School of Computer Engineering

Kalinga Institute of Industrial Technology (KIIT)
Deemed to be University
Bhubaneswar-751024

LESSON PLAN

Program : B.Tech.(Computer Science)/ B.Tech. (IT.)/ B.Tech(CSCE)/ Btech (CSSE)
Academic Session : 2022-2023 (Spring Semester)
Semester : 4th
Subject Code : IT 2004
Subject : Web Development Fundamentals
Credit : 3 (L-T-P:2-1-0)
Prerequisite(s) : Object Oriented Programming (IT 2005)
Faculties : Dr. Partha Sarathi Paul, Mr. Harish Patnaik, Mr. M. K. Gourisaria, Mr. Sujoy Datta, Mr. Pradeep Kandula, Mrs. Naliniprava Behera, Ms. Chandini Kumari, Dr. Monideepa Roy, Dr. Pinaki Sankar Chatterjee, Ms. Ipsita Paul, Dr. Partha Pratim Sarangi, Dr. Manas Ranjan Nayak, Mr. Jamimamul Bakas, Dr. Tanmaya Swain, Mr. Rabi Shaw, Mr. N. Biraja Isac, Dr. Sampriti Soor.

Course Objectives: - This course provides a basic overview and understanding of many key web technologies internet fundamentals, such as HTML & Cascading Style Sheets (CSS). This course of study also builds on the skills gained by students in Java Fundamentals or Java Foundations to help advance Java programming skills. Students will design object-oriented applications with Java and will create Java programs using hands-on, engaging activities.

Course Outcomes: - At the end of the course the students will able to:

CO1: Understand and design interactive web page(s) using HTML & CSS.
CO2: Design Java application programs using basic concepts of OOP principles and proper program structuring.
CO3: Design classes, objects, and members of a class relative to a specific problem following OOP paradigm and derive relationships among them.
CO4: Demonstrate the concepts of polymorphism, inheritance, packages & interfaces.
CO5: Analyze Java programs to implement error handling techniques using exception handling.
CO6: Apply string operations and I/O streams
CO7: Design applets specific to a graphical design requirement.

Module No. &Name	Topics/Coverage	No. Of Lectures	Lecture Serial No.
1. Web development	1. HTML: Structure of a program, various tags and their roles in HTML programs 2. Lists: ordered, unordered, definition 3. Table, link and it's types, Images 4. Form design 5. Frames 6. Style sheets: Inline, Internal, External	7	1-7
2. Java basics	1. Introductions to Java and java Applications 2. Java Architecture: JDK, JRE, JVM, Byte code 3. Characteristics of java, OOP Principle 4. A simple java program, compiling and executing 5. Data types, Operators, Expressions, scope of the variable, type conversion and casting 6. Branch Control Statements, Selection statements, Iteration statements, Jump Statements 7. Examples	6	8-13
3. Class & object	1. Introduction to class, class members, Creating instances of class 2. Static and final 3. Array :1D & 2D 4. Command line arguments 5. Input stream reader, scanner class 6. Constructors 7. Overloading: method, constructor 8. Inner Class	4	14-17
4. Inheritance	1. Inheritance basics, Use of Super Keyword 2. Method overriding 3.Abstract class 4. Runtime Polymorphism: Dynamic method dispatch	3	18-20
	MID SEMESTER		
5. Package and interface	1. Package, access control mechanism 2. Interface 3. Dynamic Method lookup	2	21-22
6. Exception handling	1. Java Exception handling mechanism 2. Exception types, try, catch, throw, throws and finally.	3	23-25

	3. Build in Exceptions: Checked and Unchecked Exceptions 4. User defined exception		
7. String handling	1. String, String constructor 2. String operations:String extractions,string comparison,Searching strings, modifying a string, ToString() and valueOf() methods 3. String Buffer, String Buffer Constructor, String Buffer operations & methods	2	26-27
8. Java I/O Stream	1. I/O basics 2. Stream: Byte stream, Character Stream, 3. Reading console Input, writing console output 4. Reading and writing files	3	28-30
9. Applet	1. Applet class, architecture and its Skeleton 2. Applet life cycle methods, setForeground() and setBackground() methods 3. Using the status window 4. HTML APPLET tag, passing parameter to applet, getDocumentBase() and getCodeBase() methods	2	31-32
10. Java Database Connectivity	1. Type of Drivers 2. JDBC Architecture 3. JDBC classes and interfaces. 4. Basic steps in Developing JDBC Applications 5. Creating a New Database and Table with JDBC 6. Working with DataBase Meta Data	4	33-36
	END SEMESTER		

Text Books:

1. Java Programming – for Core and Advanced Users, Sagayaraj, Denis, Karthik and Gajalakshmi, Universities Press.

Reference Books:

1. HTML Complete Reference, Powell, TMH
2. Java - The Complete Reference , Herbert Schildt, 9th edition, McGraw Hill Education.
3. Java - One Step Ahead, by Anita Serh and B L Juneja, published by Oxford University Press.

Evaluation Scheme:

Mid-sem	: 20 Marks
Activities/Quiz /Assignment	: 30 Marks
End-sem	: 50 Marks

Grading Policy for Internal Evaluation:

We will have 6 short assignments/quizzes/activities over the semester, at the end of every topic. Some of these activities will be conducted during the class on a surprise test basis. All examinations will be closed notes and closed book. There will be no make-up exams, unless in the case of emergencies.