

COURSE INFORMATION FORM	
Faculty / Institute	Faculty of Science and Literature
Department	Psychology
Course Code	PSİ 454
Course title	Programming for Psychology
Instructional Language	English
Programs that can take the course	Psychology
Course Type	Elective
Course Level	Undergraduate
ECTS Credit	6
Prerequisites	PSİ 104 – Introduction to Psychology II
Course Content	After a general introduction to basic programming concepts (variables, data structures, loops, good programming styles etc.) and Matlab syntax, we will delve into specifics of the Psychophysics Toolbox. First, you will practice writing functions and scripts in Matlab and then, we will focus on stimulus presentation and response collection through Psychtoolbox. In general, the lectures will follow a tutorial format, in which you will engage in problem solving and writing computer programs.
The Aim of the Course	This course aims to provide students with a hands-on introduction to programming in Matlab with a special focus on applying it to create psychological experiments and to analyze and plot data.
Course Outcomes	(1) Understand different data structures, control sequences and basic syntax in Matlab, (2) Writing functions and scripts to design experiments using Psychtoolbox in Matlab, (3) Present string, visual or auditory stimuli on the screen, (4) Collect responses from the keyboard and the mouse with proper timing, (5) Read and write files using Matlab, (6) Debug written computer programs
Textbook and / or References	Rosenbaum D. A., Vaughan, J. & Wyble, B. (2014). <i>MATLAB for behavioral scientists</i> (2nd ed.). Routledge. Attaway, S. (2016). <i>Matlab: a practical introduction to programming and problem solving</i> (4th ed). Butterworth- Heinemann. Borgo, M., Soranzo, A, & Grassi, M. (2012). <i>MATLAB for psychologists</i> . Springer.

	Matlab has also a quite extensive help page if you end up stuck while writing your code, refer to a relevant help search. http://www.mathworks.com/help/matlab/index.html
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Evaluation Criteria	Percentage
Attendance	-
Lab	-
Application	-
Field Study	-
Homework	50%
Presentations	-
Projects	40% (Final Project-MATLAB Code) + 10% (Final Project-Report)
Seminar	-
Midterm Exams	-
Quiz	-
Final	-
Total	100%

Course Plan	Subjects to Be Discussed
1. Week	Introduction to the course and programming
2. Week	Introduction to Matlab
3. Week	Data and variable types, mathematical operators
4. Week	Vectors and matrices, cell arrays, structures
5. Week	Flow control, conditional statements and loops
6. Week	Functions
7. Week	Psychtoolbox: screen
8. Week	Psychtoolbox: keyboard and mouse
9. Week	Image and sound processing
10. Week	User interaction
11. Week	User interaction
12. Week	Presentations