SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY

SAULT STE. MARIE, ONTARIO

COURSE OUTLINE

COURSE TITLE:	JAVA II		
CODE NO. :	CSD221	**SEMESTER:**	4
PROGRAM:	IT Studies		
AUTHOR:	Fred Carella		
DATE:	Jan 2015	**PREVIOUS OUTLINE DATED:**	Jan 2014
APPROVED:	"Colin Kirkwood"		Dec/15
	DEAN		**DATE**
TOTAL CREDITS:	4		
PREREQUISITE(S):	CSD211		
HOURS/WEEK:	4		

I. COURSE DESCRIPTION:

This course introduces students to the concepts of Object-Oriented Programming and applies them in practical problem-solving exercises. The course presently uses the Java programming language and the Netbeans IDE as the development environment. This course builds on the skills developed in previous courses, in Java, C++ and Python.

II. LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE:

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

1. Define, describe and implement the various foundational elements of an object oriented system.

   Potential Elements of the Performance:
   - Define and describe “classes”.
   - Define and describe “objects”.
   - Define and describe the various components of a class including attributes, accessors and mutators.
   - Define the relationship between classes and objects.
   - Create objects based on classes.
   - Define variables of various data types.
   - Define and implement programs that demonstrate variable scopes including static, local and class scope.
   - Define and call methods, with and without parameters.
   - Write and debug programs that demonstrate all of the above.

   *This learning outcome constitutes approximately **25%** of the course*

2. Demonstrate an understanding of the components of an object oriented program.

   Potential Elements of the Performance:
   - Write programs comprised of various objects and have those objects interact.
   - Demonstrate knowledge of and implement data using the various collection classes including lists and sets.
   - Demonstrate knowledge of and implement programs using various libraries.
   - Read class documentation.
   - Write class documentation.

- Demonstrate an understanding of the package system and the structure of a project.
- Test and debug programs using various methodologies such as unit testing and regression testing.

*This learning outcome constitutes approximately **25%** of the course*

3. Demonstrate an understanding of and implement the concepts of class design

   Potential Elements of the Performance:
   - Define and be able to demonstrate
     - Abstraction
     - Encapsulation
     - Generalization
     - Polymorphism
     - Responsibility driven design.
     - Coupling
     - Cohesion
     - Refactoring

   *This learning outcome constitutes approximately **20%** of the course*

4. Define and write programs that demonstrate inheritance and polymorphism.

   Potential Elements of the Performance:
   - Define the benefits of inheritance and polymorphism and write programs that demonstrate each.
   - Use inheritance.
   - Use polymorphism.
   - Understand and implement class hierarchies.
   - Override methods.

   *This learning outcome constitutes approximately **30%** of the course*

III. TOPICS:

1. Foundational elements
2. Components of an object oriented program
3. Class design.
4. Inheritance and polymorphism.

IV. REQUIRED RESOURCES/TEXTS/MATERIALS:

Resources, texts and materials will be supplied by your professor. Details will be provided in class.
https://sites.google.com/site/saultcollegeit/courses/csd221-winter-2015

V. EVALUATION PROCESS/GRADING SYSTEM:

The mark for this course will be arrived at as follows:

Outcome	Assignments	Tests	Total
outcome #1:	10%	13.75%	23.75%
outcome #2:	10%	13.75%	23.75%
outcome #3:	10%	13.75%	23.75%
outcome #4:	15%	13.75%	28.75%
	40%	60%	100%

(The percentages shown above may vary if circumstances warrant.)

NOTE: *It is required to pass both the theory and the assignment part of this course. It is not possible to pass the course if a student has a failing average in the four written quizzes but is passing the assignment portion, (or vice versa).*

The following semester grades will be assigned to students:

Grade	Definition	*Grade Point Equivalent*
A+	90 – 100%	4.00
A	80 – 89%	
B	70 - 79%	3.00
C	60 - 69%	2.00
D	50 – 59%	1.00
F (Fail)	49% and below	0.00

CR (Credit)	Credit for diploma requirements has been awarded.
S	Satisfactory achievement in field /clinical placement or non-graded subject area.
U	Unsatisfactory achievement in field/clinical placement or non-graded subject area.
X	A temporary grade limited to situations with extenuating circumstances giving a student additional time to complete the requirements for a course.

NR	Grade not reported to Registrar's office.
W	Student has withdrawn from the course without academic penalty.

VI. SPECIAL NOTES:

Attendance:
Sault College is committed to student success. There is a direct correlation between academic performance and class attendance; therefore, for the benefit of all its constituents, all students are encouraged to attend all of their scheduled learning and evaluation sessions. This implies arriving on time and remaining for the duration of the scheduled session.

Course Hours	Deduction
5 hrs/week (75 hrs)	1% / hr
4 hrs/week (60 hrs)	1.5% /hr
3 hrs/week (45 hrs)	2% /hr
2 hrs/week (30 hrs)	3%/hr

Absentee reports will be discussed with each student during regular meetings with Faculty Advisors. Final penalties will be reviewed by the professor and will be at the discretion of the professor.

VII. COURSE OUTLINE ADDENDUM:

The provisions contained in the addendum located on the portal form part of this course outline.