Course Outline

Internet Programming and Development (LEA.BN)

A. General Information

Course name	**Programming III – Advanced Java Programming**
Course number	420-P24-AB
Start date	Feb 25, 2021
End date	March 12, 2021
Day(s) and times	Mon-Fri, 8:30am to 2:00pm with 1/2 hour lunch break
Classroom number	Online
Ponderation *Ratio of lecture, practical and homework hours*	2 hour lecture + 2 hours laboratory + 3 hours homework
Hours	60
Credits	2.33
Competency statement(s) and code(s)	Fully met: DC71 – Apply advanced object-oriented programming features of Java language, such as encapsulation, inheritance, the concept of 'static', interfaces, abstract classes, and polymorphism as well as event-driven programming and graphical interfaces.
Prerequisite (if any)	(420-PZ4-AB) Programming II – Object-Oriented Programming
Semester	Winter 2021
Teacher's name	Gregory Prokopski, PhD
Teacher's contact info	MIO

B. Introduction

In this course the student will learn how and when to use the advanced Object-Oriented Programming features of Java language such as encapsulation, inheritance, the concept of "static", interfaces, abstract classes, and polymorphism. This course will also expose the student to event-driven programming and creation of graphical interfaces in desktop software.
Emphasis is on integrating the competencies acquired in the two previous programming courses with the competencies you will master in this course.

C. Course Objectives

Objectives – Upon successful completion of this course, the student will be able to understand:

- The more advanced object-oriented concepts: inheritance, polymorphism, interfaces, types and casting
- Event-driven programming of graphical user interfaces

COMPETENCY	
Apply advanced object-oriented programming features of Java language, such as encapsulation, inheritance, the concept of 'static', interfaces, abstract classes, and polymorphism as well as event-driven programming and graphical interfaces.	
Elements	**Performance criteria**
1. Explain the graphical user interface (GUI)	1.1 Learn about basic GUI components 1.2 Explore how the GUI components work 1.3 Become familiar with the concept of event-driven programming 1.4 Discover event and event handlers
2. Explain polymorphism	2.1 Learn about polymorphism 2.2 Discover dynamic binding and generic programming 2.3 Learn about composition
3. Explain abstract classes and interfaces	3.1 Design and use abstract classes 3.2 Examine abstract classes 3.3 Become familiar with interfaces 3.4 Explore the similarities and differences between an abstract class and interface
4. Encapsulation	4.1 Lean about and apply the concept of encapsulation
5. Static	5.1 Learn what is 'static' and when to use it

D. Evaluation Plan

Evaluation	%	Session / Date	Link to competency / element					
Midterm	40	4 (tentative)		2	3	4	5	
Final exam	60	12	1	2	3	4	5	

E. Course Content and Schedule

Session / Day	Hours	Content
1	5	Java review (Programming I & II) and practice
2	5	Polymorphism, Encapsulation, static, final, access modifiers, enums
3	5	Abstract classes and Interfaces, sorting
4	5	**Midterm** (tentative)
5	5	Swing GUI introduction, basic GUI components
6	5	More GUI components and practice with file data storage
7	5	Implementing CRUD, Swing layouts
8	5	Using multiple windows in Swing, CRUD
9	5	Accessing SQL databases in Java
10	5	Databases and Swing GUI
11	5	Practice
12	5	**Final exam**

Note: teacher reserves the right to adjust the order of content and time spent on each item as well as substitute certain items for equivalent fulfilling the required competency in order to aid the students in better understanding and applying concepts and practices taught in the course.

F. Required Textbooks / Materials

Title / Item Name	Cost
None required	-

G. Bibliography (if applicable)

Resources will be provided, mostly on-line, by the teacher during the course.

H. Teaching Methods

The course is a combination of theory and practical work. Students will be required to:

- Listen to lectures
- Watch demonstrations
- Accomplish regular work in the laboratory

- Work in groups of 2 students for a project

I. Departmental and Classroom Policies

Centre for Continuing Education Classroom Behaviour Policy

Class time is limited, and each student at John Abbott College is entitled to the very best educational experience in every course. You are expected to behave in a way that is civil and courteous to others. It is important that the atmosphere of each classroom or computer lab be as conducive to the learning process as possible. The following guidelines have been established in order to create and maintain such an atmosphere.

Inappropriate behaviour in the classroom includes the following:

- Using mobile devices (phone, texting and internet) or other electronic devices unrelated to the course.
- Searching the internet or reading electronic materials unrelated to the course.
- Speaking while another person (teacher or student) has the floor (that is, he/she is addressing the class as a whole).
- Asking questions or making comments that are unrelated to the discussion at hand.
- Working on homework for other courses or other personal activities during class.
- Threatening, harassing, or offensive behaviour towards any person in the class, other students, teachers or College staff.
- Using derogatory language or referring directly or indirectly to someone else in the class in a rude manner or using offensive language.
- Misusing or abusing College computers, telephone systems or other equipment.
- Arriving late, leaving early, and leaving the room for any non-emergency without having teacher approval and the courtesy to make this known.
- Eating or drinking in the computer labs is discouraged.

A teacher is responsible for determining the appropriateness of student behaviour in the classroom. A teacher may remove a student who misbehaves in class for the duration of that period.

Centre for Continuing Education Attendance Policy

The College expects students to attend all class sessions. It is an essential requisite for their academic success and attainment of competencies. Excessive absences (over 20% of total course hours) may have consequences affecting the final course grade, including possible failure.

1. A student's attendance in class shall be excused if they provide written proof of a valid reason for missing a class, test or an evaluation due date.
2. Teachers are not required to re-teach course material missed by absent students. Students with excused absences cannot lose grades for missing a minor evaluation.
3. Teachers must provide alternate major evaluations if students miss a major evaluation due to an excused absence.
4. If a minor evaluation cannot be made up, the evaluation can be redistributed as long as all elements of the competency are assessed.

5. Absences of **less than 20% of total course hours** are addressed by the teacher and the student on a case-by-case basis.
6. Students who wish to observe religious holidays must inform their teachers, in writing, at the beginning of the semester so that alternative arrangements can be made between the teacher and student.
7. In cases of anticipated or planned absences for health or other reasons, students must request advance written approval for an excused absence from each teacher of their respective courses.

Centre for Continuing Education Late Submission of Work Policy

A teacher may deduct up to 10% per calendar day for late assignments that are submitted without a valid excuse.

J. College Policies

Policy No. 7 – IPESA, Institutional Policy on the Evaluation of Student Achievement (May 2017)

Cheating and Plagiarism (Article 9.1 & 9.2)

Cheating and plagiarism are unacceptable at John Abbott College. They represent infractions against academic integrity.

Students are expected to conduct themselves accordingly and must be responsible for all of their actions. The Academic Administration and teachers have the responsibility to:

• inform students of cheating and plagiarism as outlined below;

• teach all students what cheating and plagiarism are and inform them of the resulting consequences;

• determine whether cheating and/or plagiarism has occurred and take action according to the ACADEMIC PROCEDURE: Academic Integrity – Cheating & Plagiarism.

Cheating means any dishonest or deceptive practice relative to examinations, tests, quizzes, lab assignments, research papers or other forms of evaluation tasks. Cheating includes, but is not restricted to, making use of or being in possession of unauthorized material or devices and/or obtaining or providing unauthorized assistance in writing examinations, papers or any other evaluation task and submitting the same work in more than one course without the teacher's permission. It is incumbent upon the department through the teacher to ensure students are forewarned about unauthorized material, devices or practices that are not permitted.

Plagiarism is a form of cheating. It includes copying or paraphrasing (expressing the ideas of someone else in one's own words), of another person's work or the use of another person's work or ideas without acknowledgement of its source. Plagiarism can be from any source including books, magazines, electronic or photographic media or another student's paper or work.

Religious Holidays (IPESA Art 3.2.13 and 4.1.6)

Students who wish to miss class to observe a religious holiday, must inform the teacher in writing by the second day of class.

Student Rights & Responsibilities (IPESA Art 3.2.18)

It is the fundamental responsibility of each student to be a full and active participant in his or her education. Students have the responsibility to keep a copy of all assessed material returned to them and/or all digital work submitted to the teacher for at least four (4) weeks past the grade submission deadline of each individual course, in the event that they request a Final Grade Review (Refer to Article 8).

Changes to Course Evaluation Plan (Art.5.3)

Major changes (i.e. weighting, type and number of assessments) can be made to the course evaluation plan (on the course outline) due to exceptional circumstances. To do so, the teacher must ensure that any major changes to the evaluation plan made during the semester be forwarded (on paper or electronically) the AEC program coordinator for approval. All changes must have documented unanimous consent from the regularly attending students affected by the change(s) before submission. The approved major change will then be communicated to students on paper or electronically.