**Course Syllabus**

**CS 444/544 – Programming for the Web**

**Spring 2025**

**Course Information**

**Instructor: Zerksis D Umrigar**

**Email:** umrigar+cs544@binghamton.edu

**Office:** EB N26

**Office hours:** MWF 1:05 – 2:05p in EB N26 or by appointment

**Zoom**: <https://binghamton.zoom.us/my/umrigar>

**Class Time**: MWF 3:30 – 4:30p

**Location**: LN 1120

**CS 444/544 TA**

**Name:** Bhaskara Yashwant Bitra

**Email:** bbitra1@binghamton.edu

**Office Hours:** Tue, Thu 3:00 – 4:00p in EB N00.

**Zoom**: <https://binghamton.zoom.us/j/8135938899>

**Course Description**

An in-depth understanding of programming for the World Wide Web: detailed coverage of widely used language(s) for web programming, asynchronous programming, principles of web architecture, web protocols, web design patterns, client-side programming, templating, server-side programming, a technical history of the web, web security. Students are expected to have experience with a modern programming language and will be assigned programming projects using current state-of-the-art web technologies.

**Credit and Contact Hours**

**Credit Hours:** 4/3

**Contact Hours:** 3

**Credit Hours Statement:**

This course is a 4/3-credit course, which means that in addition to the scheduled meeting times, students are expected to do at least 9.5 hours of course-related work outside of class each week during the semester. This includes time spent completing assigned readings, participating in lab sessions, studying for tests and examinations, preparing written assignments, and other course-related tasks.

**Learning Objectives**

* Have had exposure to some of the intricacies of JavaScript and TypeScript.
* Understand asynchronous programming.
* Have a solid grasp of the basic technology powering the World Wide Web.
* Have experience developing RESTful web services.
* Use modern client side technologies for consuming the web services.
* Experience in implementing programming projects of medium complexity.

**Prerequisites and Corequisites**

CS 320 or CS 350 or CS 375; Proficiency in programming, with at least some exposure to object-oriented programming.

**Textbooks and Other Materials**

Recommended Text: David Flanagan, JavaScript: The Definitive Guide, 7th Edition, O'Reilly, 2020.

The course will make heavy use of online resources.

**Topics/Class Schedule**

* Javascript and TypeScript: 4-5 weeks.
* Asynchronous programming.
* HTTP protocol.
* Web architecture, Representational State Transfer (REST).
* Web services.
* Browser technologies.

Will build out from server to browser.

**Assignments**

4-5 Homework Assignments

5 Projects: Server-Side JavaScript, DB, Web Services, DOM, Client-side framework like React

**Grading**

Pop Quizzes (lowest dropped): 11%

Projects (lowest dropped) 22%

Homework (lowest dropped) 12%

Midterm: 25%

Final: 30%

Extra Credit: up to +3%

Attendance: up to -15%

**Basis of Grade Determination**

* Letter grades will be assigned strictly monotonically based on the numeric course grade.
* No fixed cutoffs: letter grade assignment will largely be based on feedback from the TA.
* A letter grade of A will be given only for consistent superior work.
* You will get an F only if you miss turning in a lot of work or submit consistently very poor quality work.

**Academic Honesty**

* As per the course Academic Honesty Policy cheating of any type will be penalized heavily.
* Minimal penalty: zero on assignment and letter grade dropped by one slot: i.e. an A becomes an A-, a B- becomes a C+, etc. You will also need to sign a Watson college document which will be added to your file.
* Permissible to collaborate to understand course material, homework questions or project assignments. Not permissible to discuss solutions.
* If you feel you may have inadvertently crossed the line, then let us know; will not be considered cheating.
* If submitting an assignment late after the solution has been posted, you should obviously not be looking at the solution.
* All registered students must sign and complete an Academic Honesty Statement which acknowledges reading the CS academic honesty letter [https://zdu.binghamton.edu/cs544/misc/academic-honesty/cs-honesty-letter.pdf](https://zdu.binghamton.edu/cs571/misc/academic-honesty/cs-honesty-letter.pdf) and links to the Watson Academic Honesty policy at <https://www.binghamton.edu/watson/about/honesty-policy.pdf>.

**Course Policies**

**Use of AI Tools**

* AI tools are not allowed to be used for completing any assignments in this course.
* If the use of AI tools is detected, then you will receive a \*zero\* on the assignment.
* If you use AI tools, use them to only supplement your understanding.
* Since AI tools can produce incorrect or suboptimal results, it is not a good idea to use them when you are not familiar with the material.
* It will not be possible to use AI tools during the midterm and final since the use of electronic devices is not permitted. Hence you will need to understand the material in order to obtain a decent grade.

**Late Submission Policy**

* You are allowed to submit projects and homework late by up to 3 days.
* You may not use more than 7 late days over all assignments over the entire semester.
* Exceeding these limits will result in a substantial penalty: 20 points for each extra day.
* A day will count as 24 hours, irrespective of holidays or weekends.
* Late submissions will not be accepted for some assignments, especially before the midterm or towards the end of the semester.

**Attendance**

* During some random classes, I will take attendance of some random selection of students. This may be done multiple times within a single class.
* You may have up to one unexcused absence without any penalty in the semester.
* You will loose 1 point for the second unexcused absence.
* You will loose 2 points for the third unexcused absence.
* You will loose 3 points for each subsequent unexcused absence up to a maximum of -15 points.
* An absence will be excused if you send me an email \*before class\* giving me a reason for the absence. I may require documentation for the reason.

**Managing Stress and Disabilities**

* If you are having problems, please see me ASAP; do not wait till the end of the semester.
* Flexible regarding deadlines under exceptional circumstances.
* If you are experiencing undue personal or academic stress at any time during the semester or need to talk with someone about a personal problem or situation, I encourage you to seek support as soon as possible. I am available to talk with you about stresses related to your work in my class.