

Course Syllabus Part I

WEB 340 Node.js

3 Credit Hours

Course Description

This course examines the Node.js runtime environment and its use in server-side development. Key concepts such as command-line programming, module creation, error handling, and unit testing are addressed in the context of web development. Projects will include the creation of HTTP servers, manipulation of the file system, handling of streams, and spawning of child processes. GitHub is used to host coding projects.

Course Prerequisites

WEB 231 Enterprise JavaScript I

Course Objectives

Students who successfully complete this course should be able to:

1. Explain the fundamentals of Node.js and its role in server-side development.
 2. Build server-side applications using Node.js, including HTTP servers and file systems.
 3. Identify and handle different types of errors in a Node.js application.
 4. Utilize Node.js debugging tools to locate and fix errors in a program.
 5. Experiment with Node.js concepts such as events, streams, and child processes through hands-on projects.
 6. Apply Test-Driven Development (TDD) principles in Node.js, constructing unit tests to ensure code quality and functionality.
-

Grading Scale

<u>Letter Grade</u>	<u>Percentage Grade</u>	<u>Letter Grade</u>	<u>Percentage Grade</u>
A	≥ 92.5%	C	< 76.5% and ≥ 72.5%
A-	< 92.5% and ≥ 89.5%	C-	< 72.5% and ≥ 69.5%
B+	< 89.5% and ≥ 86.5%	D+	< 69.5% and ≥ 66.5%
B	< 86.5% and ≥ 82.5%	D	< 66.5% and ≥ 62.5%
B-	< 82.5% and ≥ 79.5%	D-	< 62.5% and ≥ 59.5%
C+	< 79.5% and ≥ 76.5%	F	< 59.5%

Topic Outline

- I. Fundamentals
 - A. Introduction to Node.js
 - B. Module System and Diagnostics
 - C. Error Handling
 - D. Node Event System
 - E. Process and OS
- II. Debugging and Error Handling
 - A. Debugging Tools
 - B. Handling Errors
 - C. Strict Mode
 - D. Try Catch Statements
 - E. Error Tracing
- III. Advanced Concepts
 - A. HTTP
 - B. Buffers and Streams
 - C. File System
 - D. Child Processes
 - E. Test-Driven Development (TDD)

This syllabi update reflects grading scale policy updates effective 4/1/2024.