Sophia Learning

CS1005: Introduction to Web Development (3 semester credits)

COURSE DESCRIPTION

This course is designed to introduce learners to the basic computer concepts essential to learn in order to become a web developer. The course breaks down how the internet works and explains the history of web development. Learners explore the roles of software engineering and web development to distinguish their responsibilities and know what a day in the life of a web developer is like. This course is for anyone who wants to learn the different technologies that make a website and practice coding in an easy and accessible environment. On completion, learners will be ready to pursue learning paths like the Devmountain Web Development bootcamp.

COURSE EFFECTIVE DATES: December 2020 - Present

PREREQUISITES: No prerequisites

LENGTH OF COURSE: This is a self-paced course. Students may use as much or as little time as needed to complete the course.

ACE CREDIT® RECOMMENDATION: In the lower-division baccalaureate/associate degree category, 3 semester hours in web development (12/20).

GRADING: This is a pass/fail course. Students must complete 9 Challenges (formative assessments) and 3 Milestones (summative assessments) with an overall score of 70% or better.

Challenges	Points Possible
Challenge 1.1: Components of Web Development	2
Challenge 1.2: Web Engineering Disciplines and Methodologies	2
Challenge 1.3: Tools of the Trade	2
Challenge 2.1: HTML	3
Challenge 2.2: CSS	2
Challenge 2.3: JavaScript	2
Challenge 3.1: Algorithms	2

Challenge 3.2: API Design	2
Challenge 3.3: Database Design	2
Total	**19**

Milestones	Points Possible
Milestone 1	18
Milestone 2	21
Milestone 3	18
Total	**57**
Grand Total	**76**

For more general information on assessments, please visit the Student Guide located on your course dashboard.

LEARNING OUTCOMES

Upon completion of the course, the student will be able to:

1. Recall the basic building blocks of web development.
2. Identify computers, programming languages, and algorithms.
3. Compare the history of web technologies with the more recent development in designing web applications.
4. Recognize the basic architecture of a web application including the front end and back end.
5. Recognize the basic importance of HTML, CSS, and JavaScript in a web page.
6. Apply a basic understanding of code to recognize examples of HTML, CSS, and JavaScript.
7. Recognize the parts of HTML mark-up including elements, tags, and attributes.
8. Recognize how to combine elements of HTML to create a web page.
9. Identify the importance of semantic HTML in web development.
10. Recognize the parts of CSS syntax including styles, rules, and properties.
11. Recognize how to combine CSS and HTML elements on a web page.
12. Recognize parts of JavaScript syntax including alerts, variables, and values.
13. Recognize characteristics of APIs, DOM, and event systems.
14. Recognize the basic concept of an algorithm and how it is used in technology.
15. Recognize the benefit of comparing the categories of an algorithm.
16. Identify the concept of an interface such as Application Programming Interface, or API.
17. Recognize the purpose of APIs and the importance of how they are created.
18. Recognize the purpose of a database.
19. Recognize the parts of a database including tables, records, fields, and relationships.
20. Practice introductory commands using correct coding syntax including HTML elements, tags, and

attributes; CSS; and JavaScript.

OUTLINE OF MAJOR CONTENT AREAS

- Web Development
- Programming Languages and Computers
- Web Applications vs. Traditional Applications
- Modern Web Application Architecture
- Programming for the Web
- Writing and Running Code
- Anatomy of HTML
- Creating an HTML Web Page
- Semantic HTML
- Anatomy of CSS
- Working with CSS and HTML Together
- Anatomy of JavaScript
- Writing JavaScript for the Web
- Algorithms
- Comparing Algorithms
- Definition of API
- The Importance of Language
- Definition of Database
- Design of Database