

San Jose State University

Computer Science

CS 46A - Introduction to Programming

Spring 2022

Course and Contact Information

Instructor:	Qi Yang
SJSU Home Page:	https://www.sjsu.edu/people/qi.yang/
Email:	qi.yang@sjsu.edu
Office Location:	Zoom Meeting
Office Hours:	TR 8:00 - 8:50 pm
Classroom:	Zoom Meeting
Class Days/Time:	TR 1:30 - 2:45 pm
Prerequisites:	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, Software Engineering, Forensic Science: Digital Evidence, or Undeclared; or instructor consent.

Course Description

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.

For the official catalog description, please visit [the online catalog](#).

Student Learning Outcomes

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

1. Analyze and explain the behavior of programs involving the fundamental program constructs
2. Write short programs that use the 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 arrays or array lists
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 program that draws 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

Online Class Regulations

1. CS 46A is online and synchronous for spring 2022.
2. The lab is online at least before Feb 14.
3. Be respectful and friendly to others.
4. Do not discuss other things in Zoom meetings.
5. The lectures will be recorded and posted in Canvas.
6. Cameras are required for exams.

Required Textbook

- Big Java: Early Objects By Cay S. Horstmann, 7/e, 2019, Wiley
- FirstDay program: The eBook is available in Canvas from the first day, and your Bursar account will be charged automatically.
- You could opt out the program if you had the eBook from Fall 2021. Email the instructor if you want to take this option.

Course Work

- **Self-Check Quizzes (5%)**
The eBook has self-check quizzes at the end of each section, and you must access the eBook from Course Materials inside Canvas and complete the quizzes.
The scores for Quiz01 and Quiz02 will be ignored, and the lowest score among the rest will be dropped.
- **In-Class iClicker Quizzes (5%)**
There will be some iClicker questions during lectures to help you understand the materials. You will earn your points as long as you submit your answers, no matter they are correct or not.
The scores for Lesson01 and Lesson02 will be ignored, and the lowest score among the rest will be dropped.
- **Participation Exercises (5%)**
These are programming exercises given in class.
The scores for Lesson01 and Lesson02 will be ignored, and the lowest score among the rest will be dropped.
- **Lab (5%)**
The lab is designed to reinforce what you learn in class and also help you do the homework and other course work.
You must pass the lab to pass the class and will fail the lab and CS 46A if you miss more than 3 labs.

- The lowest lab score will be dropped.
- **Homework Assignments (20%)**
One programming assignment with three problems each week.
The lowest score will be dropped.
- **Midterm Exams (30%)**
Two in-class exams. Exams cannot be made up, except for reasons of illness, as certified by a doctor, or documentable extreme emergency.
- **Final Exam (30%)**
The final exam must be taken on the scheduled day. But talk to me if you have a true emergency.
- **No other extra credit or makeup work**
- **Scores in Canvas**
All scores are listed in Canvas, including those for the ignored and dropped assignments. After exam1, Canvas will apply the rules for the ignored and dropped assignments and re-calculate the grades.

Grading Policy

Your grade for the course is based on all course work listed above. Grades are calculated by weighting the scores as defined above.

The course grades will be automatically transferred from Canvas to SJSU official site and will not be rounded. As an example, 89.9% is a B+, not an A-.

At least	Letter Grade	Grade Points
93%	A	4.0
90%	A-	3.7
87%	B+	3.3
83%	B	3.0
80%	B-	2.7
77%	C+	2.3
73%	C	2.0
70%	C-	1.7
67%	D+	1.3
63%	D	1.0
60%	D-	0.7
below 60%	F	0.0

You must earn at least a C- (70%) to be eligible to take CS 46B.

Note that “All students have the right, within a reasonable time, to know their academic scores, to review their grade-dependent work, and to be provided with explanations for the determination of their course grades.” See [University Policy F13-1](#) for more details.

Course Mechanics

- Laptops
You will need a laptop/desktop with internet access (running OSX, Windows, or some version of UNIX) for all classes, labs, and exams.
- Codecheck and Canvas submission
You will use Codecheck to test your programs and generate reports for exams, homework, and participation exercises.
For each assignment, you will submit all reports from Codecheck together to Canvas to receive the credit.
Notice that passing Codecheck tests does not guarantee your programs are correct. You must follow the instructions.

Additional Information

Free Tutoring

There will be free tutoring available starting in the third week of school.

Supplemental Instructions

Supplemental Instruction (SI) is an academic assistance program which provides peer-led group study sessions to assist students in traditionally difficult courses. The sessions are led by SI leaders who have already mastered the course material and have been trained to facilitate group sessions where students can meet to improve their understanding of course material, review and discuss important concepts, develop study strategies, and prepare for exams. SI is for everyone, and open to all students enrolled in this class. Attendance at SI sessions is free and voluntary. You do not earn any points for attending SI sessions.

Note that SI sessions are not tutorial sessions for doing homework. They are sessions to help you understand the material. Please do not ask the SI leaders how to do a homework problem. But if the homework requires a loop, it would be an excellent idea to ask them how to write a loop.

Individual Work

All homework must be *your own individual work*. It is OK to have general discussions about homework assignments or read other material for inspiration. You may copy from the textbook, the labs, or anything we do in class. But you may not copy anything from other student at all, and you may not collaboratively produce results in pairs or teams. Your work must be entirely your own. **It is never okay to give your completed code to another student before the grace time.**

For exams, you must complete the work by yourself without help from others, within the specified periods of time.

A first incident of cheating will result in a 0 for all involved students. A second incident will result in an F for the class for all students involved.

BSCS Program Outcomes supported by this course

- (a) An ability to apply knowledge of computing and mathematics to solve problems
- (b) An ability to analyze a problem, and identify and define the computing requirements appropriate to its solution
- (c) An ability to design, implement, and evaluate a computer-based system, process, component, or program to meet desired needs
- (i) An ability to use current techniques, skills, and tools necessary for computing practice
- (j) An ability to apply mathematical foundations, algorithmic principles, and computer science theory in the modeling and design of computer-based systems in a way that demonstrates comprehension of the trade-offs involved in design choices
- (k) An ability to apply design and development principles in the construction of software systems of varying complexity

Miscellaneous Policies

Publicly Viewable Work: Your class work (including homework, exam, and project work) may be viewable by other students of this course. Your grades will not be viewable by others.

Copyright of Materials: All materials created by the instructor for this course, including lectures, handouts, homework, exams, solutions, projects, and so on, are copyrighted property of the instructor. You may transcribe lectures or copy course materials for the use of yourself and other students registered in this course. You may not sell or give transcriptions of lectures or copies of course materials to others without the prior written consent of the instructor.

University Policies

University Policies: Office of Graduate and Undergraduate Programs **hosts university-wide policy information relevant to all courses, such as academic integrity, accommodations, etc.** You may find all syllabus related University Policies and resources information listed on GUP's [Syllabus Information web page](http://www.sjsu.edu/gup/syllabusinfo/) at <http://www.sjsu.edu/gup/syllabusinfo/>

Tentative Schedule for CS 46A

Exam 1: Tuesday, March 1 (week 7)

Exam 2: Tuesday, April 12 (week 12)

Final Exam: Monday, May 23, 2022, 12:15 - 2:30 pm