

# Certificate in Web Development

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The Certificate in Web Development was created to meet the growing demand for training in web development. The program will give students the knowledge and comprehension to fully understand the responsibilities of a Full Stack Web Developer and prepare them to perform the duties of a typical Full Stack Web Developer. Upon successful completion of the program, the student will be knowledgeable in the Software Development Life Cycle from concept to finished product and will have the ability to specialize, if they choose, in any area from front-end to back-end development technologies.

## Program Structure

The Certificate in Web Development consists of two consecutive 12-week sessions in a classroom setting that emphasizes project-based learning. The first course in the certificate is offered for 12 credits and the second course is offered for 24 credits, for a total of 36 credits.

## Program Curriculum

The two courses in this 36-unit program provide students with the knowledge and skills in web development needed to be well-prepared to interview for and secure full-time coding positions. These courses are CSC 1010 Introduction to Web Development and CSC 3010 Full Stack Web Development, and are described next in fuller detail.

## Required Coursework:

### CSC 1010 Introduction to Full Stack Web Development

- 12 Week Course – 12 Quarter Units
- 12 hours a week of instructor-led time and 12 hours of student-led time

**COURSE DESCRIPTION:** The course will give students the knowledge and comprehension to fully understand the responsibilities of a Full Stack Web Developer. The course will teach students to utilize the basic software applications and tools used by industry professionals to develop, debug and design web applications.

Students will be taught the basic knowledge and skills that enables them to develop into a Full Stack Web Developer; a programmer with a complete technical profile that covers client side, server side-middle tier, and backend-database developments. The course will give students the basic knowledge needed to understand and participate in the main tasks of Web development: designing, and debugging software that runs in a cross-browser environment, on a web server leading into a database server. After completing the intro course, the student will have a basic knowledge in API, HTML/CSS, C#, JavaScript, JQuery and Database Development on the Web, among others.

The course will teach students how to work in server, network, and hosting environments. They will obtain the knowledge to understand the concepts in relational and non-relational databases and how they interact with API's and the outside world. They will also be introduced to interface and user experiences, quality assurance, security concerns, and understanding customer and client needs.

Specifically, the course will produce a programmer that is prepared to apply the concepts and skills learned to a more complex scenario, understanding many of the most popular design patterns: APIs, libraries and technologies including but not limited to: HTML5, CSS3, JavaScript, Bootstrap, MVVM, MVC, Angularjs, JQuery, Ajax, Inversion of Control, Principles of Object Oriented Design, Data Structures, Data Access, Database Design and Architecture, GIS, SMS, SMTP and RESTful Api Design.

***In order to progress to the next course in the certificate, students must successfully complete the CSC 1010 course, which includes demonstrating the required skills to continue onto the CSC 3010 course.***

### CSC 3010 Immersive Full Stack Web Development

- 12 Week Intensive Course – 24 Quarter Units
- 40 hours a week of instructor-led time and 30 hours of student-led time

**COURSE DESCRIPTION:** The course will equip students to utilize the software development tools used by industry professionals to develop, debug and design web applications; conducting both front-end and back-end development, application program interfaces (API's), back-end data stores such as relational database management systems (RDMS) and team development strategies.

The course will prepare students to perform the duties of a typical Full Stack Web Developer. A full stack web developer is a programmer with a technical skill set that allows them to perform in client side, server side/middle tier, and backend-database development environments. Their main tasks are to develop, design and debug software that runs in a cross-browser environment served out of a web server backed by a database server for data persistence. After completing the course, the student will be substantially knowledgeable in the Software Development Life Cycle (SDLC) from concept to finished product and the ability to specialize, if they choose, in anything from front-end to back-end.

The course will teach students to be proficient in working in a full stack development environment. They will obtain the knowledge and skills to develop relational databases and work with data that is not stored in a relational manner. They will interact with their own API's and third party API's. They will

also be exposed to many UI and UX (User Interface and User Experience) design concerns while building an understanding of how to gather customer and client requirements. They will be fluent in performing quality assurance testing and fundamental security concerns.

## **Eligibility Requirements**

The Certificate in Web Development is open to students with, at a minimum, a high school diploma or its equivalent who are highly motivated and committed to learning about coding. Students must be prepared for a significant time commitment during the program, and applicants will be interviewed and then complete a screening process prior to the beginning of the program.