

General Course Information

Fall 2021

ENGR M10: Programming and Problem-Solving in MATLAB

Instructor of Course: Dr. Khosrow Rad

Prerequisite: MATH M25A or MATH M25AH

COURSE OVERVIEW: Utilizes the MATLAB environment to provide students with a working knowledge of computer-based problem solving methods relevant to science and engineering. Introduces the fundamentals of procedural and object-oriented programming, numerical analysis, and data structures. Uses examples and assignments in the course which are drawn from practical applications in engineering, physics, and mathematics.

Textbook: MATLAB Programming for Engineers 5th Edition by *Stephen J. Chapman*

Class Schedule

M10 Programming and Problem-Solving in MATLAB

Section 1: online course that meets 12:00 p.m. one Friday a month on campus with the remaining hours delivered weekly online
krad@vcccd.edu

Weighing of Examination and Homework:

a)	Laboratory and Project.....	25%
d)	Exams.....	35%
e)	Final Exam.....	40%

Grading Scale: Your final grade in the class will be based on the following approximate grading scale. The actual latter grade divisions will be slightly upward or more probably downward depending on the distribution of numerical scores in the class.

A	: 90 - 100
B	: 80 – 89
C	: 60 - 79
D	: 50 - 59
F	: BELOW 50

Exam: There will be exams covering materials from the chapters studied in the textbook, and also from any handouts or lecture notes Posted on canvas. You will have 2 hours to complete each exam. The final exam will cover selected topics from the entire course, and you will have 2 hours to complete the final exam. Exams may consist of two part written part no computer and second part using computer.

Lab report and Project. There will be every week lab. Turn-in the answers for all the exercise problems as your lab report. When answering the problems, indicate the commands you entered and the output displayed. It may be easier to open a word document, and after each command you may copy and paste the commands and outputs to the word document. Similarly, plots can also be pasted to your word document.

Online Delivery

All course material will be posted to Canvas throughout the term. Instruction will be delivered by two methods: virtual of meeting hours and pre-recorded videos. Virtual Hours are live stream teleconference sessions delivered using zoom on set days and times (listed above). Pre-recorded videos are lecture videos posted to Canvas. Students are expected to watch the pre-recorded videos before attending the virtual office hours where the lecture video material will be reviewed. All class announcements will be made in the Canvas area. Students subscribed to the Canvas notifications (by default) will receive an email notification anytime a class announcement is made or a course material is posted.

NOTE: Absolutely no make up exam. All graded counts.

Computer Usage: Computer program used for this course is:
MATLAB.

Plagiarism and cheating policy: All exam, quizzes, homework, and lab are to be done independently. Copying homework solutions from another student, turning in lab homework for a lab that you did not attend, copying on exam, etc. Cheating in any form, fashion, or capacity will not be tolerated. If any assignment has been copied from or with another student, both students will receive negative credit on assignment.

**NOTE: ABSOLUTELY NO MAKE UP EXAM.
All Graded Work Counts**

STUDENT RESPONSIBILITY

You, as the student, are responsible for **all** material presented in class and in assignments. Make-up exams will be given **only** in case of verified illness or exceptional circumstances. You must contact me in a timely manner to schedule a make-up exam.

DISABILITIES ACCOMODATION

Appropriate accommodations will be made for students with disability related needs. Students with a disability, whether physical, learning, or psychological, who believe they will need accommodations in this class, are encouraged to contact ACCESS as soon as possible so accommodations can be set up in a timely fashion. Accommodations are based on eligibility and can only be provided if you have submitted verification from ACCESS in the form of a Confidential Memo. The ACCESS office can be reached at (805) 378-1461 and is newly located in the LMC.

ACADEMIC INTEGRITY

Academic integrity and honesty is of utmost importance. Cheating of any kind will not be tolerated in this course. Cheating includes turning in someone else's work as your own, copying from someone else's paper, using "cheat sheets", class notes, the textbook, unauthorized technology, programmable or graphing calculators, or sharing calculators during exams and in-class quizzes. Cheating will result in a letter grade of "F" equivalent to zero points for that particular assignment/quiz/test, and any previous assignments will be called into question. In addition, a report will be made to the Behavior Intervention Team.

TENTATIVE SCHEDULE

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WEEK	SECTIONS	CHAPTER	
8/ 20	1	Instruction to MATLAB MATLAB Environment Built-In MATLAB Functions	1 1 2
8/27	2	Manipulating MATLAB Matrices Two- Dimensional Plots	
9/3	3	Live Meeting	
9/10	4	Complex Numbers and 3D plots	3
9/17	5	Branching Statements and Program Design	4
9/24	6	Loops and Vectorization & Basic User-Defined Functions	5
10/1	7	Live Zoom	
10/ 8	8	Exam 1 (on Campus)	
10/15	9	Basic User-Defined Functions	6
10/22	10	Polynomials system of linear equations	
10/29	11	Polynomials system of linear equations	
11/5	12	zoom Meeting	
11/12	13	Exam 2 (on Campus)	
11/19	14	Simulink	
11/26	15	Holiday	
12/3	16	GUI zoom Meeting	
12/10	17	Final Exam (on campus)	

The instructor reserves the right to change class policies and class schedule if necessary.

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Dr. Rad

How to Download and Installer MATLAB

1. Go to Moorpark College's MATLAB Portal to download

<https://www.mathworks.com/academia/tah-portal/moorpark-college-31511049.html>

Under the Get MATLAB and Simulink section, select Sign in to get started.

The screenshot shows the Moorpark College MATLAB portal. At the top, there is a MathWorks logo and a navigation bar with links for 'Get MATLAB', 'Learn MATLAB', 'Train with MATLAB', and 'What's New'. Below the navigation bar, the text reads 'MATLAB Access for Everyone at Moorpark College' next to the MATLAB and Simulink logos. A blue banner features the text 'Where will MATLAB and Simulink take you?' and a statistic: '82% of Fortune 100 companies use MATLAB, which means that you'll take your ideas beyond the classroom to help drive new technology and advance your career.' Below this banner, there are two sections titled 'Get MATLAB and Simulink' with a link to 'See list of available products'. The bottom section includes a 'Desktop, Online, Mobile' heading, the text 'Free through your school's license', a 'Sign in to get started' button, and a disclaimer: 'We will not sell or rent your personal contact information. See our privacy policy for details.'

Download Product Installer

2. Sign into the MathWorks Account that is linked to your university license. (**you have to sign into only with moorpark college email**)
3. Click download for the current release.
4. Choose a supported platform and then download the installer.

Install MathWorks Products

1. Run the installer.
2. In the installer, select Sign in with a MathWorks Account and follow the instructions in the installer.
3. When prompted, select the Academic – Total Headcount license labeled MATLAB (Individual)
4. In the Product Selection screen, select the products you want to download and then click Begin Install.
5. When the installation is completed, click Finish. You may now begin using MATLAB. If you are new to MATLAB, learn the basics with Getting Started with MATLAB.