Spring 2-1-2022

CSCI 322.01: Advanced Web Application Development

Melissa E. Holmes
University of Montana, Missoula, melissa.holmes@umontana.edu

Recommended Citation

Holmes, Melissa E., "CSCI 322.01: Advanced Web Application Development" (2022). *University of Montana Course Syllabi, 2021-2025*. 183.
https://scholarworks.umt.edu/syllabi2021-2025/183

CSCI 322 Advanced Web Application Development
Spring 2022

Class meets: Mondays at 10:00 a.m. via Zoom: https://umontana.zoom.us/j/95763128092

Instructor: Dr. Melissa Holmes
email: melissa.holmes@umontana.edu
office: https://umontana.zoom.us/my/melissaholmes
office hours: By appointment

Course Description: CSCI 322 is designed to provide a solid understanding of full stack web development. The class attempts to provide an appropriate mix of theory and practice to enable students to successfully develop websites using a variety of tools and technologies. Web technologies change quickly and frequently, and a solid understanding of the fundamentals will future-proof your skills. Students will be required to use client-side and server-side programming languages, implement the three-tier architecture, and use several contemporary web technologies.

Student Learning Outcomes: Upon the successful completion of this class, students will be able to:
1. articulate and demonstrate the use of a three-tier architecture;
2. analyze and articulate goals, audience and constraints of a web project;
3. describe web usability and accessibility concerns, and design websites that address those concerns;
4. map tools, development techniques and business processes effectively to a web architecture;
5. design and develop a web-based application using a variety of web languages and tools that interact with each other;
6. demonstrate the use of multiple web languages and development tools at a high level of proficiency:
7. identify, locate, install, describe, use and evaluate tools commonly used for web development and deployment, including a browser with code inspection tools, Web server, PHP interpreter, Database management systems, Analytics software, Image creation/editing software, IDE/development tools; and
8. evaluate the success of projects using internal and external measures.

Grading:

Short assignments	40
E-commerce site	50
Final portfolio of projects	10

Textbook:
None required. A variety of online resources will be used.

Accommodations:
Students who need any type of accommodation should work with Student Disability Services and provide appropriate documentation as soon as possible.

Academic Dishonesty:
You are encouraged to work in teams and use many resources including books and the Internet. However, each student must turn in his/her own work, and each student is responsible for understanding anything that is turned in. Refer to the Student Conduct Code for more information regarding plagiarism and cheating.

Course Schedule (subject to change)

Week	Topics and Activities
1 Jan. 16-22	No class Monday Syllabus and Introductions, tools, student web server, "Hello World" web page
2 Jan. 23-29	Three-tier architecture, Usability and accessibility concerns, prototyping techniques, validation tools E-commerce prototype project, HTML forms
3 Jan. 30 – Feb. 5	HTML forms and client-side validation, the DOM E-commerce prototype project
4 Feb 6 - 12	PHP intro and paradigm, I/O, variables and data types, concatenation, arrays, control structures Small PHP programming problems
5 Feb. 13 - 19	Begin three-tier architecture project Using PHP with HTML (output to browser, form data) Expand on E-commerce project
6 Feb. 20 - 26	No class Monday More PHP, project work
7 Feb 27 – Mar. 5	More PHP, project work
8 Mar. 6 - 12	Database Design MySQL on student web server, tables and queries
9 Mar. 13 - 19	MYSQL and PHP, project work
10 Mar 20 - 26	Spring Break, no classes
11 Mar. 27 – Apr. 2	Demo Ecommerce project JQuery
12 Apr. 3 - 9	Demo JQuery project NodeJS
13 Apr. 10 - 16	Demo NodeJS project SASS
14 Apr. 17 - 23	Demo SASS project REST API
15 Apr. 24 - 30	Demo REST API project Cloud Services
16 Apr. 19 – 23	Cloud Services report / project Work on final portfolio
16 May 1 - 7	Demo final portfolio