CS 106A: Programming Methodology — Stanford University
Course Reading List / Syllabus

This is a tentative syllabus for CS 106A. All readings come from the *Art & Science of Java* ("A&S") and *Karel the Robot Learns Java* ("Karel") books. Each unit is roughly 3-4 lectures in length. Near the end of each unit a corresponding homework assignment will be given. Depending on how quickly we finish material, we may spend more or less time on each topic. Readings are highly recommended but are not directly evaluated; for example, there are no in-class quizzes about readings.

Unit	Topics	Readings	Assignments
1	Course overview Programming with Karel the Robot Java programming language basics	*Karel* Ch. 1-6	HW1: Karel
2	Introduction to Java Classes and objects Variables, values, and types Arithmetic expressions Control structures	*A&S* Ch. 1-4	HW2: Console Programs
3	Methods, parameters, return Strings and characters Randomness File processing Exception handling	*A&S* Ch. 7-10	HW3: Hangman
4	Graphics Animation Events ArrayList	*A&S* Ch. 5-6, 9	HW4: Breakout
5	Arrays Manipulating sound 2-Dimensional Arrays Image processing	*A&S* Ch. 11	HW5: Array Algorithms
6	Classes and Objects Object-oriented programming Inheritance and polymorphism	*A&S* Ch. 6, 18-20	HW6: Critters
6	Graphical user interfaces (GUIs) Swing interactors Event-driven programming HashMap Java in the "real world"	*A&S* Ch. 10, 12-13	HW7: NameSurfer

Please note that this is a **preliminary rough schedule** and is **subject to change** without advance notice. Refer to the course web site for the most up-to-date information about what topics will be covered, appropriate reading, and assignments. Though assignments listed above may have the same name as assignments from previous quarters, we do not guarantee that the specs or exact details of each assignment will match those from prior quarters.