**Course : Java**

**Scholarship/Grant**: Up to 100% for deserving candidates.

**JAVA1 : FOUNDATION LEVEL**  
  
**Objectives**  
The objective of this level is to introduce the trainees to the Java platform. This level will cover concepts and skills needed to understand advanced Java related concepts. After completion of this course, the trainees will have gained enough knowledge in Java to further their skills either through self-study, on the job training or enrollment in higher level trainings. This level will cover topics that every Java developer should invariably know.  
  
**Target Group**

* Freshers, who have very little experience developing in Java but who have intermediate level programming experience at least one other language.
* Java developers with 0 – 1yr of experience but who aren't still confident in development
* Experienced programmers with no experience in Java programming and who want a head start on OO related concepts and Java programming

**Training Method**

* Presentation classes and labs
* Self-study materials
* Assignments

**Course Duration**

* 1 month
* 3 hours per day
* 5 days per week
* 40 hours total

**Course Breakdown Details**

**JAVA1.001 : Introduction and Environment Setup**   
You will be given background on programming as a whole and necessity of Java at the time when it evolved, how it revolutionized the paradigm of writing programs in software enterprise.

* Background, history of Java programming
* Current state of Java
* Platform independence with Java
* Setting up Java in your Operating System (Lab)
* Setting up IDE (Lab)

**JAVA1.002 : Programming Fundamentals**

This will go through the essentials of programming, which is common in any programming language. This will help quick start writing simple applications using Java.

* Code structure in Java
* The Main Class
* Looping
* Conditional branching
* Fundamental data types

**JAVA1.003 : Object Oriented Programming**

Will include writing a class with all the representative type members e.g. static members, private variables, private and public constructors, exposing variables through properties

* Introduction to Objects and Classes
* Members of the class – attributes,methods, and their visibility
* Class Behavior – Methods, pass by value or reference
* Constructors
* Inheritance

**JAVA1.004 : Using Java Libraries**

This will introduce to the sea of Java API libraries by using few important inbuilt libraries, you will be able to explore other APIs on your own.

* Introduction to Java API
* Using the Java Library
* Using Collection API : ArrayList, LinkedList
* Using Math API

**JAVA1.005 : Web - Client Site**

This will introduce you to the world of web programming. You will learn client side of the web technology stack. This will be foundation for next module.

* Basics of HTML
* Basics of Javascript

**JAVA2 : INTERMEDIATE LEVEL**  
  
**Objectives**  
The objective of this level would be to develop the skills of the participants in developing applications with Java. The level 1 covered the basic skills for a developer to be able to develop applications, this level will build on that to cover specific frameworks and classes which are most important and commonly used in Java  
  
**Target Group**

* Java developers who have been developing in Java for more than six months but don't have a good exposure to all areas of Java and were mostly focused on small specific project/area.
* Experienced programmers who had experience with similar languages like Java and know the basics of Java but haven't had experience with applications development in Java

**Training Method**

* Presentation classes and labs
* Self-study materials
* Assignments

**Course Duration**

* 1 Month
* 2 Hours per Day
* 5 Days per Week
* 40 Hours total

**Course Breakdown Details**  
  
**JAVA2.001 : Object Oriented Programming**

This course will start with introducing more advanced Object Oriented concepts and using those in real world situations.

* Polymorphism – Inheritance is not always the answer
* Life and Death of Object
* Garbage Collection – Auto sweeper at work

**JAVA2.002 : Exceptions**

No matter how good programmer you are, you can't control everything. When you write a risky method, you need code to handle the bad things that might happen. In this section you will find out how to handle *exceptional* situations while developing applications.

* Catching Exceptions with try/catch
* Flow control with try/catch
* The finally block
* Throwing exception

**JAVA2.003 : Persisting Objects**

When you start building real world applications you start working with data. You need the ability to save, manipulate and query them to make sense out of them. JDBC helps you to work with RDMBS servers like MySQL, Oracle. We will work with MySQL server to work with data.

* Introduction to JDBC
* Saving data in Database via JDBC
* Executing SQL statements through JDBC
* Working with SQL results in JAVA

**JAVA2.004 : Using external libraries**

There are many on the shelf libraries available which have already done many works for you. You can make use of these libraries to make your life easier.

* Reading the API
* Using the libraries in your application
* Exploring the goodness of apache libraries

**JAVA2.005 : Web basics**

* Tomcat server configuration
* Web application structure and deployment in tomcat server
* Creating webpages with JSP/Servlets with JDBC
* Logging

**JAVA3 : ADVANCE LEVEL**   
  
**Objectives**  
This level is for programmers who have already been developing applications in Java but do not have advanced knowledge in working web frameworks  
  
**Target Group**

* Java programmers who want to know how to build scalable application in a agile manner using Grails framework

**Training Method**

* Presentation classes and labs
* Self-study materials
* Assignments

**Course duration**

* 1 Month
* 2 Hours per Day
* 5 Days per Week
* 40 Hours total

**Course Breakdown Details**

* Introduction to frameworks, web frameworks and design patterns
* Grails platform setup
* First application with grails and introduction to grails application components
* Groovy essentials
* Grails Core
  + Domain Model with GORM
  + Controlling application flow
  + Presenting with views
  + TDD Support : Unit Testing
* Exploring the world of Grails Plugins
* Security
* REST design

**Notes:**

Please send your resume with application letter to [trainee@dwit.edu.np](mailto:trainee@dwit.edu.np) directly to secure Deerwalk Training scholarship at DWIT. Deerwalk is DWIT's academic partner. You will be asked to sit on a placement test to be eligible for the scholarship.