Reedley College

Summer 2023
CSCI-5
Java Programming
Syllabus

Instructor: Simon Sultana, Ph.D.	**Unit(s): 3**
Department: Computer Science	**Dates:** 5/22/2023 – 7/28/2023
E-mail: simon.sultana@reedleycollege.edu	**Location:** Online, Asynchronous
Phone: (559) 683-0300 x3192	**Live Q&A:** Friday 1-2pm on Zoom
Response time: < 24 hours	**Office Hours:** Zoom by appointment
Section Number: 58567 (for credit)/ 58904 (noncredit)	

Prerequisites: MATH-3A – College Algebra for STEM
Advisory: ENGL-1A – Reading and Composition or ENGL-1AH Honors Reading and Composition

Course Description: This course is an introduction to object-oriented concepts, terminology, and syntax to create programs using Java. The topics include data representation, control structures, class, objects, methods, arrays, and graphical user interfaces. This course constitutes prepares students for the Oracle Certified Foundations Associate, Java exam and the first part of the Oracle Java SE 8 Programmer I certification exam.

Course Goals and Student Learning Outcomes:
Upon completion of this course, students will be able to:
- Create programs using the Java programming language to solve problems
- Correct logical and syntactical errors in a program
- Implement graphics in Java programs
- Use the Java programming language to utilize fundamental types and constructs

Objectives:
In the process of completing this course, students will:
- Write Java programs using an integrated development environment.
- Write Java programs using repetition control statements (while, for).
- Write Java programs using decision control statements (if, if…else, switch).
- Use Java input and output streams.
- Write a total of 500 to 1000 lines of programs.
- Define and implement classes; instantiating objects of classes.
- Write Java programs using simple data structure (array).
- Write Java programs that implement a graphical user interface.

Student Learning Outcomes are statements about what the discipline faculty hope you will be able to do at the end of the course. This is NOT a guarantee: the ultimate responsibility for whether you will be able to do these things lies with you, the student. In addition, the assessment of Student Learning Outcomes is done by the department in order to evaluate the program as a whole, and not to evaluate individual faculty performance.

Required or Recommended Textbooks and Materials:

Textbooks:
1. **Required**: Oracle Academy account. Accept invitation via email sent before semester start and register for account (no cost).
2. **Optional: various free online resources:**
   - A. **W3Schools** (https://www.w3schools.com/java/default.asp)
   - B. **TutorialsPoint** (https://www.tutorialspoint.com/java/index.htm)
   - C. **JavaTPoint** (https://www.javatpoint.com/java-tutorial)
   - D. **Geeks for Geeks** (https://www.geeksforgeeks.org/java-tutorial/?ref=lbp)
3. **Optional:** *Starting out with Java*, 4th Ed., By Tony Gaddis, Pearson

This course aims to prepare you for Oracle Certified Foundations Associate, Java exam and the first part of the Oracle Java SE 8 Programmer I certification exam. The Oracle Academy resource is the only one required but you might find these optional resources useful to better prepare you for the certification exams.

Learning Management System: CANVAS:

Canvas (https://scccd.instructure.com/) is used to post announcements, course information, programming assignments, and grade. You will submit your programming assignments on Canvas.
To log-in Reedley College CANVAS:

Username: Your 7-digit student ID number.
Password: If you have not previously changed your password, it is:

First name initial (upper case) + *last name initial* (lowercase) + *date of birth* (mmddyy)
Example: John Smith born on July 9th of 1988   Password = Js070988

Topics:
Course Outline

A. Introduction to Java Fundamentals
   1. Java language
   2. Integrated development environment
B. Java Basics
   1. Data types
   2. Variables
   3. Arithmetic operators
   4. Typecasting
   5. Math class
C. Program Structure: Input, Conditions, Control
   1. Scanner
   2. Relational operators
   3. If/Else
   4. Switch
   5. Ternary
   6. Loops
D. Arrays and Exceptions
   1. Arrays
   2. Exceptions
E. Java Classes
   1. Classes
   2. Constructors
   3. Objects
   4. Methods

     5. Overloading
     6. Static variables
     7. Static methods
   F. ArrayLists, Abstract Classes, and Intefaces
     1. ArrayLists
     2. Unit testing
     3. Interfaces
     4. Abstract classes
     5. Assertions
   G. Generics, Collections, Data Structures, Searching, and Sorting
     1. Generics
     2. Collections
     3. Linked lists
     4. Binary search
     5. Bubble sort
     6. Selection sort
   H. Strings, Regular Expressions, and Recursion
     1. Inner class
     2. Regular expressions
     3. Recursion
  I. Input and Output
     1. File input and output
     2. Graphics

Lab Content:

Course content is practiced by students in computer laboratory exercises: conditional execution, loops, lists, processing lists, writing functions, exceptions, strings, secure data reading, object-oriented programming, working with files, operating systems module, datetime/time modules, calendar module

Tentative Schedule:

	Assignment Points	Date
Module 1 & 2 - Introduction to Java Fundamentals & Basics	**60**	**5/22/2023**
Schedule One-on-One	15	5/28/2023
Live Q&A Session online		5/26/2023
Oracle Study Resources Completion: JF 1-1		5/28/2023
Oracle Resources Completion: JF 4:1 - 4		5/28/2023
JF Section 4 Practice Activities	15	5/28/2023
JF Section 4 Quiz	30	5/28/2023
Module 3 - Program structure: Input, Conditions, Control	**50**	5/29/2023
Live Q&A Session online		6/2/2023
Oracle Resources Completion: JF 5.1 - 2		6/4/2023
JF Section 5 Practice Activities	20	6/4/2023
JF Section 5 Quiz	30	6/4/2023
Module 4 - Arrays & Exceptions	**50**	6/5/2023
Live Q&A Session online		6/9/2023
Oracle Resources Completion: JF 6.1 - 2		6/11/2023
JF Section 6 Practice Activities	20	6/11/2023

JF Section 6 Quiz	30	6/11/2023
Module 5 - Java Classes Part 1	**65**	6/12/2023
Live Q&A Session online - TENTATIVE - please contact if you need to meet		6/16/2023
Oracle Resources Completion: JF 7.1 - 3		6/18/2023
JF Section 7 Part 1-3 Practice Activities	35	6/18/2023
JF Section 4 Project	30	6/18/2023
Module 6 - Java Classes Part 2	**90**	6/19/2023
Live Q&A Session online		6/23/2023
Oracle Resources Completion: JF 7.4 - 5		6/25/2023
JF Section 7 Part 4-5 Practice Activities	30	6/25/2023
JF Section 7 Quiz	30	6/25/2023
JF Section 5 Project	30	6/25/2023
Module 7 - Midterm Tests	**90**	6/26/2023
Oracle Resources Completion: JP 1-1		6/26/2023
JP Sect 1 Quiz	30	6/26/2023
JF Final Exam	**60**	6/26/2023
Module 8 - ArrayLists, Abstract Classes, & Interfaces	**55**	6/26/2023
Live Q&A Session online		6/30/2023
Oracle Resources Completion: JP 2:1 - 4		7/2/2023
JP Section 2 Part 1-4 Practice Activities	10	7/2/2023
JF Section 6 Project	15	7/2/2023
JP Section 2 Quiz	30	7/2/2023
Module 9 - Generics, Collections, Data Structures, Searching, Sorting	**55**	7/3/2023
Live Q&A Session online		7/7/2023
Oracle Resources Completion: JP 3:1 - 4		7/9/2023
JP Section 3 Part 1-4 Practice Activities	10	7/9/2023
JF Section 7 Project Part 1	15	7/9/2023
JP Section 3 Quiz	30	7/9/2023
Module 10 - Strings, Regular Expressions, Recursion	**55**	7/10/2023
Live Q&A Session online		7/14/2023
Oracle Resources Completion: JP 4:1 - 3		7/16/2023
JP Section 4 Part 1-3 Practice Activities	10	7/16/2023
JF Section 7 Project Part 2	15	7/16/2023
JP Section 4 Quiz	30	7/16/2023
Module 11 - Input & Output, Graphics	**40**	7/17/2023
Oracle Resources Completion: JP 5:1 - 3		7/23/2023
Live Q&A Session online		7/21/2023
JP Section 5 Part 1-3 Practice Activities	10	7/23/2023
JP Section 5 Quiz	30	7/23/2023
Module 12: Java Programming - Final Exam	**40**	7/24/2023
JP Midterm Exam	**40**	7/28/2023
TOTAL	650	

Subject to Change:
This syllabus and schedule are subject to change. Please monitor announcements in Canvas for updates.

Evaluation:
Students will be evaluated on the basis of their performance on various assignments according to the following scale. The instructor reserves the right to adjust scores as it may be required throughout the semester.

Points in the course total 800 and are distributed as follows:

    Module Quizzes (x8).....................240 (37%)
    Practice Activities (x9).................160 (25%)
    Summary Tests, Exams.................130 (20%)
    Projects (x5) 105 (16%)
    Schedule 1:1 ....15 (2%)_

Final grade is assigned using following scale:

    900 -1000 points....................A
    800 - 899 points ....B
    700 - 799 points....................C
    600 - 699 points.....................D
    < 600 points ....F

Attendance
It is highly important you engage with this course throughout the week so as not to fall behind. It will be difficult to catch up once you fall behind. I am available via synchronous online meetings and you are encouraged to make use of these opportunities to assist your learning in the course. You are encouraged to have your camera turned on and will have the best experience if you use earbuds/headphones.

Students will be dropped from the class if they fail to participate in the first week of the semester. During the semester up to final drop date, any student who missed two weeks of class participation (cumulative) will be dropped from this class (i.e. 4 classes).

Students must complete exams during the window in Canvas. Due dates are announced at the beginning of the semester and listed in the schedule above. Exam material is constructed from module study resources. **Unless the student receives prior approval from the instructor, no make-up tests will be allowed.**

Grading Policy

Oracle Academy Study Resources, Quizzes, and Projects:
These exercises by Oracle are assigned in each of the twelve course modules and will be referenced in Canvas.

Projects:
Five programming mini-projects are assigned in this course. Students will work individually and NOT share code with other individuals. Projects are suggested to be turned in for grading by the due date indicated on the course calendar. Please be careful as it is not a good idea to get too far behind and the work will build up and you will likely have a difficult time succeeding in the class.

Course and College Policies:
Access to Technology
This course is conducted asynchronously online. Students will need access to a reliable computer and reasonably fast internet access. If you are or know of a student who might benefit, please share that

Reedley College has available laptops and accessories to loan to students as needed. Please contact the technology department at 559-637-2555.

Late Policy
Students are encouraged to work along with the pace indicated in the schedule but accommodations will be made up to the week before the final exam.

Communication Policy
Communication is vital to success in this course. Please know that although we may not be physically meeting this semester, I as your instructor am here to help. The best ways to get in contact with me are to visit live Q&A sessions, via the Q&A discussion forum, by inbox message, or by email. On Mondays – Fridays, students can typically expect a response within 12 hours (often much faster, especially if before 5pm) and I will always respond within 24 hours except for Sundays. If a student does not receive a response within this time period, please assume there was some error in communication and try again or use a different means. Students are asked to include the course name and a brief summary (2-5 words) describing the content of the message in the subject field of all electronic communication. Always use the email address provided by the college for communication and ensure that it is checked regularly.

Online Attendance Policy
Student engagement in submitting course deliverable serve as proof of engagement in this course. As a result, students who do not communicate with the instructor nor submit an assignment in the first week will be dropped automatically from the course. Students who go two weeks without submitting an assignment or do not communicate with the instructor will be dropped before the college's announced last date to drop a class to avoid a 'W' (please see course schedule). Students who are considering dropping this class are asked to consider this [resource](#) and please contact the instructor.

Cheating & Plagiarism, see Cheating and Plagiarism under Campus Policies:
Cheating and plagiarism is prohibited in the class. Incidents of cheating and plagiarism will result a failing grade on the particular assignment in question. Please see Student Conduct Standards at https://www.reedleycollege.edu/about/about-us/policies-and-procedures/student%20conduct%20standards.html for more information about academic integrity.

Each student is expected to assist in the overall environment of the classroom making it conducive to learning. Code created by external sources can be utilized with permission from the instructor and 1) must be properly documented so as not to plagiarize the work of others and 2) must not make up more than 10% of the actual code (exclusive of documentation) of the project.

It is expected each student will do his/her own work unless otherwise instructed.

This course involves both individual work and collaborative work. It is your responsibility to understand the guidelines that apply to each kind of work, and to be clear about which assignments are individual assignments and which are collaborative.

Activities not designated as cooperative assignments in this course, including practice activities, quizzes, projects, and tests, are to be done individually. Submissions will be checked for plagiarism using both computer and human similarity checkers. Take extreme precautions that your individual work is not viewed by other students. This includes deleting all your computer files from public workstations when you are finished, retaining private permissions on your files, destroying printouts of source code, and not letting other students use your personal computer where you store your coursework.

In addition, the work you submit must be entirely your original creation. Using solutions from any other source is forbidden; in particular, using solutions (either instructors' or other students') from previous

offerings of this or other courses is not allowed. Using solutions found on the Internet or getting help from online forums is not allowed.

Assignments which appear to be the result of a "group effort", or appear to have been copied from another student, will be considered plagiarized. Violations of this policy will be reported as violation of academic integrity per college policy.

In-class activities are designated as pair or team activities. Students will be assigned a partner or will self-assign to complete these activities. Be sure to use these collaborative activities as a chance to master the skills, as there will be quizzes in which each person must perform the skills individually.

Accommodations for Students
If you have a verified need for an academic accommodation or materials in alternate media (i.e., Braille, large print, electronic text, etc.) per the Americans with Disabilities Act (ADA) or Section 504 of the Rehabilitation Act, please contact the Reedley College Disabled Students Programs & Services (DSP&S) Department at (559) 638-0332. You can find more information at https://www.reedleycollege.edu/student-services/disabled-student-programs-and-services/index.html.

Reedley College is committed to creating accessible learning environments consistent with federal and state law. To obtain academic adjustments or auxiliary aids, students must be registered with the DSP&S office on campus. DSP&S can be reached at (559) 638-3332. If you are already registered with the DSP&S office, please provide your Notice of Accommodation form as soon as possible.