

ECE 2409-001,002
Fundamentals of Matlab
Fall 2020

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August 17, 2020 - November 23, 2020

Time and Place ECE 2409-001, Bijan Mobasseri, Tolentine 426, MW 3:25pm-4:40pm

ECE 2409-002, Ed Char, Tolentine 427A, MW 3:25pm-4:40pm

Office Hours Bijan Mobasseri, MWF 9:30-10:30 on zoom

Ed Char, TR 9:00-11:30 on zoom

TA TBD

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Matlab Onramp https://www.mathworks.com/learn/tutorials/matlab-onramp.html?s_tid=srchtitle

Course Description MATLAB is the premier numerical computation tool in many engineering disciplines. Topics include array and matrix operations, logical arrays and pointers, multidimensional data processing, 2D and 3D plotting, interpolation and curve fitting and string and character processing. The course ends with a capstone project.

Course Objectives To prepare students to write efficient and fast vectorized MATLAB code to solve diverse engineering and design problems. The course objectives meet the following ABET Student Outcomes,

Outcome 1

An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics

Schedule

1. Orientation, Matlab Editor, <i>Live Script</i>	8/17
2. Arrays and Matrices	8/24
3. Indexing into and Modifying Arrays	8/31
4. Labor Day	9/7
5. Array Calculations.....	9/14
6. Built-in functions	9/21
7. TEST 1	9/28
8. Plotting Data	10/5
9. Importing Data	10/12
10. Logical Arrays	10/19
11. Branching	10/26
12. Last Day for WX	10/28
13. TEST 2	11/2
14. Color Control	11/9
15. Linear Systems of Equations	11/16
16. Characters and Strings	11/23
17. LAST CLASS	11/23
18. READING DAY	11/24
19. FINALS	11/30-12/5

Homework Submission Homework assignments are due Sunday at midnight. Assignments are uploaded in PDF to the Blackboard.

Late Homework Policy If homework is stamped “late”, there is a 25% penalty. No homework is accepted one week past due. There is a two week window to request to a re grade.

Weighted Grade 25% homework, 25% Test 1, 25% Test 2, 25% Project

Grading Policy A(93-100), A-(90 - 93), B+(87- 90), B(83 - 87), B-(80 - 83), C+(77 - 80), C(73 - 77), C-(70 - 73), D+(67 - 70), D(63 - 67), D-(60 - 63),F(<60)

1 Inclusive Classroom

We consider this classroom to be a place where you will be treated with respect; and, we welcome individuals of all ages, backgrounds, beliefs, ethnicities, gender, gender identities and expressions, sexual orientation, and other visible and non-visible differences. All members of this class are expected to contribute to a respectful, welcoming, and inclusive environment for every other member of the class.

2 Students with Disabilities

It is the policy of Villanova to make reasonable academic accommodations for qualified individuals with disabilities. If you are a person with a disability please contact me after class or during office hours to make arrangements.

If you have a non-physical disability you need to register with the Learning Support Office by contacting 610-

519-5176 or [Learning Support Services](#) as soon as possible. Registration is needed to receive accommodations.

The Office of Disability Services collaborates with students, faculty, staff, and community members to create diverse learning environments that are usable, equitable, inclusive and sustainable. The ODS provides Villanova University students with physical disabilities the necessary support to successfully complete their education and participate in activities available to all students. If you have a diagnosed disability and plan to utilize academic accommodations, please contact and register with Gregory Hannah, advisor to students with disabilities @ 610-519-3209 or visit the office on the second floor of the Connelly Center.

3 Academic Integrity

The College of Engineering is committed to creating an environment of academic integrity and ethical decision-making that we hope is reflected in the actions of our students and graduates. As Villanova students, integrity is central to the University mission. As engineers, our code of conduct requires us to place honor and integrity at the forefront of everything we do. As engineering students, it is expected that you will begin to adopt these values and instill them into your work habits. Students violating the academic integrity policy will receive a zero on that assignment or exam and the violation will be reported to the Associate Dean for Academic Affairs. Students are encouraged to read the University's [academic integrity policy](#). The College of Engineering has adopted the following exam guidelines:

- Students must arrive before the start of the exam. Under exceptional circumstances a student may need to arrive late, but he/she can enter the exam no later than 5 minutes after the start of the exam.
- All cell phones must be turned off and stored away until the student exits the exam room.
- The official Villanova class attendance policy must be followed when requesting excuses for absences or lateness to an exam.
- Each student must write and sign the following statement, "I have neither given nor received any unauthorized assistance in the completion of this exam."

You are encouraged to consult the [Academic Integrity Policy and Code](#) at the beginning of each semester.

4 Attendance Policy

Class and laboratory attendance are required. Where possible, students should inform their instructors if they plan to be late or absent from class. In all cases, students should be prepared to provide documentation to petition for excused absences to the Associate Dean for Student and Strategic Programs, Dr. Stephen Jones. Students should use the [Engineering Excused Absence Form](#) for requesting an excused absence. Excused absences do not count toward a failure in the course for first year students. Absence from class does not release the student from work assigned. Students who miss an in-class obligation (exam, presentation, etc.) due to an excused absence will not be penalized - the instructor may offer a make-up test, arrange an alternative time for a presentation, exempt a student from the assignment, or provide another arrangement. In the case of illness or injury, the form must be submitted within 24 hours of missing class.

The University's list of excused absences for all students includes the following:

- participation in NCAA athletic competitions
- participation in special academic events (e.g., conferences, field trips, project competitions)
- participation in official university business (e.g., student representatives attending meetings related to university governance)
- attendance at significant events involving the immediate family (e.g., funerals, weddings)

- religious holidays - see the University's policy on Religious Holidays
- college-approved participation in placement activities (e.g., job interviews, graduate school interviews, attending job fairs)
- documented serious illness or disability

5 The Learner's Studio

Villanova's Learners' Studio provides free 1:1 and small group (max of 10 students) content tutoring for over 100 courses on campus (excludes writing, math, and entry level VSB courses). From quick homework clarification questions to prep for final exams, we can help! Our peer tutors are each endorsed by two faculty members and are trained according to CRLA national standards. Pop in as-needed or book a regular weekly session to supercharge your academic success. Sessions can be 30 or 60 minutes in length. We are located in Old Falvey 301. Walk-ins welcome, or book in advance online: 1. Visit Villanova.mywconline.com 2. Register for an account and select "The Learners' Studio" from the drop-down menu on the sign-in page 3. Use the "limit to" menu to locate your course by code (For example, PHY 2400). This feature will sort the schedule and show you all tutors approved to cover your class 4. White boxes represent available sessions. Click any white box to book Don't see your class listed? Request a tutor for a missing subject with this link: tutorrequest.villanova.edu For more information, contact juliana.studer@villanova.edu 610-519-5862.

6 The Center for Speaking and Presentation

Villanova's Center for Speaking and Presentation provides expert guidance on topics including organizing presentation material, performing as a cohesive group, voice modulation, vocal interruptions, speaking anxiety and more! Pop in as-needed or book a regular weekly session to supercharge your academic success. Walk-ins welcome, or book in advance online: Visit Villanova.mywconline.com, register for an account and select "Center for Speaking and Presentation". White boxes represent available sessions. Click any white box to book! Or stop by Old Falvey 301 during our hours, no appointment necessary. For more information, contact juliana.studer@villanova.edu 610-519-5862.

7 Electronics Policy

The use of electronic devices, such as phones, laptops, tablets, etc., during class is . . . Students are prohibited from making any audio or visual recordings (including taking photographs) of lectures, discussions, or other classroom activities, unless a student (1) has written permission in advance from the instructor, or (2) is permitted to record under terms and conditions as approved by the University's Office of Disability Services or Learning Support Services. Students who have received approval to record classes as an academic accommodation must provide supporting documentation from the Office of Disability Services or Learning Support Services in advance of any recording. Students may use authorized recordings only for the purposes of individual study in the course, and may not disseminate or share them with a wider audience without explicit permission.

8 Copyright Policy

The materials used in Villanova University courses ("Course Materials") generally represent the intellectual property of course instructors, third parties and/or the University which may not be disseminated or reproduced in any form for public distribution (e.g., sale, exchange, etc.) without the written permission of the course instructor. Course Materials include all written or electronic documents and materials, including syllabi, current and past examination questions/answers, and presentations such as lectures, videos, PowerPoints, etc., provided by a course instructor. Course Materials may only be used by students

enrolled in the course for academic (course-related) purposes. Published course readings (book chapters, articles, reports, etc.) available in Blackboard are copyrighted material. These works are made available to students through licensed databases or fair use. They are protected by copyright law, and may not be further disseminated or reproduced in any form for distribution (e.g., uploading to websites, sale, exchange, etc.) without permission of the copyright owner. Follow these links for more information about intellectual property, copyright, and computer acceptable use.

9 Adherence to the Student Code of Conduct and the Caritas Commitment

Students are expected to act in a professional and respectful manner to their fellow students, faculty, and staff. Students should become acquainted with and understand the responsibilities set forth in the Student Handbook, especially those in the sections on Policy and Regulations. Adherence to University regulations is expected and required for successful completion of the program of studies. Enforcement within the classroom of policies regarding classroom behavior is the responsibility of the faculty member. All other discipline problems are to be referred to the Dean of Students.

Students, faculty, and staff are expected to comply with the [CARITAS Commitment](#). Students must wear masks, practice social distancing and good hygiene, wipe down their work area upon arrival and departure, and request an excused absence if they are not feeling well.

10 Professorial Duties

It is important to note that teaching is one of the many duties that professors perform as part of their job responsibilities. In addition to teaching, professors perform research, advise graduate students, edit journals and review journal articles, serve on committees for the university and professional societies, travel to conferences to remain abreast of current developments and to present their results. . . to name just a few.