Foundations of Program Design

CS 111 (4 units)
Fall 2025
MW 12:10pm - 1:55pm 08/19/25 - 12/11/25 LS 307
Lecture

Instructor Information

Edward Rees

erees@usfca.edu

Office Hours

Mondays and Wednesdays 4:00-5:00

Office Location: Harney 415

Additional Information

If those times don't work, please message me on CampusWire for an alternative time to meet.

Omyaasree Balaji (TA)

osbalaji@dons.usfca.edu (TA)

Office Hours

TBD

Office Location: HR 411

Rudraraj Patel

rpatel28@dons.usfca.edu (TA)

Office Hours

TBD

Office Location: HR 411

Course Description

Introduction to program design and computation using Java. Topics include fundamental programming concepts such as iteration, conditionals, variables and data types, objects, and arrays.

Course Learning Outcomes

Students will learn basic principles of software design, development, and debugging. Students should leave the course able to develop quality software: well-structured, clearly written, and robust.

Students will learn and be able to use the following computer science concepts:

- Variable types and uses
- Objects and references to objects
- Command line, Keyboard, and File input/output
- Conditional Statements
- Loops
- Mathematical operations
- Object Oriented Programming, including encapsulation and inheritance
- Basic arrays
- Basic collection data types

Mastery of these subjects shall be demonstrated through the labs, projects, quizzes, and in-class assignments.

Assignments

The course consists of:

- Quizzes: brief quizzes to check for understanding
- In-class Programming: short programming assignments in class to learn and apply the concepts
- Labs: medium-sized assignments that can take up to 3 days to complete

- Projects: larger assignments that can take up to 10 days to complete

- Engagement: attend a Computer Science event and upload a picture of yourself at the event

- Attendance: attend class regularly to ensure you don't fall behind

- Midterm Exam: a midterm exam to serve as a checkpoint for understanding the early foundational topics

- Final Exam: a final exam to demonstrate your conceptual understanding of the later topics

Grading Breakdown and Grading Policies

This course will use a mix of Specification-Based Grading and Labor-Based Grading. Students agree to complete the work required to receive the grade they are assigned.

Labor-Based Grading is a form of contract grading where your final grade will be determined by the amount of labor and work you complete, rather than how well you score on a 1-100 scale per assignment.

Specification-Based Grading defines the parameters for a given assignment that determine the grade. You agree to implement the required features for the assignment as described in the specification.

Labs, in-class, and Quizzes will be graded based on a complete/incomplete manner. Projects will be graded based on the project specification.

The exams will be graded as either Complete or Incomplete. This will also impact your final grade, as they are weighed more heavily. Failing to pass both exams will result in a maximum grade of D+.

The default grade for this course is a B. If you complete the required assignments on time and demonstrate a clear effort to understand the content, you will receive a B. If you perform more work or labor, then your grade will be higher. If you perform less work or labor, then your grade will be lower. See the **Grade Chart** below for more information:

Final Grade	Final Exam	Midterm Exam	Final Project	Projects	Labs	In Class	Quizzes	Engagement	Extra Credit
A+	C	C	A	2 A, 1 A+	14	14	10	1	2
A	C	C	A	3 A	12	12	8	1	1
A-	C	C	A	2 A 1 B	10	10	7	1	1
B+	C	C	B	1 A 2 B	9	9	6	1	0
B	C	C	B	3 B	8	8	6	1	0
B-	C	C	B	2 B 1 C	6	6	6	1	0
C+	C	C	C	1 B 2 C	6	6	5	0	0
C	C	C	C	3 C	6	6	5	0	0
C-	IC	C	C	2 C 1 D	6	6	5	0	0
D+	IC	IC	D	1 C 2 D	5	5	4	0	0
D	IC	IC	D	3 D	4	4	4	0	0
D-	IC	IC	D	2 D 1 F/IC	3	3	3	0	0
F	IC	IC	F/IC	> 2 F/IC	< 2	< 2	< 2	0	0

Texts and Supplies

Java Software Solutions
ISBN: 9780134543284
Authors: John Lewis, William Loftus
Publisher: Pearson
Publication Date: 2017-02-17
Notes: The associated "MyProgrammingLab" is NOT needed
Required or recommended?: Recommended

Course Schedule

Day	Date	Event	Activities
Wed	8/20		

Mon	8/25		
Wed	8/27		
Mon	9/1	Labor Day Holiday (No classes)	
Wed	9/3		
Mon	9/8		
Wed	9/10		
Mon	9/15		
Wed	9/17		
Mon	9/22		
Wed	9/24		
Mon	9/29		
Wed	10/1		
Mon	10/6		
Wed	10/8		
Mon	10/13	Fall Break (No classes)	
Wed	10/15		
Mon	10/20		
Wed	10/22		
Mon	10/27		
Wed	10/29		
Mon	11/3		
Wed	11/5		
Mon	11/10		
Wed	11/12		
Mon	11/17		
Wed	11/19		
Mon	11/24		
Wed	11/26	Day before Thanksgiving (Remote)	
Mon	12/1		
Wed	12/3	Last day of classes	

Program Learning Outcomes

Students who graduate with a Bachelor of Science (BS) in Computer Science will be prepared for both graduate school and for software development careers. The curriculum provides a solid base in computer science fundamentals that includes software design and development, problem solving and debugging, theoretical and mathematical foundations, computer systems, and system software.

- **Theory**: Explain and analyze standard computer science algorithms and describe and analyze theoretical aspects of various programming languages
- **Application**: Apply problem-solving skills to implement medium and large-scale programs in a variety of programming languages
- **Systems**: Describe the interactions between low-level hardware, operating systems, and applications
- **Project**: Demonstrate effective communication and organization as part of a team of software developers or searchers collaborating on a large computer program.

University Policies

Credit-hour Policy

One unit of credit in lecture, seminar, and discussion work approximates one hour of direct faculty instruction (or 50 minutes plus a break) and a minimum of two hours of out-of-class student work per week through one 15-week semester. For further details, see USF's [Credit Hour Policy](#).

The below resources and additional information can be found in the [Student Life Resource Toolkit.](#)

Students with Disabilities

If you are a student with a disability or disabling condition, or if you think you may have a disability, contact USF Student Disability Services (SDS) within the first week of class, or immediately upon onset of disability, to speak with a disability specialist.

If you are determined eligible for reasonable accommodations, please meet with your disability specialist so they can arrange to have your accommodation letter sent to me, and we will discuss your needs for this course. For more information, please visit [Student Disability Services](#), email: sds@usfca.edu, or call (415) 422-2613.

Behavioral Expectations

The University of San Francisco is committed to providing an environment consistent with the academic nature and core values of the institution in which students can participate in learning as a humanizing, social activity rather than a competitive exercise to support the full, integral development of each person and all persons, with the belief that no individual or group may rightfully prosper at the expense of others.

It is important you know what is expected of you academically and behaviorally through the published course syllabus, the [Student Conduct Code](#), and other instructions provided by the instructor. Therefore, you are expected to uphold the following:

- Behave in accordance with the Student Conduct Code and other USF policies
- Refrain from disrupting the ability of fellow students to learn or the instructor's ability to teach. Examples of disruption include:
    - Cell phone or computer use that significantly or repeatedly distracts others
    - Coming to class late, leaving early, or excessively physically relocating oneself in the classroom
    - Speaking frequently without being called on
    - Yelling, cursing, or engaging in aggressive behavior

- When interacting online, communicate in a respectful fashion. This includes, but is not limited to:
    - Refraining from name calling, profanity, or typing in all capital letters
    - Sending multiple emails with one sentence
    - Avoiding rants or discussing non-relevant topics

Open discussion and disagreement are encouraged when done respectfully and in the spirit of academic discourse. There are also a variety of behaviors that, while not against a specific University policy, may create disruption in this course. Students whose behavior is disruptive or who fail to comply with the instructor may be dismissed from the class for the remainder of the class period and may need to meet with the instructor or Dean prior to returning to the next class period. If necessary, referrals may also be made to the Student Conduct process for violations of the Student Conduct Code.

Academic Integrity

As a Jesuit institution committed to Cura Personalis—the care and education of the whole person— USF has an obligation to embody and foster the values of honesty and integrity. All members of the USF academic community are responsible for maintaining the standards of honesty and integrity. The [honor code](#) applies to all students (undergraduate and graduate) in the College of Arts and Sciences, the School of Education, the School of Management, and the School of Nursing and Health Professions. Faculty and students in the School of Law should review their own honor code for policies and procedures. Students enrolled in distance learning (online courses) are subject to these policies as well as supplemental policies set forth by their program. All students should review and familiarize themselves with the honor code, prohibited conduct, and procedures.

Counseling and Psychological Services

Many college students experience mental health struggles. Counseling and Psychological Services (CAPS) is a great source of support for issues such as anxiety, loneliness, struggles with relationships, stress, identity development, racial/cultural concerns, and mild depression. However, CAPS does not prescribe medication and does not have a psychiatrist on staff, so students with more severe mental health concerns will be referred off-campus for treatment.

Counseling and Psychological Services (CAPS) offers remote individual and group teletherapy to students residing within California. Students seeking services are scheduled for a 15-20-minute phone triage to assess immediate risk, identify treatment needs, and provide initial recommendations. These may include a crisis intake session, brief, intermittent individual teletherapy (every 2-3 weeks), single session teletherapy, weekly individual teletherapy via UWill, weekly group therapy, or referrals to off-campus providers. There are no fees for services. To make an appointment, students must call 415.422.6352 or request an appointment via the [CAPS](). CAPS does not accept walk-in appointments.

If you are concerned about a student and would like someone to follow up, please contact the Dean of Students Office at 415.422.5330. If you know someone who is an immediate risk of harming themselves or others please contact Public Safety at 415.422.2911 in San Francisco, or out of state dial 911, or call the National Suicide & Crisis Lifeline by dialing 988. In addition, CAPS All Hours line can be reached 24/7 by calling 855.531.076. All students are encouraged to check out [CAPS]() and access our extensive online resources, podcasts, mental health apps, videos, self-care strategies, and more.

Title IX

The Title IX Office seeks to stop, remedy, and prevent occurrences of sex and gender-based discrimination, sexual harassment, and sexual violence. The University has a [Policy on Nondiscrimination based on Sex and Gender, Sexual Harassment and Sexual Misconduct.]() If you have experienced any of these behaviors, we encourage you to report the incident. If you report these behaviors to any staff or faculty member, they must notify the USF Title IX Coordinator.

Students who wish to report any sexual misconduct should use the [online mandatory reporting]() form, or contact the Title IX Office directly. Other reporting options are available by visiting the Title IX [website](). The Title IX Office is located in Lone Mountain Room 145.

As an employee at USF, and your Professor, I am a mandatory reporter, meaning I have to share any instances of sexual harassment or sexual violence shared with me or that become known to me. I will have to share this information, including names and any details known, to the Title IX Office to connect you with resources. If you would like more information about the resources available, you can ask me at any time this semester. You

do not need to tell me why you are asking to get help for a friend, another student, or yourself.

Confidential Resources for Reporting Sexual Misconduct

- Students may speak to someone confidentially which will not generate a report to the Title IX Office by contacting Counseling and Psychological Services at (415) 422-6352 during M-F 9-4pm, or speaking to a clergy member in University Ministry at (415) 422-4463.
- If you need to speak to a mental health clinician immediately, please call the CAPS 24/7 All Hours Line at 855-531-0761 (available daily, including weekends and holidays, and accepts international calls), Public Safety (415-422-2911), 911, the Suicide Hotline (dial 988), or go to your nearest emergency room
- For off-campus resources, and local Bay Area organizations, view this [webpage](#).

Learning, Writing, and Speaking Centers

The Learning, Writing, and Speaking Centers (LWSC) at USF provide individualized support to assist students in better understanding course material and to aid them on their path to success. Services are free and include tutoring, collaborative peer support services, academic skills coaching, writing, and speaking support. Services are available in-person and on Zoom.

LWSC staff can be reached Monday through Thursday between 8:00am-8:00pm and Friday between 8:00am-5:00pm at LWSC@usfca.edu or through the chat box on our [myUSF webpage](#) or by phone at (415) 422-6713. To make an appointment for subject tutoring, academic skills coaching, the writing center, or the speaking center, students should visit the [Student Appointment Dashboard](#).

Communication

All course communications, like all other USF communications, will be sent to your USF official email address. You are therefore strongly encouraged to monitor that email account.

Gleeson Library

Looking for help with a research paper or project? Set up a consultation with a Librarian or get 24/7 research help online.

Attendance Policy

Attendance is **mandatory**. Absences are only excused in cases of verified family or medical emergencies. Topics discussed in class but unavailable online will be part of quizzes, assignments, and projects.

Academic Dishonesty:

This includes, but is not limited to, the following:

- **ALL** assignments are to be completed individually unless specified, in writing, on the assignment. Academic dishonesty will **NOT** be tolerated. This is your warning! Students are encouraged to meet with me if they have questions regarding assignments or this policy. Students caught cheating will face severe penalties.

Students may:

- receive help from the professor, the TA, and the Tutoring Center.
- discuss the requirements of the assignments, the meaning of programs, or high-level algorithms with other students or outside sources. If you have any doubts regarding what is acceptable to discuss, speak with the professor first.

Students may NOT:

- look at another student's code.
- look at another student's solutions to homework problems.
- receive unapproved help from an outside source including a tutor or a family member.
- submit code that has, in whole or in part, been copied from *any* other source (including another student, a web page, or another text).
- submit solutions to problems that have, in whole or in part, been copied from *any* other source (including another student, a web page, or another text).

Requirements

- Any help from a source other than the professor or a TA must be acknowledged. Examples of sources that must be cited are a parent, a family friend, and an outside tutor.
- If you wish to get a tutor in the course, speak with the professor.
- Any code submitted by a student must be completely original. No portion of a student's code may be copied form any other source (including, but not limited to, another student, a web page, or another text).

Penalties

- Students caught violating the academic honesty policy will face severe penalty. A first offense will result in a zero on the assignment and a report to the Dean's office. A second offense will result in the student failing the course.

Additional USF Resources

USF Food Pantry

The USF Food Pantry is an intermediate, short-term solution for any registered USF student to receive food and toiletry resources. Students are invited to stop by the pantry located on the first floor of Gleeson Library in the Atrium, and take the items that they need. Items are available on a first-come, first-serve basis until our supply is depleted. You will be asked to check-in via QR code before entering the pantry. For more information and the current schedule, visit the [USF food pantry website](). If you have further questions, please contact the Pantry Coordinator at usfpantry@usfca.edu or 415-422-4099 (during business hours Monday thru Friday from 9:00am - 5:00pm). You can find out about additional food security resources through the [USF food insecurity resource page]() and the [CalFresh resources site]().

Outside Activities Information

To enter the B range of grades, a CS Engagement activity is required. This activity can be any Computer Science event that occurs throughout the semester. Generally accepted

events include, but aren't limited to: Computer Science Club Events (CompSigh, Women in Tech, ACM, etc.), Hackathons, Conferences, and more.

Students must take a picture of themselves at the event and submit it to Canvas to prove their attendance.

Use of Generative AI in This Course

The use of generative AI tools is only permitted within given parameters.

In alignment with the [USF Honor Code](), students must present work that is authentically their own. In this course, the use of generative AI tools is only permitted within the parameters provided by the instructor, specific to each assignment, with appropriate attribution. As this policy may be different from other course AI policies, please ask your instructor to clarify any questions you may have. To mitigate risks associated with the use of generative AI, please review the [Guidelines for Responsible Use of Artificial Intelligence (AI) at USF]()

Students may use generative AI tools to assist in translating and understanding assignment specifications; however, these tools may not be used to generate solutions or code on behalf of the student. Student work must be their own. Students may not take code or any solutions provided by generative AI and change them. This variation of code does not qualify as their work, thus violating the stated appropriate usage.