

**University of Jordan**  
**Computer Engineering Department**

**COURSE OUTLINE**

<http://www.drivad.ucoz.net>

**I. Course Description**

Computer packages for mathematical and symbolic manipulations (MATLAB).

**II. Required Background or Experience**

*Prerequisites by course:*

1901102 Computer Skill II

*Prerequisites by topic:*

Advanced Mathematics

*Post-requisites:* None

**III. Course Objectives**

By the end of this course, the student should be familiar with the Mathworks package MATLAB basic functions and be familiar with system simulation.

**IV. Expected Outcomes**

1. Ability to use and write programs in MATLAB.

**V. Textbook(s) and Readings**

1. William J. Palm III, Introduction to Matlab 7 for Engineers, McGraw Hill, 2005.

**References:**

1. Duane Hanselman and Bruce Littlefield, Mastering MATLAB 7, Pearson Prentice Hall, 2005.
2. Adrian Brian and Moshe Breiner, MATLAB for Engineers, Addison-Wesley, 1997.

**Useful websites:**

1. <http://www.mathworks.com>

**VI. Student Materials**

Textbook, class handouts, PC and Internet access.

**VII. College Facilities**

Computer lab with one computer for each student, classroom equipped with whiteboard and data show projector, and access to the university e-library.

**VIII. Course Topics**

An overview of MATLAB environment  
Numeric, cell, and structure arrays  
Functions and Files  
Programming with MATALB  
Advanced plotting and model building  
Graphical user interface design and programming  
Probability, Statistics, and Interpolation  
Numerical calculus  
Symbolic processing  
Linear algebraic equations

## IX. Course Outline & Schedule

Lab #	Week	Experiment Title
1	10/2	Introduction to the lab and syllabus distribution
2	17/2	Introduction to MATLAB
3	24/2	Arrays in MATLAB
4	3/3	Arithmetic Operations on Arrays
5	10/3	Function and Script Files <b>(Quiz)</b>
6	17/3	Programming with MATLAB
7	24/3	Plotting
8	31/3	Midterm Exam
9	7/4	Graphical User Interface Programming in MATLAB <b>(Project Announcement)</b>
10	14/4	More on GUI Programming
11	21/4	Probability, Statistics, and Interpolation
12	28/4	Numerical Calculus and Symbolic Processing
13	5/5	Project Submission

## X. Evaluation of Outcomes

Evaluation will be done based on the following (percentages other than midterm and final exams are up to the instructor):

1. Class Attendance & Participation : 0 %
2. In-lab Assignments : 15 %
3. Quizzes : 10 %
4. Project : 10 %
5. Midterm : 25 %
6. Final Exam : 40 %

## XI. Instructional Methods

Lectures, exercises, office discussions, and tutorials. This course has a website at the following URL: [www.drivad.ucoz.net](http://www.drivad.ucoz.net), where students can download lab materials and check for any announcements. The students are responsible for checking the course website. If you make an error because you did not check the lab's website, you are still held responsible.

## XII. Professional Component Contribution

This course aims to make the student familiar with the powerful software packages of MATLAB and Microsoft Project that are useful and helpful in their future work either in postgraduate research or during his graduation project.

## XIII. Course Instructors

Instructor	Office hours	Email
Dr. Iyad Jafar	Tue 10 - 11	<a href="mailto:iyad.jafar@ju.edu.jo">iyad.jafar@ju.edu.jo</a>
Eng. Hanan Yasin		<a href="mailto:h.alyasin@ju.edu.jo">h.alyasin@ju.edu.jo</a>

**Lab Policies**

- Class attendance is mandatory and will be taken. University regulations regarding attendance will be strictly enforced. Absence from any lab session forces the student grade for the in-lab report and any possible quiz to zero. Absence for more than two lab sessions prevents the student from continuing the class. Making-up missed lab sessions in other sections is not allowed.
- There will be two quizzes that are distributed over the whole semester. Each quiz covers the material discussed in previous week. Quizzes are given at the beginning of lab and last for 15 minutes. Thus make sure that you come to the lab on time.
- The exact dates for the quizzes, midterm, final exam, and project will be announced later.
- There will be no make-up for the quizzes and the midterm. In case of medical or other disabling emergencies, the instructor should be notified in advance and his approval for missing the quiz or the midterm should be obtained before the quiz/midterm date. If for any reason the instructor could not be reached, the department secretary should be notified. The secretary phone number is 5355000-23000.
- Quizzes and midterms are composed of written and practical parts. Thus, students should be ready to solve some of the quiz/midterm problems using the PC.