

# CSC108 - Introduction to Programming (Java)

## Course Syllabus

Semester: Spring 2016

Instructor: George Volkov (Associate Professor of Computer Science – retired)

Contact Methods: Blackboard Learn Messaging (preferred) or [gvolkov@threeivers.edu](mailto:gvolkov@threeivers.edu) (emergency only) for very private (student to instructors) communications.

Online Discussions: will be available for all learning and related topics – this is an important class communication method that should be extensively used. Even though this is a hybrid course, online communication and pedagogy methods will be extensively utilized.

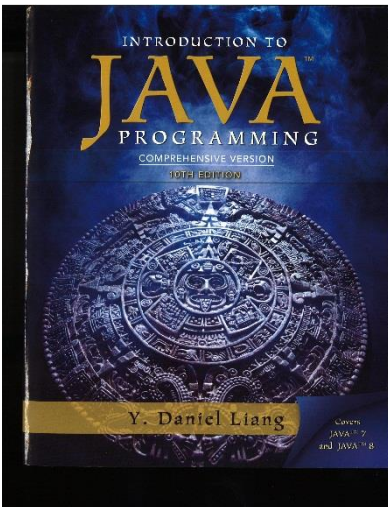
Campus Office Hours By appointment only

Campus Office: Will be announced (B227 classroom/lab)

Campus Phone: None

Please note that there is no class/lab on 3/23 (Spring recess).

### Required Text:



*Introduction to Java Programming, Comprehensive Version, 10<sup>th</sup> Edition*, by Y. Daniel Liang, Prentice Hall Publishing, Copyright Year 2015. The Student Resource website, containing additional information including examples source code, solutions to even numbered problems, and links to software, is located at: [www.pearsonhighered.com/liang](http://www.pearsonhighered.com/liang).

This textbook is sold through the Three Rivers bookstore (ISBN-10: 0-13-376131-2 • ISBN-13: 978-0-13-376131-3) bundled with the access code for the Prentice Hall Companion Website.

You may use the Java Development Kit (JDK) installed on your computer. The Eclipse integrated development environment (IDE) will need to be installed. Installation instructions will be provided but no software installation support is provided by TRCC faculty or staff.

**Supplies and Materials:** Removable storage device (memory stick, aka travel drive, USB drive, etc.) for students requiring use of on-campus computer labs for course completion.

**Course Description:** Fundamentals of programming and program development techniques. Topics include data types, functions, storage class, selection, repetition, arrays, string manipulation, and elementary file processing.

## Course Objectives:

- To provide the student with guidelines for electronic communication techniques in a business/academic environment and the opportunity to use these techniques for class activities throughout the semester (this is particularly important for a hybrid/online class). Specifically this will include Blackboard class announcements, discussions, messages and other techniques as appropriate.
- Please note that all students are required to maintain an online learning portfolio using a TRCC designed template. Through this electronic tool, students can see their own growth in college-wide learning. The student can keep and continue to use the Digication account after graduation. A Three Rivers General Education Assessment Team will select random works to improve the college experience for all. No names will be attached to the assessment work; it will remain private and anonymous for college improvement purposes. In class outlines, students will find recommended assignments which support various college-wide learning abilities. The student will have a tool which can integrate their learning from the classroom, school, and life and allow for another opportunity of learning at TRCC! Students will be able to make multiple portfolios.
- To provide the student with a broad introduction to computer science including computer design, programming, information processing and algorithmic problem solving.
- Upon successful completion of this course, the student will be able to:
  - Plan, design, code, test, and debug solutions to programming problems using the Java programming language.
  - Use variables of types built into the language, operators, and library functions in their programs.
  - Use input and output streams to write interactive programs.
  - Use relational expressions to accomplish selection, and loops to enable repetition in their programs.
  - Write their own methods, thus finding the solution of more complex problems, using the principle of breaking a large problem into smaller sub-problems.
  - Use more advanced data structures, such as arrays and Strings in their programs.
  - Write programs using external files and streams to store and retrieve data.

**Course Pace:** Although there is flexibility in when the student works on this course, it is not self-paced. Assignments, with due dates, will be released throughout the semester.

**Course Evaluation:** Course evaluation will be based on computer assignments, quizzes, frequent and meaningful participation in discussions, and the final mini project. The final grade for this course will be determined by the following percentages:

|   |     |
|---|-----|
| Homework Assignments<br>(includes Blackboard) | 45% |
| Mid-term Exam                                 | 20% |
| Final Exam                                    | 25% |
| Attendance and Participation                  | 10% |

**Class Assignments:** Class assignments should be submitted on or before the due date. An assignment will lose 50% of the score for that assignment if submitted late. No assignments will be accepted after the cutoff date. Assignments will be graded on professionalism, accuracy, style and completeness. The details for each assignment, including work to be done and the due date and cutoff date, will be discussed in class and possibly posted in that assignment's description in Blackboard.

**Quizzes:** Exams will include some multiple-choice questions and small programming projects, and will cover material from the text, assignments, and presentations.

**Course grades:** Grades will be assigned as objectively as possible, approximately according to the following scale (with plus or minus, as appropriate):

|               |   |
|---------------|---|
| 89 - 100%     | A |
| 77 - 88%      | B |
| 65 - 76%      | C |
| 53 - 64%      | D |
| 52% and Below | F |

**Withdrawing from the course:** A student who simply stops submitting work will receive the grade earned on that work, usually a failing grade. To receive a "W" grade instead, apply for a withdrawal through the registrar's office by May 9<sup>th</sup>. A "W" will be entered on the student transcript but will not be included in the calculation of the GPA. "UF" grades may also be used (this is similar to the previous "N" grade).

**Academic Integrity:** Students are expected to do their own work in this class. Working together to better understand the material is acceptable. Submitting duplicate work is not and will adversely affect the assignment grade. Actively participating in the discussion boards both to ask and to answer questions is generally expected of all students. Posting of detailed instructions for "how to" responses to questions is encouraged but posting of a complete solution is not. Example violations include but are not limited to:

- Copying or sharing a file or any portion of a file from another student.
- Sharing or allowing another student to copy your files or any portion of a file.
- Duplicating or distributing copies licenses for software programs and/or services.
- Obtaining solution from unauthorized internet sources.

**Students with Disabilities:** If you are a student with a disability and believe you will need support services and/or accommodations for this class, please contact the Disabilities Support Services at TRCC. Please note that the instructor cannot provide accommodations based upon disability until the instructor has received an accommodation letter from the Disabilities Counselor.

## Course Outline

| Week  | Topics  | Approximate Due Dates | Text Assignments         |
|-------|---|-----------------------|--------------------------|
| 1     | Introduction to Computers, Programs, and Java   | 2/3                   | Chapter 1, pp. 1 - 31    |
| 2-3   | Elementary Programming                          | 2/17                  | Chapter 2, pp. 33 - 74   |
| 4-5   | Selections                                      | 3/2                   | Chapter 3, pp. 75 - 118  |
| 6-7   | Mathematical Functions, Characters, and Strings | 3/16                  | Chapter 4, pp. 119 - 156 |
| 8     | Mid-Term Exam                                   | 3/16                  |                          |
| 9-10  | Loops   | 4/6                   | Chapter 5, pp. 157 - 201 |
| 11-12 | Methods   | 4/20                  | Chapter 6, pp. 203 - 244 |
| 13    | Single-Dimensional Arrays                       | 4/27                  | Chapter 7, pp. 245 - 285 |
| 14    | Selected Other Topics (like File I/O)*          | 5/4                   | To be determined         |
| 15    | Final Exam/Mini project                         | 5/11                  |                          |

Notes: This course outline is subject to change as conditions warrant.

\*Optional – some aspect will probably be covered.