

CPE122 Course Syllabus

Course Code	CPE 122
Course Name	Object Oriented Programming
Credit Hours	1
Contact Hours	2
Instructor Name	Dr.Suresh babu

Text Book (title, author, and year)

1. Programming with JAVA a primer, E Balagurusamy, Sedition, McGraw-Hill Companies, 2007
2. Java — Complete Reference by H.Schildt. 5th edition McGraw **Hill Publication, 2002**
3. Teach Yourself Java in 21 Days, Rogers Cadenhead Laura **Lemay, 3rd edition McGraw Hill, 2003**

Specific Course Information

Catalog Description	Fundamentals of object oriented programming, Introduction to .java programming language, Data types, Operators, Expressions, Decision making and loops, classes, objects and methods. Inheritance and multiple inheritance, Arrays, Strings and vectors, multithreaded programming.
Prerequisites	NIL
Co-requisites	NIL
Required/Elective	required

Course Learning Outcomes

1	Define the fundamental principles of object oriented programming
2	Develop an ability to identify, formulate and solve problems using inheritance, polymorphism and multithreading concepts
3	write java programs and interpret the results
4	Develop an ability to design java programs of moderate complexity
5	Develop java programming skills necessary for computer engineering practice.
6	Use object oriented concepts to develop small applications within the team

Mapping course LOs to the SLO.

Course LOs #	Student Learning Outcomes												
	a1	a2	b1	b2	b3	b4	b5	c1	c2	c3	d1	d2	
1	√												
2			√	√									
3			√	√									
4					√								
5						√							
6									√				

List of Theory Topics

1. Fundamentals of Object Oriented Programming Introduction, Features of Object Oriented Paradigm, and classes, Types of java programs, Simple Java Program, Java Program Structure, Java Virtual Object Program Machine, Applications of OOP.
2. Introduction to Java Programming Language Object oriented features, Data abstraction and Encapsulation, Inheritance, Polymorphism, Message communications, Benefits of OOP, Java Tokens, Java statements.

3. Data types, Operators, Expressions Constants, variables, data types, operators, expressions
4. Decision making and branching Types of if statements, switch statement, types of loops —while, do, for Break and continue statements, return statement, simple java programs, Arrays, Strings
5. Classes, Objects and Methods Class definition, Fields and Methods declaration, creating Objects, Constructors Static members.
6. Inheritance & Polymorphism Extending a class, Types of Inheritance, polymorphism, overloading & overriding Methods, visibility control.
7. Multithreaded Programming Creating Threads, Extending a Thread Class, Stopping and Blocking a Thread, Life cycle of a Thread, Using Thread Methods, Thread Exceptions, Thread Priority and Synchronization.
8. Managing Errors and Exceptions Types of Errors, Exceptions, Syntax of Exception Handling Code, Multiple Catch Statements, Using Finally Statement, Throwing our own Exceptions

List of Lab Experiments

1. Introduction to Java SDK toolkit, Jcreator Simple java program and execution. Correct errors if any.
2. Java program with comments and language style.
3. Java program to add of two numbers Java program to input numbers from keyboard and add two numbers .
4. Java programs to demonstrate basic data types and expressions, arithmetic operations, evaluate Expressions.
5. Java Control Structures — Programs for Conditional Statements.
6. Java Control Structures — Programs for Loops.
7. Java programs for arrays — single & Multidimensional Arrays, Sting manipulation.
8. Java programs implementing class, objects, constructors Java programs to show constructor overloading, Static member.
9. Java programs for Single Inheritance, Multilevel Inheritance, Method Overloading, Method Overriding.
10. Java program for Multithreaded Programming.
11. Java program implementing Exception handling