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👤 "Please remember me and my family in your prayers." 🌸

📖 Bachelor of Science in Computer Science

🎓 University of the People

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Here you will find the syllabi and primary textbooks for all UoPeople courses. The Disclaimer for Use of the Repository can be found [here](#).

Computer Science

CS 2205 Web Programming 1



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CS 2205: Web Programming 1

Syllabus

Prerequisites: CS 1103 Programming 2

Course Description:

This course provides a comprehensive coverage of web development technologies and practices, exploring HTML, CSS, JavaScript, DOM manipulation, XML, web frameworks, and single-page applications (SPAs). Students will learn how to design and develop, modern web applications using industry-standard tools and techniques.

Required Textbook and Materials:

UoPeople courses use open educational resources (OER) and other materials specifically donated to the University with free permissions for educational use. Therefore, students are not required to purchase any textbooks or sign up for any websites that have a cost associated with them. The main required textbooks for this course are listed below and can be readily accessed using the provided links. There may be additional required/recommended readings, supplemental materials, or other resources and websites necessary for lessons; these will be provided for you in the course's General Information and Forums area, and throughout the term via the weekly course Unit areas and the Learning Guides.

- This course does not contain a main textbook; resources to all required reading will be provided in the course Learning Guide for each week.
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Software Requirements/Installation

- Text editor like NotePad.
 - Web browser like Google Chrome, Mozilla Firefox, or Microsoft Edge.
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Learning Objectives and Outcomes:

By the end of this course students will be able to:

1. Comprehend the fundamental concepts of web development, including client-server architecture, HTTP protocols, the roles of web browsers and servers and examine the underlying code of web pages.
2. Create well-structured documents using HTML, XML, and JSON with appropriate tags, attributes, and semantic elements to represent content effectively.

3. Apply CSS styles to HTML elements to achieve desired layout, typography, colors, and visual effects, adhering to best practices and principles of responsive design.
4. Implement client-server communication using HTTP methods (GET and POST) and handle form submissions in web applications.
5. Design web pages, using JavaScript to add interactivity and dynamic behavior to including event handling, form validation, and DOM manipulation.
6. Analyze advanced web development techniques, frameworks, and best practices.

Course Schedule and Topics

This course will cover the following topics in eight learning sessions, with one Unit per week. The Final Exam will take place during Week/Unit 9 (UoPeople time).

Week 1: Unit 1 - Introduction to Web Development

By the end of this Unit, you will be able to:

1. Understand the fundamental concepts of web. development and explain the principles client-server architecture.
2. Analyse and examine the code behind web pages.

Week 2: Unit 2 - HTML and CSS Fundamentals

By the end of this Unit, you will be able to:

1. Create well-structured HTML documents using appropriate tags and attributes.
2. Apply CSS rules and selectors to style HTML elements and achieve desired layouts.

Week 3: Unit 3 - Advanced HTML

By the end of this Unit, you will be able to:

1. Create HTML forms to collect user input and utilize the GET and POST methods to submit form data.
2. Implement client-side form validation using HTML.
3. Describe responsive design techniques to ensure compatibility across various devices.

Week 4: Unit 4 - JavaScript

By the end of this Unit, you will be able to:

1. Understand the basics of JavaScript, including variables, data types, and operators.
2. Implement control structures and functions to create dynamic behaviour in web pages.
3. Explore advanced JavaScript concepts such as closures and prototypes.

Week 5: Unit 5 - DOM Manipulation

By the end of this Unit, you will be able to:

1. Understand how manipulation of the Document Object Model (DOM) using JavaScript creates interactive web pages.
2. Implement event handling and event delegation to respond to user interactions and update DOM elements dynamically to reflect changes in application state.

Week 6: Unit 6 - Single-Page Applications (SPAs)

By the end of this Unit, you will be able to:

1. Explain the concepts and architecture of single-page applications (SPAs).
2. Analyse client-side routing and the ability to fetch data asynchronously to dynamically update content.

Week 7: Unit 7 - XML and JSON for Data Interchange

By the end of this Unit, you will be able to:

1. Design XML Schema that defines specific data types and structures for an XML document.

2. Explain XML namespaces for defining custom vocabularies and XML parsing.
3. Create JSON data structures for web applications.
4. Compare and contrast the use of XML and JSON in data interchange.

Week 8: Unit 8 - Introduction to Web Frameworks

By the end of this Unit, you will be able to:

1. Examine client-side web frameworks like Angular and React.js, and assess their advantages in web development.
2. Analyse server-side web frameworks like Django, Flask, and Node.js, and evaluate their advantages in web development.

Week 9: Unit 9 – Final Exam

Discussion Assignments & Response Posts

Some units in this course require that you complete a Discussion Assignment. You are required to develop and post a substantive response to the Discussion Assignment in the Discussion Forum. A substantive response is one that fully answers the question that has been posted by the instructor. In addition, you must extend the discussion by responding to at least two (2) of your peers' postings in the Discussion Forum. Your discussion posts will be assessed by your instructor. Discussion Forums are only active for each current and relevant learning week, so it is not possible to contribute to the forum once the learning week has come to an end. Failure to participate in the Discussion Assignment by posting in the Discussion Forum and responding to peers as required may result in failure of the course.

Assignment Activities

The assignment activities are graded by your instructor. The grading rubric is listed under the assignment instructions. The grading rubric is a document that outlines the criteria that your instructor will use to grade your work.

Quizzes

This course will contain three types of quizzes – the Self-Quiz, the Graded Quiz, and the Review Quiz. These quizzes may contain multiple choice, true/false, or short answer questions. The results of the Self-Quiz will not count towards your final grade. However, it is highly recommended that you complete the Self-Quiz to ensure that you have adequately understood the course materials. Along with the Reading Assignments, the results of the Self-Quiz should be used as part of an iterative learning process, to thoroughly cover and test your understanding of course material. You should use the results of your Self-Quiz as a guide to go back and review relevant sections of the Reading Assignments. Likewise, the Review Quiz will not count towards your final grade, but should also be used to assist you in a comprehensive review and full understanding of all course material, in preparation for your Final Exam. Lastly, the results of the Graded Quiz will count towards your final grade. Specific instructions on the format and content of the Graded Quiz will be provided by your instructor.

Final Exam

The Final Exam will take place during the Thursday and Sunday of Week/Unit 9, following the completion of eight units of work. The format of the Final Exam is similar to that of the quizzes, and may contain a combination of different question types. You will have one attempt to take the exam, and it will be graded electronically. Specific instructions on how to prepare for and take the exam will be provided during Week/Unit 8. (located inside the Unit 9 Learning Guide). Final Exams must be taken without the use of course learning materials (both those inside and outside the course). If particular materials are allowed for use during the exam, these will be noted in the exam's instructions.

The Final Exam for this course must be done under the supervision of a proctor. Since you already secured your proctor before registering for this course, this is a reminder that you should coordinate with him/her before you take the exam. Please note, you will not be permitted to change proctors during the course. As a reminder, students are required to successfully complete proctored exams spaced throughout their program of study at UoPeople, in order to verify the student's identity in confirming a degree and diploma upon graduation.

Course Forum

The Course Forum is the place to raise issues and questions relating to the course. It is regularly monitored by the instructors and is a good place to meet fellow students taking the same course. While it is not required to participate in the Course Forum, it is highly recommended.

Class Introductions

This section is your opportunity to introduce yourself to your classmates and create a vibrant learning community. By sharing your background, interests, and goals, you can create meaningful connections and discover commonalities with your peers.

Course Policies:

Grading Components and Weights Each graded component of the course will contribute some percentage to the final grading scale, as indicated here:

Items	Number of assignments	Weight
Discussion Forum	6	30%
Assignment Activities	5	40%
Graded Quiz	2	10%
Final Exam	1	20%

Grading Scale

This course will follow the standard 100-point grading scale defined by the University of the People, as indicated here:

Letter Grade	Grade Scale	Grade Points
A+	98-100	4.00
A	93-97	4.00
A-	90-92	3.67
B+	88-89	3.33
B	83-87	3.00
B-	80-82	2.67
C+	78-79	2.33
C	73-77	2.00
C-	70-72	1.67
D+	68-69	1.33
D	63-67	1.00
D-	60-62	0.67
F	Under 60	0.00

Grade Appeal

If you believe that the final grade you received for a course is erroneous, unjust, or unfair, please contact your course instructor. This must be done within seven days of the posted final grade. For more information on this topic, please review the Grade Appeal Procedure in the University Catalog.

Participation

Non-participation is characterized by lack of any assignment submissions, inadequate contributions to the Discussion Forums, and/or lack of peer feedback to Discussion/Written Assignments. Also, please note the following important points about course participation:

- Assignments must be submitted on or before the specified deadline. A course timeline is provided in the course schedule, and the instructor will specify deadlines for each assignment.
- Any student showing non-participation for two weeks (consecutive or non-consecutive) is likely to automatically fail the course.
- Occasionally there may be a legitimate reason for submitting an assignment late. Most of the time, late assignments will not be accepted and there will be no make-up assignments.
- All students are obligated to inform their instructor in advance of any known absences which may result in their non-participation.

Academic Honesty and Integrity

When you submit any work that requires research and writing, it is essential to cite and reference all source material. Failure to properly acknowledge your sources is known as “plagiarism” – which is effectively passing off an individual’s words or ideas as your own. University of the People adheres to a strict policy of academic honesty and integrity. Failure to comply with these guidelines may result in sanctions by the University, including dismissal from the University or course failure. For more information on this topic, please review the Academic Integrity Policy in the University Catalog.

Any materials cited in this course should be referenced using the style guidelines established by the American Psychological Association (APA). The APA format is widely used in colleges and universities across the world and is one of several styles and citation formats required for publication in professional and academic journals. Refer to the [UoPeople APA Tutorials in the LRC](#) for help with APA citations. For help

with using library, kindly refer to [UoPeople Library](#).

Code of Conduct

University of the People expects that students conduct themselves in a respectful, collaborative, and honest manner at all times. Harassment, threatening behavior, or deliberate embarrassment of others will not be permitted. Any conduct that interferes with the quality of the educational experience is not allowed and may result in disciplinary action, such as course failure, probation, suspension, or dismissal. For more information on this topic, please review the Code of Conduct Policy in the University Catalog.