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| **Course Outline**  Department of Computing Science  Faculty of Science |

# COMP 1130 – 3 Credits

**Computer Programming 1 (3,1,1)**

# Fall 2022

Instructor: **Dr. Mahnhoon Lee** E-Mail: [**mlee@tru.ca**](mailto:mlee@tru.ca)

Office**: SCI 136**

Office Hours**: 12:30-1:20 @ Mon; 10:30-11:20 @ Tue; 9:30-10:20 @ Wed**

# Calendar Description

Students are introduced to the use of structured problem-solving methods, algorithms, structured programming, and object-oriented programming. Students use a high-level programming language to learn how to design, develop, and document well-structured programs using software engineering principles. Students learn the workings of a computer as part of programming. This course is for students who plan to take further courses in Computing Science or to learn basic programming concepts.

# Educational Objectives/Outcomes

Upon successful completion of the course, the student will demonstrate the ability to:

1. Understand the fundamental programming aspects and use of the Java programming language.
2. Apply basic object-oriented programming concepts.
3. Design, develop, and document well-structured programs using software-engineering principles.
4. Use problem-solving skills to write software applications.

# Prerequisites

None.

**Required Textbook**

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| Title: Java Foundations: Introduction to Program Design and Data Structures  5th Edition, but 2nd, 3rd, or 4th are also acceptable | Author: Lewis, DePasquale, and Chase  ISBN-10: 0135205972 ISBN-13: 978-0135205976  Publisher: Pearson Education Inc. |

# Other Available/Recommended Resources

* Java Software Development Kit (SDK), and Java Integrated Development Environment (IDE)
* Network Resources Available (course outline, lecture notes, examples, assignments and sample tests)
  + COMP1130\_03 - Computer Programming 1 (Fall 2022) on [https://moodle.tru.ca](https://moodle.tru.ca/)

# Student Evaluation

* Assignments/Submitted work 25%
* Two Midterm Exams 50% (25% each midterm)
* Final Exam 25%

# Quizzes and Exams

* It is the department's and university's policy **NOT** to allow students to write exams outside of the posted

schedule time, except for bona fide compassionate or medical (A doctor’s note is required) reasons.

* Each missed exam receives a mark of zero (0), unless a note from a doctor is provided.
* It is your responsibility to attend all exams as scheduled. Plan holidays and travel after you've seen the exam (term tests and final) schedules. Unavoidable absence should be reported to the Registrar as soon as possible. In order to write any missed exams, a valid doctor’s note is required before the exam is due. Informing the instructor after the exam is written will automatically disqualify you to write any exam regardless of reason(s).
* The final examination is planned during the regular TRU final examination period. The student is expected to be available to write the final exam within that period.
* After taking an exam, there will be no opportunity to re-take the exam.

**Student Attendance Policy (**[**http://www.tru.ca/policy/allpolicy.html**](http://www.tru.ca/policy/allpolicy.html) **ED 3-1)**

Please note the following from the TRU Policy Manual:

* The student is expected to regularly attend lectures, laboratories, tutorial and seminar sessions for which they are enrolled. Admission to a lecture, laboratory, tutorial or seminar may be refused by the instructor for lateness, class misconduct or failure to complete required work.
* The student will be expected to attend a minimum of 90% of the class or lab/seminar time allocated to each course. **Missing more than 5 lectures and/or labs/seminars results in being removed from the course.**
* If a lecture seminar, or lab is missed, it is the student's responsibility to obtain the missed notes from another student, or to make up the missed lab work.

# Being more than five minutes late for the start of class will be considered as being absent.

**Assignments**

* Any work submitted for marking must clearly identify the assignment, student name, student number, and anything else considered appropriate. All assignments will be prepared and submitted to a professional level of quality.
* Lab assignments will ONLY be given credit if the student has indicated participation in the relevant seminar activities and exercises, and is present for the entire seminar and lab class.
* A late assignment counts as a missed assignment and is generally not accepted, resulting in a zero mark, unless a medical note from a doctor is provided. If a due date needs to be extended it will be done for the whole class and not for individuals.

**Academic Integrity Policy (**[**http://www.tru.ca/policy/allpolicy.html**](http://www.tru.ca/policy/allpolicy.html) **ED-5-0)**

* All work submitted must be your own!
* Preliminary discussions may be held with other students (strategies for solving a problem may be discussed but **code must not be shared**) but the final work produced must be your own. Jointly produced work will result in a zero for that assignment for all students involved in the joint work and may mean loss of a letter grade for the course. The student may also be expelled from the University.
* Plagiarism or cheating will not be tolerated and will be reported as per the policy. The Computing Science department is committed to reporting all transgressions of the Academic Integrity Policy. Note that this may result in: zero grade for assignment, course failure, or expulsion from TRU.
* Material obtained from the internet **IS NOT YOUR OWN WORK**, and thus its inclusion as part of your assignment, etc. would contravene this policy.

# Classroom Code of Conduct

All Students are expected to show respect for the rights of other students, in particular the right to study and learn. Any behaviour in a classroom that interferes with the instructor’s ability to conduct the class will be treated as disruptive. In general students are expected to be attentive and courteous during class and lab time, to complete assigned work and to accept responsibility for their own achievement. In particular:

1. Students will aim to arrive at all classes early so as to be ready when the class begins – this means taking a seat and getting out paper, pens, necessary texts and so on before the class starts.
2. Students should not leave the class before the instructor has finished. On those rare occasions when a student must leave a class early he/she should seek the permission of the instructor before the class starts. If a student must excuse himself/herself during a class the student should request permission and leave as quietly as possible.
3. ***To ensure a productive & undistracted learning environment for all students, other than for course purposes, use of mobile devices, laptops, and other electronic devices is not permitted during scheduled classes—in particular mobile devices must be silenced during class. In this particular course, there is no need that students require the use computers during lecture sessions.***
4. Students will not talk while the instructor is talking. Students will speak respectfully when asking a question or answering a question posed by the instructor.
5. When discussing assignments, marks, etc. with your instructor, nagging, badgering, etc. are not acceptable behaviors.
6. Internet browsing is strictly NOT allowed during the lecture time or lab time unless it is a part of the lecture and the instructor has told you to do so.
7. If you are found not complying with any of the above, the instructor has the right to ask you to stop the activity, switch off your computer and/or ask you to leave the room.
8. Lab assignments will ONLY be marked and given credit if the student had been present and participated in the seminar/lab activities and is in attendance for lab classes.

# Course Topics

Course topics and the time we plan to dedicate to them are shown below:

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| Chapters | Topic | Duration |
| Chap 1 | Introduction to Java | 1 Week |
| Chap 2 | Data and Expressions | 1.5 Weeks |
| Chap 2/ Debugging Notes | Data and Expressions. Debugging | 0.5 Weeks |
| Chap 3 | Using Classes and Objects | 2 Weeks |
| Chap 4 | Conditions and Loops | 2 Weeks |
| Chap 5 | Writing Classes | 2.5 Weeks |
| Chap 7 | Arrays | 2 Weeks |
| Chap 17 | Recursion | 1.5 Weeks |

# Lab Topics

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| Lab Topics | Tool | Duration |
| Ch. 1: Introduction to the use of an appropriate IDE. Instructor to ensure students are familiar with using a Java Editor for writing and compiling Java code. Instructor to select appropriate exercise questions and programming project questions to the concepts presenting in Ch. 1. | Java Editor | 2 hours |
| Ch. 2: Data and Expressions: Instructor to select appropriate exercise questions and programming project questions that would test student knowledge of the various concepts presented in Ch. 2. | Java Editor | 4 hours |
| Ch. 3: Using Classes & Objects: Instructor to select appropriate exercise questions and programming project questions that would test student knowledge of the various concepts presented in Ch.3. | Java Editor | 2 hours |
| Ch. 4: Conditionals & Loops: Instructor to select appropriate exercise questions and programming project questions that would test student knowledge of the various concepts presented in Ch.4. | Java Editor | 4 hours |
| Ch. 5: Writing Classes: Instructor to select appropriate exercise questions and programming project questions that would test student knowledge of the various concepts presented in Ch.5. | Java Editor | 6 hours |
| Ch. 7: Arrays: Instructor to select appropriate exercise questions and programming project questions that would test student knowledge of the various concepts presented in Ch.7. | Java Editor | 4 hours |
| Ch. 17: Introduction to Recursion: Instructor to select appropriate exercise questions and programming project questions that would test student knowledge of the various concepts presented in Ch.17. | Java Editor | 2 hours |
| Debugging and related testing concepts: On-going during most lab/seminar sessions of the semester. | Java Editor | 2 hours |

**Use of Technology**

**Lab Environment**: Students will have all the software they need in the lab. The use of the lab computers is limited to COMP 1130 course activities: note taking, accessing course materials, and working on exercises/assignments.

**Use of electronic devices**: As mentioned previously, other than for course purposes, use of mobile devices, laptops, and other electronic devices is not permitted during scheduled classes—in particular mobile devices must be silenced during class. Students requiring access to such technology for non-course purposes must obtain prior approval from the instructor. The instructor will ask the student to stop the activity (first time) and to leave the classroom and report to the chairperson (second time).

**Work from home**: To work from home, students would need to have their own copy of the same software and similar environment. Please consult IT Services Web site and help desk for installation on your home computer.

**E-mail system: *When emailing the instructor, subject lines must have:* the course number (COMP 1130-03), student name & number, and assignment name & number*. E-mails without the proper subject line may be lost.***

# Changes to this Outline

Although changes are not expected as of now, the terms of this course outline could be subject to changes during the instruction period, in which case, students will be notified.

**ACM / IEEE Knowledge Area Coverage**

**Knowledge Areas that contain topics and learning outcomes covered in the course**

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| **Knowledge Area** | **Total Hours of Coverage** |
| AL/Fundamental Data Structures and Algorithms | 2 |
| PL/Object-Oriented Programming | 3 |
| PL/Basic Types Systems | 0.5 |
| SDF/Fundamental Programming Concepts | 10 |
| SDF/Fundamental Data Structures | 2 |
| SDF/Development Methods | 6 |
| PL/Functional Programming | 1 |