CS 106A Syllabus

(subject to change)

Monday	Wednesday	Friday
September 24 Welcome to CS106A Administrivia Meet Karel the Robot	26 Programming with Karel Control structures in Karel **Read: Karel, Chapters 1-3**	28 Problem-solving in Karel Program decomposition The idea of an algorithm **Read: Karel, Chapters 4-6**
October 1 Introduction to Java Classes and objects The **Program** class hierarchy **Read: Java, Chapters 1-2**	3 Variables, values, and types Arithmetic expressions **Read: Chapter 3**	5 Control statements Boolean expressions **Read: Chapter 4** **Due: Assignment #1**
8 Methods Using parameters **Read: Chapter 5**	10 Pseudorandom numbers The **RandomGenerator** class **Read: Chapter 6**	12 Stylistic expectations Engineering for reuse Using **javadoc**
15 The **acm.graphics** package The collage graphics model **Read: Chapter 9.1-9.3** **Due: Assignment #2**	17 More graphics Event driven programming **Read: Chapter 9.4** **Chapter 10.1–10.4**	19 Character data The Java **string** class **Read: Chapter 8.1-8.4**
22 String manipulation Problem-solving with strings **Read: Chapter 8.5**	24 Objects and memory More on parameter passing **Read: Chapter 7** **Due: Assignment #3**	26 File processing Exception handling **Read: Chapter 12.4**

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29 Debugging strategies **Tuesday, October 30th 7:00-8:30pm: Midterm**	31 Arrays in Java **Read: Chapter 11.1-11.5**	November 2 Belated midterm recovery day (*No class*)
5 Arrays (continued) The `ArrayList` class **Read: Chapter 11.6-11.8** **Due: Assignment #4**	7 Java collections framework The `HashMap` class Iterators Object-oriented design **Read: Chapter 13**	9 Swing interactors The `JComponent` hierarchy Action listeners **Read: Chapter 10.5–10.6**
12 Graphical user interfaces Interactors **Read: Chapter 10.7–10.8**	14 Large-scale data structures Data-driven programs **Due: Assignment #5**	16 Sorting and searching Algorithmic analysis **Read: Chapter 12.1-12.3**
19 Thanksgiving recess (*No class*) *Be happy to be on break...*	21 Thanksgiving recess (*No class*) *Prepare to eat a lot...*	23 Thanksgiving recess (*No class*) *Recover from over-eating...*
26 Programming in the large Software engineering Programming patterns	28 Additional topics **Due: Assignment #6**	30 Standard Java The `main` method
December 3 Life after CS106A (is there any?)	5 Review for Final Exam	7 Dead Day: our token attempt at Dead Week (*No class lecture; sections meet as usual*) **Due: Assignment #7**

Final Examination: Thursday, December 13th, 12:15pm to 3:15pm