

CS106A Syllabus

This handout contains the tentative syllabus for CS106A. Depending on how quickly we're able to make it through the material, we may end up spending more or less time on each of these topics. Readings should be done **before** the lecture for which they are assigned.

Date	Topics	Readings	Assignments
M January 5	<i>Why learn to program computers?</i> Course Information Meet Karel the Robot		
W January 7	<i>How can a computer make decisions?</i> Programming with Karel Control Structures in Karel	Karel: Chs. 1-3	Assignment 1 Out
F January 9	<i>How do computers solve complex problems?</i> Problem-Solving with Karel Program Decomposition	Karel: Chs. 4-6	
M January 12	<i>How do programs store information?</i> Variables, Values, and Types Arithmetic Expressions	Java: Chs. 1-2, 3.1-3.3	
W January 14	<i>How do you draw images on the screen?</i> Graphics in Java Control Structures in Java	Java: Chs. 3.5, 4	
F January 16	<i>How do Java programs make decisions?</i> More Control Structures Methods and Parameters, Part One	Java: Ch 5	Assignment 1 Due Assignment 2 Out
M January 19	Martin Luther King, Jr. Day No Class		
W January 21	<i>How do we modify data after it's been created?</i> Methods and Parameters, Part Two Variable Assignment	Java: 3.4	
F January 23	<i>How do control structures interact with variables?</i> Control Structures Revisited Returning Values		
M January 26	<i>What is the role of randomness in computing?</i> Randomness Animation, Part One	Java: 6.1 – 6.2	Assignment 2 Due Assignment 3 Out
W January 28	<i>How do computers do animation?</i> Animation, Part Two		
F January 30	<i>How can the computer respond to human input?</i> Events	Java: 10.1 – 10.3	

Date	Topics	Readings	Assignments
M February 2	<i>How is information transmitted in a program?</i> Parameters and Objects Strings, Part One	Java: Ch. 8	Assignment 3 Due Assignment 4 Out
W February 4	<i>How is text represented in a computer?</i> Strings, Part Two		
F February 6	<i>How do computers process large data sets?</i> File Processing Exception Handling	Java: Ch. 12.4	
M February 9	<i>How do computers store large data sets?</i> ArrayList Data-Driven Programs	Java: Ch. 11	Assignment 4 Due Assignment 5 Out
T February 10	First Midterm Exam 7PM – 10PM Location TBA		
W February 11	<i>How do we store linear data?</i> Arrays Manipulating Sound		
F February 13	<i>How does a computer represent images?</i> Multidimensional Arrays Manipulating Images		
M February 16	Presidents' Day No Class		
W February 18	<i>How do you design and test software?</i> Debugging and Testing		Assignment 5 Due Assignment 6 Out
F February 20	<i>How do buttons work?</i> Swing Interactors, Part One	Java: Ch. 10.5-10.6	
M February 23	<i>How do you structure programs with buttons?</i> Swing Interactors, Part Two		
W February 25	<i>How do we associate data with one another?</i> HashMap , Part One	Java: Ch 13.2	
F February 27	<i>What can we do with linked data?</i> HashMap , Part Two		Assignment 6 Due Assignment 7 Out
M March 2	<i>How do we model connections between objects?</i> Graphs and Networks		
T March 3	Second Midterm Exam 7PM – 10PM Location TBA		

Date	Topics	Readings	Assignments
W March 4	<i>What else is possible in computing?</i> Fun and Exciting Additional Topics		
F March 6	<i>What else is possible in computing?</i> Fun and Exciting Additional Topics		
M March 9	<i>What else is possible in computing?</i> Fun and Exciting Additional Topics		Assignment 7 Due Assignment 8 Out
W March 11	<i>What does programming look like after CS106A?</i> Java in the Real World		
F March 13	<i>What's next in computer science?</i> Where to Go from Here		
T March 17	Assignment 8 Due at 8:30AM No Late Submissions Accepted		