Course Outline

MAD 100 JAVA PROGRAMMING 1

Course ID: 027302 **Academic Year:** 2024/25

Course Description:

This course introduces students to the fundamental programming concepts using the Java language. Students will learn the proper use of control structures such as selection, looping and modularization. They will also become proficient at using the basic Java syntax to implement program designs. Students will learn how a language such as Java handles various primitive data types and how standard classes are used to support the storage and manipulation of more complex data. Students will be introduced to “Encapsulation”, the first concept of Object Oriented Programming (OOP).

Pre-Requisites:	None	**Category:**	Vocational
Co-Requisites:	None	**Course Credits:**	5.00
Special Conditions:	None	**Academic Level:**	Credit (Post Sec)

Instructional Hours:	Classroom Instruction	45
	Laboratory/Workshops	30
	Other	0
	Total Hours	**75**

Academic Department:

Windsor: Zekelman School of Business
Chair: Angelo DeMarco
Chatham:
Chair:

Revised By: Cai Filiault

Last Revision: 2017/08/30

Required Tools, Equipment, and Learning Resources:

Introduction to Java Programming Comprehensive Version (10th Edition)
Author: Y. Daniel Liang
ISBN-10: 0-13-376131-2

Essential Employability Skills (EES):

	Description	Teach	Assess
1)	Communication: Communicate clearly, concisely and correctly in the written, spoken, and visual form that fulfills the purpose and meets the needs of the audience.		
2)	Communication: Respond to written, spoken, or visual messages in a manner that ensures effective communication		
3)	Numeracy: Execute mathematical operations accurately	✔	✔
4)	Critical Thinking: Apply a systematic approach to solve problems	✔	✔
5)	Critical Thinking: Use a variety of thinking skills to anticipate and solve problems	✔	✔
6)	Information Management: Locate, select, organize, and document information using appropriate technology and information systems	✔	✔
7)	Information Management: Analyze, evaluate and apply relevant information from a variety of sources	✔	✔
8)	Interpersonal: Show respect for the diverse opinions, values, belief systems, and contributions of others		
9)	Interpersonal: Interact with others in groups or teams in ways that contribute to effective working relationships and the achievement of goals		
10)	Personal: Manage the use of time and other resources to complete projects		
11)	Personal: Take responsibility for one's own actions, decision and consequences		

Course Learning Outcomes (CLO):

Upon successful completion of this course, the student will be able to:
(EKS = Embedded Knowledge and Skills)

- Build an application utilizing the Java language and OOP concepts (CLO #1)
  EKS:
  - Define and instantiate a class
  - Implement child and parent classes
  - Identify inheritance between parent and child classes

- Implement method overriding and overloading
- Implement within an application preexisting objects and classes.

- Create java applications that can be easily maintained through appropriate documentation and the implementation of good programming practice (CLO #2)
  EKS:
  - Use comments to outline intended inputs and outputs for applications.
  - Use comments as documentation for future developers.
  - Use proper spacing and indentation to adhere to industry standards and produce readable code.

- Construct applications that implement repetition structures to optimize functionality (CLO #3)
  EKS:
  - Employ the “while”, “do while” and “for” repetition structure
  - Identify the different components of the “while”, “do while” and “for” repetition structure
  - Identify the difference between post and pre check repetition structures

- Construct applications that implement selection structures to increase complexity of application (CLO #4)
  EKS:
  - Employ the “switch”, “if” and “if else” selection structure
  - Identify the different components of the “switch”, “if” and “if else” selection structure.
  - Determine when to use the appropriate selection structure

- Construct applications that implement logical and relational operators to enhance complex conditions (CLO #5)
  EKS:
  - Employ the “||” , “&&”, “==”, “!=”, “>”, “<”, “>=”, “<=”, “!” relational and logical operators to optimize selection
  - Determine when to use the appropriate selection structure
  - Employ the use of && and || operators to build compound conditions

- Apply object oriented programing concepts to build a graphical user interface (CLO #6)
  EKS:
  - Build a simple graphical user interface (GUI) using the java programming language
  - Build a GUI that contains a text field element
  - Build a GUI that contains a button element
  - Build a GUI that contains a choice box element

Teaching/Learning Activities:

Active Learning

Interactive Lecture

Problem Solving/Problem Analysis

Assessment:

Standard/Traditional Delivery

- Final Exam 25.00%

Frequency: 1
Description: Exam consist of both theory and applied programming technique. The theory portion may contain multiple choice, fill in the blank, true/false, matching definition and short answer style questions. The applied portion requires students to solve short case problems by developing algorithms and writing the required program code to solve the problem.
Outcomes Assessed: 1, 5, 6
EES Assessed: 4, 5

- OOP Assignments 6.00%

Frequency: 3-4
Description: Assignments require problem analysis and development of programming solutions. Some assignments may require individuals to work in groups. A portion of assignments may be thematically grouped as a project, although each assignments will be graded individually.
Outcomes Assessed: 1, 2
EES Assessed: 3, 4, 5, 6, 7

- Programming Assignments 6.00%

Frequency: 5-6
Description: Assignments require problem analysis and development of programming solutions. Some assignments may require individuals to work in groups. A portion of assignments may be thematically grouped as a project, although each assignments will be graded individually.
Outcomes Assessed: 5
EES Assessed: 3, 4, 6, 7

- Quizzes 10.00%

Frequency: (Between 5 - 10, Equal weight)
Description: Quizzes may contain multiple-choice, true/false, fill in the blank, short answer, and short problem analysis style questions.
Outcomes Assessed: 1, 2, 3, 4, 5, 6

- Repetition Structure Assignments 6.00%

Frequency: 6-7
Description: Assignments require problem analysis and development of programming solutions. Some assignments may require individuals to work in groups. A portion of assignments may be thematically grouped as a project, although each assignments will be graded individually.

Outcomes Assessed: 2, 3
EES Assessed: 3, 4, 5, 6, 7

- Selection Structure Assignments 6.00%

Frequency: 3-4
Description: Assignments require problem analysis and development of programming solutions. Some assignments may require individuals to work in groups. A portion of assignments may be thematically grouped as a project, although each assignments will be graded individually.
Outcomes Assessed: 2, 4
EES Assessed: 3, 4, 5, 6, 7

- Simple GUI Assignments 6.00%

Frequency: 3-4
Description: Assignments require problem analysis and development of programming solutions. Some assignments may require individuals to work in groups. A portion of assignments may be thematically grouped as a project, although each assignments will be graded individually.
Outcomes Assessed: 1, 2, 6
EES Assessed: 3, 4, 5, 6, 7

- Test 1 15.00%

Frequency: 1
Description: This test consists of both theory and applied programming technique. The theory portion may contain multiple choice, fill in the blank, true/false, matching definition and short answer style questions. The applied portion requires students to solve short case problems by developing algorithms and writing the required program code to solve the problem.
Outcomes Assessed: 3, 4, 5
EES Assessed: 3, 4, 5

- Test 2 20.00%

Frequency: 1
Description: This test consists of both theory and applied programming technique. The theory portion may contain multiple choice, fill in the blank, true/false, matching definition and short answer style questions. The applied portion requires students to solve short case problems by developing algorithms and writing the required program code to solve the problem.
Outcomes Assessed: 1, 2
EES Assessed: 4, 5

100%

Note: The assessment listed in this outline represents the planned assessment method for this course. Unanticipated conditions during the delivery of the course may necessitate changes to the planned assessment. Students will receive reasonable advance notice should any changes be necessary.

Grading:

A = 80 - 100%
B = 70 - 79%
C= 60 – 69%

D = 50 - 59%
F = Below 50%

Course Content:

See EKS statements.

"Academic misconduct, including cheating of any form, will not be tolerated. Consequences may include, but are not limited to, a warning, a grade of "0" on the assignment/test/examination, or a failing grade in the course."

(Code of Students Rights and Responsibilities: Section 7.1.6)

All students and employees of this College have a right to study and work in an environment that is free from harassment and discrimination.

Accommodation Statement

The College will provide supports and services to all students with disabilities, both temporary and permanent, with valid supporting documentation. Interim accommodation requests will be received in good faith and can be provided pending receipt of medical documentation. Retroactive accommodations will be considered based on the unique circumstances of the individual matter. The College will give all Human Rights Code-related requests for accommodation meaningful consideration.

Procedure: The student is responsible to meet with a counsellor in Accessibility Services to discuss their functional limitations and accommodation needs and provide Accessibility Services with supporting documentation. Students are not required under the Ontario Human Rights Code to disclose their disability diagnosis (with the exception of Learning Disabilities) to receive accessibility supports and services and/or academic accommodations. Students are encouraged to meet with a counsellor prior to the start of a semester to provide information and arrange accommodations.