

## DEPARTMENT OF SCIENCE

### COURSE OUTLINE – Fall 2022

#### **CS1140 – INTRODUCTION TO COMPUTING SCIENCE - 3 (3-0-3) 90 Hours for 15 Weeks**

Northwestern Polytechnic acknowledges that our campuses are located on Treaty 8 territory, the ancestral and present-day home to many diverse First Nations, Metis, and Inuit people. We are grateful to work, live and learn on the traditional territory of Duncan's First Nation, Horse Lake First Nation and Sturgeon Lake Cree Nation, who are the original caretakers of this land.

We acknowledge the history of this land and we are thankful for the opportunity to walk together in friendship, where we will encourage and promote positive change for present and future generations.

**INSTRUCTOR:** Libero Ficocelli

**PHONE:** 780 539 - 2825

**OFFICE:** C424

**E-MAIL:** LFicocelli@NWPolytech.ca

**OFFICE HOURS:** TBA

#### **CALENDAR DESCRIPTION:**

An introduction to Computing Science in which you learn to solve simple problems by writing small computer programs in JAVA. This course presents a high-level object-oriented computing model based on objects as well as primitive data types, control structures and methods. It will be limited to basic elementary algorithms and techniques for constructing elegant and robust solutions to simple problems. The laboratories will offer you the opportunity to translate concepts presented in lectures into interesting application programs.

**PREREQUISITE(S)/COREQUISITE: Mathematics 30-1 or equivalent and previous computer knowledge.**

## **REQUIRED TEXT/RESOURCE MATERIALS:**

Introduction to Java Programming 12<sup>th</sup> Edition, Comprehensive Version,  
By Y. Daniel Liang, Pearson Publishing  
ISBN 12<sup>th</sup> Edition 9780136520238

The 11<sup>th</sup> edition is acceptable  
ISBN 11<sup>th</sup> Edition 9780134671048

**DELIVERY Mode:** Onsite Delivery.

## **COURSE OBJECTIVES:**

- Think about problems in a manner that allows them to be solved computationally
- Understand how computation is related to representation
- Understand your computations so that you can verify they are doing what you intend them to do
- Learn ways to specify and organize computations so that machines can perform them and others can understand them
- Understand the basic architecture of machines that make computation possible

## **LEARNING OUTCOMES:**

- Be able to create, edit and run Java programs
- Write Java code to solve small defined problems
- Transform simpler operations into larger, integrated solutions
- Be able to debug programs (find and fix errors)
- Be able to design programs so that they are easy to maintain and update

## **TRANSFERABILITY:**

Please consult the Alberta Transfer Guide for more information. You may check to ensure the transferability of this course at the Alberta Transfer Guide main page <http://www.transferalberta.ca>.

**\*\*Grade of D or D+ may not be acceptable for transfer to other post-secondary institutions. Students are cautioned that it is their responsibility to contact the receiving institutions to ensure transferability.**

**EVALUATIONS:**

Lab Assignments	30%
Quizzes	10%
Midterm	25%
Final Exam	35%

**GRADING CRITERIA:**

Alpha Grade	4-point Equivalent	Percentage Guidelines	Alpha Grade	4-point Equivalent	Percentage Guidelines
A+	4.0	90-100	C+	2.3	67-69
A	4.0	85-89	C	2.0	63-66
A-	3.7	80-84	C-	1.7	60-62
B+	3.3	77-79	D+	1.3	55-59
B	3.0	73-76	D	1.0	50-54
B-	2.7	70-72	F	0.0	00-49

**COURSE SCHEDULE/TENTATIVE TIMELINE:**

Chapter 1	Introduction to Java
Chapter 2	Elementary Programming
Chapter 3	Selection Statements
Chapter 4	Mathematical Functions and Strings
Chapter 5	Loops
Chapter 6	Methods
Chapter 7	Single-Dimensional Arrays
Chapter 8	Multiple Dimensional Arrays
Chapter 9	Objects and Classes
Chapter 10	Object Oriented Thinking
	Selected topics from other chapters.

## **STUDENT RESPONSIBILITIES:**

- The Student must pass the theory/concepts portion of the course in order to qualify for a passing grade for the term. In other words, a student must obtain 35 out of a possible 70 points (from exams/quizzes) before adding the lab assignment marks to compute the final grade. If you cannot achieve the required 50% (on exams) then regardless of your lab assignment grades, you cannot pass the course.
- No late assignments will be accepted. The student is responsible for adhering to all requirements as specified for each assignment.
- When necessary, lab time may be utilized for lecturing on specific Java features. The remainder of the lab time will generally be used as "hands-on" programming time.

## **STATEMENT ON PLAGIARISM AND CHEATING:**

Cheating and plagiarism will not be tolerated and there will be penalties. For a more precise definition of plagiarism and its consequences, refer to the Student Conduct section of the Northwestern Polytechnic Calendar at <https://www.nwpolytech.ca/programs/calendar/> or the Student Right and Responsibilities policy which can be found at <https://www.nwpolytech.ca/about/administration/policies/index.html>

\*\*Note: all Academic and Administrative policies are available on the same page.