

# COMPSCI 326

Course Introduction

# Welcome!

## Course Description

The World Wide Web was proposed originally as a collection of static documents interconnected by hyperlinks. Today, the web has grown into a rich platform, built on a variety of protocols, standards, and programming languages, that aims to replace many of the services traditionally provided by a desktop operating system. Topics will include: producing dynamic content using a server-based language, content serving databases and XML documents, session state management, multi-tier web-based architectures, web security, and core technologies including HTTP, HTML5, CSS, JavaScript, and SQL will be emphasized. This course will also study concepts and technologies including AJAX, social networking, mashups, JavaScript libraries (e.g., jQuery), and web security. This course is hands-on and project-based; students will construct a substantial dynamic web application based on the concepts, technologies, and techniques presented during lecture.

# Today

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# Equality Statement

The instructor is dedicated to establishing a learning environment that promotes diversity of the students, including race, class, culture, religion, gender, sexual identity, and physical ability. It is important that this is a safe virtual classroom environment. We will practice being generous and respectful members of our classroom and computer science community. Anyone noticing discriminatory behavior in this class, or who feels discriminated against, should bring it to the attention of the instructor immediately.

# Staff

Tim Richards (Instructor)

Ziwei He, Arjun Karuvally (TAs)

Annabel Schneider, Parth Nagraj, Tahseen Rahman, Arushi Ahmed, Chen Xie,  
Christopher Doan, Andrew Lussier, Ishan Khatri, Mark Disler (UCAs)

# Integrative Experience

This course satisfies the Integrative Experience (IE) requirement. The upper-division integrative experience provides a structured context for students to reflect on their own learning and explore the connections between the broad exposure provided by General Education and the more focused exposure of their major. You can read additional details on the [integrative experience website](#). The IE requirement is fulfilled by this course through the application of extensive team-based learning. Furthermore, this course embraces the IE through a substantial team project that is entirely student driven and explicitly integrates the material covered in this course with the experiences, learning, and knowledge attained by every unique person enrolled in this course.

# Course Infrastructure (general)

- **Moodle** - we will use Moodle for providing links to the rest of the course and maintaining grades, that is it!
- **Piazza** - we will use Piazza for asynchronous class discussion and general communication between the instructor, TAs, and UCAs. We will also use Piazza to post staff information (office hours) and links to the syllabus and schedule. **Make sure you sign up for Piazza today!** (See Moodle)
- **Zybooks** - we will use Zybooks for the reading for this course as well as assignments for participation, challenges, and labs. **Make sure you register your copy of this book today!** (See Moodle)

# Course Infrastructure (syllabus and schedule)

- **Syllabus** - the syllabus is available as a link from a pinned post in Piazza. Please take a look at this and read through carefully and entirely.
- **Schedule** - the schedule is available as a link from a pinned post in Piazza. Please take a look at this and read through carefully and entirely. This may be updated as the course progresses.

# Course Infrastructure (material)

All material (slides, code, etc.) will be made available through links in Piazza. You should make sure to check regularly. If you follow the pinned post you should receive an email update (or notification if you have Piazza on your phone) when we post new material.

We will do our best to post material in a reasonable amount of time.

# Required Text

## Zybook - Web Programming

1. Sign in or create an account at [learn.zybooks.com](https://learn.zybooks.com)
2. Enter zyBook code: `UMASSCOMPSCI326RichardsAcademicYear2020`
3. Subscribe

A subscription is \$77. Students may begin subscribing on Aug 20, 2019 and the cutoff to subscribe is Mar 21, 2020. Subscriptions will last until May 13, 2020.

# General Policies - prerequisites

COMPSCI 187 and/or 186. This course assumes a good understanding of programming at the 187 (data structure implementation) or 186 level (using data structures), basic command line usage, understanding of version control systems (e.g., git), and object-oriented programming concepts and techniques are helpful. We also assume a level of maturity for success in working in a team-based environment.

# General Policies - objectives

- Students will learn and apply HTML to structure content in a browser
- Students will learn and apply CSS to style content in a browser
- Students will learn and apply the JavaScript programming language
- Students will learn and apply the fundamental architecture of a front-end web application
- Students will learn and apply the fundamental architecture of a back-end web application
- Students will learn and apply the connection between front-end and back-end
- Students will learn and apply a RESTful web application
- Students will learn and apply the fundamental construction of a modern complete web application

# Course Development Environment

Given that this is a programming intensive course it is important to highlight the development environment! Generally, most of what we cover in this course is available on all the typical operating systems. However, the team project allows you to explore additional environments that may have specific OS requirements. You are welcome to use those additional libraries/tools, however, you will not receive direct support for what you use. It is your responsibility for the installation, setup, and use of those additional components. You are welcome to use any editor, IDE, or tools to explore this material.

We do recommend [Visual Studio Code](#).

# Other Material

It is assumed that you have a computer to use for assignments in this course. It is highly recommended that you get a Dropbox account (or other file synching service) or USB memory stick to save files that you create for assignments. There are no excuses for missing or accidental deletion of work.

Note: you may only use github for storing your work on individual assignments if you are using a private repository. Use of public repositories to store assignment solutions on github is considered cheating and will result in a failure for this course.

**You are welcome to store and share your team project work on a public repo!**

# Course Structure - Lecture

Lecture is led by the course instructor and will provide a high-level overview of the course material. The presentation format will include a variety of slides, written notes, programming examples, activities, etc. All material will be available through the course learning management system site (e.g., Moodle, Piazza). You are expected to attend every lecture and arrive promptly so you do not disturb others.

You are welcome to use any mode of note taking that you wish. However, if you are using a laptop or other electronic device we ask that you refrain from social media and gaming during class. This is very disruptive to other students who are taking the course and disrespectful to the instructor of the course.

**Please turn off or silence your phone during class.**

# Course Structure - Lab

The Lab section is led by a teaching assistant (TA) for this course. There will also be undergraduate course assistants (UCA) assigned to your lab section. You are expected to attend every lab section. Labs are used to begin lab exercises in groups as well as to work on the end of semester project. Missing a lab section does not excuse you from any activities that occur during that time. Do not ask to make up any missed work during lab section time.

**Please turn off or silence your phone during lab.**

# Student Work

- Team Project (40%)
- Labs (20%)
- Participation (15%)
- Challenges (15%)
- Team Project Demo (10%)

# Student Work - Team Project

The team project encompasses the last third of the semester - approximately 4 weeks. You will be required to work in a team of 4 students to design and implement a socially conscious web application using the three important components of web applications including HTML, CSS, and JavaScript. The design and implementation of the application is entirely up to you, but it must be socially aware, solve a real-world problem, be connected to work you have done in other areas (general education), connect to your discipline (e.g., CS, Informatics) and be relatively unique as compared to other existing applications (within reason). You are welcome to use any 3rd party library, APIs, frameworks, etc. that you wish to accomplish this project as long as it includes the three important components of web applications.

# Student Work - Labs

Labs are larger assignments associated with the material covered during the week that the lab is assigned. These activities are associated with the book. The labs are assigned during the lab section, you can work in teams to come up with the answer, and you may submit your answer individually by the following week.

# Student Work - Participation

For each assigned reading there will be associated participation exercises. You will be required to complete participation exercises as part of the reading before lecture to be given credit. These activities are associated with the book. Several of these activities require you to simply review an animation.

# Student Work - Challenges

Challenges can be viewed as homework. They are basic exercises on the material that you must complete before the following week's class. These activities are associated with the book. They are automatically graded and scored based on your response. You are allowed to work on these until you get the correct answer.

# Student Work - Team Project Demo

The last class meeting of the semester will require you and your team to demonstrate your working project and explain its significance and impact. You will be required to have a laptop, phone, or other device that demonstrates your work and be able to answer questions from students. You will also be required to review other student projects and provide feedback as part of your grade.

# Final Grades

To evaluate your understanding of the course content we will use scores achieved on each of the above assessment components. Your final grade will convey what you know from the course and how well you know it. Missing assignments can have a dramatic impact on your final grade so it is important that you are attentive to submission deadlines and avoid any missing work. The typical breakdown of percentages and final grades for this course are A (93-100), A- (90-92), B+ (87-89), B (83-86), B- (80-82), C+ (77-79), C (73-76), C- (70-72), D+ (67-69), D (60-66), F (0-59). This grading scheme may be adjusted based on the overall performance of students in the course.

# Lateness

Late submissions for any assessment component will not be accepted, with the one exception noted below. It is your responsibility for maintaining your own schedule and being prompt with your submissions. We expect that you become familiar with the course submission software and verify that your submission has been properly uploaded. We will not accept late submissions due to lack of checking on this.

**Except, if there extenuating circumstances beyond your control with official documentation provided to the instructor as soon as possible. It is your responsibility to communicate to us as quickly as possible.**

# Assignment Submission

Assignments will be submitted electronically. You are responsible for submitting your assignments by the assigned due date. The due dates for assignments will be clearly indicated on the schedule and it is your responsibility to update your own calendar so you are aware of due dates.

# Communication

Your first point of contact is the teaching assistant (TA) for your assigned lab section. That is, if you have a problem in the course, an assignment, a question about a participation/challenge/lab grade, or a question about the material you should first approach the TA leading your lab. If they are unable to answer your question they will communicate this to the instructor and the instructor will provide an answer.

# Online Discussion Forum

We will be using Piazza for all communication. The discussion forum should be your first choice for asking questions as others most certainly have the same question. You should check the discussion forum before asking your question to see if the same question has already been posted. We will not answer questions that have already been answered in the discussion forum. Think before you post. We expect you to do a reasonable amount of thinking to try to solve your problems before posting for help. Make sure you are articulate and clear with your post (i.e., think before you post). You should post questions related to assignments early rather than wait until the last minute. Questions that are posted very near an assignment deadline may not be answered. Course staff are expected to answer questions Monday through Friday. Do not expect prompt answers on Saturday, Sunday, and scheduled holidays and breaks.

Note: Do not send direct email to course staff unless your discussion section TA allows it or it is an emergency (death or extreme documented illness).

# Accommodations

Accommodations are collaborative efforts between students, faculty, and Disability Services (DS). Students with accommodations approved through DS are responsible for contacting the faculty member in charge of the course prior to or during the first week of the term to discuss accommodations. Students who believe they are eligible for accommodations but who have not yet obtained approval through DS should contact DS immediately at (413) 545-0892. If you are a student with a documented disability and are registered with Disability Services, please contact me immediately to facilitate arranging academic accommodations. Reasonable arrangements will be made in accordance with your accommodations provided by DS in the context of this course.

# Attendance and Participation

You are expected to attend class and lab regularly, read the assigned readings before class, and participate in class discussions. Your participation will be evaluated in a variety of ways. This includes any in class activities or activities that may be given during weekly discussion sections. You are responsible for maintaining your own schedule and ensuring that you are present during activities. Do not ask to makeup missed activities.

# Course Incompletes

Students who are unable to complete course requirements within the allotted time because of severe medical or personal problems may request a grade of Incomplete from the instructor of the course. Incomplete grades are warranted only if a student is passing the course at the time of the request and if the course requirements can be completed by the end of the following semester.

Furthermore, an incomplete will be granted if at least 75% of the work has been completed for the course. Otherwise, the recommended course of action is to withdraw and retake the course in the future. Please see the Academic Regulations Section IV Grading System and Credit Guidelines for further details.

# Academic Honesty

It is very important in all courses that you be honest in all the work that you complete. In this course you must complete all assignments, quizzes, exams, etc. on your own unless otherwise specified. If you do not you are doing a disservice to yourself, the instructors for the course, the School of Computer Science, the University of Massachusetts, and your future. We design our courses to provide you the necessary understanding and skill that will make you an excellent computer scientist. Assignments and exams are designed to test your knowledge and understanding of the material. Plagiarism and academic dishonesty of any sort may seem like an easy way to solve an immediate problem (which it is not), however, it can have a substantial negative impact on your career as a computer science student. There are many computing jobs out there and many more people working hard to get those positions. If you do not know your stuff you will have a very difficult time finding a job. Please take this seriously.