San Jose State University
Computer Science
CS 46A - Introduction to Programming
Fall 2021

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 - 9:00 pm
Classroom:	Zoom Meeting
Class Days/Time:	TR 2:15 - 3:30 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 fall 2021 (Labs are in-person)
2. Be respective and friendly to others
3. Do not discuss other things in Zoom meetings
4. The lectures will be recorded and posted in Canvas
5. Cameras are required for exams

Textbook

- Big Java: Early Objects By Cay S. Horstmann, 7/e, 2019, Wiley
- Required: E-Book with Self-Check Quizzes
- We will discuss how to get and use the textbook during the first lecture.
- **You must use the link inside Canvas (LMS) to login to VitalSource. Otherwise, you may not receive the credit for doing the self-check quizzes in the book.**

Course Work

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.
Homework Assignments (20%)
One programming assignment with three problems each week.
No email submissions.
The lowest score will be dropped.
Labs (5%)
The labs are designed to reinforce what you learn in class, and you are already enrolled in a lab section.
You must pass the lab to pass the class.
You will fail the Lab and CS 46A if you miss more than 3 labs.
No lab scores will be dropped.
Self-Check Quizzes (5%)
These are based on the assigned reading for the class.
The first two quizzes will be ignored, and the lowest score among the rest will be dropped.
In-Class Clicker Quizzes (5%)

There will be some iClicker pull 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 Lesson0, 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.

Answers will be shown at the end of class.

The scores for Lesson01 and Lesson02 will be ignored, and the lowest score among the rest will be dropped.

No other extra credit or makeup work

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, and 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

All scores are listed in Canvas after grading completed and you should check your scores after they are posted.

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

Flipped Classroom
  Pre-class work: Reading textbook and self-check quizzes.
  Lectures: Participation exercises for about 20 - 30 minutes.
Laptops
  You will need a laptop/desktop with internet access (running OSX, Windows, or some
  version of UNIX) to 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.
  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.
Canvas Discussion Board
  You can ask and answer questions online.
  Online discussion board is not a tutoring tool, and you must not show your entire
program then ask for help.
  You can show at most five (5) lines of code. Otherwise, you may lose points on the
assignment.

Additional Information

Free Tutoring

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

Supplemental Instructions

Supplemental Instruction 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.

Video (optional)

- o [Udacity Videos for *Intro to Programming in Java*]

Individual Work

All homework and participation exercises 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 at http://www.sjsu.edu/gup/syllabusinfo/

Tentative Schedule for CS 46A

Exam 1: Tuesday, October 5 (week 7)

Exam 2: Tuesday, November 9 (week 12)

Final Exam: Wednesday, December 15, 2021, 9:30 - 11:45