

Introduction to Programming Section 01

CS 46A

Spring 2023 4 Unit(s) 01/25/2023 to 05/15/2023 Modified 01/17/2023

Contact Information

Instructor: Mike Wood

For help with coding exercises, please visit me during office hours:

- Tuesdays 12-1 in Duncan Hall 239
- Wednesdays 12-1 Virtually via Zoom (see links in Canvas)
- Additional office hours are available by request

For questions about course logistics, please email me at mike.wood@sjsu.edu (<mailto:mike.wood@sjsu.edu>)

Course Description and Requisites

Basic skills and concepts of computer programming in an object-oriented approach using Java. Classes, methods and argument passing, control structures, iteration. Basic graphical user interface programming. Problem solving, class discovery and stepwise refinement. Programming and documentation style. Weekly hands-on activity.

Lecture 4 hour/lab 3 hours.

Prerequisite(s): Math Enrollment Category M-I, M-II, or M-III, or MATH 1 with a grade of C- or better; and a major of Computer Science, Applied and Computational Math, Software Engineering, Forensic Science: Digital Evidence, or Undeclared; or instructor consent.

Letter Graded

* Classroom Protocols

Code of conduct:

Short version: No form of harassment will be tolerated, including verbal comments and images that exclude people based on gender, socio-economic status, or appearance.

The full code of conduct is provided on the Canvas course space for this course.

Plagiarism and cheating

Just like a written essay, using somebody's computer code without proper acknowledgement is considered plagiarism. Homework problems should be based entirely on students' own work. Students can discuss general coding techniques and problem solving strategies for homework problems but this should never include copying (whether by typing, file transfer or cutting and pasting), looking at somebody else's code on their computer to get help, or allowing copying to occur.

Students found violating this policy once will receive zero credit for those problems. Continued violations will result in disciplinary action. If you have any questions about this policy, please don't hesitate to ask for clarification.

Program Information

Diversity Statement - At SJSU, it is important to create a safe learning environment where we can explore, learn, and grow together. We strive to build a diverse, equitable, inclusive culture that values, encourages, and supports students from all backgrounds and experiences.

Course Learning Outcomes (CLOs)

Upon successful completion of this course, students will be able to:

1. Analyze and explain the behavior of programs involving fundamental program constructs
2. Write short programs that use fundamental program constructs, including standard conditional and iterative control structures.
3. Identify and correct syntax and logic errors in short programs
4. Choose arrays or array lists for a given problem and write short programs that use them
5. Design and implement a class based on attributes and behaviors of objects
6. Construct objects using a class and activate methods on them
7. Write Javadoc comments for classes and methods
8. Write graphics programs that draw simple shapes
9. Use interfaces and inheritance to describe common behavior of classes and write programs that use that common behavior
10. Use an integrated development environment and a debugger

Course Materials

In this course, we will use the following textbook:

Big Java: Early Objects, 7th Edition, eBook, by Cay Horstmann.

To enhance the student learning experience and provide affordable access to the right course material, this course is part of an inclusive access model called First Day™. Students can easily access the required materials for this course at a discounted price, and benefit from single sign-on access with no codes required in Canvas.

San José State University will bill students at the discounted price as a course charge for this course.

It is NOT recommended that students Opt-Out, as these materials are required to complete the course. Students can choose to Opt-Out on the first day of class, but they will be responsible for purchasing the course materials at the full retail price and access to materials may be suspended.

Grading Information

Criteria

Category	Weight	Notes
Participation Exercises	5%	Two exercises per lecture Exercises due on Canvas before midnight of the following day if more time is needed to complete exercises outside of class
Poll Anywhere	5%	Full credit for each lecture if at least half the questions are answered Lowest two scores dropped
Reading Quizzes	5%	A reading quiz is due at the start of each lecture Lowest two scores dropped

Labs	15%	Every Friday
Homework	15%	Due most Sundays before midnight (see schedule)
Big Quiz #1	15%	March 7; Covers lectures 1-10
Big Quiz #2	15%	April 18; Covers lectures 11-19
Final Exam	25%	May 18; Covers material from all lectures

Breakdown

Grade	Score must be at least... (%)	but less than... (%)
A+	97	--
A	94	97
A-	90	94
B+	87	90
B	83	87
B-	80	83
C+	77	80
C	73	77
C-	70	73
D+	67	70
D	63	67
D-	60	63
F	--	60

University Policies

Per [University Policy S16-9](http://www.sjsu.edu/senate/docs/S16-9.pdf) (<http://www.sjsu.edu/senate/docs/S16-9.pdf>), relevant university policy concerning all courses, such as student responsibilities, academic integrity, accommodations, dropping and adding, consent for recording of class, etc. and available student services (e.g. learning assistance, counseling, and other resources) are listed on [Syllabus Information web page](#)

<https://www.sjsu.edu/curriculum/courses/syllabus-info.php> (<https://www.sjsu.edu/curriculum/courses/syllabus-info.php>). Make sure to visit this page to review and be aware of these university policies and resources.

Course Schedule

Lesson	IP/V	Date	Topic	Pre-Class Reading
0	V	Jan 26	Introduction	Ch 1: 1.1-1.2
1	IP	Jan 31	Our First Java Programs	Ch 1: 1.3-1.6
2	V	Feb 2	Style and Methods	Ch 1: 1.7, Ch 2: 2.1
3	IP	Feb 7	Variables, Methods, and Objects	Ch 2: 2.2-2.5
4	V	Feb 9	Documentation	Ch 2: 2.6-2.8
5	IP	Feb 14	Implementing Classes	Ch 3: 3.1-3.4
6	V	Feb 16	Classes and Methods	Ch 3: 3.5-3.7
7	IP	Feb 21	Numbers, Arithmetic, and I/O	Ch 4: 4.1-4.3.1
8	V	Feb 23	I/O with Scanner Objects	Ch 4: 4.3-4.5
9	IP	Feb 23	If Statements and Logical Operators	Ch 5: 5.1-5.3
10	V	Mar 2	Nested If Statements	Ch 5: 5.4-5.8
	IP	Mar 7	Big Quiz #1	
11	V	Mar 9	While Loops	Ch 6: 6.1-6.2
12	IP	Mar 14	For Loops	Ch 6: 6.3
13	V	Mar 16	Do Loops	Ch 6: 6.4-6.5
14	IP	Mar 21	More Loops	Ch 6: 6.6-6.7
15	V	Mar 23	Nested Loops	Ch 6: 6.8-6.10
Spring Break!				
16	IP	Apr 4	ArrayLists	Ch 7: 7.7-7.8
17	V	Apr 6	ArrayLists & Arrays	Ch 7: 7.1-7.2
18	IP	Apr 11	Arrays	Ch 7: 7.3-7.4
19	V	Apr 13	2D Arrays	Ch 7: 7.5-7.6
	IP	Apr 18	Big Quiz #2	
20	V	Apr 20	Designing Classes	Ch 8: 8.1-8.3
21	IP	Apr 25	Static Variables & Methods	Ch 8: 8.4-8.5
22	V	Apr 27	Packages and Unit Tests	Ch 8: 8.6-8.7

23	IP	May 2	Inheritance	Ch 9: 9.1-9.3
24	V	May 4	Polymorphism	Ch 9: 9.4-9.5
25	IP	May 9	Interfaces	Ch 10: 10.1-10.3
	V	May 11	Review & Practice	
	IP	May 18	Final Exam	

Note: Course schedule subject to change to support student learning. Students are expected to follow weekly updates on the Canvas course space.