Course Syllabus
College of Arts and Science

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Office Hours

Daily		8:00-8:50 am
TTh		9:00-9:50 pm
T		10:00-10:50 pm
MWF		1:00-1:50 pm
Daily	(appt. only)	12:00-12:50pm

Course Information

Introduces fundamental concepts needed to support the development of desktop applications. Topics include GUI frameworks, object-oriented design with design patterns, model-view architecture, introductory generic programming, and functional programming techniques. *Prerequisite: CpS 110.*

Program Learning Outcomes (PLO):

- Write, debug, and test programs using the object-oriented paradigm
- Describe and apply standard object-oriented Design Patterns
- Develop graphical event-driven programs using a professional IDE and GUI framework

Course Resources

Website: Please keep up with the course page at https://bju.instructure.com/

Textbook: The Java Workshop

Grading

Qty	Item	Points	Total
1	Professional Development	30	30
4	Quizzes	10	40
10	Labs	10	100
5	Programs	70	350
1	Team Project	120	120
2	Lab Tests	70	140
3	Written Tests	80	240
Total Points:		970	

Scale:

A	90-100%
B	80-89%
C	70-79%
D	60-69%
F	<60%

Programming Assignments: There are two types of assignments in the class: labs and programs. Labs are small-scale assignments that typically take an hour or two to complete. Programs are larger-scale assignments that will likely take many hours (10-15 or more). Programs are graded as follows:

- **75% Correctness:** Program produces correct results; runs according to specification.
- **25% Style and Reports:** Each program and project submission must be accompanied by a written report. Methods are short and well tested.
- **Specifications:** Assignments that do not meet minimum assignment specifications may be marked "unassessable" and be assigned a grade of F. Such assignments can be resubmitted using a late token.
- **Competency**: Upon request, a student must be able to explain or modify any portion of a programming assessment (lab, program, test, or project). Failure to complete this task upon request will result in the assessment being marked "unassessable."

Course Policies

In this course, topics build on the previous topic. Thus, if you fall behind, you will struggle with new content. For this reason, I do not accept late work. Work is due at the deadline. **Late work receives a 0**. Extensions may be purchased with tokens.

Professionalism

Emergencies

Handbook Policies

Attendance Policy

Accommodations for Students with Disabilities

Academic Honesty and Integrity Policy

Generative AI Exceptions

Using generative AI for error-related information or coding library information is permissible if 1) you do not feed in course or textbook content (notes, instructions, solutions, etc.), 2) you do not copy blocks of code (4+ lines of code), and 3) you document which AI tool was used, the prompts used, and the output.

Testing Environment

Course Materials Use

Curriculum Information

Context

This course supports the following objectives of the Computer Science and Information Technologies programs:

CS 1. Design and implement solutions to practical problems

CS 8. Demonstrate understanding of fundamental concepts in the student's discipline

Learning Objectives

Objective	Content	Assessment
Write, debug, and test programs using the object-oriented paradigm (CS 1)		Programs 1-5 Lab Tests 1, 2 Test 1

Describe and apply standard object-oriented Design Patterns (CS 8)		Programs 3, 4; Test 3
Develop graphical event-driven programs using a professional IDE and GUI framework (CS 1)		Programs 1-5; Test 2

Tentative Schedule

Week	**Topic**	**HW**
Week 1 (¾) 1/14-1/17	Java Fundamentals Lab 1: Setup and Java Classes, Gradle	Chapter 1: Getting Started
Week 2 (1½) 1/21-1/24	*MLKj Day, no Monday class* Unit Testing; More Java; Program 1: Starship Configurator Lab 2: Unit Testing Arrays, Lists, Factories	How to Videos Chapter 2: Basics Chapter 3: OOP
Week 3 (2½) 1/26-1/31	Strings Test 1 topics, File formats, PNG Format, File IO Lab 3: Binary Files Program 2: PNG Reader, File IO	Chapter 4: Collections Chapter 5: Exceptions
Week 4 (3½) 2/2-2/7	GUI Apps, Interfaces Test 1 (Originally Monday. Delayed for Fern) Lab 4: GUI Design a Reader, OO Design, Test 2 topics	
Week 5 (4½) 2/9-2/14	Program 3: Database Model-View Architecture, GUI Programming Lab 5: Game Model Inheritance	

Week 6 (4¾) 2/16-2/21	Class Hierarchies, Even More Java *Bible Conference, no class WThF*	Lab Test 1 Practice
Week 7 (5¾) 2/23-2/28	Even More Java, Dynamic Controls Test 2 Lab Test 1 Anonymous Methods	Chapter 13: Function Programming
Week 8 (6¾) 3/2-3/7	Program 4: Battleship, Observer Pattern Timers, Animation, Sound Lab 6: Battleship Design Functional Programming	Chapter 15: Streams
Week 9 (7¾) 3/9-3/14	Project Introduction, Choose teams Command Pattern Lab: Proposal State Pattern, Test 3 Topics	Command Pattern
Week 10 (8¾) 3/16-3/21	Program 5: World Simulator, State Machines Test 3 Lab 7: TicTacToe Redux Proposal Presentations	Lab Test 2 Practice Download Lab Test 2 Practice
Week 11 (8¾) 3/23-3/28	*Spring Break, no classes*	
Week 12 (9¾) 3/30-4/4	Git, Data binding Workday Lab Test 2 Serialization	
Week 13 (10¾) 4/6-4/11	Generics Workday Lab 8: LLM AI Multi-threading	

Week 14 (11½) 4/13-4/18	Workday *University Service Day, no Wednesday class* Lab 9: Data Binding Multi-threading with Servers	
Week 15 (12½) 4/20-4/25	Asynchronous Methods Workday Lab 10: Multi-threading Design Patterns	
Week 16 (13½) 4/27-5/2	Final Exam Topics Workday Lab 11: Multi-threading Server Project Demos	
Week 17 (13¾) 5/7	Final: Wednesday, May 06, 3:30-4:40 p.m.	

Course Summary:

Course Summary

Date	Details	Due
Thu Jan 22, 2026	Assignment Lab 01: Setup and Java	due by 9:30am
Wed Jan 28, 2026	Assignment Program 1: Starship Configurator	due by 11:59pm
	Assignment Quiz 1: About Java, Gradle, Testing, Visibility	due by 11:59pm
	Assignment Quiz 2: structure and notation	due by 11:59pm
Thu Jan 29, 2026	Assignment Lab 02: Unit Testing	due by 9:30am
Mon Feb 2, 2026	Assignment Test 1: Java Basics, Gradle, JUnit	due by 2:50pm

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Date	Details	Due
Thu Feb 5, 2026	Assignment Lab 03: Binary Files	due by 9:30am
Tue Feb 10, 2026	Assignment Program 2: PNG Metadata Reader	due by 11:59pm
Thu Feb 12, 2026	Assignment Lab 04: GUI	due by 9:30am
Fri Feb 13, 2026	Assignment Program 2 Progress	due by 2:03pm
Wed Feb 18, 2026	Assignment Test Preference Poll	due by 10am
Wed Feb 25, 2026	Assignment Test 2: GUI, OO, Exceptions, Files, Interface	due by 3pm
Thu Feb 26, 2026	Assignment Lab 05: Game Model	due by 9:30am
	Assignment Lab Test 1	due by 10:30am
Sat Feb 28, 2026	Assignment Program 3: Database	due by 11:59pm
Sat Mar 7, 2026	Assignment Quiz 3: Anonymous Methods	due by 11:59pm
Thu Mar 12, 2026	Assignment Lab 06: Battleship Design	due by 9:30am
Sat Mar 14, 2026	Assignment Program 4: Battleship	due by 11:59pm
Wed Mar 18, 2026	Assignment Test 3	due by 2:50pm
Sat Mar 21, 2026	Assignment Mini Lab: Lambda (Optional)	due by 11:59pm
	Assignment Lab: Project Proposal	due by 11:59pm

Course Summary

Date	Details	Due
Thu Mar 26, 2026	Assignment Lab Test 2	due by 10:20am
Sat Apr 4, 2026	Assignment Program 5: World Simulator	due by 11:59pm
Thu Apr 9, 2026	Assignment 2025 Lab 08: Git	due by 9:30am
	Assignment Lab 07: TicTacToe Redux	due by 9:30am
	Assignment Quiz: Git	due by 10am
	Assignment First Sprint	due by 11:59pm
Thu Apr 16, 2026	Assignment Lab 08: LLM AI	due by 9:30am
Sat Apr 18, 2026	Assignment Second Sprint	due by 11:59pm
Thu Apr 23, 2026	Assignment Lab 09: Data Binding	due by 9:30am
Sat Apr 25, 2026	Assignment Third Sprint	due by 11:59pm
Thu Apr 30, 2026	Assignment Lab 10: Multithreading	due by 9:30am
Fri May 1, 2026	Assignment Project Demos	due by 2pm
	Assignment Final Sprint	due by 2:30pm
Sat May 2, 2026	Assignment Lab 11 (Bonus)	due by 11:59pm
	Assignment Professional Development	due by 11:59pm
Wed May 6, 2026	Assignment Final Exam	due by 4:40pm

Course Summary

Date	Details	Due
	Assignment Team Size question	
	Assignment Tokens Used	

January 2026

Calendar

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
28 December 2025 28 Previous month	29 December 2025 29 Previous month	30 December 2025 30 Previous month	31 December 2025 31 Previous month	1 January 2026 1	2 January 2026 2	3 January 2026 3
4 January 2026 4	5 January 2026 5	6 January 2026 6	7 January 2026 7	8 January 2026 8	9 January 2026 9	10 January 2026 10
11 January 2026 11	12 January 2026 12	13 January 2026 13	14 January 2026 14	15 January 2026 15	16 January 2026 16	17 January 2026 17
18 January 2026 18	19 January 2026 19	20 January 2026 20	21 January 2026 21	22 January 2026 22 Click to view event details	23 January 2026 23	24 January 2026 24
25 January 2026 25	26 January 2026 26	27 January 2026 27	28 January 2026 28 Click to view event details	29 January 2026 29 Today Click to view event details	30 January 2026 30	31 January 2026 31
1 February 2026 1 Next month	2 February 2026 2 Next month Click	3 February 2026 3 Next month	4 February 2026 4 Next month	5 February 2026 5 Next month Click	6 February 2026 6	7 February 2026 7 Next month

Calendar

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	to view event details			to view event details	Next month	