

Designing Integrated Media Environments 2

EME 6209

Location: Online

Academic Term: Fall 2022

Instructor:

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Office Hours: Office hours will be provided upon request. Please contact me through Canvas or email if you would like to set up a time; in requesting office hours, please articulate the question you have or provide context for what you would like to discuss, as well as provide your availability for scheduling purposes.

Course Description

Study of development and problem-solving as applied to real-world educational problems with solutions designed and implemented in various programming and scripting languages. Topics include data types, logic, relational operations, flowcharting, sequence, selection, repetition, functions, arrays, file i/o, object-orientation, relational database design, entity-relationship diagrams, design principles, testing, and debugging. Prior programming experience is neither assumed nor required.

This course focuses on the design and development of web-based systems as solutions to real world educational problems. This course will feature an overview of programming concepts related to web development, while exploring how to connect these concepts with instructional design to address a broad range of challenges. What goes into the development of a learning platform? How can we connect technology and learning theory? In what ways can we design learning systems to support educational research?

Course Deliverables

- *Software assignments:* There are **seven** programming assignments in this course aligned to the learning objectives and readings. These assignments will require students to manifest relevant concepts to solve authentic design and development challenges.
- *Online discussions:* There are **fifteen** discussions corresponding to each week of the course. Many of the discussions will require students to reflect and expand on assigned readings while others will encourage students to independently research and discuss relevant topics based on provided prompts.
- *Culminating Project:* There will be a single culminating final project that students will complete throughout the semester. This project will build upon the software assignments and course topics while allowing students to pursue an independent area of interest.

Course Pre-Requisites

Pre-requisite: Completion of EME 6208 with a passing grade or instructor permission.

Course Objectives

Upon successful completion of this course, students will:

- Define the protocols and systems used on the Web.
- Explain the functions of clients and servers on the Web.
- Connect to a webserver to upload files.
- Use flowcharts to illustrate problem-solving logic and entity-relationship diagrams to illustrate a database design.
- Implement static websites using HTML, HTML 5, and CSS.
- Implement interactive websites using client-side and server-side scripts.
- Design and implement an interactive instructional web site with regard to issues of usability and accessibility using both client-side and server-side technology.

- Demonstrate the ability to insert, update, delete and retrieve data to and from a MySQL relational database.

Required Textbooks and Software

There is no required textbook for this course. Readings accompanying each module will be identified and provided through Canvas. These readings may additionally include interactive tutorials to illustrate programming concepts. Students are strongly encouraged to use these interactive tutorials to master the course learning objectives.

You will need access to a variety of software packages this semester that will include integrated development environments, programming, and scripting language compilers/interpreters, database management systems, software modeling tools, web browsers, and various plug-ins, web servers, and various operating systems. Access instructions and links will be provided through Canvas and will utilize free or educational-licensed software and tools whenever possible. Students will need access to a web server space such as AWS or Heroku to deploy applications created throughout the course; while free and low-cost options are available (and will be identified), certain configurations may incur monthly or yearly costs.

Course Schedule

This course is comprised of 8 modules, each corresponding with a key conceptual topic. As a 16 week course, these modules will be divided over 2 week periods.

Module 1: Designing Software Systems: 8/23 - 9/03	
Topics: - User Stories - Use-Case Diagrams - Finite State Machines	Deliverables: - Software Assignment 1 - Discussion 1
Module 2: Static Web Development: 9/04 - 9/17	
Topics: - HTML - CSS - Introduction to Javascript	Deliverables: - Software Assignment 2 - Discussion 2 - Discussion 3
Module 3: Programmatic Structures: 9/18 – 10/01	
Topics: - Conditionals and Flow (Javascript) - Loops and Repetition Control (Javascript) - Arrays and Functions (Javascript)	Deliverables: - Software Assignment 3 - Discussion 4 - Discussion 5
Module 4: Server Development: 10/02 – 10/15	
Topics: - Introduction to Python and Flask - jQuery - Jinja2	Deliverables: - Software Assignment 4 - Discussion 6 - Discussion 7
Module 5: Database Design and Management: 10/16 – 10/29	
Topics:	Deliverables:

<ul style="list-style-type: none"> - Introduction to SQL - MySQL database creation - Data modeling 	<ul style="list-style-type: none"> - Software Assignment 5 - Discussion 8 - Discussion 9
Module 6: End-to-end Design and Development: 10/30 – 11/12	
Topics: <ul style="list-style-type: none"> - Designing distributed systems - AJAX - Client/Server/Database communication 	Deliverables: <ul style="list-style-type: none"> - Software Assignment 6 - Discussion 10 - Discussion 11
Module 7: Developing Environments for Research: 11/13 – 11/26	
Topics: <ul style="list-style-type: none"> - Recording user behavior - A/B testing 	Deliverables: <ul style="list-style-type: none"> - Software Assignment 7 - Discussion 12 - Discussion 13
Module 8: More Design and Development Practices: 11/27 – 12/10	
Topics: <ul style="list-style-type: none"> - User experience design principles - iterative/agile development - Human-Computer Interaction principles 	Deliverables: <ul style="list-style-type: none"> - Discussion 14 - Discussion 15 - Culminating Project (Due final week of semester)

Attendance Policy, Class Expectations, and Make-Up Policy

Students are expected to attend all of their scheduled classes and to satisfy all course objectives as outlined by the instructor. The effect of absences upon grades is determined by the instructor, who reserves the right to deal with individual cases of nonattendance. It is the student's responsibility to give the instructor notice prior to any anticipated absence, and within a reasonable amount of time after an unanticipated absence. Furthermore, it is the student's responsibility to catch up on all missed assignments and information covered in class. Requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with university policies that can be found at: <https://catalog.ufl.edu/UGRD/academic-regulations/attendance-policies/>

In order to receive full credit for work, students must turn in required deliverables on the specified due date. Late work is not accepted except in special circumstances (e.g., religious holidays, military duty, jury duty, etc.) or other extremely unusual circumstances. Extremely unusual circumstances must be discussed with the instructor PRIOR to due dates. Incomplete grades are not given. Please plan accordingly and finish all work during the scope of this course.

Evaluation of Grades

Assignment	Percentage of Final Grade
Programming assignments (7)	50%
Culminating Project	30%
Online Discussions (15)	20%
	100%

Grading Policy

Percent	Grade	Grade Points
93.0 - 100.0	A	4.00

90.0 - 92.9	A-	3.67
87.0 - 89.9	B+	3.33
83.0 - 86.9	B	3.00
80.0 - 82.9	B-	2.67
77.0 - 79.9	C+	2.33
73.0 - 76.9	C	2.00
70.0 - 72.9	C-	1.67
67.0 - 69.9	D+	1.33
63.0 - 66.9	D	1.00
60.0 - 62.9	D-	0.67
0 - 59.9	E	0.00

More information on UF grading policy may be found at:

<https://catalog.ufl.edu/UGRD/academic-regulations/grades-grading-policies/>

Students Requiring Accommodations

Students with disabilities who experience learning barriers and would like to request academic accommodations should connect with the disability Resource Center by visiting <https://disability.ufl.edu/students/get-started/>. It is important for students to share their accommodation letter with their instructor 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 in a professional and respectful manner 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://gatorevals.aa.ufl.edu/>. Summaries of course evaluation results are available to students at <https://gatorevals.aa.ufl.edu/public-results/>.

University Honesty Policy

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 Honor Code (<https://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/>) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor or TAs in this class.

Software Use

All faculty, staff, and students of 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.

Student Privacy

There are federal laws protecting your privacy with regards to grades earned in courses and on individual assignments. For more information, please see: <https://catalog.ufl.edu/UGRD/academic-regulations/ferpa-confidentiality-student-records/>

Campus Resources:

Health and Wellness

U Matter, We Care:

If you or someone you know is in distress, please contact umatter@ufl.edu, 352-392-1575, or visit [U Matter, We Care 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 services as well as 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 UF Police Department website](#) or call 352-392-1111 (or 9-1-1 for emergencies).

UF Health Shands Emergency Room / Trauma Center:

For immediate medical care call 352-733-0111 or go to the emergency room at 1515 SW Archer Road, Gainesville, FL 32608; [Visit the UF Health Emergency Room and Trauma Center website](#).

GatorWell Health Promotion Services:

For prevention services focused on optimal wellbeing, including Wellness Coaching for Academic Success, visit the [GatorWell website](#) or call 352-273-4450.

Academic Resources

E-learning technical support: Contact the [UF Computing Help Desk](#) at 352-392-4357 or via e-mail at helpdesk@ufl.edu.

[Career Connections Center:](#)

Reitz Union Suite 1300, 352-392-1601. Career assistance and counseling services.

[Library Support:](#)

Various ways to receive assistance with respect to using the libraries or finding resources.

[Teaching Center:](#)

Broward Hall, 352-392-2010 or to make an appointment 352- 392-6420. General study skills and tutoring.

[Writing Studio:](#)

2215 Turlington Hall, 352-846-1138. Help brainstorming, formatting, and writing papers.

Student Complaints On-Campus:

[Visit the Student Honor Code and Student Conduct Code webpage for more information.](#)

On-Line Students Complaints:

[View the Distance Learning Student Complaint Process.](#)