E7 - Introduction to Computer Programming

for Scientists and Engineers

Lecture	Date	Topic
	8/22	Introduction to the course
1	8/27	MATLAB as a calculator, scripts, code cells, publishing
2	8/29	One-dimensional arrays, basic plotting, character strings
	8/31	Discussion and lab introduction
3	9/5	Two-dimensional arrays, array operations, polynomials
	9/7	Discussion and lab introduction
4	9/10	Introduction to functions
5	9/12	Function handles, anonymous functions, subfunctions
	9/14	Discussion and lab introduction
6	9/17	Cell and structure arrays, tables
7	9/19	Relational and logical operators, conditionals
	9/21	Discussion and lab introduction
8	9/24	Definite and conditional loops
9	9/26	Debugging, profiling, code representation
	9/28	Midterm examination 1
10	10/1	Induction and recursion
11	10/3	Recursion and trees
	10/5	Discussion and lab introduction
12	10/8	Graphics, computer number representation and round-off
13	10/10	Solution of non-linear algebraic equations
	10/12	Discussion and lab introduction
14	10/15	Matrices and solution of linear algebraic equations
15	10/17	Linear programming
	10/19	Discussion and lab introduction
16	10/22	Interpolation and regression
17	10/24	Numerical differentiation
	10/26	Discussion and lab introduction
18	10/29	Numerical integration
19	10/31	Numerical solution of ordinary differential equations
	11/2	Midterm examination 2
20	11/5	Sorting and searching
21	11/7	Graphs
	11/9	Discussion and lab introduction
22	11/14	Statistics and probability
	11/16	Discussion and lab introduction
23	11/19	Stochastic modeling
24	11/26	Data mining
25	11/28	Time complexity
	12/3	Review and closure
	12/13	Final examination