MMC6278: Advanced Web Topics 2: Special Topics

Academic Term: Fall 2025
4 **Credit Hours**

Instructor
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Virtual Office Hours: Office hours will be held on Tuesdays at 9:00AM ET. A link to the meeting will be posted in the class announcements. These optional sessions may be utilized to review course material or assignments. If you're unable to attend due to scheduling conflicts but would still like to meet, please use this link to schedule time.

Course Description and Prerequisites

Course Description: This course builds upon the skills learned in Web I and teaches students about server-side applications through the Node.js JavaScript runtime. Students will learn to build server applications using Node that both serve and communicate with front-end applications and websites. This course will explore database technology, user authentication, serving static files, Model View Controller (MVC) architecture, and server application deployment. By the end of the course, students will be able to build monolithic server-side web applications that dynamically render front-end web views and manage user data.

Course Prerequisites / Co-Requisites – COM6338 Advanced Web Topics 1

Course Expectations

This course is fully online; you must log in to Canvas with your Gatorlink username and password to access the materials and assignments. The course is organized into modules with due dates. Unless otherwise specified, each module begins on Monday at 12:00 AM ET and ends on Sunday at 11:59 PM ET.

Time Commitment & Student Workload Expectations
Expect to spend 10 to 20 hours per week per course watching or attending lectures, reading, working on assignments and projects, and engaging in discussions.

Expectations for Writing Assignments: Writing Style
To meet the academic rigor and standards of a graduate program, all students must use the Publication Manual of the American Psychological Association (APA) 7th Edition style in their courses when appropriate for the assignment. The APA 7th Edition Manual has a plethora of guidelines that include scholarly writing, publishing principles, elements and format for your papers, writing style and grammar, bias-free language guidelines, mechanics of style, in-text citing references, etc. For additional information on notable changes, see changes between APA 6th Edition and APA 7th Edition.

Attendance Policy
Requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with university policies. Click here to read the university attendance policies for information on absences, religious holidays,

illness, and the twelve-day rule. Excused absences must be consistent with university policies in the Graduate Catalog and require appropriate documentation.

Late Assignment Policy
Late assignments will not be accepted unless it is a University excused absence, as stated in the attendance policies. ***Due to the university grading deadlines, no late work will be accepted for final projects or work due in the final week of class.*** Students should contact their instructors before submitting the assignment deadline if potential issues arise concerning submitting the final work.

1. Late Assignments will not be accepted.
2. Late Discussions will not be accepted.

Student Guidelines for Course Challenges
A student with questions regarding course content such as assignments, assessments, instructional materials, lectures, meetings, course objectives, course module objectives, or other areas of the course, please adhere to the following guidelines: First, *approach the faculty member who is teaching the course* to ask for clarifications regarding the course assignments, assessments, materials, lectures, meetings, etc. Use the instructor's contact information to request an appointment where you can address any concerns and/or questions. If, after meeting with *the faculty member teaching the course,* you are still unclear on the course assignments, assessments, materials, lectures, meetings, etc., then the next step would be to contact online advising (onlineadvising@jou.ufl.edu) for additional guidance.

Accessibility/Students with Disabilities Information
Students with disabilities who experience learning barriers and would like to request academic accommodations should connect with the Disability Resource Center. It is important for students to share their accommodation letters with their instructors and discuss their access needs as early as possible in the semester.

Course Evaluation
Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback professionally and respectfully is available at https://gatorevals.aa.ufl.edu/students/. Students will be notified when the evaluation period opens and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via https://ufl.bluera.com/ufl/. Summaries of course evaluation results are available to students at https://gatorevals.aa.ufl.edu/public-results/.

Course-Level Objectives

Upon successful completion of this course, students will be able to:

1. Describe containerization. (CO: 1)
2. Use Docker containers in an application. (CO: 2)
3. Use Node.js. (CO: 3)
4. Use external packages from Node Package Manager (NPM). (CO: 4)
5. Create a server using Node.js (CO: 5)
6. Describe server-side rendering. (CO: 6)
7. Use Structured Query Language (SQL). (CO: 7)

8. Use a relational database. (CO: 8)
9. Use a Non-SQL (NoSQL) database. (CO: 9)
10. Describe monolith applications and Model View Controller (MVC) architecture. (CO: 10)
11. Use web security best practices. (CO: 11)
12. Implement user authentication and authorization. (CO: 12)
13. Implement Session Management. (CO: 13)
14. Describe Object-Relational Mapping. (CO: 14)
15. Create automated tests for a Node application. (CO: 15)

Textbooks and Materials

Required Course Textbook(s) There are no required works to purchase for this course. All required learning materials will be linked in the modules or be freely available via Course Reserves or UF Library resources.

Required Software:
Please refer to the document in your course website for specific directions on each of the following required tools:
Node (and NPM, but that comes with Node)
VS Code
Git (and an account on GitHub.com)
Docker Desktop
MySQL (installed through Docker for assignments)
MongoDB (installed through Docker for assignments)

Technology Requirements:
For MAC:

macOS must be version 10.15 or newer
4GB RAM
For Windows:

Windows 11 64-bit: Home or Pro version 21H2 or higher, or Enterprise or Education version 21H2 or higher
Windows 10 64-bit: Home or Pro 21H1 (build 19043) or higher, or Enterprise or Education 20H2 (build 19042) or higher
64-bit processor with Second Level Address Translation (SLAT)Links to an external site.
4GB RAM

Recommended Textbook(s)
This textbook is recommended in all CJC Online classes to support student expectations for writing style.

American Psychological Association. (2020). *Publication manual of the American Psychological Association: The official guide to APA style* (7th ed.).

- ISBN-13: 978-1433832161
- ISBN-10: 143383216X

University and Course Grading Policies

University Honor Code

UF students are bound by The Honor Pledge, which states, "We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: "On my honor, I have neither given nor received unauthorized aid in doing this assignment." The Conduct Code specifies the number of behaviors that violate this code and the possible sanctions. Click here to read the Conduct Code. If you have any questions or concerns, please consult with the instructor in this class.

Plagiarism

Plagiarism is unacceptable, especially in academic communities. All academic work must be an original work of your own thought, research, or self-expression. Plagiarism includes but is not limited to, prohibited collaboration, consultation, and submission of academic work that has been purchased or obtained (see the UF Policy: Student Conduct Violation). In addition, self-plagiarism is also unacceptable. Self-plagiarism is defined as recycling or reusing one's own specific words from previously submitted assignments or published texts. Remember that plagiarism is unacceptable in any of your work, including all discussion board posts, journal entries, wikis, and other written and oral presentation assignments. It's important to always cite your sources in your assignments.

Grading Criterion

Your grade will be calculated based on the following:

Assignments/Assessments	Weight (%)
Course Orientation: These assignments are required; however, they do not count towards the final grade. • Student Introduction • Course Evaluation	0%
9 Assignments • Worth up to 100 points each	50%
10 Discussions • Worth up to 100 points each	20%
1 Final Project • Worth up to 100 points	30%
TOTAL	**100%**

Grade	Percentage
A	**92.5-100%**
A-	**89.5-92.4%**
B+	**86.5-89.4%**
B	**82.5-86.4%**
B-	**79.5-82.4%**
C+	**76.5-79.4%**
C	**72.5-76.4%**

C-	**69.5-72.4%**
D+	**66.5-69.4%**
D	**62.5-66.4%**
D-	**59.5-62.4%**
E	**0 – 59.4%**

The only passing grades for graduate students are A, A-, B+, B, B-, C+, and C. Letter grades of C-, D+, D, D- or E are not considered passing at the graduate level. However, the grade points associated with these letter grades are included in grade point average calculations. See the Graduate Catalog and UF graduate school grading policy for more information.

Student Privacy
Federal laws protect your privacy regarding grades earned in courses and on individual assignments. For more information, please see the Notification to Students of FERPA Rights.

Technology Requirements

Software Use
All faculty, staff, and students at the university are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against university policies and rules, disciplinary action will be taken as appropriate. We, the members of the University of Florida community, pledge to uphold ourselves and our peers to the highest standards of honesty and integrity.

Software

- Microsoft Office 365.
- UF Apps – access UF software applications from any device from any location at any time.
- Adobe Reader
- Zoom

Technical Support

If you have technical difficulties with your course, don't hesitate to contact the UF Computing Help Desk by filling out an online request form or calling 352-392-4357 (HELP).

If your technical difficulties cause you to miss a due date, you must report the problem to the Help Desk and then email your instructor. Include the ticket number you are given from the Help Desk in an email to the instructor to explain the late assignment/quiz/test.

IT Support
For all Technical assistance questions, please get in touch with the UF Computing Help Desk.
Phone: 352-392-HELP (4357)
Email: helpdesk@ufl.edu

Communication Policies

Student Expectations
In a graduate level course, you are expected to research and troubleshoot creatively if you run into any coding scenarios that you don't understand. These topics can be difficult for students without any programming experience, and it is not realistic to expect students to master them in a single semester.

While you are welcome and encouraged to use MDN, W3 Schools, Stack Overflow, and any other resources you can find via Google search, please be mindful of the plagiarism policy outlined above. While it is normal to copy brief snippets of code occasionally from other sources, you are expected to write the solution code to the assignments in this course on your own. If it is determined that your submitted code is not your own, you will receive 0 points for your submission. Furthermore, your previous submissions will be scrutinized. If those are also determined to be plagiarized, those previous grades will be changed to 0s as well.

If you run into issues while working on any activities or assignments involving programming and would like assistance, please do NOT send screenshots of your code or error messages. Please push your code to GitHub and include the GitHub URL and live site URL with a description of the issue when writing your message. This will allow me to debug the program quickly and include links in my response showing the location of errors within your code**.**

Announcements
You are responsible for reading all announcements posted in the course each time you log in.

Email
You are responsible for reading all your course emails and responding promptly (within 24 hours).

Instructor Communications

Email Policy
Except for weekends, holidays, and University breaks, the instructor will typically respond to emails within 48 hours. For course-related questions, please post on the Canvas FAQ discussion board. If you have questions of a personal nature, please email me directly.

Assignment Feedback Policy
I will provide feedback/grades on submitted assignments within two weeks of the due date. Some assignments may require a longer review period, which I will communicate to you if necessary.

Course Policies

Video Recording
Students are allowed to record video or audio of class lectures. However, the purposes for which these recordings may be used are strictly controlled. The only allowable purposes are (1) for personal, educational use, (2) in connection with a complaint to the university, or (3) as evidence in, or preparation for, a criminal or civil proceeding. All other purposes are prohibited. Specifically, students may not publish recorded lectures without the written consent of the instructor.

A "class lecture" is an educational presentation intended to inform or teach enrolled students about a particular subject, including any instructor-led discussions that form part of the presentation and delivered by any instructor hired or appointed by the University, or by a guest instructor, as part of a University of Florida course. A class lecture does not include lab sessions, student presentations, clinical presentations such as patient history, academic exercises

involving solely student participation, assessments (quizzes, tests, exams), field trips, private conversations between students in the class or between a student and the faculty or lecturer during a class session.

Publication without permission of the instructor is prohibited. To "publish" means to share, transmit, circulate, distribute, or provide access to a recording, regardless of format or medium, to another person (or persons), including but not limited to another student within the same class section. Additionally, a recording, or transcript of a recording, is considered published if it is posted on or uploaded to, in whole or in part, any media platform, including but not limited to social media, book, magazine, newspaper, leaflet, or third-party note/tutoring services. A student who publishes a recording without written consent may be subject to a civil cause of action instituted by a person injured by the publication and/or discipline under UF Regulation 4.040 Student Honor Code and Student Conduct Code.

Privacy
If your course includes live synchronous meetings, the class sessions will all be recorded for students in the class to refer to and for enrolled students who cannot attend live. Students who participate with their camera engaged or utilized a profile image agree to have their video or image recorded. If you are unwilling to consent to have your profile or video image recorded, keep your camera off and do not use a profile image. Likewise, students who unmute during class and participate agree to have their voices recorded. If you are not willing to consent to have your voice recorded during class, you will need to keep your mute button activated and communicate exclusively using the "chat" feature, which allows students to type questions and comments live. Please see UF's Information Technology policies for additional information.

Challenging Topics
In this course, we may cover subjects that may be sensitive and/or challenging. As in all our courses, we do this not to indoctrinate but to instruct, to prepare you to be the most effective and successful media professional or scholar you can be. We encourage you to understand all concepts presented in class, but we know that what you personally believe is your choice. If you want to discuss anything regarding this, don't hesitate to contact me directly.

Academic and Student Resources

Academic Resources

- E-learning Technical Support: Contact the UF Computing Help Desk at 352-392-4357 (HELP) or via e-mail at helpdesk@ufl.edu.

- Career Connection Center: Career assistance and counseling. Reitz Union, Phone: 352-392-1601.

- Library Support: Various ways to receive assistance concerning using the libraries or finding resources.
  UF Library Services for Distance Students
  Ask a Librarian – chat with librarians online.
  CJC Librarian - April Hines, Phone: 352-273-2728, Email: aprhine@uflib.ufl.edu.

- Writing Studio: Provides one-on-one consultations and workshops tailored to specific classes (graduate and undergraduate). 302 Tigert Hall, Phone: 352-846-1138.

Health and Wellness

- *U Matter, We Care:* If you or someone you know is in distress, please contact umatter@ufl.edu, call 352-294-2273, or visit the website to refer or report a concern, and a team member will reach out to the student in distress.

- *Counseling and Wellness Center:* Visit the Counseling and Wellness Center website or call 352-392-1575 for information on crisis and non-crisis services.

- Student Health Care Center: Call 352-392-1161 for 24/7 information to help you find the care you need or visit the Student Health Care Center website.

- University Police Department: Visit the UF Police Department website or call 352-392-1111 (or 9-1-1 for emergencies).

- GatorWell Health Promotion Services: For prevention services focused on optimal well-being, including wellness Coaching for Academic Success, visit the GatorWell website or call 352-273-4450.

Student Fees and Service Entitlement

Student Fees

There are fees mandated by the state and one local fee that ALL students must pay per credit hour. Visit the University Bursar for up-to-date fee rates.

- Capital Improvement Trust Fund Fee
- Technology Fee
- Student Financial Aid Fee [not applicable for certificate programs]

Student services and entitlements

The student services that the distance student is entitled to are comparable to those of the resident student and should include the following:

- Eligibility for financial aid and financial aid advising [not applicable for certificate programs]
- Student complaints and concerns
- Student counseling and advising
- Student organizations
- Technology assistance

UF CJC ONLINE

Course Schedule

Week Number	Topic and Assignments
1	Containerization in Software Development • Assignment 1: Install Required Tools. • Discussion 1: Discuss challenges related to running software in different environments.
2	JavaScript outside of the Browser • Assignment 2: Create a Command Line Application. • Discussion 2: Discuss working with Node as opposed to JavaScript in the browser.
3	Building Servers with Node • Assignment 3: Create an Express Application. • Discussion 3: Discuss creating servers with the Express package in Node.
4	Relational Databases • Assignment 4: Write MySQL Queries. • Discussion 4: Discuss working with relational databases and SQL.
5 & 6	Connecting to databases from Node • Assignment 5: Create an Express and MySQL CRUD Application. • Discussion 5: Discuss working with MySQL and Express.
7 & 8	Server-side Rendering • Assignment 6: Create a server-rendered application with Handlebars. • Discussion 6: Discuss server-side rendering with Express and Handlebars.
9	Authentication and Authorization • Assignment 7: Add authentication to a web application. • Discussion 7: Discuss authentication in web applications.
10	Spring Break
11 & 12	NoSQL Databases • Assignment 8: Add MongoDB and the Mongoose ORM to a web application. • Discussion 8: Discuss NoSQL databases, MongoDB, and the Mongoose ORM.
13 & 14	Model View Controller (MVC) • Assignment 9: Final Project: Create an MVC Web Application. • Discussion 9: Discuss Model View Controller (MVC) Architecture.
15	Testing Node Applications • Assignment 10: Write Automated Tests for a web application. • Discussion 10: Discuss writing tests for Node applications.

The instructor reserves the right to adjust this syllabus as necessary.