

Department: <i>Computer Science</i>	
Course Title: <i>Object Oriented Programming</i>	Course Code: CoSc 242
Instructor Name:	Credits: 4

Course Description:

This programming course emphasizes the methodology of programming from an object-oriented perspective and software engineering principles. It allows students to develop the ability to analyse programming problems and design and document suitable solutions and to implement reliable and robust software using contemporary program design methods. Topics to be dealt with are: classes: data abstraction, information hiding, overloading; inheritance; polymorphism; exceptions handling.

Course Goals or Learning Outcome:

Upon successful completion of the course, students will be able to:

- Explain the basic object oriented concepts
- Successfully code, debug and run programs with appropriate development environment
- Work on more advanced programs written in Java
- Have clear differentiation between structural and object oriented programming paradigms

Prerequisites: Fundamentals of Programming II

Required Texts:

Text book:

Deitel & Deitel, Java How to Program. 8th ed. Prentice Hall

Eckel, Bruce. Thinking in Java. 4th Ed. New Jersey: Prentice Hall

Summary of Teaching Learning Methods:

The learning-teaching methodology will be student-centered with appropriate guidance of instructor/s during the students' activities. There will be Lecture, Demonstrations, Lab work, Tutorials, Reading assignments and Group Discussions.

The course will follow a rigorous schedule of assignments. Each assignment corresponds to a section of the course content and textbook. Failure to keep up with the assignments will result in your failing the course. Each session builds on the prior session and is a required building block for the following section. It is very difficult for you to be successful in the course if you miss any class sessions.

Summary of Assessment Methods:

Assessment	% of Final Grade
Quizzes	10
Assignments	15
Lab Assessment	20
Tests	25
Final Exam	30

Schedule:

The following is an outline of the order in which syllabus contents will be covered. The exact dates and due dates for assignments and exams can be found on the class calendar and are subject to change with notice.

Week	Topics	Reading Assignment
Week 1	Introduction to Object-Oriented Programming Types of programming paradigm Overview of OO principles Overview of Java Programming and types of Java Program Definition of Java Application, Java Applets Editing, Compiling and Interpreting	Text # 1: Section 1.9; Section 1.13; Section 2.2
Week 2 & 3	Basics in Java Programming Variable types and identifiers Number types, strings, constants Operators and operator precedence Type Conversion/ Casting	
Week 4 & 5	Decision and Repetition Statements Overview of Java statements If statement Switch statement For loop While, Do while loop	
Week 6 & 7	Objects and Classes Object variables Defining a class Instantiating and using objects Instance fields, Construction and methods	
Week 8-11	OOP Concepts Encapsulation Inheritance, Method overloading and overriding Polymorphism Abstract classes and Interfaces	
Week 12 & 13	Exception Handling Exception handling overview Syntax	
Week 14 &15	Java Applets Overview of Java Applets Java Applets Vs Java Application	
Week 16	Final Exam	