Matlab Programming (Psych 114M)

Instructor: Mark Steyvers, office hours: Monday 2-2:50pm (SBSG2316)

Teaching Assistants: Robert Thomas, Lingyu Gan, Hongju Pae

Course Summary: this course is designed as a first-course in programming using Matlab as the primary language. The course will provide a background in the rudiments of programming, including syntax, program control, input/output management, debugging techniques and graphics. During the course, we consider applications to problems encountered in the social sciences such as data visualization, data analysis, and stimulus generation.

Class website: https://canvas.eee.uci.edu/courses/22612

Textbooks:

- Matlab for Psychologists (2012), Borgo, M., Soranzo, A., Grassi, M. Available online for free as an e-book when on a UCI network (here is a direct link). This is the main book that you can use as a reference source.
- An Introduction to MATLAB for Behavioral Researchers (2014), Christopher Madan. Available online for free through the UCI network. This is a useful secondary reference source.

Screen casts: your instructor has created several screencasts that provide a basic introduction to Matlab. These are available through UCI replay as well as YouTube (see this playlist).

Additional Tutorials and Reference Sources:

- Online and interactive tutorial provided by MathWorks. Go here and follow link for "Matlab onramp". Create an account for MathWorks to get started
- Additional books on Matlab relevant to Psychology and Neuroscience.
- A quick tutorial on Matlab for psychologists
- Within Matlab, type doc in command window to bring up documentation and a "getting started" guide

Matlab Software: the classroom computers have Matlab installed. Having your own laptop computer with Matlab installed allows you to continue to work outside the classroom -- helpful, but certainly not required. A free student version of Matlab can be obtained here.
Teaching approach:

- Most of the class time will be used to work on exercises, solving the assignments in the quizzes and reading through the book. In addition, there might be some short lectures scheduled to explain some basic concepts of programming.
- There are screencast lectures available on the class website. You might find it useful to watch these lectures outside as well as during class time. Please wear headsets when watching the screencasts during class time.
- You can work at your own pace but there are cut-off dates for the assignments (as posted on the class website). Therefore, a certain pace is required to progress through the assignments.
- It will be good to work quickly through the early assignments – you’ll spend a much longer time on the later assignments. You might not finish all assignments if you allot an equal amount of time for each assignment.
- During class time, the instructor and teaching assistants will be available to answer any questions related to the assignments or general questions about Matlab.

Team work

- You are allowed and even encouraged to work with other students to solve the assignments. In the later stages of the class when you submit Matlab code, please include the names of the students who you have worked with. Please note that you are responsible for your own submissions of the assignments (see note on Academic Misconduct below).

Grading Policy. Grades will be based on

- **Required assignments.** These assignments will start as multiple-choice questions but will quickly move to programming assignments that require you to copy/paste Matlab code. These assignments will constitute 100% of the grade. Note that the first couple of assignments use the quiz feature on the EEE website. The later assignments will require in-class demonstrations of your program. For these assignments, we do not accept emailed programs.
- **Optional assignments.** The specialized assignment will go into depth in an area of Matlab programming and serve as extra-credit for grading purposes. We do not accept emailed programs.

Academic Misconduct.

Learning, research, and scholarship depend upon an environment of academic integrity and honesty. This environment can be maintained only when all participants recognize the importance of upholding the highest ethical standards. All student work, including quizzes, exams, reports, and papers must be the work of the individual receiving credit. Academic dishonesty includes, for example, cheating on examinations or any assignment, plagiarism of any kind (including improper citation of sources), having someone else take an examination or complete an assignment for you (or doing this for someone else), or any activity in which you represent someone else’s work as your own. Violations of academic integrity will be referred to the Office of Academic Integrity and Student Conduct. The impact on your grade will be determined by the individual instructor’s policies. Please familiarize yourself with UCI’s Academic Integrity Policy and speak to your instructor if you have any questions about what is and is not allowed in this course.