



## CSI-150: Java Programming

### Instructor Name and Communication Options

**Instructor Name:** Sean Kelly

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### Course Description and Prerequisites

Students will be taught to develop applications and applets using the Java programming language. Java is a platform-independent language that is very popular for creating Web-based applications. Topics include object orientation, selection and repetition, array processing and classes.

### Student-Centered Learning Outcomes

Students in this course will...

- successfully use an integrated development environment (IDE) to create, compile, debug and execute Java source code (in this course we will use Eclipse, which is open source),
- recognize and incorporate Programming Constructs such as for, while, and do, and Decision Making Constructs, switch and case through the development of individual assignments,
- develop object-oriented programs through hands-on work with support of online discussion designed to build an understanding of these concepts as well as clarify student queries,
- develop GUI applications submitted as hands-on assignments—with support of lecture and discussion focusing on the architecture of GUI-based programs,
- gain familiarity with exception handling.

### Textbook(s) and Technology Requirements

#### Required Text(s)

*Head First Java*, 2nd ed., by Kathy Sierra and Bert Bates. O'Reilly, 2009. (ISBN: 9780596009205 )

## Required Software

### Java

You will need the Java Development Kit (JDK), and I would recommend downloading Java 8 SE: <http://www.oracle.com/technetwork/java/javase/downloads/>.<sup>1</sup>

### Eclipse

We will be building and editing Java code in the Eclipse environment. This can be downloaded from: <http://www.eclipse.org/>. The latest version, Eclipse Neon, is available for Windows, Mac OS, and Linux.

## Method of Evaluation

Your final grade will be determined based on:

Graded Elements	Percentage
Assignments	30%
Labs	30%
Exams/Quizzes	20%
Final project	20%
<b>Total</b>	100%

### Assignments and Labs

Each class will be a combination lecture and lab. Some days may be all lecture or all lab, and some labs may need to be completed by the end of class. Rules for handing these in are:

- All assignments and labs are to be submitted through Canvas
- A 20% penalty may be applied to assignments received after the due date. Please be aware that any delay in submitting assignments can make it difficult for you to keep up with the course schedule. Please do everything you can to adhere to the schedule and avoid falling behind. If you know that you will be submitting an assignment late because of work, sickness, etc. please let me know in advance of the due date.
- For assignments and labs done outside of Eclipse, zip up the source files and upload to Canvas.
- For assignments and labs done in Eclipse, zip the entire project folder and upload it to the assignment page.

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<sup>1</sup> The book was written for Java 5, but the changes from versions 5 and 7 were relatively minor. The latest version, Java 8, adds lambda expressions and other major language changes. However, I expect that there should be no issue using it.

Assignments and labs are graded according to the following parameters.

Graded Elements	Percentage
Commenting and Documentation	5%
Indentation and alignment of code	5%
Presentation (screen layout)	5%
Validation	5%
Error Handling	10%
Program functionality	70%
<b>Total</b>	100%

***If your code does not compile, it will receive a score of 0.*** If some parameters are not covered like validation or error handling, then the marks allotted to those will be included in program functionality.

### Quizzes

Quizzes must be your own work and copying will result in a fail grade for that quiz. Quizzes turned in late will have 5% subtracted from the grade for each day they are late. Any quizzes will be announced in the previous class.

### Exams

There will be a midterm and final exam. They will be administered through Canvas.

### Final Project

The last two weeks of the course will be devoted to a final project, which will be announced shortly after the midterm.

### Participation

Attendance and classroom participation is vital to any course. There is no participation component to your grade; however, attendance is required to be graded on in-class labs and quizzes.

## Course Calendar & Outline

The basic design of the course is shown in the table below, although we may deviate from the exact schedule. The reading assignments from the textbook correspond to the lectures and are found next to the date in the table.

### Course Outline:

Dates	Topic(s)	Readings	Assignments and Activities
Week 1	Introduction Syllabus Review Getting started with Java	<i>Head Start Java</i> , Chapters 1 & 2	Install Java
			Assignment 1
Week 2	Getting started with Eclipse Objects Data types I/O statements	<i>Head Start Java</i> , Chapter 3	Install Eclipse
			Assignment 2
Week 3	Control flow Strings Basic data structures	<i>Head Start Java</i> , Chapter 4	Assignment 3
Week 4	How Objects behave	<i>Head Start Java</i> , Chapter 5	Assignment 4
Week 5	Beef up the methods	<i>Head Start Java</i> , Chapter 6	Assignment 5
Week 6	Using the Java Library	<i>Head Start Java</i> , Chapter 7	Assignment 6
Week 7	Inheritance	<i>Head Start Java</i> , Chapter 8	Assignment 7
Week 8	Midterm Exam		
Week 9	Polymorphism	<i>Head Start Java</i> , Chapter 10	Assignment 8
Week 10	Numbers More data structures	<i>Head Start Java</i> , Chapters 12 & 16	Assignment 9
Week 11	GUI	<i>Head Start Java</i> , Chapters 12 & 13	Assignment 10
Week 12	GUI 2 File Manipulation	<i>Head Start Java</i> , Chapter 14	Assignment 11
Week 13	Project work day		
Week 14	Project Presentations		
Week 15	Final Exam Week		