# Syllabus CSE 106 01, Fall 2021

## Instructor:

Ammon Hepworth

## Designation:

CSE 106: Exploratory Computing (Alternate name: Full Stack Development)

## Catalog Description:

The current description online is outdated. The following is more accurate:

This is a practical, project-based class to learn technologies for data processing, manipulation, analysis, and visualization. Focus will be on web technologies including Python, HTML/CSS, JavaScript, SQL, MongoDB, ORM's, web frameworks and visualization libraries.

## Textbooks and Other Required Materials:

Various online resources

## Course Objective:

Students should be able to develop a web application incorporating data storage, processing, manipulation, and visualization using modern web technologies and principles.

## Prerequisites:

CSE20/21 combination or equivalent knowledge

## Course Policies:

All lectures and labs will be in person. Please attend all lectures and the lab section which you are assigned. Your participation grade will be a direct reflection of your lab attendance.

For lab assignments, you may work together with other students if you wish or when assignment asks for explicit collaboration. Giving each other help in finding bugs and in understanding the assignment is encouraged. It is permissible to allow other students to see small portions of your code on-screen during lab, but you may not allow them to copy directly. In general, the deadline for submission for a lab will before the start of the next week's lab.

Remember to be responsible, respectful and kind.

## Academic Dishonesty Statement:

a. Each student in this course is expected to abide by the University of California, Merced's Academic Honesty Policy. Any work submitted by a student in this course for academic credit will be the student's own work.

b. You are encouraged to study together and to discuss information and concepts covered in lecture and the sections with other students. You can give "consulting" help to or receive "consulting" help from such students. However, this permissible cooperation should never involve one student having possession of a copy of all or part of work done by someone else, in the form of an e mail, an e mail attachment file, a diskette, or a hard copy. Should copying occur, both the student who copied work from another student and the student who gave material to be copied will both automatically receive a zero for the assignment. Penalty for violation of this Policy can also be extended to include failure of the course and University disciplinary action.

c. During examinations, you must do your own work. Talking or discussion is not permitted during the examinations, nor may you compare papers, copy from others, or collaborate in any way. Any collaborative behavior during the examinations will result in failure of the exam, and may lead to failure of the course and University disciplinary action.

## Disability Statement:

Accommodations for Students with Disabilities: The University of California Merced is committed to ensuring equal academic opportunities and inclusion for students with disabilities based on the principles of independent living, accessible universal design and diversity. I am available to discuss appropriate academic accommodations that may be required for student with disabilities. Requests for academic accommodations are to be made during the first three weeks of the semester, except for unusual circumstances. Students are encouraged to register with Disability Services Center to verify their eligibility for appropriate accommodations.

## Topics:

Programming with Python, version control, web development, web servers, databases, object relational mapping, web frameworks, data visualization libraries

## Class/laboratory Schedule:

Lecture: M/W 9:00-10:15am, Classroom: CLSSRM 120
Lab: See class schedule for the day/time of the section you are assigned

## Midterm/Final Exam Schedule:

Midterm: Nov 3, In class
Final presentations on during final time at Dec 14, 11:30-2:30pm (In class)

## Assessment/Grading Policy:

30% midterm
35% final project
30% labs
5% lab attendance

Grades: if you get 90% you'll get at least an A-, 80% will give you at least a B-, and 70% at least a C-.

## Contact Information:

Email: ahepworth@ucmerced.edu

Office: SE2 278

I will try to answer your emails within 48 hours. However, I may not be able to answer emails after 5pm or on weekends/holidays.

TAs:    Aditya Ranganath: aranganath@ucmerced.edu
        Yi-Wen Chen: ychen319@ucmerced.edu

## Office Hours:

Instructor: Monday at 12:30-1:30pm, or by appointment **(see TA's for help with the labs)**
TA: Lab sessions will be used as office hours, or by appointment

## Course Calendar:

Tentative schedule, subject to change

| Week | Lecture - Monday | Lecture - Wednesday | Labs |
|---|---|---|---|
| 01 (8/23 – 8/27) | | 1 – Class canceled | Class canceled |
| 02 (8/30 – 9/3) | 2 - Intro | 3 - Python | **No Lab - First week** |
| 03 (9/6 – 9/10) | **No class – Labor day** | 4 – Python | **No Lab - Labor Day** |
| 04 (9/13 – 9/17) | 5 - Python | 6 - Python | Lab 1 – Python 1 |
| 05 (9/20 – 9/24) | 7 - Python / Git | 8 - HTML | Lab 2 – Python 2 |
| 06 (9/27 – 10/1) | 9 - CSS | 10 - JavaScript | Lab 3 – HTML / CSS |
| 07 (10/4 – 10/8) | 11 - JavaScript | 12 - JavaScript (Node.js) | Lab 4 – Dynamic Websites (JS) |
| 08 (10/11 – 10/15) | 13 - Web servers | 14 - Web servers | Lab 5 - Web server |
| 09 (10/18 – 10/22) | 15 - SQL | 16 - SQL | Lab 6 – SQL |
| 10 (10/25 – 10/29) | 17 - SQL/ORM | 18 - Web frameworks | Lab 7 – Web app 1 |
| 11 (11/1 – 11/5) | 19 - Web frameworks | 20 - Web frameworks | Lab 8 – Web app 2 |
| 12 (11/8 – 11/12) | 21 - Midterm review | **11/3 - Midterm** | **No Lab - Veteran's Day** |
| 13 (11/15 – 11/19) | 22 – MongoDB | 23 - Scalable architecture | Lab 9 – MongoDB |
| 14 (11/22 – 11/26) | 24 - Plotly | **No class - Thanksgiving** | **No Lab - Thanksgiving** |
| 15 (11/29 – 12/3) | 25 - Google Maps | 26 – 3DS | Lab 10 – Visualization |
| 16 (12/6 – 12/10) | 27 - Job talk | No class (Final Prep) | **No Lab - Final Prep** |
| 14-Dec | Final (Tuesday, Dec 14) | | |