



# PROGRAMMING IN JAVA

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**PRE-REQUISITES :** This course requires that the students are familiar with programming language such as C/C++ and data structures, algorithms.

**INTENDED AUDIENCE :** The undergraduate students from the engineering disciplines namely CSE, IT, EE, ECE, etc. might be interested for this course.

**INDUSTRIES APPLICABLE TO :** All IT companies.

## **COURSE OUTLINE :**

With the growth of Information and Communication Technology, there is a need to develop large and complex software. Further, those software should be platform independent, Internet enabled, easy to modify, secure, and robust. To meet this requirement object-oriented paradigm has been developed and based on this paradigm the Java programming language emerges as the best programming environment. Now, Java programming language is being used for mobile programming, Internet programming, and many other applications compatible to distributed systems. This course aims to cover the essential topics of Java programming so that the participants can improve their skills to cope with the current demand of IT industries and solve many problems in their own field of studies.

## **ABOUT INSTRUCTOR :**

Prof. Debasis Samanta holds a Ph.D. in Computer Science and Engineering from Indian Institute of Technology Kharagpur. His research interests and work experience spans the areas of Computational Intelligence, Data Analytics, Human Computer Interaction, Brain Computing and Biometric Systems. Prof. Samanta currently works as a faculty member at the Department of Computer Science Engineering at IIT Kharagpur.

## **COURSE PLAN :**

**Week 1:** Overview of Object-Oriented Programming and Java

**Week 2:** Java Programming Elements

**Week 3:** Input-Output Handling in Java

**Week 4:** Encapsulation

**Week 5:** Inheritance

**Week 6:** Exception Handling

**Week 7:** Multithreaded Programming

**Week 8:** Java Applets and Servlets

**Week 9:** Java Swing and Abstract Windowing Toolkit (AWT)

**Week 10:** Networking with Java

**Week 11:** Java Object Database Connectivity (ODBC)

**Week 12:** Interface and Packages for Software Development