

WORKSPACE WEB DEVELOPMENT & OUTSOURCING TRAINING CENTER

Course Outline (2015)

Basic Programming with Java

Workspace Web Development & Outsourcing Training Center

Training Office# Road: 11, House: 1 A, Nikunja 2, Khilkhet, Dhaka

Head Office# Road: 14, House: 16, Nikunja 2, Khilkhet, Dhaka

Phone: 0258956341, 01977WSIT01(01977974801)

Email: info@workspaceit.com

Course Hours	48
Total days	16
Prerequisite	C, C++, Object Oriented Programming
Class day	Normally Thursday/ Friday / Saturday/ Sunday (Normally 2 days per week)

COURSE DESCRIPTION

This course is an introduction to software engineering, using the Java programming language. It covers concepts useful to beginners. Students will learn the fundamentals of Java. The focus is on developing high quality, working software that solves real problems.

OBJECTIVES

At the end of the course, the students will be able to:

- Write, compile and execute Java programs
- Build robust applications using Java's object-oriented features
- Create robust applications using Java class libraries
- Develop platform-independent GUIs
- Read and write data using Java streams
- Retrieve data from a relational database with JDBC

TOPICS TO BE COVERED

TOPICS	SPECIFIC OBJECTIVE(S)	TIME FRAME	SUGGESTED ACTIVITIES	TEACHING STRATEGY(S)
Introduction to Java	History of Java, Overview of Java, Environment Setup, Introducing JDK, JRE, IDE	Week 1	Reading suggested articles, notes.	Lecture notes, question
Data Types, Variables, Operators, Class	Data Types, Variables, Type casting, Being familiar with Class and Object, Operators (Arithmetic Operators, BitwiseOperators, Relational Operators, OperatorPrecedence), Array	Week 2-3	Lecture, Lab Work and Assignments	Lecture notes, question
Control Statements, Iterative Statements, Input/Output, String, Keywords	Control Statements (if, else, switch), Loops (for, while, do-while, for-each), Nested Loops, Jump Statements (break, continue)Java Input/Output, String Handling, Static and Final,Keywords(this, new)	Week 3-4	Homework, Mini-project	Lecture notes, question
Test Project				
Create app with material design	Constructor, Function Overloading, Function Overriding, Pass by value, pass by reference, Introduction to Object Oriented Programming (OOP), Inheritance, Polymorphism, Encapsulation, Different classes and methods (abstract class andmethod, interface), Packages, Access Modifiers	Week 5-6	Homework, Mini-project	Lecture notes, question

Exceptions, Multithreaded Programming	Exception Handling, Multithreaded programming	Week 7	Lecture, Lab, Live Work	Lecture notes, question
Java Libraries, Data Structures	Exploring java.lang, Exploring java.util - Data Structure (Collection interface - list, set, queue, sorted set), Exploring java.util - Data Structure (Collection Class - ArrayList, LindedList, HashSet, PriorityQueeye), Vector, Stack, Hashtable	Week 8	Homework, Lecture, Live Work	Lecture notes, question
Final Project Continues				

COURSE REQUIREMENTS

Student Attendance

All students are expected to attend all scheduled classes, and to read all assigned chapters / materials before coming to class.

Class Participation & Peer Evaluation

You Students are expected to participate actively in the class. Your contribution towards your team will be counted too.

TEXTBOOK/ REFERENCES

- JAVA: The Complete Reference *by* Herbert Schildt
- Oracle Documentation. URL: <https://docs.oracle.com/javase/tutorial/>
- Tutorials Point tutorials
- Other Online Recourses.