

CS 346: Web Software Development

Fall 2023

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Office: Halsey 214
Office Hours: MW 3-4 PM, TR 2-3 PM, F 3-3:30 PM, or by appointment
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Class Times: MWF 9:10 - 10:10 AM; Halsey 270 (MW) , Halsey 101C (F),
Credits: 3

Prerequisites: A grade of C or better in CS 262.

Description: An introduction to the tools for developing internet applications. Topics covered include: Internet history, the HyperText Markup Language, graphic images and manipulation, multimedia, programming in the JavaScript language (for both client and server).

Course Website: if it happens in this course, it will be posted on UWO's [Canvas](#) site. [Set up notifications](#) to be alerted when announcements are posted, new assignments, quizzes, or notes are posted and graded, etc.

Required Textbook: ZyBooks

1. Sign in or create an account at learn.zybooks.com
2. Enter zyBook code: UWOSHCOMPSCI346Fall2023
3. Subscribe

Course Outcomes: Upon successful completion of the course, students will be able to:

1. Explain the key concepts associated with internet architecture that facilitates web application development.
2. Explain the basic components of web architecture and describe how web browsers and servers work in tandem.
3. Describe a web engineering framework to support the development of web-based applications.
4. Apply the web engineering process to the development of a moderately complex web application.
5. Utilize an integrated development environment to construct and deploy a web application.
6. Construct and validate web pages.
7. Design and implement client-side application logic with selected scripting languages.
8. Design and implement server-side application logic with selected server-side technologies.
9. Design and implement the model-view-controller architecture for web-based applications.
10. Design and construct web pages that interact with persistent storage.
11. Read and apply web standards to the design and creation of web-based applications.
12. Identify trends in web technologies and develop an evaluation strategy for assessing emerging web technologies.
13. Work effectively with a small team of web developers to produce a web application.

Assessments:

| Category | % |
|---------------------------|----|
| Project | 50 |
| Labs | 30 |
| Quizzes (weekly, Fridays) | 10 |
| ZyBooks | 10 |

Grade Scale:

| | | | | | | | | | | | | |
|--------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|
| % | ≥ 92 | 90-92 | 88-90 | 82-88 | 80-82 | 78-80 | 72-78 | 70-72 | 68-70 | 62-68 | 60-62 | < 60 |
| Letter | A | A- | B+ | B | B- | C+ | C | C- | D+ | D | D- | F |

Web Development Project:

Students, working in teams of 2 (with possibly 1 team of 3), will develop a full-stack website for someone other than themselves. The mechanism for creating teams will be decided during class. The project has 5 milestones:

| Milestone | Description | Date |
|---------------------|---|----------|
| Elevator Pitch | A description of the website you will be building | 9/29 |
| Front-end: HTML/CSS | Sitemap, HTML and CSS for all pages | 10/30 |
| Back-end: Database | A functional database, connected to your website | 11/22 |
| Final Website Prep | The finished website, uploaded | 12/10 |
| Presentation | During class | 12/13-15 |

Quizzes: There will be short, weekly quizzes, each covering the material discussed (or assigned as reading/viewing) during the previous week. Quizzes will take place on Fridays.

Late Policies: Late submissions will not be accepted -- exceptions will be made for medical / personal issues (with a note from a doctor or from the Dean of Students Office).

Academic Integrity: The purpose of this course is to teach web development, and more importantly how to think systematically about a problem, how to *problem solve*. For that reason, the work that you turn in must be your own. Note that the goal here is not to force you to work in a complete vacuum: you may have *general* conversations with students to clarify the nature of an assignment, and you can ask for help with debugging, but that second-set-of-eyes-student should not be looking at their code while they assist you.

Sometimes students are unaware of whether or not they have committed plagiarism, but here are some tips:

1. if your problem solving begins with ctrl-C and ends with ctrl-V, you have committed plagiarism.

2. if your problem solving starts at ChatGPT and ends at Chegg, you have committed plagiarism.
3. if your problem-solving involves surreptitiously glancing at the quiz of the student next to you and doing a *virtual* copy-and-paste, you have committed plagiarism.
4. if that tiny voice inside your head, the same one that inconveniently shuts up entirely while you are working on a tricky assignment, starts making "ahem" noises, you have committed plagiarism.

Let us consider the pros and cons of committing plagiarism.

Pros:

1. You have completed the assignment. Rah!

Cons:

1. You will have missed that exhilarating, ego-boosting, delicious "aha!" moment that everyone experiences when they have, on their own, solved a difficult puzzle.
2. You will be caught, receive a 0 on the assignment/exam, and may face disciplinary action in front of a bevy of grim-faced administrators who you do *not* want to meet.
3. You won't *know* anything!

So what do you do when you can't solve a problem? The answer is simple, ask your instructor for help. We will use the time-tested Socratic method, asking questions that will lead you to the correct answer. Failing that, just write "I have no idea" in bold letters in the comment block at the top of the assignment, turn it in, and you will gain *some* points (more than 0).

Quizzes are to be done entirely on your own. These are closed book, closed notes, because this material is so absolutely fundamental that you **must** have it at your fingertips. See the Dean of Students Office web page [for more information](#).

ChatGPT Policies: ChatGPT is good at explaining (some) CS topics, and, unlike your instructor, is available 24x7. So if you are unsure about a topic discussed in class, consider asking ChatGPT -- just remember that ChatGPT does not always get things right, so look at its answers with a skeptical eye. Also, to help with studying, consider using ChatGPT to generate practice problems (with solutions). What you may *not* use ChatGPT for is to complete your assignments: that is plagiarism (see above).

Absences: It has been scientifically proven that the most significant factor for predicting student success is attendance (although whether this is truly causation or merely correlation is another question). Students should attend each and every class, and notify the instructor ahead of time if you will be absent. Attendance may be taken and factored into the Quizzes category.

Accessibility: Your instructor is committed to ensuring a fair playing field. If you have a disability and need assistance (e.g., a note taker, certain seating, extra time to take tests, adaptive technology, etc.), please register with the Accessibility Center, and we will accommodate your needs.

Non-discrimination and Anti-harassment: Your instructor is committed to maintaining a harassment-free, welcoming classroom, and will not tolerate discrimination on the basis of race, religion, creed, color, sex, gender, identity/expression, ancestry, national origin, age, marital status, relationship to other employees, sexual orientation, disability, veteran's status, membership in the military, arrest/conviction record, political affiliation, or any other protected status.

Feedback: Your instructor thrives on constructive feedback, especially during the semester: feedback provided via SOS will be too late to benefit you, so if you are having issues, please discuss them with me ASAP.