

Certificate: Web Backend Development

Certificate Description:

This certificate provides students with basic technology skills for entry-level positions, or an internship, in web development. This certificate is developed and granted by BYU-Idaho.

Course Code	Course Name	15 Credits
CIT 260	Object-oriented Programming	3 Credits
CIT 261	Mobile Application Development	3 Credits
CS 313	Web Engineering II	3 Credits
CIT 336	Web Backend Development	3 Credits
CIT 365	.NET Software Development	3 Credits

Course Descriptions:

CIT 260 (3 credits) – Object-oriented Programming

This course is an introduction to object-oriented programming using the Java programming language. Students will write computer programs using primitive data types, control structures, Java Swing classes, and objects. Students will read and draw UML class diagrams and will use Java swing to write programs with a graphical user interface.

CIT 261 (3 credits) – Mobile Application Development

This course is designed to give students the skills required to create mobile device applications for modern mobile devices. Because of this, the course focuses on how to solve larger, ill-structured business problems by designing and creating applications using a framework that lets you install cross platform JavaScript applications on the devices.

CS 313 (3 credits) – Web Engineering II

This course builds upon Web Engineering I, allowing students to create more advanced web applications and services. The emphasis of this course will be on server-side technologies and n-tier applications using relational database technology. Different server-side technologies will be used for creating dynamic n-tier web applications. Client-side technologies will be enhanced and combined with server-side technologies to create rich web applications.

CIT 336 (3 credits) – Web Backend Development

This programming course focuses on constructing dynamic web sites using PHP with databases and design patterns. The concepts introduced in the Web Frontend Development course are expected to be continued and implemented.

CIT 365 (3 credits) – .NET Software Development

This course leverages a student's fundamental software development and core web technology background with the Microsoft .NET framework with C# using the Visual Studio Integrated Development Environment. Students will build upon a C# foundation using the ASP.NET framework to design and develop scalable, standards-based web sites, applications, and services using contemporary methodologies and established design patterns. Team work and programming deliverables will be required.

Outcomes:

- Demonstrate skills in HTML, CSS, Javascript, databases, and server-side development using PHP or .NET
- Write operational code to pass and obtain data from a server including PHP and JavaScript
- Inject data into the DOM (document object model) for dynamic web site applications
- Show skill with database servers (Relational and NoSQL) and tools to design and build basic databases needed for dynamic web applications
- Demonstrate proficiency in SQL code to implement a CRUD (Create, Read, Update and Delete) management tool using a web interface
- Differentiate between web application and device application development best practices and implementations.
- Use code to solve problems.

Potential Employment:

- General programmer
- Web developer