



IMPERIAL VALLEY COLLEGE

Basic Course Information

Semester:	Spring 2025	Instructor Name:	Octavio Ortiz
Course Title & #:	CS 221	Email:	octavio.ortiz@imperial.edu
CRN #:	20549	Webpage (optional):	Canvas
Classroom:	4300	Office #:	2767.1
Class Dates:	2/10 – 6/6	Office Hours:	See Schedule (attached)
Class Days:	M/W	Office Phone #:	760-355-5706
Class Times:	1:00 – 2:25 PM	Emergency Contact:	Silvia Murray
Units:	3	Class Format/Modality:	Hybrid (In-Person/Online)

Course Description

Introduction to programming and software engineering for computer science majors and computer professionals. A systematic approach to the design, implementation, and management of robust Java computer programs. The course emphasizes Object Oriented programming design, programming documentation, testing and debugging techniques. (C-ID COMP 122) (CSU/UC)

Course Prerequisite(s) and/or Corequisite(s)

None

Student Learning Outcomes

Upon course completion, the successful student will have acquired new skills, knowledge, and or attitudes as demonstrated by being able to:

1. Correctly use classes from the standard Java libraries to solve a problem
2. Correctly use graphical user interface (GUI) components to create a program
3. Correctly use inheritance relations to solve a problem

Course Objectives

Upon satisfactory completion of the course, students will be able to:

1. Analyze unstructured problems and design computer solutions
2. Use procedural techniques to control program flow (sequence, selection, and repetition) and declare local variables and pass parameters to functions.
3. Demonstrate object-oriented programming language syntax and structure
4. Define and use classes and methods to implement algorithms
5. Assess the applicability of common algorithms to specific program design problems
6. Develop and use beginning program testing data and techniques
7. Assess the applicability of common data structures to specific program design problems
8. Use system debuggers
9. Adhere to style and documentation standards in writing programs

Textbooks & Other Resources or Links

Introduction to JAVA – Programming and Data Structures

Author: Y. Daniel Liang

Edition: 13th

Updated 11/2024



ISBN: 9780138092832
Copyright Year: 2024
Publisher: Pearson Prentice Hall

Course Requirements and Instructional Methods

Students will be exposed to various instructional methods. Lectures, both in person and through pre-recorded tutorial videos, will introduce students to fundamental programming concepts. Students will then apply what they learn in lectures to their own programming assignments and applications.

Programming assignments will be relatively short and will assess a student's mastery of a particular programming skill, as well as a student's ability to problem solve. Programming applications, or projects, will be more intricate. To develop an application, students will rely on the various programming and problem-solving skills they have developed up to that point.

In midterm exams students will read code and answer multiple choice, true-false, and free-response questions pertaining to the code segments. A comprehensive semester final exam will assess students' ability to read, debug and rationalize code segments that range in complexity.

Course Grading Based on Course Objectives

ASSIGNMENT	POINTS
Programming Assignments	10%
Approximately 10-15 PA's	
Exams	60%
Three planned Exams	
Projects/Final Exam	30%
Midterm/Final project & comprehensive final	
Total	100%

Score	Letter Grade
≥ 90%	A
≥ 80%	B
≥ 70%	C
≥ 60%	D
< 60%	F

Academic Honesty (Artificial Intelligence -AI)

IVC values critical thinking and communication skills and considers academic integrity essential to learning. Using AI tools as a replacement for your own thinking, writing, or quantitative reasoning goes against both our mission and academic honesty policy and will be considered academic dishonesty, or plagiarism unless you have been instructed to do so by your instructor. In case of any uncertainty regarding the ethical use of AI tools, students are encouraged to reach out to their instructors for clarification.



Accessibility Statement

Imperial Valley College is committed to providing an accessible learning experience for all students, regardless of course modality. Every effort has been made to ensure that this course complies with all state and federal accessibility regulations, including Section 508 of the Rehabilitation Act, the Americans with Disabilities Act (ADA), and Title 5 of the California Code of Regulations. However, if you encounter any content that is not accessible, please contact your instructor or the area dean for assistance. If you have specific accommodations through **DSPS**, contact them for additional assistance.

We are here to support you and ensure that you have equal access to all course materials.

Course Policies

Attendance:

Attendance is mandatory. Students are expected to attend every class meeting. Lectures will preview programming assignments, programming applications and future assessments.

- Although attendance is not explicitly factored into your grade, failing to complete programming assignments and assessments due to absences will negatively impact your grade.
- Students with excessive absences will be dropped from the course as outlined in AP 5075.

Late Submissions:

Programming assignments are to be completed and submitted by the due date stated on Canvas. Late programming assignments will be accepted and penalized as follows:

- 90% maximum score if submitted within 24 hours past due date
- 80% maximum score if submitted within 48 hours past due date
- 70% maximum score if submitted within 72 hours past due date
- 50% maximum score if more than three days and less than a week past due date
- No credit will be given to assignments that are submitted past the hard deadline (see calendar)

Programming applications/projects, quizzes and the final exam will NOT be accepted late.

Make-up Assignments:

There are no make-up assignments.

- Programming applications/projects and quizzes cannot be made up, however, if the material is presented again in future applications or quizzes, then the failed assessment will be reevaluated.

Drop Policy

The instructor reserves the right to drop students who fail to attend the first-class session or fail to complete the first assignment by the assigned due date.

Other Course Information

Resources:

<https://www.w3schools.com> – Learn Programming

<https://docs.oracle.com/en/java/index.html> - Java Documentation



Financial Aid

Your Grades Matter! In order to continue to receive financial aid, you must meet the Satisfactory Academic Progress (SAP) requirement. Making SAP means that you are maintaining a 2.0 GPA, you have successfully completed 67% of your coursework, and you will graduate on time. If you do not maintain SAP, you may lose your financial aid. If you have questions, please contact financial aid at finaid@imperial.edu.

IVC Student Resources

IVC wants you to be successful in all aspects of your education. For help, resources, services, and an explanation of policies, visit <http://www.imperial.edu/studentresources> or click the heart icon in Canvas.

Anticipated Class Schedule/Calendar

[Provide a tentative overview of the readings, assignments, tests, and/or other activities for the duration of the course. A table format as in the example below may be used for this purpose.]

Week	Date	Topic	Assignment
Week 1	2/10	<ul style="list-style-type: none"> • Syllabus & Course Policies <ul style="list-style-type: none"> ○ Modules, programming assignments, etc... 	
	2/12	<ul style="list-style-type: none"> • Fundamentals <ul style="list-style-type: none"> ○ Basic file structure in Java ○ Printing ○ Data types 	
Week 2	2/17	President's Day – No Class	
	2/19	<ul style="list-style-type: none"> • Elementary Programming <ul style="list-style-type: none"> ○ Data Types, String Objects ○ String Objects, User Input • Selection <ul style="list-style-type: none"> ○ If-statements 	
Week 3	2/24	<ul style="list-style-type: none"> • Selection <ul style="list-style-type: none"> ○ AND/OR, NOT, MOD operators 	
	2/26	<ul style="list-style-type: none"> • Strings & Mathematical Functions <ul style="list-style-type: none"> ○ Common math functions • Strings & Mathematical Functions <ul style="list-style-type: none"> ○ String type and its methods 	
Week 4	3/3	<ul style="list-style-type: none"> • Chapter 1-4 Review 	
	3/5	<ul style="list-style-type: none"> • Chapter 1-4 Review • Exam 1 (Chapters 1-4) <ul style="list-style-type: none"> ○ Deadline to submit late assignments (Ch.1-4) for 50% credit. 	
Week 5	3/10	<ul style="list-style-type: none"> • Repetition <ul style="list-style-type: none"> ○ while loops, do-while loops, for loops 	
	3/12	<ul style="list-style-type: none"> • Repetition <ul style="list-style-type: none"> ○ Implementing Loops 	
Week 6	3/17	<ul style="list-style-type: none"> • Repetition & Arrays <ul style="list-style-type: none"> ○ 1-D arrays, for loops & arrays 	
	3/19	<ul style="list-style-type: none"> • Repetition & Arrays 	

Week	Date	Topic	Assignment
		<ul style="list-style-type: none"> ○ for-each loops & arrays 	
Week 7	3/24	<ul style="list-style-type: none"> ● Encapsulation <ul style="list-style-type: none"> ○ Functions & Methods, Parameters, Return type 	
	3/26	<ul style="list-style-type: none"> ● Encapsulation <ul style="list-style-type: none"> ○ Implementing Methods 	
Week 8	3/31	Midterm Project	
	4/2	<ul style="list-style-type: none"> ● Exam 2 (Chapters 5-7) <ul style="list-style-type: none"> ○ Deadline to submit late assignments (Ch.5-7) for 50% credit. 	
Week 9	4/7	<ul style="list-style-type: none"> ● Multidimensional Arrays <ul style="list-style-type: none"> ○ 2D array, nested for loops & 2-D arrays 	
	4/9	<ul style="list-style-type: none"> ● Multidimensional Arrays <ul style="list-style-type: none"> ○ Implementing 2D arrays 	
Week 10	4/14	<ul style="list-style-type: none"> ● ArrayLists <ul style="list-style-type: none"> ○ add(), remove(), get(), isEmpty()... 	
	4/16	<ul style="list-style-type: none"> ● ArrayLists <ul style="list-style-type: none"> ○ Implementing arraylists 	
Spring Break			
Week 11	4/28	<ul style="list-style-type: none"> ● Encapsulation & Class Design <ul style="list-style-type: none"> ○ Fields, constructors, the this reference 	
	4/30	<ul style="list-style-type: none"> ● Encapsulation & Class Design <ul style="list-style-type: none"> ○ Accessor & Mutator Methods, toString() method 	
Week 12	5/5	<ul style="list-style-type: none"> ● Class Design <ul style="list-style-type: none"> ○ Class Instantiation, zero & multiple argument Constructor, overloading methods 	
	5/7	<ul style="list-style-type: none"> ● Class Design <ul style="list-style-type: none"> ○ Static vs. non-static methods & fields ● Exam 3 (Chapters 8-10) <ul style="list-style-type: none"> ○ Deadline to submit late assignments (Ch.8-10) for 50% credit. 	
Week 13	5/12	<ul style="list-style-type: none"> ● Class Design <ul style="list-style-type: none"> ○ Passing Object to Methods 	
	5/14	<ul style="list-style-type: none"> ● Class Design <ul style="list-style-type: none"> ○ Array of Objects ○ Writing your own classes 	
Week 14	5/19	<ul style="list-style-type: none"> ● Inheritance <ul style="list-style-type: none"> ○ extends keyword, superclasses & subclasses, super keyword, overriding and overloading methods 	
	5/21	<ul style="list-style-type: none"> ● Inheritance <ul style="list-style-type: none"> ○ Advantages of inheritance ○ Inheritance and JavaFX 	
Week 15	5/26	Memorial Day – No Class	
	5/28	<ul style="list-style-type: none"> ● GUI 	



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Week	Date	Topic	Assignment
		<ul style="list-style-type: none"> ○ JavaFX vs. Swing and AWT, JavaFX basic structure, Color class, Font class, Panes & Groups ○ JavaFX vs. Swing and AWT, JavaFX basic structure, Color class, Font class, Panes & Groups ● Final Project 	
Week 16	6/2	<ul style="list-style-type: none"> ● GUI <ul style="list-style-type: none"> ○ Implementing GUI's with JavaFX 	
	6/4	<ul style="list-style-type: none"> ● Final Project Due ● Comprehensive Final Exam 	

Subject to change without prior notice

OCTAVIO ORTIZ

IVC Instructor's Schedule of Classes and Office Hours
Science, Math and Engineering Department
Spring 2025

		7:00 AM	8:00 AM	9:00 AM	10:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM
M	COURSE			Office Hour Online - Zoom 9:00 - 10:00 AM	ENGR 100 LEC/LAB 20981 10:15 - 12:45 PM RM #4300			CS 221 - Hybrid LEC/LAB 20549 1:00 - 2:25 PM RM #4300			
	CRN										
	LEC/LAB										
	FACULTY										
T	COURSE		ENGR 240 LEC 21205 8:00 - 9:25 AM RM #2721	ENGR 212 LEC 20607 9:40 - 11:05 AM RM #212	Office Hour In-Person 11:15 - 12:15 PM		CS 231 LEC/LAB 20550 1:00 - 3:30 PM RM #803				
	CRN										
	LEC/LAB										
	FACULTY										
W	COURSE			Office Hour In-Person 9:00 - 10:00 AM	ENGR 100 LEC/LAB 20981 10:15 - 12:45 PM RM #4300			CS 221 - Hybrid LEC/LAB 20549 1:00 - 2:25 PM RM #4300			
	CRN										
	LEC/LAB										
	FACULTY										
R	COURSE		ENGR 240 LEC 21205 8:00 - 9:25 AM RM #2721	ENGR 212 LEC 20607 9:40 - 11:05 AM RM #212	Office Hour Online - Zoom 11:15 - 12:15 PM		CS 231 LEC/LAB 20550 1:00 - 3:30 PM RM #803				
	CRN										
	LEC/LAB										
	FACULTY										
F	COURSE										
	CRN										
	LEC/LAB										
	FACULTY										

Course No	Sections	Lec Hrs	Lab Hrs
ENGR 100	1	2	3
ENGR 212	1	3	0
ENGR 240	1	3	0
CS 221	1	2	3
CS 231	1	2	3
Total		12	9

Instructor's Name	Octavio Ortiz
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