

San José State University

Please note that your email address listed in MySJSU may be different from your @sjsu.edu address.

Course Goals

Introduce students to:

1. Developing algorithms, pseudocode, and flowcharts
2. Writing, compiling, analyzing, and debugging computer programs in MATLAB and C
3. Applying computer programming in solving engineering problems

Course Learning Outcomes (CLO)

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

1. Develop algorithms, pseudocode, and flowcharts
2. Define and manipulate variables in MATLAB
3. Define, index, and manipulate vectors and matrices in MATLAB
4. Write, compile, analyze, and debug user-defined functions in MATLAB
5. Incorporate selection and loop statements in MATLAB
6. Utilize modular programming to write a program in MATLAB
7. Plot and interpret data in MATLAB
8. Define variables, data types, operators, and expressions in C
9. Define and utilize control flow in C
10. Write, compile, analyze, and debug programs in C
11. Work effectively in teams to define, propose, and solve an aerospace engineering problem utilizing MATLAB and/or C programming

Availability: References listed above are available through the [SJSU Dr. Martin Luther King Jr. Library](#). The links above will take you to the SJSU MLK reference record, but you must log on as an SJSU student to access the books.

Other Readings

Class material posted on Canvas.

Other technology requirements / equipment / material

Access to a computer that can connect to the internet, a device that can scan written work, and a device with a camera are required to participate in classroom activities and/or submit assignments.

Course Requirements and Assignments

Success in this course is based on the expectation that students 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) for instruction, preparation/studying, or course related activities, including but not limited to internships, labs, and clinical practica. Other course structures will have equivalent workload expectations as described in the syllabus.

Final Examination or Evaluation

The final examination consists of a in-class exam administered during the Module final examination slot for this class. There will be a final project presentation and programming demonstration for this class. The final project presentation and demonstration will take place in the lab for each of the sections. Please check the schedule and final exam slot dates and times.

Grading Information

- Grade Scale:

<i>Grade</i>	<i>Percentage</i>
<i>A plus</i>	<i>96 to 100%</i>
<i>A</i>	<i>93 to 95.9%</i>
<i>A minus</i>	<i>90 to 92.9%</i>
<i>B plus</i>	<i>87 to 89.9 %</i>
<i>B</i>	<i>83 to 86.9%</i>
<i>B minus</i>	<i>80 to 82.9%</i>
<i>C plus</i>	<i>77 to 79.9%</i>
<i>C</i>	<i>73 to 76.9%</i>
<i>C minus</i>	<i>70 to 72.9%</i>
<i>D plus</i>	<i>67 to 69.9%</i>
<i>D</i>	<i>63 to 66.9%</i>
<i>D minus</i>	<i>60 to 62.9%</i>
<i>F</i>	<i>< 60%</i>

Grade Components Weight:

Component	%
In- Class Activities	5
Laboratory Reports	40
Examinations- 3	40
Project- Total	15
Total	100

Laboratory Assignments:

- All lab assignments will be posted on and submitted via Canvas. Assignments will typically be posted on Canvas after Modules.
- Assignment details including due dates and time will be posted on Canvas.
- Canvas submissions will close on the exact due date and time. All submissions are final after the deadline and **NO LATE SUBMISSIONS** will be accepted without a valid reason and proof.
- All lab assignments are individual-effort (unless specifically stated). Any form of cheating/plagiarism such as copied/shared answers or code will result in a zero.

Exams:

- All examinations are individual-effort and must be taken in order to receive a passing grade.
 - No make-up examinations will be granted without a valid reason and proof.
 - Any form of cheating/plagiarism such as copied/shared answers or code will result in a zero.
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the link. Please note that a grade change is not guaranteed and that the grade may increase or decrease.

Classroom Protocol

Students are expected to attend all Modules and labs and participate actively.

University Policies

- Per [University Policy S16-9](#), relevant university policy concerning all courses, such as student responsibilities, academic integrity, accommodations, dropping and adding, consent for recording of class, etc. and available student services (e.g. learning assistance, counseling, and other resources) are listed on [Syllabus Information web page](#). Make sure to visit this page to review and be aware of these university policies and rniversg0 G[(t)7(o vi)7(s)-6(i)7(

AE 30: Computer Programming for Aerospace Engineers, Tentative Course Schedule

The following is an *approximate*