Web Development Fundamentals – Women in Technology Fall 2025

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Course Learning Outcomes

By the completion of this course, successful students will have learned:

1. Programming in Scratch
2. Fundamental Computer Science Concepts with Python (e.g., loops, if statements, variables)
3. SDLC Models and Methodologies
4. User-oriented development (personas, UX/UI principles, prototyping)
5. Design Sprints (includes use of Figma)
6. HTML
7. Styling a Website (CSS)
8. Bootstrap
9. Fundamentals of JavaScript (Basic & Intermediate)
10. Building Interactive JavaScript Websites
11. Introduction to JQuery
12. Git with Sourcetree/Bitbucket
13. Building Front-end Applications with React
14. JavaScript Back-End Development
15. SQL and Databases for Web Development
16. Basic of Persistent APIs
17. Firebase
18. Cypress End-to-End Testing
19. Power Platforms

Prerequisite Knowledge

All students are required to complete the following prerequisite learnings by October 28, 2025. There will be quizzes to assess completion and comprehension of the content covered in these prerequisite courses.

Scratch Game Programming for Young Adults course on Udemy
Flappy Bird Tutorial in Scratch
Python Crash Course

Approach to Learning

This course uses a variety of approaches, including instructor-facilitated lessons, class discussions, lessons in Scratch and Figma, group work, learning activities, self-study in Codecademy.com, and guest speakers.

Attendance & Course Progress

Graded attendance: Your participation is required for one or more essential graded components to be performed/completed during class time. Failure to attend may result in a failing grade for the component. Should you have a scheduled absence, please let your instructor know with as much notice as possible. Missed quizzes will be given a grade of zero, period. **In order to be eligible to write any of the quizzes in the course, you must complete all course components preceding it.**

Note: Successful completion of this course will require work outside of class, including in the evenings and on weekends, as this is a very fast paced course.

Lates & Absences

Attendance is fundamental to student success and is a graded component of the course. It is the responsibility of the student to maintain their attendance. All students are expected to communicate any absence (planned or unplanned) and/or lateness with the instructor(s) directly, at least 24 hours in advance of class, or as soon as possible in extenuating circumstances. **Note: Some missed components of coursework cannot be made up at a later time to ensure fairness to other students.**

Being punctual is key to success in any professional environment. In this course, 4 lates will equate to 1 absence and will, as such, have an impact on participation grades for the course. Students are expected and encouraged to attend all classes on-time and ready to go.

Late Assignments

Extensions for assignments must be requested well in advance of their due date and will be granted at the sole discretion of the instructor. In the absence of an approved extension, late assignment submissions will be deducted 5% per day. Assignments will receive a grade of zero if they

are more than 10 days late. **Note: Extensions will not be granted for in-class participation assignments, presentations, exams/quizzes, and/or group work.**

Academic Honesty

Academic honesty is taken very seriously in this course. Cheating and/or plagiarism of any kind will not be tolerated. Any work that you submit must be your own and must be created specifically for the course for which it is being submitted. You are encouraged to ask peers/instructors for guidance and support; however, you cannot submit any other student's work, ideas, or other intellectual property as your own. Failure to meet the academic honesty standards will result in a zero on the component and may result in expulsion from the Women In Technology Program. **NOTE: Copying and pasting from any website, including Google and ChatGPT, is plagiarism and a form of cheating.**

Grade Breakdown

Grade Category	**Weight**
Assignments	30%
Quizzes	30%
Capstone Project	20%
Final Exam	15%
Participation (50% of the participation grade will be awarded based on attendance; a minimum 80% attendance record must be maintained to receive this. For example, an attendance average of 75% is not sufficient to receive the attendance grades and would result in a maximum grade of 50% for participation. The remaining 50% will be determined based on an instructor's evaluation of your in-class participation.	5%

Grading System

A minimum grade of C (65%) is required to meet certification requirements. A grade of C- or less is not sufficient for graduation and will fail to meet certificate program requirements.

Letter Grade	Percentage	Description
A+	> 95	**Outstanding**
A	90 — 95	**Excellent:** Superior performance, showing comprehensive understanding of subject matter.
A-	85 — 90	
B+	79 — 84	
B	76 — 79	**Good:** Clearly above average performance with good knowledge of subject matter.
B-	73 — 76	
C+	69 — 73	
C	65 — 69	**Satisfactory (minimal pass):** Basic understanding of subject matter. Minimum overall grade required to meet certificate requirements for the program
C-	60 — 65	**Unsatisfactory**
D+	55 — 60	**Unsatisfactory**
D	50 — 55	**Unsatisfactory**
F	< 50	**Fail**

Assignment/Assessment & Lesson Schedule

Please review this schedule of tasks and take note of specific assignment due dates.
Note: There will be no class on Dec 25, 26, Jan 1, 2 and Sep 1. Dates are subject to change

Date	Topic	LESSON/CODECADEMY SCHEDULE	Assignments/Assessments
Oct 14 - Oct 27	EPS ROUND 1	**NO DEV TRAINING (EMPLOYMENT POWER SKILLS) STUDENTS ARE HIGHLY ENCOURAGED TO USE THIS TIME TO GET AHEAD IN CODECADEMY**	
Oct 28 - Oct 31 (Week 1)	Scratch	**Tuesday: Floating in Space, Donut Dino, Bouncing Ballerina, Ghost in My Room** **Wednesday: Greetings, Drawing Polygons, Maze Game** **Thursday: Refactoring Maze Game** **Friday: Scratch Project**	**Quiz 1: Python Prerequisite Comprehension Assessment (Oct 28)** **NOTHING DUE THIS WEEK**
Nov 03 - Nov 07 (Week 2)	Scratch & Python	**Monday: Scratch Project** **Tuesday - Wednesday: Learn Python 3** **Thursday: Python Lesson 1** **Friday: Accenture Day of Giving (EPS) TBD**	**Assignment 1: Interactive Game/Story (Due: Nov 05)**
Nov 10 - Nov 14 (Week 3) **NO CLASS Nov 11 Remembrance Day**	Python	**Monday - Friday: Learn Python 3** **Thursday: Python Lesson 2**	**Assignment 2: Problem Solving with Python (Due: Nov 14)**
Nov 17 - Nov 21 (Week 4)	Design Principles	**Tuesday: Design Concepts Lesson & Software Development Lifecycles, Agile Development** **Wednesday: Paper Prototyping, Figma Tutorial**	**Quiz 1: Python (Nov 17)** **Assignment 4A: Prototyping in Figma Parts A-B (Due: Nov 21 AT 9:00 AM)** **Friday: Complete Resume Customization for IT**
Nov 24 - Nov 28 (Week 5)	**HTML, CSS, Bootstrap**	**Monday: Git Lesson & Figma Prototype Peer Review** **Tuesday: SourceTree Tutorial** **Learn HTML** **Learn CSS** **Learn Bootstrap** **Flexbox Froggy** **Thursday: HTML/CSS Tutorial** **Friday: Bootstrap Tutorial**	**Assignment 4B: Prototyping in Figma Parts C-E (Due: Nov 28)**

Dec 01 - Dec 05	EPS ROUND 2	**Monday: Finalize Resumes and Interview Practice** **Tuesday: Work on Figma Prototypes/Resumes** **Wednesday-Thursday: EPS Part 2** **Friday: Mock Interviews**	**Assignment 3: Website Review (Due: Dec 05) DUE AT 9:00 AM**
Dec 08 - Dec 14 (Week 6)	**Intro to JavaScript Part 1**	**Learn JavaScript (Introduction, Conditionals, Functions, Scope, Arrays, Loops, and Objects)** **Friday: Intro to JS Part 1 + Object Oriented Programming Lesson**	**Quiz 2: HTML / CSS / Bootstrap/Flexbox (Dec 08)** **Assignment 5: HTML/CSS Website (Due: Dec 14)**
Dec 15 - Dec 19 (Week 7)	Intro to JavaScript Part 2 and JQuery	**Monday & Tuesday: Building Interactive JavaScript Websites** **Wednesday: JS Websites Tutorial** **Wednesday & Thursday: Introduction to JQuery** **Friday: JQuery Tutorial**	**Quiz 3: JavaScript part 1 (Dec 15)**
Dec 22 - Jan 02 (Week 8) **NO CLASS Dec 25, 26** **Jan 01, 02** **Seasonal Holiday**	Advanced JavaScript & REST APIs	**Monday - Thursday: Learn JavaScript (Classes, Modules, Browser Compatibility and Transpilation, Promises, Async-Await, Requests)** **Tuesday: Intro to JS Part 2 Lesson** **Wednesday - Thursday: Learn JavaScript (Classes, Modules, Browser Compatibility and Transpilation, Promises, Async-Await, Requests)** **Tuesday: REST API Tutorial**	**Quiz 4: JQuery (Dec 22)**
Jan 05 - Jan 09 (Week 9)	Firebase & React	**Monday: Firebase Auth & Firebase Database Tutorial** **Wednesday - Friday: Building Front-end Applications with React** **Friday: React Lesson**	**Critical Thinking Worksheet 1 (Jan 05)**
Jan 12 - Jan 16	**EPS ROUND 3**	**EPS Round 3**	
Jan 19 - Jan 23 (Week 10)	React	**Monday - Friday: Building Front-end Applications with React (continued)** **Tuesday: Debugging** **Wednesday: AI Workshop (Evening 5pm - 7pm)** **Friday: React Tutorial**	**Quiz 5: JavaScript part 2 (Jan 19)**
Jan 26 - Jan 30 (Week 11)	Express.js & Node.js	**Monday - Friday: Building Back-End Servers with Express.js** **Friday: Express.js and Node.js Lesson**	**Capstone Project Research, Planning, and Requirements (Jan 26)** **Quiz 6: React (Jan 26)** **Assignment 6: JavaScript + Firebase (Jan 30)**

Feb 02 - Feb 06 (Week 12)	JS Backend & SQL	***Monday - Friday: SQL for Back-End Development (Chapters 6 - 8)*** ***Friday: SQL Lesson***	**Critical Thinking Worksheet 2 (Feb 02)** ***Capstone Check-in*** **Assignment 7: Building a NodeJS REST API (Feb 06)**
Feb 09 - Feb 13 (Week 13)	Cypress Testing	**Monday - Tuesday: Cypress Testing** **Wednesday: End-to-end testing with Cypress** **Thursday: Practice Final Exam (Virtual)** **Friday: Review Practice Final Exam (In-person) - Full-Stack**	**Quiz 7: Backend JS / SQL (Feb 09)** **FEBRUARY 13 IS IN-PERSON**
Feb 16 - Feb 20 (Week 14) **Family Day (Feb 16)**	Final Exam & Power Platforms	**Tuesday: Final Exam - Full-Stack** **Wednesday - Friday: Power Platforms**	**Assignment 8: React with Node.js and SQLite (Feb 20)**
Feb 23 - Feb 27 (Week 15)	Power Platforms & Capstone Projects	**Monday- Tuesday : Power Platforms** **Wednesday - Friday: Capstone Working time**	**Critical Thinking Worksheet 3 (Feb 23)** ***Capstone Check-in***
Mar 02 - Mar 06 (Week 16)	Capstone Project	**Wednesday: Hackathon Prep** **Thursday - Friday Hackathon**	**3 Day Hackathon (March 5 - March 9).** **The weekend is available for use as coding time**
Mar 09 - Mar 13 (Week 17)	Capstone Project	**Monday: Hackathon Presentation** **Tuesday - Friday: CAPSTONE WORK TIME** **Wednesday: Algorithmic Problem Solving Competition/PL-900** **Practice Quiz (In-person)**	**Capstone Milestone 2: Peer Testing (Mar 13)** **MARCH 11 IS IN-PERSON**
Mar 16 - Mar 20 (Week 18)	Capstone Project	**Tuesday - Wednesday: CAPSTONE WORK TIME** **Friday: Capstone Project Peer Review/Capstone Work (In-person)**	**Friday: Capstone Check-in** **MARCH 20 IS IN-PERSON**
Mar 23 - Mar 27 (Week 19)	Capstone Project	**CAPSTONE WORKING TIME** **Monday-Tuesday: PL-900 Study Time** **Microsoft Trainings (Azure and Copilot)** **Friday: Microsoft Training Data Fundamentals**	**March 25-27 PLACEHOLDER FOR MS TRAININGS**
Mar 30 - Apr 3 **April 3rd Holiday**	Microsoft Trainings PL-900 Exam Prep	**Wednesday: Capstone Project Presentation (In-person)** **TBD: Power Platform PL-900 Exam Prep (With Microsoft)**	**APRIL 1 IS IN-PERSON**
April 6 - April 10	**PL-900 Exam**	**This week has been reserved for students to write the PL-900 exam. Students must book a time for this.** **Details will be shared in class**	

Additional Learning/Study Resources

Topic	Learning Activities/Topics
Python	**Crash Course:** https://www.youtube.com/watch?v=JJmcL1N2KQs&ab_channel=TraversyMedia
HTML	**Crash Course:** https://youtu.be/UB1O30fR-EE?t=171
CSS	**Crash Course:** https://youtu.be/yfoY53QXEnI?t=123 **Crash Course:** https://www.youtube.com/watch?v=6VGKD7p4p-w
Javascript	**Crash Course:** https://www.youtube.com/watch?v=W6NZfCO5SIk&ab_channel=ProgrammingwithMosh **Promises:** https://www.youtube.com/watch?v=DHvZLI7Db8E&ab_channel=WebDevSimplified **Higher order functions:** https://www.youtube.com/watch?v=rRgD1yVwIvE&ab_channel=TraversyMediaTraversyMediaVerified
Object Oriented Programming (JavaScript)	**Crash Course:** https://www.youtube.com/watch?v=PFmuCDHHpwk&ab_channel=ProgrammingwithMosh
Version Control	**Crash Course:** https://www.youtube.com/watch?v=JTE2Fn_sCZs&ab_channel=CodemySchoolCodemySchool

React	**Crash Course:** https://www.youtube.com/watch?v=hQAHSlTtcmY&ab_channel=WebDevSimplifiedWebDevSimplifiedVerified **Crash Course:** https://www.youtube.com/watch?v=w7ejDZ8SWv8&ab_channel=TraversyMediaTraversyMedia
Node.js	**Crash Course:** https://www.youtube.com/watch?v=fBNz5xF-Kx4&ab_channel=TraversyMediaTraversyMediaVerified
E2E Testing (Cypress)	**Crash Course:** https://www.youtube.com/watch?v=u8vMu7viCm8
Power Platforms	**COMING SOON**