i> personal, cultural, and global perspectives and will employ these perspectives to <i>evaluate</i> complex systems.

FPU-SLO 9	Quantitative Reasoning: Students will accurately <i>compute</i> calculations and symbolic operations and <i>explain</i> their use in a field of study.
FPU-SLO 10	Information Literacy: 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.