San José State University

Office Hours:	Monday 1030 – 1200
Class Days/Time:	Monday 1200 – 1250
Classroom:	Engineering 189
Laboratory:	Engineering 407

Course Format

latform, though less technical support will be avai

For students without a personal computer, the Mechanical Engineering department has a comput available to Mechanical Engineering students in Eng 213/215

ME30 will utilize the following programs:

- Anaconda (Python 3.x, Jupyter Lab)
- Microsoft Word

Each student will be required to obtain a FeatherBaseBoard Kit available from EduShields.

Faculty Web Page and Messaging

website for this course at

- Learn how to solve engineering problems using computational methods
- Get experience in developing algorithms for effectively solving problems using computers
- Gain familiarity with well-known software libraries that are widely used by mechanical engineers to solve analytical and numerical problems
- Prepare for subsequent courses and industry practice which involve computation to solve engineering problems

Learning Objectives

The student who successfully completes the course will be able to:

1. **General**
   - 1.1 Locate course materials using course management and web resources
   - 1.2 Explain what the course is about what will be covered
   - 1.3 Describe where and how computers are used by mechanical engineers (MEs)
   - 1.4 Describe what the major elements of a computer and microcontroller are and what they do conceptually
   - 1.5 Explain the focus of the course
2. **Problem Solvi**
   - 2.1 Describe and apply a general method for solving an engineering problem that leads to a computational solution
   - 2.2 Analyze a problem and devise an effective algorithm that can be implemented by a computer by applyipeciic techniques such as problem decompositin, pseudocode, desk checki etc.
3. **Programming Methodology**
   - 3.1 Apply the basi concepts of sequence, selection, and repetiion ihe developme of a computational solution to a specific problem
   - 3.2 Write programs that are sufficiently documented sohat colleagues can understand their operatio
4. **Aication of Software Tools**
   - 4.1 Select and explain yor choice of approriate engineering software among potential candidates to use to soe a specific engineering problem
   - 4.2 Apply correct syntax, grammar, and design patterns to create a functional software program that solves a giveroble
   - 4.3 Construct visual graphics using popular software tools to effectively analyze and present data

https://realpython.com/
https://www.python-course.eu/python3_course.php
https://www.datacamp.com/community/tutorials/tutorial-jupyter-

Additional information is available here: Office of Graduate and Undergraduate Programs' Syllabus Information web page at http://www.sjsu.edu/gup/syllabusinfo/

Classroom Protocol

I expect everyone to make their best effort to attend all class sessions and laboratory periods. Please arrive to the classroom or laboratory before the session begins, so that others are not disturbed by your entry after instruction has begun. If you normally keep a cell phone activated and with you, put your cell phone on 'vibrate' before you enter the classroom. Having your cell phone ring during class is disruptive, and will not be tolerated, and you will be asked to leave.

Dropping and Adding

Students are responsible for understanding the policies and procedures about add/drops, academic renewal, etc. Information on add/drops are available at http://info.sjsu.edu/home/schedules.html. Information about late drop is available at http://www.sjsu.edu/sac/policies/latedrops/ . Students should be aware of the current deadlines and penalties University Policies (Required)

Per University Policy S16-9, university-wide policy information relevant to all courses, such as academic

SJSU Senate Policy S12-3 - Federal Regulation of the definition of the credit hour:

Success in this course is based on the expectation that a student will spend, for each unit of credit, a minimum of 45 hours over the length of the course (normally three hours per unit per week with one of the hours used for lecture) for instruction or preparation/studying or course related activities including but not limited to internships, labs, clinical practice, etc. Other course structures will have equivalent workload expectations as described in the syllabus. [**Thus, for this class, it is expected that you will spend at least two hours outside of class working on homework, lab work, test preparation, etc**.]

[1] Definition adapted from "Defining and Avoiding Plagiarism: The WPA Statement on Best Practices," http://www.ilstu.edu/~ddhesse/wpa/positions/WPAplagiarism.pdf; and "What is Plagiarism?," http://www.stanford.edu/dept/vpsa/judicialaffairs/students/plagiarism.sources.htm.
[2] Adapted from, "Avoiding Plagiarism," http://owl.english.purdue.edu/handouts/research/r_plagiar.html.

Campus Policy in Compliance with the American Disabilities Act

If you need course adaptations or accommodations because of a disability, or if you need to make special arrangements in case the building must be evacuated, please make an appointment with me as soon as possible or see me during office hours. Presidential Directive 97-03 requires that students with disabilities requesting accommodations must register with the DRC (Disability Resource Center) to establish a record of their disability.

Student Technology Resources

Computer labs for student use are available in the Academic Success Center located on the 1st floor of Clark Hall and on the 2nd

2. Following each lecture, I highly recommend that you review the notes you took in lecture along with the notes that you took from reading. Read back through your notes, and fill in any gaps that you may have missed or that became clearer from the lecture. Write down any questions you have in the margins of your notes. Be sure to come to office hours, or ask about your questions in class.
3. Pay attention to the due dates for the Assignments in Canvas, and submit your work before the due da to have a hope of full consideration for a grade on the assignment.
4. Bring some kind of data storage device with you to each laboratory session or plan to email a copy of your work to yourself, so that you will have a way to save your work. The hard drives on the computers are frequently refreshed, so do not rely on them to save your work from session to session

ME 30 Lecture and Homework Schedule

There are a total of 16 weeks of instruction in a semester, not including the break we have part way through for eitherspring or Thanksgiving br Tw 12.467 02[6 (i)-4.7 (o2 0-h)2 (er)-1.9 ( ) ( )10.8 6k7e(Tw 12.4(k. T)(i)-4. o) c

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7	3/9	Strings Read: AS: 6. AD: 8 Assignment: HW 7 Due: Nothing
8	3/16	Dictionaries and Data Structures (Tuples) Read: AS: 5. AD: 11, 12 Assignment: HW 8 Due: HW 7
9	3/23	

15	5/11	Review Read: Prepare for final Assignment: None Due: HW 14
	TBD	Final exam

Lab Schedule