



**I. COURSE DESCRIPTION:**

CICE students, with assistance from a learning specialist, will be introduced 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 CICE student, with the help of a Learning Specialist, will demonstrate the basic 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**
  - o **Abstraction**
  - o **Encapsulation**
  - o **Generalization**
  - o **Polymorphism**
  - o **Responsibility driven design.**
  - o **Coupling**
  - o **Cohesion**
  - o **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/saultcollegeit2/home/courses/csd221\\_java-ii\\_07\\_16w](https://sites.google.com/site/saultcollegeit2/home/courses/csd221_java-ii_07_16w)

**V. EVALUATION PROCESS/GRADING SYSTEM:**

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

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

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

All tests and assignments will be completed with the assistance of the Learning Specialist. Any modifications to the tests and assignments will be proposed by the Learning Specialist and are subject to approval from the professor

**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.

If a faculty member determines that a student is at risk of not being successful in their academic pursuits and has exhausted all strategies available to faculty, student contact information may be confidentially provided to Student Services in an effort to offer even more assistance with options for success. Any student wishing to restrict the sharing of such information should make their wishes known to the coordinator or faculty member.

**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.

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<b>Course Hours</b>	<b>Deduction</b>
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.

**Addendum:**

Further modifications may be required as needed as the semester progresses based on individual student(s) abilities and agreed upon by the instructor.

**VII. COURSE OUTLINE ADDENDUM:**

**The provisions contained in the addendum located in D2L and on the portal form part of this course outline**

**CICE Modifications:****Preparation and Participation**

1. A Learning Specialist will attend class with the student(s) to assist with inclusion in the class and to take notes.
2. Students will receive support in and outside of the classroom (i.e. tutoring, assistance with homework and assignments, preparation for exams, tests and quizzes.)
3. Study notes will be geared to test content and style which will match with modified learning outcomes.
4. Although the Learning Specialist may not attend all classes with the student(s), support will always be available. When the Learning Specialist does attend classes he/she will remain as inconspicuous as possible.

**A. Tests may be modified in the following ways:**

1. Tests, which require essay answers, may be modified to short answers.
2. Short answer questions may be changed to multiple choice or the question may be simplified so the answer will reflect a basic understanding.
3. Tests, which use fill in the blank format, may be modified to include a few choices for each question, or a list of choices for all questions. This will allow the student to match or use visual clues.
4. Tests in the T/F or multiple choice format may be modified by rewording or clarifying statements into layman's or simplified terms. Multiple choice questions may have a reduced number of choices.

**B. Tests will be written in CICE office with assistance from a Learning Specialist.*****The Learning Specialist may:***

1. Read the test question to the student.
2. Paraphrase the test question without revealing any key words or definitions.
3. Transcribe the student's verbal answer.
4. Test length may be reduced and time allowed to complete test may be increased.

**C. Assignments may be modified in the following ways:**

1. Assignments may be modified by reducing the amount of information required while maintaining general concepts.
2. Some assignments may be eliminated depending on the number of assignments required in the particular course.

***The Learning Specialist may:***

1. Use a question/answer format instead of essay/research format
2. Propose a reduction in the number of references required for an assignment
3. Assist with groups to ensure that student comprehends his/her role within the group
4. Require an extension on due dates due to the fact that some students may require additional time to process information
5. Formally summarize articles and assigned readings to isolate main points for the student
6. Use questioning techniques and paraphrasing to assist in student comprehension of an assignment

**D. Evaluation:**

Is reflective of modified learning outcomes.