

CSE11109	Object Oriented Programming	L	T	P	C
Version 1.0	Contact Hours – 45	3	0	0	3
Pre-requisite/Exposure	Knowledge of procedural programming				
Co-requisite	NIL				

Course Objectives:

- Students will be motivated to solve the problems in engineering using the concepts of object-oriented programming.

Course Outcomes:

On completion of this course, the students will be able to

CO1. Interpret fundamentals of object-oriented programming in Java, including defining Classes, invoking methods, using class libraries, etc.

CO2. Construct programming solutions with exception handling and multi-threading concept

CO3. Develop programming solutions using database connection

CO4. . Solve GUI program with proper event handling techniques

CO5. Develop programming solutions to real world problems effectively.

Course Description:

This course investigates object-oriented methods including object-oriented programming methodologies and techniques. Current methodology is emphasized. The use of object-oriented features such as encapsulation, information hiding, inheritance and polymorphism is reinforced by class assignments and programming exercises. The importance of multi-threading and exception handling is introduced in this course.

Course Content:

Units	Lecture Hours
Unit-I: OOP Concepts - Data Abstraction, Encapsulation, Inheritance, Benefits of Inheritance, Polymorphism, Classes and Objects, Procedural and OOP Paradigms. Introduction To Java, Data Types, Variables & Constants, Scope & Life Time Of Variables, Precedence Of Operator, Expressions, Type Casting, Enumerated Types, Block Scope, Control Flow, Conditional Statements, Loops, Break & Continue Statements, Arrays, Console Input/Output, Formatting Output, Constructors Methods, Parameter Passing, Static Fields & Methods, Access Control, "This" Reference, Method Overloading, Recursion, Garbage Collection, Building Strings, String Class.	09

Units	Lecture Hours
Unit-II: Exception Handling - Dealing With Errors, Advantages Of Exception Handling, The Classification - Exception Hierarchy, Checked And Unchecked Exceptions, Try, Catch, Throw, Throws And Finally, Exceptions-Throwing, Exception Specification, Built In Exceptions, Creating Exception Sub Classes. Multithreading - Difference Between Multiple Processes And Multiple Threads, Thread States, Creating And Interrupting Threads, Thread Priorities, Synchronizing Threads, Inter-Thread Communication, Procedure Consumer Pattern.	09
Unit-III: Collection Framework - Introduction, Generics and Common Use Of Collection Classes, Array List, Vector, Hash Table, Stack, Enumeration, Iterator, String Tokenizer, Random, Scanner, Calendars And Properties. Files - Streams - Byte Streams, Character Streams, Text Input/Output, Binary Input/Output, Random Access of File Operations, File Management. Connecting To Database – JDBC / ODBC Type 1 To 4 Drivers, Connection And Handling Databases With JDBC.	09
Unit-IV: GUI Programming - The AWT Class Hierarchy, Introduction To Swing, Swing Vs, AWT, Hierarchy Of Swing Components, Containers - JFrame, JApplet, JDialog, JPanel, Overview Of Swing Components: JButton, JLabel, Jtextfield, Jtextarea, Swing Applications, Layout Management - Types - Border, Grid And Flow Event Handling - Events, Sources, Classes, Listeners, Event Sources And Listeners, Delegation Event Model, Examples. Handling Mouse Events, Adapter Classes. Applets - Inheritance Hierarchy For Applets, Differences Between Applets And Applications, Life Cycle, Passing Parameters To Applets, Applet Security Issues.	09
Unit-V: Application Development: Design of real life GUI applications using Swing/AWT/JDBC for Employee management system, Hotel management system, Hospital management system etc.	09

Examination Scheme:

Components	Mid Term	Class Assessment	End Term
Weightage (%)	20	30	50

Relationship between Course Outcomes (COs) and Program Outcomes (POs):

1 = Weakly Mapped 2 = Moderately Mapped 3 = Strongly Mapped

Course Code	Course Name	COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CSE11109	Object Oriented Programming	CO111109.1	2	1	3	3	1	1	3	-	2	-	-	2	2	3	3
CSE11109	Object Oriented Programming	CO111109.2	3	3	3	2	3	2	1	-	3	-	-	2	2	2	3
CSE11109	Object Oriented Programming	CO111109.3	2	2	2	1	1	2	2	-	1	-	-	3	3	1	2
CSE11109	Object Oriented Programming	CO111109.4	3	3	2	3	1	2	1	-	3	-	-	2	1	1	2
CSE11109	Object Oriented Programming	CO111109.5	2	2	3	2	3	3	3	-	2	-	-	2	1	2	2
CSE11109	Object Oriented Programming	CO111109	2.4	2.2	2.6	2.2	1.8	2.0	2.0	-	2.2	-	-	2.2	1.8	1.8	2.4