CS418/518: Web Programing Syllabus

Spring 2026

Instructor and Course Information

Instructor	Email	Class Room
Nasreen Arif	narif@odu.edu	Zoom

Class Time	First Class Date	Last Class Date
3:00 pm – 4:15 pm, M/W	Wednesday, 01/21/2026	Monday, 05/04/2026

Prerequisites	Virtual Office Hours
CS312: Internet Concepts; CS330: Object-Oriented Programming and Design.	Monday – Thursday on Zoom by Appointment

Course Description

From the ODU Catalog

Laboratory work required. Overview of Internet and World Wide Web; web servers and security, HTTP protocol; web application and design; server-side scripts and database integration, and programming for the Web.

General Information

This class will introduce Web Programming: the process of writing interactive applications accessible through the WWW. In addition, we will introduce JavaScript, a popular client-side web programming language, ReactJS, NodeJS, the security features such as reCaptcha and the cross-site vulnerability (XSS) and clickjacking attack. Emphasis will be on the integration of these components for a useful application. Lectures will provide the overview of various concepts, and the class will be centered around development of a semester-long project. Students have the freedom to build a web application from scratch or based on *open-source frameworks*.

Successful students will be proficient in full stack development and modern web design. The course will give best practice instruction and guidance in developing a website. Students will be evaluated on progressive milestones based on the instructor's specified features. The course will put weight on writing quality web programming codes and implementing different functions. Git will be used for version control.

Course Delivery Method

All sections of this course will be delivered via Zoom web conferencing. Course materials will be distributed via Canvas.
Class meetings will be held synchronously MW 3:00-4:15pm via Zoom (see Canvas for Zoom meeting room). Attendance of the Zoom session during class meeting times is encouraged but is not required. Recordings of the Zoom session will be available. All deadlines are based on the local time zone in Norfolk, VA.

Grading Policy

Students are graded based on the following aspects.

- Project: 95%
  - Milestone 1: 35% (demo 30% + report 5%)
  - Milestone 2: 30% (demo 25% + report 5%)
  - Milestone 3: 30% (demo 25% + report 5%)
- Assignment: 5%

Grading Chart

A	A-	B+	B	B-	C+	C*
94-100	90-93.99	87-89.99	84-86.99	80-83.99	77-79.99	74-76.99

Course Materials

Required Text

There is no required textbook. Recommended book is

Web Programming with HTML5, CSS, and JavaScript by John Dean

Optional Materials ○ Angular ○ ReAct ○ Node.js ○ Course materials and other resources including slides and assignments will be distributed as the course proceeds in the semester

Hardware and Software Requirements

Students will need frequent access to a PC (with Windows 10+) or a Mac (with MacOS 10.14+) capable of hosting software development activities. The course will introduce students to a wide variety of open-source software packages. In the classroom, I will introduce Visual Studio Code.

Late Submission Policy

Project reports are due at midnight on the specified dates. If a student cannot deliver the reports or projects, they MUST provide written evidence (such as a doctor's note) as a proof. Additional time can be granted on a case-by-case basis. Submissions after deadlines without legitimate reasons are counted 50% of the real score, e.g., if a report earns 80 points, only 40 points are counted.

Features not implemented by the corresponding milestones received zero points. If a feature is implemented later, it will receive 50% credits. For example, if a feature is worthy of 2 points and a student failed to fully implement it, the student will receive 0 point for that feature for the milestone. However, if the student successfully implements it in a later milestone (by the last milestone), the student will receive 1 point for that feature (no more than 1 point) at the discretion of the instructor.

Academic Integrity

Individual assignments must be completed independently. Students are encouraged to form study groups and to learn from their peers. However, discussion on projects and reports should be limited to general approaches to solutions. **Specific answers should never be discussed**. ODU's policy regarding Academic Integrity must be followed.

- **Cheating**: Using unauthorized assistance, materials, study aids, or other information in any academic exercise (Examples of cheating include, but are not limited to: (1) using unapproved resources or assistance to complete an assignment, paper, project, quiz or exam; collaborating in violation of a faculty member's instructions; (2) submitting the same, or substantially the same, paper to more than one course for academic credit without first obtaining the approval of faculty).

- **Plagiarism**: Using someone else's language, ideas, or other original material without acknowledging its source in any academic exercise. Examples of plagiarism include but are not limited to submitting a research paper obtained from a commercial research service, the Internet, or from another student as if it were original work; or making simple changes to borrowed materials while leaving the organization, content, or phraseology intact. Plagiarism also occurs in a group project if one or more of the members of the group does none of the group's work and participates in none of the group's activities but attempts to take credit for the work of the group.
- **Fabrication**: Inventing, altering, or falsifying any data, citation or information in any academic exercise. Examples of fabrication include but are not limited to: (1) citation of a primary source which the student actually obtained from a secondary source; (2) invention or alteration of experimental data without appropriate documentation (such as statistical outliers).
- **Facilitation**: Helping another student commit, or attempt to commit, any Academic Integrity violation, or failure to report suspected Academic Integrity violations to a faculty member. An example of facilitation may include circulating course materials when the faculty member has not explicitly authorized their use.

Policy on AI-assisted Tools

Students must abide by the ODU Honor Code. Specifically, all students must abide by the following rule on using AI-assisted Tools, which are not limited to ChatGPT, but also other online services based on AI apps and large language models. Violation to these tools in homework assignments, project coding, and final reports will result in zero scores for the assignments in which the tools are used.

- Use of ChatGPT and such tools may be used to get some ideas, but the work submitted must be students' own.

Copyright

All course materials students receive or to which students have online access are protected by copyright. Students may use course materials and make copies for their own use as needed. **Unauthorized distribution and/or uploading of materials without the instructor's express permission is strictly prohibited.**

Disability Accommodation

In order to receive consideration for reasonable accommodations, you must contact the appropriate services office will provide you with an accommodation letter. Please share this letter with your instructors and discuss the accommodations with them as early in your courses as possible. The detail of disability accommodations is documented in ODU policy #4500.

Discrimination and Harassment

- The university is committed to equal access to programs, facilities, admission, and employment for all persons. It is the policy of the university to maintain an environment free of harassment and free of discrimination against any person because of age, race, color, ancestry, national origin, religion, creed, service in the uniformed services (as defined in state and federal law), veteran status, sex, sexual orientation, marital or family status, pregnancy, pregnancy-related conditions, physical or mental disability, gender, perceived gender, gender identity, genetic information or political ideas. Discriminatory conduct and harassment, as well as sexual misconduct and relationship violence, violates the dignity of individuals, impedes the realization of the university's educational mission, and will not be tolerated.
- Gender-based sexual harassment, including sexual violence, are forms of gender discrimination in that they deny or limit an individual's ability to participate in or benefit from university programs or

activities. These policies shall not be construed to restrict academic freedom at the university, nor shall they be construed to restrict constitutionally protected expression. The discrimination policy is coded in University Policy #1005.

Course Schedule

Week	Date	Topic	Exercises
1	Wednesday, 01/21/2026	Course Introduction	GitHub Preparation
2	Monday, 01/26/2026	Web architecture and web application frameworks	
2	Wednesday, 01/28/2026	IDE, HTML & CSS Overview	GitHub preparations due
3	Monday, 02/02/2026	JavaScript Overview Milestone 1 specifications	Milestone 1 starts
3	Wednesday, 02/04/2026	Introduction to React JS	
4	Monday, 02/09/2026	React JS & Framework	
4	Wednesday, 02/11/2026	An Introduction to MYSQL	
5	Monday, 02/16/2026	API & NodeJS	
5	Wednesday, 02/18/2026	Express JS, Middleware, Connecting the Database to the Backend	
6	Monday, 02/23/2026	CRUD Operations on REST API, Authentication	
6	Wednesday,02/25/2026	Authentication, Password Encryption, Sending Emails, Connecting the Frontend to the Backend	
7	Monday, 03/02/2026	React Escape Hatches	
7	Wednesday, 03/04/2026	Milestone 1 Demo Session A	
8	Monday, 03/09/2026	Milestone 1 Demo Session B	Milestone 1 report due

8	Wednesday, 03/11/2026	Styling React Components, Session & Cookies	
9	Monday, 03/16/2026	Spring Holiday	
9	Wednesday, 03/18/2026	Spring Holiday	
10	Monday, 03/23/2026	Debugging & Testing Application	
10	Wednesday, 03/25/2026	Application Deployment	
11	Monday, 03/30/2026	Web Application Security	
11	Wednesday, 04/01/2026	Good Practices of Site Design, Code Linting & Formatting Techniques	
12	Monday, 04/06/2026	Milestone 2 Demo Session A	
12	Wednesday, 04/08/2026	Milestone 2 Demo Session B	Milestone 2 report due
13	Monday, 04/13/2026	Integrating AI Services into Web Applications	
13	Wednesday, 04/15/2026	Chatbot Development	
14	Monday, 04/20/2026	Introduction to Vue JS	
14	Wednesday, 04/22/2026	TypeScript	
15	Monday, 04/27/2026	Q/A Session	
15	Wednesday, 04/29/2026	Milestone Demo 3 Session A	
16	Monday, 05/04/2026	Milestone Demo 3 Session B	Final report due

* Course schedules are subject to change depending on availability of the instructor.

Exam Schedule

There is no exam for this course.