

Math 9 Sample Syllabus
(based on 29 lectures)

Lecture	Topic
1.	Intro to Matlab, variables, vectors, arrays
2.	Vector operations
3.	Plotting
4.	M-files: scripts and functions
5.	Programming fundamentals: if/for/while, true/false in Matlab
6.	Debugging
7.	Random numbers in Matlab, random walks
8.	Probability estimates
9.	Numerical precision in Matlab, the bisection method
10.	Big O notation, cpu time
11.	Catch-up/extra topics
12.	Review/Matlab matching game
13.	Midterm 1
14.	Intro to Mathematica, lists, symbolic computation
15.	Plotting in Mathematica
16.	Probability estimates using Mathematica, Histogram and ListPlot
17.	Immediate vs delayed assignment
18.	Functions and pure functions, NestList
19.	NestWhileList
20.	Patterns- piecewise functions, Count, Cases, ReplaceAll, Position
21.	Investment game
22.	Newton's method
23.	Graphics
24.	Manipulate
25.	Miscellaneous/Optional/Catch-up
26.	Miscellaneous/Optional/Catch-up
27.	Miscellaneous/Optional/Catch-up
28.	Miscellaneous/Optional/Catch-up
29.	Miscellaneous/Optional/Catch-up