

Purpose

At the end of this course, the student should be able to write a program that makes use of all OOP concepts

Objectives

- To demonstrate an in-depth understanding of Object-Oriented concepts
- To apply object-oriented concepts using a selected Programming language

1: Concepts and Terminology:

- 1.1: Encapsulation and Abstraction
- 1.2: Classes and Objects
- 1.3: Inheritance and Polymorphism
- 1.4: Messages/Operations and Methods
- 1.5: Friends

2: Programming

- 2.1: Abstract Data Types
- 2.2: Classes
- 2.3: Constructors and Destructors
- 2.4: Getters and Setters

3: Code reuse

- 3.1: Composition
- 3.2: Inheritance

4: Polymorphism

- 4.1: Overloading
- 4.2: Dynamic binding

5: Control Structures

- 5.1: Decision structures-if, if/else ,switch case
- 5.2: Loop structures- for, do/while, while

6: Data Structures

- 6.1: Arrays

The language of choice is Java programming language.

Teaching methodology

- Lectures
- Class/ Group Discussions
- Case studies
- Questions
- Group Assignments/ Projects

Assessment: Continuous Assessment Tests -----	20%
Assignments, Mini Project	20%
Main Exam	60%

References

- Teach Yourself Java in 21 Days by *Laura Lemay, Charles L. Perkins and Michael Morrison*
- Jim Keogh, Mario Giannini – OOP Demystified
- Peter Muller – Introduction to OOP using Java

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Consultation Time:

Tuesday- 8.00-10.00 Hours & Wednesday – 8.00- 10.00 Hours