

College of Computer Science and Information Systems
 Course Code : 113CSS-4
 Contact Hour : 4(0)

Department of Computer Science
 Object Oriented Programming
 Prerequisite : 111CSS-4

Coordinator -

2. Course Description

Introduction to object oriented programming (OOP) concepts, basic Java syntax, introduction to objects and classes, data types, variables and operators, selection and control structures, array, properties of classes, inheritance, package and interface, abstract class, polymorphism, Introduction to file system.

3. Course Learning Outcomes

SL	By the end of this course, students should be able to:	Linkages to POs
1.	Describe principles, usage and benefits of Object Oriented Programming (OOP).	a(S)
2.	Construct Java program for basic programming concepts.	a(S),b(S),c(S),i(S),j(S)
3.	Utilize Java built-in classes for programs	a(W),b(S),c(S)
4.	Formulate Java program for advanced topics of OOP.	a(W),b(S),c(S),i(S),j(S)
5.	Evaluate the workflow of program including error handling.	a(S),b(S),c(S),i(S),j(S)

4. Learning Resources

Text	Introduction to Java Programming Comprehensive Version Tenth Edition, by Y. Daniel Liang, ISBN-13: 978-0133761313 ISBN-10: 0133761312 year 2009
Reference	Herbert Schildt The Complete Reference, JAVA 2, 8th Edition, 2014 McGraw Hill Publishing Company Ltd
Reference	Harvey M. Deitel and Paul J. Deitel, Java, How to Program: Java™, 7th Edition, Prentice Hall. 2012
Reference	Thomas Wu, An Introduction to Object-Oriented Programming with JAVA, McGraw-Hill. 2010

5. Course Content : The list below provides a summary of the material that will be covered during the course

Week	Topics	References Book / Others Source	Special Event	Tutorial Activities	Lab Activities
1.	Quick overview of Java, Anatomy of First Simple program of Java.	Chapter 1			
2.	Elementary Programming Examining Java's most fundamental elements: Data types and variables, use of data types and dynamic initialization. Scope and life time of variable.	Chapter 2		Tutorial 1	Lab on Variables, Operators and Control Statements
3.	Control Statements: Selection (if, nested if, if-else if, switch), iteration (while, do-while, for) and jump (break, continue and return)	Chapter 3, 4		Tutorial 2	Lab on Classes
4.	Basic elements of class, operator new, creation of objects, methods, constructors, Overloading methods, overloading constructors.	Chapter 8		Tutorial 3 & 4	Lab on Methods

5.	Introducing access control, Understanding static. Array Basics, Arrays of Objects.	Chapter 7, 8, 9	Quiz-1	Tutorial 5	Lab on Overloading, Methods, Lab on Arrays
6.	Inheritance Basics, Polymorphism, Method overriding, Applying method overriding.	Chapter 11		Tutorial 6	Lab on Parameters, Objects
7.	Inheritance Basics, Polymorphism, Method overriding, Applying method overriding	Chapter 11	Mid Term-1	Tutorial 7	Lab on Access Control
8.	Exception handling	Chapter 13	Assignment-1	Tutorial 8	Lab on Exception Handling
9.	Using abstract classes, using final to prevent overriding. Packages, access protection, importing packages	Chapter 14	Mid Lab Exam	Tutorial 9	Lab on Inheritance
10.	Using abstract classes, using final to prevent overriding. Packages, access protection, importing packages	Chapter 14		Tutorial 10	Lab on Method Overriding
11.	Defining and implementing Interface, Variables in interface	Chapter 14	Mid Term-2	Tutorial 11	Abstract Classes and Interface
12.	Defining and implementing Interface, Variables in interface	Chapter 14		Tutorial 12	Lab on Abstract Classes and Interface
13.	Introduction to file system	Chapter 19	Quiz-2		
14.	Revision		Final Lab Exam		

6. Evaluation Scheme: The following list is the contribution of course components to the final grade for the course.

Component	Weight (%)
Quizzes	10
Mid Term-1 Exam	15
Mid Term-2 Exam	15
Lab Performance and Exam	10
Final Lab Examination	10
Final Examination	40
Total	100

