

ENG EK 125 Introduction to Programming for Engineers Fall 2022

SYLLABUS

(Classes and discussions listed; labs always follow classes)

Date	Topics
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Week # 1	
9/5	<i>Holiday; No class</i>
9/7	Class 1: Introduction to EK 125; Introduction to MATLAB, Characters, Relational expressions (M Chapter 1)
9/9	Discussion 1: Problem solving techniques; Quiz Formats; Practice Quiz
Week # 2	
9/12	Class 2: Vectors, Matrices (M Chapter 2A: Sec 2.1-2.4)
9/14	Class 3: Matrix Ops, Intro to Programming, Scripts, I/O (M 2B: Sec 2.5, 3A: Sec 3.1-3.4)
9/16	Discussion 2: Quiz 1
Week # 3	
9/19	Class 4: Plots, File I/O Functions, Programs, Commands (M 3B: Sec 3.5-3.10)
9/19	<i>Last day to add a course</i>
9/21	Class 5: If statements, Relational expressions; switch statements; “is” functions (M Chap 4)
9/23	Discussion 3: Quiz 2
Week # 4	
9/26	Class 6: Loops: for, nested (M5A: Sec 5.1-5.2); HW 1 Due
9/28	Class 7: Exam Review
9/30	Discussion 4: Exam Review
9/30	*** EXAM # 1 4:30 – 6:00 pm

Week # 5

- 10/3 Class 8: Loops: while, error-checking; Vectorizing, Timing Code (M 5B: Sec 5.3 - 5.5);
- 10/5 Class 9: User-defined functions, MATLAB program organization, Scope, Persistent variables, Debugging, Live scripts (M Chapter 6)
- 10/7 Discussion 5: Quiz 3

Week # 6

- 10/10 *Holiday; No Classes*
- 10/11 *Monday Schedule at BU*; Class 10: Text Manipulation (M Chapter 7);
HW 2 Due
- 10/11 *Last day to drop a course (without a "W")*
- 10/12 Class 11: Advanced data structures (M Chap 8A: Sec 8.1-8.3, also DS/ML Supplement)
- 10/14 Discussion 6: Quiz 4

Week # 7

- 10/17 Class 12: Data Transfer (M Chap 9)
- 10/19 Class 13: Advanced functions: variable # of arguments, Validating Function arguments, anonymous functions (M Chap 10A: Sec 10.1-10.3 also DS/ML Supplement)
- 10/21 Discussion 7: Quiz 5

Week # 8

- 10/24 Class 14: Sets, Intro to Machine Learning (M 14A: Sec 14.1, Chapter 15 including all DS/ML supplements; **HW 3 Due**)
- 10/26 Class 15: Exam Review
- 10/28 Discussion 8: Exam Review
- 10/28 *** EXAM # 2 4:30 – 6:15 pm**

Week # 9

10/31 Class 16: Command Line Interfaces; Intro to C (C Chapter 1)

11/2 Class 17: Selection Statements and Loops (C Chapter2)

11/4 Discussion 9: Quiz 6

Week # 10

11/7 Class 18: Data Structures: Arrays, Strings, and Structures (C Chapter 3);
HW 4 Due

11/9 Class 19: Introduction to Functions and Program Organization in C (C
4A: Sec 4.1-4.6)

11/11 Discussion 10: Quiz 7

Week # 11

11/14 Class 20: Pointers, Call-by-reference (C 4B: Sec 4.7); **Project Proposal
Due**

11/14 *Last day to drop a course (with a "W")*

11/16 Class 21: Dynamic Memory Allocation (C 5A: Sec 5.1)

11/18 Discussion 11: Quiz 8

Week # 12

11/21 Class 22: Introduction to Linked Lists (C 5B: Sec 5.2.1-5.2.3)

11/23-11/27 *Holiday; Thanksgiving Recess*

Week # 13

11/28 Class 23: Common Operations on Linked Lists (C 5C: Sec 5.2.4 – 5.2.5)

11/30 Class 24: Exam Review

12/1 Discussion 12: Exam Review

12/1 * EXAM # 3 4:30 – 6:15pm**

Week # 14

12/5 Class/Lab 25: Project Presentations

12/7 Class 26: What's Next; Course Evaluations

12/9 *No Discussions*

Week # 15

12/12 *Last Day of Classes; No EK 125; Project Due*