



ENR 261-180

Intro to MATLAB Programming

Tuesday, Thursday 5:00pm to 6:20pm

Instructor

Geoff Berl

A full-time Software Engineer sharing the joy of software development to aspiring engineers. I like to teach, and not simply course material, but what really goes on in the life of an engineer, explaining the whys that drive decision-making, when you know why, you better understand how to make better decisions in the future. Software can be difficult to learn, some simply “get it” while for others it’s just difficult. My goal is to make it fun and I continually adapt my material to fit with all types of learners. If you’re still having trouble, my goal is to figure out why and adapt, that’s just what engineers do.



How to contact me

Email: gberl001@monroecc.edu

Phone: (585) 502-8484

Office Hours: I am available after each class, and on Thursdays from 6:30-10 PM in room 9-156. Otherwise, please contact me ahead of time to schedule an appointment.

I generally attempt to check email at least once daily but I should respond within 48 hours at the latest.

Course Information

Credits: 3

Prerequisites/Corequisites: MTH 211; ENR 161, or CSC 101 with a grade of C or better

Description:

A course that uses structured software programming techniques to implement problem solving methodologies and develop solutions to various engineering problems. Techniques such as numerical and statistical analysis, numerical methods, symbolic solutions and graphical techniques are applied in the solutions. Pseudo-code, and flowcharts are used to develop a structured approach to the problem solution which will often require the development of user-defined functions and decision making programming constructs utilized in short script files. Some larger projects may include

the development of a graphical user interface (GUI) to handle the program inputs, solution options and outputs.

Instructional Format and Hours

The general class schedule I follow is, lecture the first class of the week, followed by a workday on the second class of the week.

All classes are in-person unless other circumstances prevent it, in which case I will offer a Zoom session in order to maintain the intended schedule.

Course Learning Outcomes

- Apply structured programming techniques to develop software solutions to various engineering problems.
- Differentiate between numerical and symbolic problem solutions.
- Utilize a visual programming environment to create dynamic models of engineering systems.
- Apply knowledge learned throughout the course to complete a final project consisting of a simulated real-world problem.

Course Materials

Required Textbook(s)

There is no required textbook for this class. All information necessary for this course is available through lecture material on the extensive MATLAB documentation as well as optional interactive tutorials, also provided by MATLAB.

Other Required Materials

MATLAB software, which shall have a license provided, by MCC, for students enrolled in the course. If you do not own a device that can support the MATLAB software, there is an online version available at <https://matlab.mathworks.com/>.

Required Web Resources

Homework will be submitted via Github at <https://github.com>.

Supplementary Texts and Resources

There are no recommended textbooks, recommended resources, again, are provided by MATLAB.

Building Community in the Classroom

You are encouraged to participate in the interactive lessons during lecture. If you are ever having trouble in class, please feel free to let me know. Again, my goal is to adapt my material to fit all learning styles. I encourage you to ask your classmates for help, ask me for help, use the online Github discussions forum to ask for help. We can all learn from each other, and learn how to foster quality relationships. I'm sure many of

you will encounter each other out in the field so fostering relationships early is a great way to start networking before you enter the job force.

Instructor emails will be sent to your MCC email account. Students must check this account daily. When emailing your instructor, please use only your MCC student email account.

Attendance and participation are vitally important to the success in this class.

- Students are responsible for all assignments and material covered in class, even if they are absent.
- If you are sick, please do not attend class. Although, you must contact me in advance so I can provide alternative means for providing any material you miss.
- If you determine you will be unable to complete this (or any) course, it is your responsibility to withdraw ("W") in order to avoid a failing ("F") grade ([MCC's course withdrawal policy](#)).

Civil discourse and respectful attitudes

The faculty and staff in the Department of Engineering Science & Physics pledge to take actions that create a culture of inclusivity and equity. An inclusive learning environment is one that supports a diversity of thoughts, perspectives, experiences, and honors students' identities. We acknowledge and renounce systemic racism built into the American education system as well as within the field of engineering. It is imperative we seek out and embrace different points of view. Moreover, we value each individual within our society regardless of their age, race, heritage, background, gender identity, unique experience, values, or belief systems. Together, we strive to create an intellectually enriching environment where diversity is valued and nurtured. [MCC's full statement on non-discrimination](#).

While working together to build this community we ask all members to:

- Share their unique experiences, values, and beliefs.
- Be open to the views of others.
- Appreciate the opportunity that we have to learn from each other in this community (as students and educators).
- Value each other's opinions and communicate in a respectful manner.
- Keep confidential discussions that the community has of a personal (or professional) nature.
- Foster ways in which we can create an inclusive environment in this course and across the College.
- Share with your instructor your preferred name and/or set of pronouns that differ from those that appear in your official record.

Classroom etiquette (suggested items):

- Lectures are a time for learning, cell phones should not be used during class. This is distracting to the user and other students.

Primary Assignments/Activities, Grade Distribution, and Grading Practices

Assignments will be primarily focused on the material in the lecture for the current week. There will be some cumulative work involved to reinforce important topics.

Quizzes will be focused on the lecture material from the previous week.

The final project will be a 2-3 week project that will apply the majority of the material learned throughout the course.

There will be in-class interactive demos and activities. However, these demos and activities will not contribute to your grade.

Final Grade Distribution

Number	Assessment Category	Weight
13	Homework	40%
13	Quizzes	30%
1	Final Project	30%
Total		100%

Grading Scale

Numerical Grade	Letter Grade
93% to 100%	A
90% to 92.99%	A-
85% to 89.99%	B+
80% to 84.99%	B
77% to 79.99%	B-
74% to 76.99%	C+
70% to 73.99%	C
67% to 69.99%	C-
64% to 66.99%	D+
60% to 63.99%	D
57% to 59.99%	D-
0% to 56.99%	F

Grading Practices

Homework and Classwork

- Homework problems are graded on a point system. The assignment is broken into multiple requirements, and each requirement is given a point value based on its importance regarding the week's learning objective and the complexity, or time involved in completing it. If you would like to see an example rubric for a particular assignment, please let the instructor know.

- Programs that do not run (resulting in a red text error in the MATLAB command window) will be marked as “Does not run” and will receive a zero. All submissions should be run by the student in MATLAB to ensure they will run without error.
- The final project grade will automatically replace the lowest homework and quiz grade if it benefits the student.
- The assignments have soft-deadlines. That means, there is an expected due date to give you an idea of when the assignment should be submitted if you are up to date with the expected schedule. There is no penalty for late work, generally, you should try to keep up with the current week’s assignments. It is not recommended to continue a week’s assignments if we have started the new material for a later week. You can always go back and submit, or resubmit homework so the more important task is keeping up with the material each week. The official last day for accepting assignments is typically within the last week or two of the semester, the final date will be determined by the instructor as the final weeks approach.
- Students are required to store their work in their GitHub repository. I will access your GitHub repository to grade your work.

Quizzes

- Students will work individually on all quizzes and may use notes, books, or computers.
- No make-up quizzes will be given unless adequate steps have been taken to notify the instructor of an absence ahead of time. A make-up quiz may have different questions than the quiz taken at the scheduled time. Your final project grade will automatically replace the lowest grade for a quiz.
- Quiz material will cover previous lecture material and the homework assignment material due before the day of the quiz. Generally, the quizzes are 8-10 simple questions you should be able to answer without studying, assuming you've completed homework assignments. Your instructor will review any material on the quiz that might be a difficult or tricky question. Quizzes will be released early in the day and will have a deadline of that same day at 11:59PM, please refer to the class schedule for more details.

Final Project

- Students will work individually on the final project.
- The instructor will outline the topics to be covered in the project toward the end of the course when the project is assigned.
- No make-up projects will be given except in extreme cases, and if the student follows all regulations outlined in the college catalog regarding final exams.

Academic Honesty

MCC's Student Handbook includes our [Academic Honesty Policy](#) that defines cheating and plagiarism; this policy links to the [Academic Honesty Procedure](#) that details the steps involved when a student is accused of a violation of our academic honesty policy.

Academic honesty and integrity is expected in all work done for this class.

Submitting the same work in more than one course without the permission of the involved instructors, copying the work of other students, using published work (Internet material is considered published work) without proper citation or otherwise attempting to receive academic credit for work that is not your own are all serious offenses.

Plagiarism is using someone or something else's work as if it were one's own, whether or not it is done intentionally. This includes, but is not limited to: using the exact language, using nearly the exact language, and using ideas without showing they originated in another's work. It also includes work taken from another person, Artificial Intelligence, or sources such as publications, web sites, speeches, electronic applications, etc. You commit plagiarism if you:

- Submit a paper to be graded or reviewed that you have not written on your own.
- Copy answers or text from another classmate and submit it as your own.
- Quote or paraphrase from another paper without crediting the original author.
- Cite data without crediting the original source.
- Propose another author's idea as if it were your own.
- Fabricate references or using incorrect references.
- Submit someone else's presentation, spreadsheet, or other file with only minor alterations.

This is not a definitive list - any action in which you misleadingly imply that someone else's work is your own can constitute plagiarism. See the Student Handbook for more information. I am obligated to report scholastic dishonesty to the Chair of our department.

- Do not generate new content with prompt-based AI tools like ChatGPT or CodePilot without permission from me, unless specifically allowed by the assignment. I may request that you provide an oral explanation of your code.
- Students may consult with other students in completing homework assignments as long as all students do their own work. Copying another student's file or files and submitting them as your own work will be considered plagiarism.
- Additionally, students must list the names of every individual who helped them complete an assignment. Your program header should have an "Assisted by:" field where assisters shall be named. Failure to do this will be considered plagiarism and may result in a penalty for your grade.

APPENDIX I: Student Supports

Your success is important to me!

Resources for MCC Students. Specific information on each of these supports can be found on the MCC website in the A-Z Index, on our MyMCC portal, or by contacting our one-stop Trib411 information service at 585-292-2411 or trib411@monroecc.edu.

Academic Supports

- Tutoring and Academic Assistance Center (TAAC) located at 11-106 at the Brighton Campus and in the Learning Commons (Room 440) Downtown.
- The MCC Library [If your course has a research component, you may want to include a statement like the following: "The MCC Library can help with your research in this class. MCC's librarians can help you find and evaluate all types of information and resources including articles, books, websites, statistics, data, government documents, and more. For more information on hours and librarians, visit the library's website]
- MCC is committed to upholding and maintaining all aspects of the Americans with Disabilities Act Amendment Act (ADAAA) and Section 504 of the Rehabilitation Act. If you are a student with a disability and wish to request accommodations, please contact the Office of Disability Services located in Building 3, Room 103 to schedule an appointment (585-292-2140) on the Brighton campus, or Room 310 (585-685-6002) on the Downtown campus. Please note that many accommodations require planning, therefore requests should be made as early as possible.
- Know your rights as a student! See the Student Rights and Responsibilities page.

Technical Supports

- Computers for academic use are available at the Brighton Library (Building 2), and the Downtown Campus Learning Commons (Room 440). There are additional resources available at these locations such as internet, printing, and resources specific to your course.
- Introducing the STAC (Student Technology Assistance Center): STAC is a walk-in center focused on supporting students' technology needs. Located in the Library on the Brighton Campus and the Learning Commons on the Downtown Campus, services include navigation assistance with MCC technologies (e.g., Brightspace, myMCC), and user training on Microsoft, web navigation, and other systems required for student success in the classroom. More information is available on myMCC on the Technology Tile, or by emailing STAC@monroecc.edu.
- The MCC Student Technology Help Desk: Walk-up service is also available in room 11-106B at the Brighton Campus and Room 440 at the Downtown Campus. You can call 585-292-8324 or email technologyhelp@student.monroecc.edu.
- [If your course has a significant online portion, you may want to add: "The SUNY Online Support Services HelpDesk is your primary resource for Brightspace

technical support at 1-844-673-6786, or email sunyonlinehelp@suny.edu. Contact your instructor for content-related support.”]

Financial Supports

- [Financial aid](#) is an important part of college affordability. Be sure to find out about all the financial aid sources available to you at MCC’s financial aid webpage.
- [MCC Scholarships](#) are coordinated through the MCC Foundation. The entire extended MCC community is committed to your success. As part of this, numerous scholarships are available through the MCC Foundation, a recognized national leader in supporting student success financially. [Mention specific scholarships of interest to your students, such as those in your content area.]
- The MCC Foundation’s [MCC Assist](#) program is designed to help students stay in college when they are faced with an unforeseen financial emergency. Students can apply for both financial assistance and access to resources and services for expenses such as childcare, food, transportation, medical expenses, and rent.
- Our [D.W.I.G.H.T. food pantry](#) stands for “Doing What Is Good and Healthy Together” and has food available for you at locations on the Brighton Campus (3-125), the Downtown Campus (Room 220), and in Canal Hall.

Personal Supports

- The [MCC Counseling Center](#) provides a professional and confidential setting for the psychological, emotional, and developmental support of students as they pursue academic goals and explore personal growth.
- [MCC’s Career Services Office](#) assists students in determining their career path and successfully accomplishing their employment goals.
- MCC is a recognized national leader in the support of our veteran students and our [Veterans Services Office](#) has many supports available to military veterans, those still serving in the military, and military family and friends.
- I recognize the unique needs of Student Caregivers. If you are a parenting student or primarily responsible for providing care for a loved one or family member and need additional support to be successful in this class, please contact me. Monroe Community College can connect you with information and resources available to support you, including but not limited to the following:
 - [MCC Student Resource Guide](#)
 - [New York State Respite and Caregiver Coalition](#)

APPENDIX II: MCC-Wide Policies

You are required to read and acknowledged the College-wide policies found in Brightspace under the “Student/My Courses” tab. In addition to information found throughout this CIS document, College-wide policies include information on:

- [MCC’s Code of Conduct](#)
- [Attendance Policy](#)

- [Notice of Non-discrimination](#)
- [Title IX and Sexual/interpersonal violence resources and reporting](#)
- [Information on Emergency Closing and signing up for text alerts](#)
- [Current class cancellations](#)
- [MCC's tobacco, smoke-free, and vape-free campus policy](#)

APPENDIX III: MCC Student Government Information

MCC's Student Government Association (SGA) governs all currently enrolled students at MCC. SGA members are dedicated to developing and implementing impactful educational programming for the College community designed to encourage a spirit of harmony among students, administrators, faculty, and staff in order to promote the general welfare of the student body. SGA works to actively engage students from all campuses in the life of MCC.

SGA's senate meetings are held on Tuesdays during the fall and spring semesters at 2:15 p.m. in Building 3, Room 130; you can attend in person or via Zoom. Please feel free to visit the SGA office located in Building 3, Room 127.