

Fall 2009 MATLAB Syllabus

Week 1 (Nov 3), Introduction to MATLAB:

- Starting MATLAB
- Layout of graphical user interface (GUI)
- Interactive commands
- Operators and variables
- MATLAB help

Week 2 (Nov 10), Programming:

- Syntax
- Arrays: Numeric, cell, structure
- Strings
- Built in functions (i.e. find, mean, max, min, sum, etc)
- File I/O (text, binary, netCDF, HDF)
- Basic program organization
- Debugging

Week 3 (Nov 17), Graphics:

- Line, scatter, bar, surface, contour plots, etc
- Figure properties (i.e. Axis labels, tick marks)
- Colormaps
- Saving your plots
- Images in MATLAB

Week 4 (Dec 1): Somewhat Advanced Topics:

- Making functions
- Vectorized code
- 3-D plots
- Data manipulation in MATLAB: regression, derivatives, etc.
- MATLAB Central File Exchange

Week 5 (Dec 8): Toolboxes:

- Mapping
- Signal processing
- Statistics
- Others...