Math 426 - Introduction to Mathematical Software Packages: Matlab

Summer 2014 - Samuel Khuvis

Basic Information

- Instructor: Samuel Khuvis
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  Office Hours: MW 05:00 p.m. - 05:50 p.m. in MP 422A
- Time and location of classes: Math 426 is a 2-credit four-week course, scheduled for MW 06:00 p.m. - 09:10 p.m. in ENGR 021. **See the detailed schedule below for the exact meeting dates**.
- Course Web Page: http://www.umbc.edu/circ/hosting/math426summer14/
- Prerequisites: A grade of C or better in Math 152, Math 221, CMSC 201, or instructor approval.
- Recommended Textbook: Desmond J. Higham and Nicholas J. Higham, *Matlab Guide*, second edition, SIAM, 2005.
- Grading policy: Your grade in this course will be based on your performance in the computational/programming assignments which you will be doing in this course. You will do eight assignments, from which the best seven will be counted. There may be extra credit opportunities.
  Letter grades for the course will be decided using the following:

Score above	90%	80%	65%	50%	otherwise
Letter grade	A	B	C	D	F

  Please note that the syllabus is subject to change by announcement.

Learning Goals

Upon completion of this class you should

- be able to use Matlab's extensive linear algebra capabilities,
- be able to program in Matlab efficiently,
- be aware of the flexible file I/O capabilities provided in Matlab,
- know how to utilize the extensive 2D and 3D graphics capabilities in Matlab,
- know how to use Matlab specific programming features such as logical subscripting and vectorization,
- be aware of the great number of built-in numerical methods in Matlab,

- be able to produce presentable Matlab output.

List of the Topics Covered

The first half of each class will be used to present new material. The second half of class will be for working on the assignments, with the opportunity to ask the instructor for help.

Lecture	Day	Date	Main Topic(s)	Chapter(s)
1	Mon	07/07/14	A Tutorial Introduction to Matlab	1, 2, 3
2	Wed	07/09/14	Matrix Algebra in Matlab	4, 5
3	Mon	07/14/14	An Introduction to Matlab Programming	6, 7
4	Wed	07/16/14	Matlab Programming: Input and Output	13
5	Mon	07/21/14	Intermediate Matlab Programming	10
6	Wed	07/23/14	3D Graphics in Matlab	
7	Mon	07/28/14	Effective Programming and Data Types in Matlab	
8	Wed	07/30/14	Numerical Methods in Matlab	11, 12

UMBC Academic Integrity Policy

By enrolling in this course, each student assumes the responsibilities of an active participant in UMBC's scholarly community in which everyone's academic work and behavior are held to the highest standards of honesty. Cheating, fabrication, plagiarism, and helping others to commit these acts are all forms of academic dishonesty, and they are wrong. Academic misconduct could result in disciplinary action that may include, but is not limited to, suspension or dismissal. To read the full Student Academic Conduct Policy, consult the UMBC Student Handbook, the Faculty Handbook, the UMBC Integrity webpage www.umbc.edu/integrity, or the Graduate School website www.umbc.edu/gradschool.