Vanier College
Faculty of Science and Technology
Computer Science Department

Course

Title   : Programming 1
Number   : 420-101-VA
Semester   : A-2019
Section   : 00003, 00004
Ponderation : 3(Theory) 3(Lab) 3(Homework)
Pre-requisite : Admission to the Computer Science Technology Program

Teacher

Name   : Yi Wang
Office   : D-222
Office hours : By appointment
Phone   : 514-744-7500, Ext. 7450
E-mail   : MIO (Messing in Omnivox)

General Description

This course introduces computer programming to students with no prior programming experience. Students will develop basic skills in solving problems and designing algorithms. Students will write and test their programs using an object-oriented programming language and an Integrated Development Environment (IDE). Students will learn to work with fundamental programming concepts such as program structure, data types and variables, conditional and looping constructs, objects, methods, and classes.

Statement of Competencies

00Q2   Use programming languages.
00Q6   Use an object-oriented development approach
00Q3   Solve computer-related problems using mathematics

Course Objectives

At the end of the course, students will be able to do the following:

- Analyze a problem
- Apply problem-solving skills to solve simple problems described in natural language
- Express the solution to a simple problem as an algorithm
- Process numbers as they are represented in the computer memory
- Model multi-variable logical reasoning
- Implement a simple algorithm using an object-oriented programming language
- Code, document, debug, and test small-scale computer programs

- Employ programming, documentation, and basic testing styles that are accepted industry practices
- Outline the basic features and elements of the programming language used in the course
- Use the selected object-oriented programming language to code a class that models simple objects in terms of given attributes and behavior
- Apply the concepts of input and output, object, static and non-static class members, classes, constructors, and overloading

Textbook, Materials
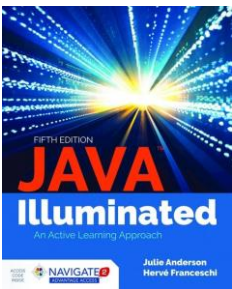
Title	: Java Illuminated 5th Edition
Authors	: Julie Anderson and Hervé Franceschi
Publisher	: Jones & Bartlett Learning; 5 edition, 2018, Paper, 1204 pp
ISBN-10	: 1284140997
ISBN-13	: 978-1284140996

Available at Vanier Bookstore, Amazon.ca, Jones & Bartlett Learning, and other vendors.

Note: This text may also be used for the Programming 2 and Programming Patterns.

References

Additional reference material may be found at

The Java Tutorials	http://docs.oracle.com/javase/tutorial
Java Platform SE 8, API Specification	http://docs.oracle.com/javase/8/docs/api/

Course Topics

The tentative plan is to address the chapters and topics in the following order:

- Chapter 1: Introduction to Programming and the Java Language
- Chapter 2: Programming Building Blocks Java Basics
- Chapter 3: Object-Oriented Programming, Part 1: Using Classes
- Chapter 7: Object-Oriented Programming, Part 2: User-Defined Classes (Selected Sections)
- Chapter 5: Flow Control, Part 1: Selection
- Chapter 6: Flow Control, Part 2: Looping

Teaching Method

Class and lab periods are used to introduce and discuss the concepts and to allow you to work on your assignments and lab exercises.

At times, the student will be directed to use examples/instructional web sites.

Evaluation

The final grade for this course will be based on the following items:

1.

Grading Component	Weight	Tentative Date
Exam 1	20%	Week 5
Exam 2	20%	Week 10
Exam 3	20%	Week 15
Assignments	40%	

2. The exact date of each test will be announced at least one week in advance.
3. To pass the course, the student must obtain a passing weighted average (60% or higher) on the exams and an overall passing grade (60% or higher). Failure to do so will result in a final mark for the student being the average of the exams only. Irrespective of the grades obtained for the assignments.
4. *All assignments have equal weight. The student is required to complete and submit them by his/her due date via the Lea Drop Box for this course. **Late assignments will directly be marked as 0 (after 00:00)**.*

Attendance

Regular and punctual attendance at class and lab is essential to your academic success. *There are no specific marks given for class attendance or deducted for class absence*. You are responsible for all course material, information, and instructions given in class and lab and posted on Omnivox, whether or not you are present. Attendance for all tests is mandatory.

College Policies / General Academic Policies

It is the student's responsibility to be familiar with and adhere to all Vanier College Policies. A summary of the course-level policies that apply in this and all other Vanier courses can be found under "Course-Level Policies" in "Important Vanier Links" on Omnivox, or by following this link:

http://www.vaniercollege.qc.ca/psi/course-level-policies/.

Complete policies can be found on the Vanier College website, under Policies at this link:

http://www.vaniercollege.qc.ca/bylaws-policies-procedures/category/policies/.

Lab Policy

Students must adhere to all lab policies. Among other things, consuming food and beverages, talking on cell phones, playing games, video or music, and using illegal software in the labs are not allowed. Lab facilities must be used for academic purposes only and another use is subject to a fine.

Professionalism

Students are expected to conduct themselves in a professional manner while in both the lab and theory class. This includes arriving at their scheduled lab/theory class on time and prepared, having read the lab activity ahead of time, if asked, and completed assignment work. Students are to remove headphones and to turn off cell phones, iPods, MP3/4 players, pagers, etc. during all labs and theory classes. Students who are consistently late for class (lab, theory) may be refused entry.