

MEC 102 - Engineering Computing and Problem Solving -- Spring 2022

Instructor: Cornelius Bradter
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Office hour: Thursday 14:00 to 15:00 o'clock or by appointment (room C623)

Lectures: Monday 14:00 – 14:55, room B103
Wednesday 14:00 – 14:55, room B103

Covid 19: Every participant has to follow all rules and recommendations provided by SUNY Korea. This especially refers to wearing masks and to distancing rules during course and breaks.

Textbook: Chapman, Stephen J. (2019): "MATLAB Programming for Engineers", 6th Edition, Cengage Learning, ISBN: 978-0357030394.

Objectives: (2 credits) The course teaches how to use MATLAB for problem solving and analysis in science and engineering. It covers the basic use and capabilities of MATLAB and its application to concrete problems in engineering.

Prerequisites: A grade of C or better in MEC 101 or CIV 101.

Learning Objectives: Ability to

1. understand data structures in Matlab,
2. do data visualization,
3. write Matlab scripts and programs,
4. use control structures within programs,
5. modularize scripts and programs by using functions,
6. understand the concept of toolboxes, and
7. to use Matlab to solve problems in scientific and engineering areas.

Schedule (subject to revision, especially succession):

1. Introduction to Matlab's parts and workspace
2. Fundamental operations and Matlab's concept of data storage
3. Matlab's plot functions
4. Number formats in computers
5. Control structures
6. Examples of useful internal functions
7. Creating and using functions
8. Advanced data structures
9. Data import and export
10. Introduction to Object Oriented Programming in Matlab's
11. Toolboxes

Software: Matlab 2018b or a newer version.

Grading: A final exam will be held at the end of the course. There will be regular homework and one final homework. Regular homework cover problems that are presented at a specific time during class. In the final homework, either a problem is dealt with that can only be solved by knowing the entire course content or a collection of question about the course content is provided.

Regular homework 40%

Final homework 30%

Final exam 30%

Letter grading:	100-95	-	A	79-77	-	C+
	94-90	-	A-	76-74	-	C
	89-87	-	B+	73-70	-	C-
	86-84	-	B	69-65	-	D+
	83-80	-	B-	64-60	-	D
				< 60	-	F

Policies: Homework and exercises will be posted on the Blackboard. Original students' solutions will be held by the department. Students can view their graded work upon request.

All homework have to be solved within Matlab and have to be provided as pdf-files. The pdf-files must be created by using Matlab's publish-function.

The time and details about the exams will be announced in the class (and also posted on the Blackboard) and may subject to change

It is the responsibility of students to make sure that they can access the Blackboard and that they have a working email registered with it. The Blackboard should be checked frequently for new materials

The Blackboard can be accessed at <https://blackboard.stonybrook.edu/>

Exams will be closed book and note.

Disability Support Services (DSS):

If you have a physical, psychological, medical or learning disability that may impact your course work, please contact One-Stop Service Center, Academic Building A201, (82) 32-626-1117. They will determine with you what accommodations, if any, are necessary and appropriate. All information and documentation is confidential.

Academic Integrity Statement:

Each student must pursue his or her academic goals honestly and be personally accountable for all submitted work. Representing another person's work as your own is always wrong. Faculty are required to report any suspected instances of academic dishonesty to the Academic Judiciary. For more comprehensive information on academic integrity, including categories of academic dishonesty, please refer to the academic judiciary website: http://www.stonybrook.edu/commcms/academic_integrity/index.html

Critical Incident Management Statement:

The State University of New York, Korea expects students to respect the rights, privileges, and property of other people. Faculty are required to report to the Office of Judicial Affairs any disruptive behavior that interrupts their ability to teach, compromises the safety of the learning environment, or inhibits students' ability to learn.

Attendance Policy of SUNY Korea

1. All students of SUNY Korea are required to attend every class.
2. Unexcused absences will affect seriously the student's final grade in the course.
3. If a student has over 20% unexcused absence, the student's final course grade will be an 'F'.
(Example)
 - § If the class is a 150 minute class, and is held once a week, the 4th unexcused absence of a student will lead to an F grade of the course.
 - § If the class is a 75 minute class, and is held twice a week, the 7th unexcused absence of a student will lead to an F grade of the course.
 - § If the class is a 50 minute class, and is held three times a week, the 10th unexcused absence of a student will lead to an F grade of the course.
 - § In Intensive English Course (IEC), if a student misses the class more than 40 hours in a semester, the student will receive an F grade on the course.
4. Students should report the reason of absence to the instructor in advance, or immediately after the absence.
5. When a student excuses his/her absence, the student must provide documentation of the reason for the absence to the instructor.
6. The instructor of the course reserves the right to excuse absences.
7. The course instructor may excuse the absence if the submitted documentation fulfills the conditions below.
 - § Extreme emergencies (e.g. death in the family)
 - § Severe medical reasons with doctor's note (Not a slight illness)
 - § Very important events (e.g. national conference, official school event)
8. At the end of semester, the course instructor should submit a copy of the attendance sheet to the Academic Affairs Office.