AUBURN UNIVERSITY
AT MONTGOMERY

Course Syllabus

Auburn University at Montgomery

College of Sciences, Department of Computer Science & Information Systems

CSCI 6030: Front-end Web Application Development

Term: Spring 2025

Course Delivery Method: Face-to-Face

Location: 10LABW Ida Belle Young Library Tower

Meeting Times

Mondays and Wednesdays 8:00 AM to 9:15 AM (Sections 1, 2, 3)

Tuesdays and Thursdays 8:00 AM to 9:15 AM (Sections 4, 5, 6)

Faculty Information

Faculty: Dr. Sheik Anik
Office Phone:
Email Address: sanik1@aum.edu
Office Location: EDU-111A
Office Hours: Monday to Thursday 9:30 AM to 11:30 AM
Chair: Dr. Lei Wu
Dean: Dr. Douglas Leaman

Course Information

Course Description:

This course introduces the fundamentals of developing dynamic, user-friendly web applications, equipping students with the core competencies and techniques in both front-end and back-end development. The course covers foundational web design languages, including HTML, CSS, and JavaScript, and extends to dynamic frameworks like React, jQuery, AJAX, Tailwind, and Bootstrap to streamline development tasks. Students will learn best practices in responsive design, accessibility, and user experience, enabling them to craft aesthetically pleasing and highly functional applications. Additionally, the course introduces back-end development using Python and Flask, teaching students how to create and integrate APIs and handle server-side functionality.

The course also emphasizes the use of Git for version control, providing students with practical experience in managing code changes and collaborating on projects effectively.

Credit Hours: 3 hours

Learning Outcomes:

Upon completion of the course, the students should be able to do the following**:**

- Develop static web pages using HTML5 and CSS3 with responsive design principles.
- Create interactive, dynamic content using JavaScript and jQuery and integrate them with modern frameworks like React.
- Build reusable UI components and manage application state effectively using React.
- Implement effective styling and layout techniques to enhance user experience.
- Develop back-end functionality for web applications using Python and Flask, including creating APIs and handling requests.
- Deploy full-stack web applications to a remote server, understanding the basics of web hosting for both front-end and back-end components.
- Identify and use domain names, DNS (Domain Name Systems), and IP addresses to access and manage remote web applications.
- Utilize Git for version control, managing code changes, and collaboration.
- Apply debugging and troubleshooting techniques to ensure cross-browser and device compatibility in front-end development and error-free back-end integration.

Course Format:

- Lectures: Covering practical knowledge, best practices, and design principles
- Assignments: In-class assignments and take-home assignments
- Projects: A group project requiring students to develop a complete web application
- Assessments: Regular quizzes, two midterm exams, project presentation, and a final exam

Textbooks:

- **Required:**
    - Murach's HTML and CSS (5th Edition) by Zak Ruvalcaba and Anne Boehm
    - Murach’s Javascript and jQuery (4th Edition) by Mary Delamater and Zak Ruvalcaba
    - Learning React: Modern Patterns for Developing React Apps 2nd Edition by Alex Banks, Eve Porcello
    - Flask Web Development: Developing Web Applications with Python 1st Edition by Miguel Grinberg
- **Optional**:
    - Front-End Back-End Development with HTML, CSS, JavaScript, jQuery, PHP, and MySQL 1st Edition by Jon Duckett

Minimum Technology Requirements:

In order to successfully participate in an online Canvas course, you must have:

- It is recommended to have a minimum Internet speed of 512kbps. (broadband highly recommended);
- A computer
    - Although a Chromebook is considered a computer, its operating system is not supported by Canvas. For best performance, access Instructure products with a computer that supports the most recent browser versions. It is recommended to use a computer five years old or newer with at least 1GB of RAM.
    - Instructure products require an operating system that can run the latest compatible web browsers. Your computer operating system should be kept up to date with the latest recommended security updates and upgrades.
    - soundcard with microphone and headphones (a headset with microphone/headphones is highly recommended);
    - video card;
    - webcam;
    - 2 Ghz or faster processor, 100GB hard drive, at least 4 GB RAM (8 GB recommended)
    - Active Auburn University at Montgomery email account;
    - For best performance, Instructure products should be used on the current or previous major releases of Chrome, Firefox, Edge, or Safari. Because Instructure products are built using web standards, Instructure products run on Windows, Mac, Linux, iOS, Android, or any other device with a modern web browser.
- The Microsoft 365 suite: download · privacy · accessibility;
- Zoom: download · privacy · accessibility;
- Respondus Lockdown Browser: download · privacy · accessibility;
- Kaltura (found in Canvas): privacy · accessibility;
- VoiceThread (found in Canvas): privacy · accessibility;
- Turnitin (found in Canvas): privacy · accessibility;
- A PDF reader.
- Canvas: privacy, accessibility

Recommended Software:

- Operating system:
    - Microsoft Windows 11
    - Ubuntu 22
- Code Editor
    - Sublime Text 3
    - Visual Studio Code
- Software package
    - Git
    - Bash
    - Microsoft Office 365 suite

For more information: https://community.canvaslms.com/t5/Canvas-Basics-Guide/What-are-the-browser-and-computer-requirements-for-Instructure/ta-p/66

Canvas Use: This course uses Canvas for course announcements, instructional materials, interactions, assignments, assessments, posting of grades and feedback, and resources. For the privacy policy, review the Canvas Privacy Policy and the Instructure Product Privacy Notice. For the accessibility standards please visit the What are the Canvas accessibility standards? Community page.

For Canvas training videos and tutorials, visit the Canvas Students Community page. It has resources that can assist students with getting acclimated to Canvas. Students can also access Canvas support through the Help area in Canvas.

Expectations of Learning Activities:
You are responsible for:

- regularly checking your AUM email;
- regularly logging into your course;
- regularly reading announcements;
- reading through the instructional materials during their respective week;
- completing all learning activities during their respective week;
- regularly checking your grades and feedback;
- reaching out to your faculty member when you have questions or need assistance;
- following netiquette rules;
- managing your time effectively.

Disability Accommodations: Students who need accommodations are asked to arrange a meeting during office hours to discuss your accommodations. If you have a conflict with my office hours, an alternate time can be arranged. To set up this meeting, please contact me by e-mail. If you have not registered for accommodation services through the Center for Disability Services (CDS), but need accommodations, make an appointment with CDS, 147 Taylor Center, or call 334-244-3631, or e-mail CDS at cds@aum.edu.

Student Support

Free Academic Support: All students have the opportunity to receive free academic support at AUM. Visit the Learning Center (LC) in the WASC on second floor of the AUM Library Tower or the Instructional Support Lab (ISL) in 203 Goodwyn Hall. The LC/ISL offers writing consulting as well as tutoring in almost every class through graduate school. The LC may be reached at 244-3470 (call or walk-in for a session), and the ISL may be reached at 244-3265. ISL tutoring is first-come-first served.

Technology Support: For technology assistance, visit the ITS Help Desk located on the 2nd floor of the Library Tower, call 334-244-3500, email helpdesk@aum.edu, or visit the Online Help Desk.

Policies and Procedures

For all university policies, please visit *Current University Policies* at https://www.aum.edu/governance/university-policy/current-university-policies/.

Netiquette Policy:
Short for internet etiquette, netiquette refers to professional behavior in all online communications, including email, discussions, papers, group work, etc., as described below:

- Avoid using abbreviations (such as IDK, BRB, TTYL or LOL) because not everyone is familiar with them and may find them confusing.
- If you use an acronym, explain it the first time you use it.
- Avoid using the red font, all caps, or multiple exclamation marks, as they are equivalent to yelling.
- Use joking and sarcasm very carefully; they may be misunderstood in the online classroom because of the lack of the facial cues and tone of voice from which we benefit in face-to-face communication.
- Check spelling, grammar, and punctuation carefully & think twice about what you are going to add to an online classroom, as you may not be able to modify or retract it.
- In discussion forums, avoid making simplistic peer responses such as "ditto" or "I agree". All your posts need to be substantive and supported with evidence from the course or library, in an effort to deepen or move the conversation forward.
- Be forgiving of other people's mistakes and respectful of the feelings of others.
- When appropriate, use private email instead of posting to the group.
- Use descriptive subject lines to give everyone in the class a clue as to what your post or email is about.

Attendance Policy: Attendance is required. Please bring your AUM ID for attendance verification. All students have one allowed unexcused absence. Each further count of absence will lead to a 1% (1 point out of 100 points) deduction of course grade.

Academic Honesty Policy: Please adhere to the standards of the Student Academic Honesty Code present in the **Student's Handbook**. Any kind of plagiarism/cheating/copying is subjected to a zero grade for that particular task. Please note that beyond these specific consequences, the final letter grade for the course may also be subjected to F because all instances of academic dishonesty will be reported to the university administration for an official hearing and may also result in loss of current and future assistantship opportunities. Discussing about a given homework is allowed as long as the student completes and submits own work. Copying (fully or partially) someone else's work, using online resources like AI tools without properly citing or understanding will be considered as plagiarism.

Bonus Credit Policy: Bonus points/credit will only be considered under highly unusual circumstances and will be awarded for exception tasks performed in-class.

Grades and Feedback: Expect grades and feedback by Monday 11:59pm of the week immediately following a deliverable's due date.

Communication Policy: Contact me by email at any time. Please make appointments for office hours and email me the nature of your problem so that I can prepare a better answer (or even a short video lecture for it so that other students can also benefit). For email communications, use your @aum.edu email address and include your name and course number in the subject of the email, preferable a few other words in the title describing the issue: (e.g. "John Doe CSCI 6030 Assignment 1"). The first contact should always be the course instructor regarding any course issues. When students cannot reach a satisfactory result with the course instructor, they should contact the Department Chair Dr. Lei Wu, whose office is located at 310Q Goodwyn Hall.

Grades

Grading Scale:

The course will use the following grading scale. However, adjustments to the scale or curving may occur depending on the overall performance of the students.

Score range		**Letter**	**Point**
From	**To**		
91%	100%	A	4
85%	90%	B+	3.33
81%	84%	B	3
75%	80%	C+	2.33
71%	74%	C	2
65%	70%	D+	1.33
61%	64%	D	1
0%	60%	F	0

Grade Weight Distribution:

Activity	**Weight**
Class Attendance	5%
Assignments	20%
Project	20%
Midterm Exams	20%
Final Exam	35%
Total	**100%**

Schedule

Week	Instructional Materials	Readings	Learning Activities
1.	Introduction to Front-end Dev Source Code Analysis Software Installation HTML Fundamentals Version Control and Git	[1]Chapters 1, 2, 3, 7, 11	Task 1, 2
2.	Tables, Forms, and Media CSS Integration CSS Selectors Responsive Web Design	[1]Chapters 4, 5, 6, 12, 13	Task 3, 4
3.	JavaScript Basics DOM Manipulation with JS	[2]Chapters 2, 3, 4, 6	Task 5, 6
4.	Advanced JavaScript and CSS Twitter Bootstrap Tailwind jQuery	[2]Chapters 8, 14, 16, 18, 19	Task 7, 8
5.	Review and Midterm Exam 1		Midterm Exam
6.	Introduction to React State Management	[3]Chapters 1, 2, 4, 6	Task 9, 10
7.	React Components Hooks	[3]Chapters 7	Task 11, 12
8.	Incorporating Data with React Props	[3]Chapters 8	Task 13, 14
9.	Router and Server Connection	[3]Chapters 11	Task 15, 16
10.	Review and Midterm Exam 2		Midterm Exam
11.	Flask Installation and Basic Structure	[4]Chapters 1, 2	Task 17, 18
12.	Templates, Web Forms Database Security	[4]Chapters 3, 4, 5, 8	Task 19
13.	Deployment	[4]Chapters 15, 17	Task 20
14.	Review and Midterm Exam 3		Midterm Exam
15.	Project Review		Presentation
16.	Review and Final Exam		Final Exam

Course schedule is subject to change at the faculty member's discretion. All changes will be informed through announcements in the class and in Canvas.

Resources:

1. Murach's HTML and CSS (5th Edition) by Zak Ruvalcaba and Anne Boehm
2. Murach's Javascript and jQuery (4th Edition) by Mary Delamater and Zak Ruvalcaba
3. Learning React: Modern Patterns for Developing React Apps 2nd Edition by Alex Banks (Author), Eve Porcello (Author)
4. Flask Web Development: Developing Web Applications with Python 1st Edition by Miguel Grinberg (Author)