Master Course Syllabus

For additional course information, including prerequisites, corequisites, and course fees, please refer to the Catalog: https://catalog.uvu.edu/

Semester: Spring
Year: 2025
Course Prefix: CS
Course and Section #: 2550-X02
Course Title: Web Programming I
Credits: 3

Course Description

Covers design and development of browser-based programs with an emphasis on single-page applications. Teaches generation and modification of HTML via JavaScript, debugging techniques, communicating with web servers, and use of XML and JSON. Lab access fee of $45 for computers applies.

Course Attributes

This course has the following attributes:

☐ General Education Requirements
☐ Global/Intercultural Graduation Requirements
☐ Writing Enriched Graduation Requirements
☒ Discipline Core Requirements in Program
☐ Elective Core Requirements in Program
☐ Open Elective
Other: *Click here to enter text.*

Instructor Information

Instructor Name: Dr. Saikat Das

Student Learning Outcomes

Upon successful completion of this course, students will be able to:

- Write JavaScript code to generate and manipulate HTML and CSS for web applications;
- Explain the data communication protocols and other network concepts that are important for web applications;
- Explain and use the Document Object Model (DOM) event-based programming in web browsers;
- Address important security issues for web applications;
- Explain XML and JSON and use them in web applications;
- Design and implement client-side programs that can communicate with Internet servers;
- Design and implement basic server-side programs that communicate with web applications running in browsers, debug client-side and server-side programs and communication;
- Use various methods of storing and retrieving data in client-side and server-side programs.

Course Materials and Texts

Required Materials, Fees, and Technology:

- Required Text (Zybooks)
- We use an online, interactive textbook called ZyBooks. It has the content, exercises and hands-on labs to help you learn the necessary skills for your projects. There are 10 chapters with over 40 labs. The labs are programming assignments in which you download files, create html pages, then upload for automated unit tests.
- Signing up is easy:
    - 1. Open your first 'lab' assignment.
    - 2. Click on the button 'Open in Zybooks', it will register you the first time.
    - 3. You will be asked to provide your section (X02), your student ID #. Have those ready. (if asked for email, provide a 'uvu.edu' or 'my.uvu.edu' address)
    - 3. Subscribe and pay, the cost is $89 for textbook and lab module

Software Tools:

- Visual Studio CodeLinks to an external site. - We recommend this IDE for this class. Check out this videoLinks to an external site. on my YouTube channel that shows how to get set up properly for this class and also shows how to debug your applications in the browser.
    - Recommended Extensions
        - Live Server-Ritwick Dey (currently 5.6.1)
- See the HTML Resources Page for more tools, references, cheat sheets etc.

Course Requirements

Course Assignments, Assessments, and Grading Policy

Course Outcomes

- Learn core HTML skills which include:
    - HTML5 Tags, containers, block and inline elements
    - Forms, form validation and submission
    - Navigation and multi-page sites with tabs
    - DOM manipulation via Javascript and jQuery
    - Debug and analyze HTML pages and script
- Learn core CSS skills which include:
    - HTML page layout using Flexbox and CSS Grid
    - Understand CSS layout tags and selectors
    - Create responsive web pages using media queries
    - Understand how to position elements (relative, fixed, absolute, sticky)
    - Create animations using CSS and animate.css
- Learn core Javascript skills which include:
    - Basic Javascript language constructs such as objects, arrays, variables, looping
    - Custom Form validation with error display
    - Showing/Hiding portions of page using ‘tabs’
    - Rendering portions of page dynamically from JSON and AJAX
- Learn Core Design and Architectural Concepts
    - Model/View/Controller, SPA, separation of concerns
    - Progressive Enhancement / Graceful Degradation

- Application and Layout Design
- Understand design principles, Contrast, Repetition, Alignment, Proximity
- Understand the people/roles involved in a web development project
- Be familiar with latest tools and key advantages of these tools

Course Prerequisites:

- CS 1410 or DGM 2760 or INFO 1200

Student Responsibilities

- You are responsible for your own learning. Instructors will help you learn but cannot do it for you.
- Start class the **first week** of the term.
- **Be accountable by setting aside regular time each week to complete course activities and assignments on time as noted per the due dates**.
- Learn how to use Canvas including communication tools (e.g. **discussion,** Canvas **inbox,** etc.). If you have technology-related problems contact the Service Desk (Links to an external site.).
- Enable your notifications for Teams as we will be using this often for general announcements.
- Complete assigned exercises in **zyBooks** (or **Canvas**) prior to their respective due dates.
- Be willing to learn and research some concepts on your own. I won't be able to review/teach every concept during our lecture periods.
- Keep track of important dates in the Student Timetable (Links to an external site.).
- Contact your instructor as early as possible if an emergency arises. Do NOT wait until the last minute to ask for an extension.
- Abide by **ethical** standards. **Your work must be your own.** In each of your programming projects, include the following statement as a comment near the beginning of your source code (and **mean** it):
- "**I declare that the following source code was written solely by me. I understand that copying any source code, in whole or in part, constitutes cheating, and that I will receive a zero on this project if I am found in violation of this policy.**"

Instructor Responsibilities

- Respond to messages within ONE **business day.** If multiple messages are received regarding the same question or concern, they may be responded to with an **announcement** to the entire class.
- Provide timely, meaningful and constructive feedback on assignments.
- Facilitate an effective learning experience.
- Refer students to appropriate services for issues that are non-course content specific. For instance, technical issue, writing labs, accessibility services, etc.
- Mentor students through the course

Grading Policy

Grading Scale:

The following grading standards will be used in this class:

Grade	*Percent*								
A	94-100	A-	90-93	B+	87-89	B	83-86	B-	80-82
C+	77-79	C	73-76	C-	70-72	D+	67-69	D	63-66
D-	60-62	E	0-59						

Assignment Categories

Activity	*Weight*
zyBooks Chapters	20%
zyBooks Labs	15%
Programming Projects	30%
Midterm Exam	15%
Final Exam	15%
Weekly Interactions	5%
SRI (Extra credit)	1%
Meet Your Professor (Extra Credit)	1%

The percentages above add to 102%, which means that you can get 1% of extra credit just for meeting your professor thrice and another 1% for submitting a Student Rating of Instruction (SRI) near the end of the semester.

I value getting to know my students and hearing their feedback. That's why I plan to meet with you at the semester's beginning, middle, and end. You can earn extra credit by attending all three online sessions. Be sure to mark your calendar for these sessions to secure your extra credit and share your valuable feedback!
Meet your professor -1: Friday, January 10th at 2 PM
Meet your professor -2: Wednesday, March 5th at 2 PM
Meet your professor -3: Friday, April 18th at 2 PM

Late Work Statement:

All work is due at 11:59 pm on its respective due date. Late work is automatically penalized 10% per day by Canvas. This means that for any submission after 10 days of the due date, the score will be 0%. If you do not turn in an assignment the score will be 0.
The lowest 2 Chapter/Reading scores will be dropped
The lowest 2 Lab/Quiz scores will be dropped
Plan on getting your work done ahead of time. While this policy allows you to delay turning in an assignment indefinitely, please turn in your assignments within one week of due date. Many of the concepts build upon each other, you will fail future assignments in many cases if you don't complete the previous ones.

Required or Recommended Reading Assignments
This course includes the following required assignments:

Weekly Homework Assignments (Reading and Lab):
Complete the assigned readings and labs from the textbook in Zybook. These exercises help you practice and apply concepts incrementally.

Programming Projects:
There are five programming projects listed in Canvas. Carefully review each project's description before starting. All projects are submitted in Canvas.

Weekly Discussions:

Participate in weekly discussion activities to engage with course material and classmates.

Exams:

- Midterm Exam assess your understanding of the material. It has two parts: the quiz part must be submitted in Canvas, and the lab part in Zybook.
- Final Exam: It is a comprehensive exam including lab work. Similar to Midterm, it has two parts: the quiz part must be submitted in Canvas, and the lab part in Zybook.
- There are no make up midterm or final exams

All graded assignments, except discussions and Projects, are submitted via Zybook.

General Description of the Subject Matter of Each Lecture or Discussion
The following topics are discussed during the weeks listed. Projects and Exams are also shown:

- Week 01: Web Programming Introduction
- Week 02: Web Architecture and Introduction to HTML
  Project 1 – 'About Me' Web Page
- Week 03: Basic CSS
- Week 04: CSS Positioning, Animations and Effects
  Project 2 – 'About Me' CSS
- Week 05: Design Principles
- Week 06: CSS Grid and Flexbox
  Project 3a-Responsive Web Site-Design
- Week 07: Basic JavaScript, Part A
- Week 08: Basic JavaScript, Part B
- Week 09: Midterm Exam
  Project 3-Responsive Web Site-Topic of your Choice
- Week 10: Spring Break
- Week 11: Responsive Layout
- Week 12: JavaScript in the Browser, Part A
  Project 4-Responsive Web Site-CSS Theme and Refactor
- Week 13: JavaScript in the Browser, Part B
- Week 14: Forms, Part A
- Week 15: Forms, Part B
  Advanced Topics
  Project 5-Personal Web Site-Visitor Form Validation-Refactor JS
- Week 16: Final Exam

Required Course Syllabus Statements

Generative AI
The primary goal of education is to foster genuine learning through honest effort—there are no shortcuts. As students, your responsibility is to understand tools and concepts and use them to solve practical problems, both in your academic journey and professional life. Students must submit work that reflects their own understanding and effort. While generative AI tools such as chatbots, text generators, and solvers may be used for brainstorming or creating project outlines, they must not be used to generate code or directly complete assignments. Use of AI tools during self-administered exams is strictly

prohibited. Submitting AI-generated content without modification or comprehension, regardless of how little of the work copied, is considered academic dishonesty and will be addressed per university policy. If you are uncertain about the acceptable use of AI tools, please consult the instructor before submitting your work. Your commitment to integrity and learning is key to your success in this course.

Using Remote Testing Software

☒ This course does not use remote testing software.

☐ This course uses remote testing software. Remote test-takers may choose their remote testing locations. Please note, however, that the testing software used for this may conduct a brief scan of remote test-takers' immediate surroundings, may require use of a webcam while taking an exam, may require the microphone be on while taking an exam, or may require other practices to confirm academic honesty. Test-takers therefore shall have no expectation of privacy in their test-taking location during, or immediately preceding, remote testing. If a student strongly objects to using test-taking software, the student should contact the instructor at the beginning of the semester to determine whether alternative testing arrangements are feasible. Alternatives are not guaranteed.

Required University Syllabus Statements

Accommodations/Students with Disabilities

Students needing accommodations due to a permanent or temporary disability, pregnancy or pregnancy-related conditions may contact UVU Accessibility Services at accessibilityservices@uvu.edu or 801-863-8747.

Accessibility Services is located on the Orem Campus in BA 110.

Deaf/Hard of Hearing students requesting ASL interpreters or transcribers can contact Accessibility Services to set up accommodations. Deaf/Hard of Hearing services can be contacted at DHHservices@uvu.edu

DHH is located on the Orem Campus in BA 112.

Academic Integrity

At Utah Valley University, faculty and students operate in an atmosphere of mutual trust. Maintaining an atmosphere of academic integrity allows for free exchange of ideas and enables all members of the community to achieve their highest potential. Our goal is to foster an intellectual atmosphere that produces scholars of integrity and imaginative thought. In all academic work, the ideas and contributions of others must be appropriately acknowledged and UVU students are expected to produce their own original academic work.

Faculty and students share the responsibility of ensuring the honesty and fairness of the intellectual environment at UVU. Students have a responsibility to promote academic integrity at the university by not participating in or facilitating others' participation in any act of academic dishonesty. As members of the academic community, students must become familiar with their rights and responsibilities. In each course, they are responsible for knowing the requirements and restrictions regarding research and writing, assessments, collaborative work, the use of study aids, the appropriateness of assistance, and other issues. Likewise, instructors are responsible to clearly state expectations and model best practices.

Further information on what constitutes academic dishonesty is detailed in UVU Policy 541: *Student Code of Conduct*.

Equity and Title IX

Utah Valley University does not discriminate on the basis of race, color, religion, national origin, sex, sexual orientation, gender identity, gender expression, age (40 and over), disability, veteran status, pregnancy, childbirth, or pregnancy-related conditions, citizenship, genetic information, or other basis protected by applicable law, including Title IX and 34 C.F.R. Part 106, in employment, treatment, admission, access to educational programs and activities, or other University benefits or services. Inquiries about nondiscrimination at UVU may be directed to the U.S. Department of Education's Office for Civil Rights or UVU's Title IX Coordinator at 801-863-7999 – TitleIX@uvu.edu – 800 W University Pkwy, Orem, 84058, Suite BA 203.

Religious Accommodation

UVU values and acknowledges the array of worldviews, faiths, and religions represented in our student body, and as such provides supportive accommodations for students. Religious belief or conscience broadly includes religious, non-religious, theistic, or non-theistic moral or ethical beliefs as well as participation in religious holidays, observances, or activities. Accommodations may include scheduling or due-date modifications or make-up assignments for missed class work.

To seek a religious accommodation, a student must provide written notice to the instructor and the Director of Accessibility Services at accessibilityservices@uvu.edu. If the accommodation relates to a scheduling conflict, the notice should include the date, time, and brief description of the difficulty posed by the conflict. Such requests should be made as soon as the student is aware of the prospective scheduling conflict.

While religious expression is welcome throughout campus, UVU also has a specially dedicated space for meditation, prayer, reflection, or other forms of religious expression.