SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY

SAULT STE. MARIE, ONTARIO

Sault College

COURSE OUTLINE

COURSE TITLE:	**INTRODUCTION TO OBJECT-ORIENTED PROGRAMMING**
CODE NO. :	**CSD211** **SEMESTER:** 3
PROGRAM:	**COMPUTER ENGINEERING TECHNICIAN/ COMPUTER PROGRAMMER**
AUTHOR:	**Fred Carella**
DATE:	**Sep 2008** **PREVIOUS OUTLINE DATED:** **Sep 2007**
APPROVED:	

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                                CHAIR   **DATE**

TOTAL CREDITS:	**5**
PREREQUISITE(S):	**CSD101**
HOURS/WEEK:	**4**

INTRODUCTION TO OBJECT-   CSD211
ORIENTED PROGRAMMING

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. Previous courses,
CSD100 and CSD101, have developed basic skills in C++ programming.

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. (Chapter 1- 3)
     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. (Chapters 4-6)
     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 . (Chapter 7)
    Potential Elements of the Performance:
    - Define and be able to demonstrate
      - 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:
Objects First with Java, 3rd Ed.
Barnes and Kolling
Prentice Hall
ISBN: 978-0-13-197629-0

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V.   EVALUATION PROCESS/GRADING SYSTEM:

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

Outcome	Assignments	Quizzes	Total
outcome #1:	10%	10%	20%
outcome #2:	5%		
	10%	25%	40%
outcome #3:	10%		25%
outcome #4:	5%	25%	15%
	40%	60%	100%

Tests
    Outcomes 1-2: 30%
    Outcomes 2-4: 30%

Assignments:
    Outcomes 1-2: 20%
    Outcomes 2-4: 20%

(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).*

QUIZZES

Quizzes will be announced about one week in advance. A zero grade will be given for quizzes missed without a valid reason given in advance.

Generally the only valid reasons are medical ones. Re-writes on these quizzes will not generally be possible so lab attendance is essential. All assigned work must be completed on time and quizzes must be written at the required time.

ASSIGNMENTS

An overall average grade of 60% must be achieved on the assignments to pass the course. A late penalty will be applied when assignments are not submitted by the due date. A penalty of 10% per day may be applied to overdue assignments. After assignments have been handed back to the class (generally within one week), a grade of zero may be applied to overdue assignments. If lateness is due to extenuating circumstances, it is the student's responsibility to discuss the reasons for being late with the professor before the assignment is due.

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CSD211

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:

Special Needs:
If you are a student with special needs (e.g. physical limitations, visual impairments, hearing impairments, or learning disabilities), you are encouraged to discuss required accommodations with your professor and/or the Special Needs office. Visit Room E1101 or call Extension 2703 so that support services can be arranged for you.

Retention of Course Outlines:
It is the responsibility of the student to retain all course outlines for possible future use in acquiring advanced standing at other postsecondary institutions.

Communication:

The College considers **WebCT/LMS** as the primary channel of communication for each course. Regularly checking this software platform is critical as it will keep you directly connected with faculty and current course information. Success in this course may be directly related to your willingness to take advantage of the **Learning Management System** communication tool.

Plagiarism:

Students should refer to the definition of "academic dishonesty" in *Student Code of Conduct*. Students who engage in academic dishonesty will receive an automatic failure for that submission and/or such other penalty, up to and including expulsion from the course/program, as may be decided by the professor/dean. In order to protect students from inadvertent plagiarism, to protect the copyright of the material referenced, and to credit the author of the material, it is the policy of the department to employ a documentation format for referencing source material.

Course Outline Amendments:

The professor reserves the right to change the information contained in this course outline depending on the needs of the learner and the availability of resources.

Substitute course information is available in the Registrar's office.

<include the following paragraph if there is a placement or clinical component to this course. You may wish to consult with your chair.>

Tuition Default:

Students who have defaulted on the payment of tuition (tuition has not been paid in full, payments were not deferred or payment plan not honoured) as of the first week of *<choose November, March, or June>* will be removed from placement and clinical activities. This may result in loss of mandatory hours or incomplete course work. Sault College will not be responsible for incomplete hours or outcomes that are not achieved or any other academic requirement not met as of the result of tuition default. Students are encouraged to communicate with Financial Services with regard to the status of their tuition prior to this deadline to ensure that their financial status does not interfere with academic progress.

VII. PRIOR LEARNING ASSESSMENT:

Students who wish to apply for advanced credit in the course should consult the professor. Credit for prior learning will be given upon successful completion of a challenge exam or portfolio.

**VIII.	ADVANCE CREDIT TRANSFER:**

Students who wish to apply for advance credit transfer (advanced standing) should obtain an Application for Advance Credit from the program coordinator (or the course coordinator regarding a general education transfer request) or academic assistant. Students will be required to provide an unofficial transcript and course outline related to the course in question.