

COURSE CODE	COURSE TITLE	L	T	P	C
1154CS102	JAVA PROGRAMMING FOR ENGINEERS	3	0	0	3

**Course Category: University Elective**

**A. Preamble:**

Most of the software need to develop runs in cross platform. Java is the one of the pioneer software development tools developed used for cross platform development software. From the system towards the handheld devices all place Java become one of the most dominant software. This course provides a basic concept about Object Oriented Programming, Database connectivity, Networking and finally provides programming skills in java. After successful completion of this course learners can able to develop software modules for real world problem.

**B. Pre-requisites:**

SI No	Course Code	Course Name
1	1150CS201	Problem Solving using C

**C. Related Courses:**

SI No	Course Code	Course Name
		NIL

**D. Course Educational Objectives:**

Students undergoing this course are expected to:

- Understand basic in Java Programming.
- Understand fundamentals of object-oriented programming in Java, including defining classes, invoking methods, using class libraries, etc.
- Familiarize in important topics and principles of software development.
- Have the ability to write a computer program to solve specified problems.
- Use the Java SDK environment to create, debug and run simple Java programs.

**E. Course Outcomes:**

Students undergoing this course are able to:

CO Nos	Course Outcomes	Knowledge Level (Based on revised Bloom's Taxonomy)
CO1	Design and implement basic data types and control flow constructs using J2SE or other Integrated Development Environments.	K3
CO2	Implement Java programs using object-oriented class structures with parameters, constructors, and utility and calculations methods, including inheritance, test classes and exception handling.	K3
CO3	Demonstrate multitasking using Threads.	K2
CO4	Build simple applications using GUIs and event driven programming	K3
CO5	Develop applets for inclusion in web pages; applets to access enterprise data bases in robust, enterprise applications	K3

## F. Correlation of COs with POs:

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO 1	PSO 2	PSO 3
CO1	M				L									L	
CO2	M		M	M	L									M	
CO3	M		M	L	L										L
CO4	M	L	M	L	L			L	L		L	L	L	H	L
CO5	M	M	M	M	L	L		L	L		L	L		H	L

H- High; M-Medium; L-Low

## G. Course content:

### UNIT I INTRODUCTION TO JAVA

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Basic concepts of object-oriented programming and Benefits of OOP – Instruction about Simple java program- fundamentals- Class fundamentals - constructors - this keyword - garbage Collection and finalize () - Arrays & Strings - Functions – Command line Arguments.

### UNIT II INHERITANCE AND PACKAGE

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Basic concept of Inheritance: Polymorphism - Making methods and classes final - Abstract classes and methods – Interfaces. Package: Introduction about package- package creation and package access.

### UNIT III THE EXCEPTION AND THREADS

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Exception:Exception Types - Uncaught Exceptions - Using Try Catch - Multiple Catch - Nested try and throw – Throws – finally - Built in Exceptions - Using Exceptions.Multithreaded Programming: Thread model –Creating a thread - Creating multiple thread –Thread Priority – Thread Scheduling – Thread Synchronization.

### UNIT IV APPLET AND AWT COMPONENTS

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Applet: Introduction of Applet – Life cycle of Applet – Passing parameters to applet AWT: AWT classes – Event Model – Swing classes

### UNIT V DATABASE CONNECTIVITY AND NETWORK BASICS

9

Introduction of JDBC: JDBC Drivers – Database connection – Getting Data from a table Java and Net: InetAddress – URL Connection - TCP/IP Client socket –TCP/IP Server socket – Datagrams.

## i.TEXT BOOK

1. PatricNaughton , Herbert Schildt, *The Complete Reference “Java 2“*, Third edition Tata Mc Graw Hills ,1999.

## ii.REFERENCE BOOKS

1. H.M. Deitel and P.J.Deitel –“**Java How to Program**” Pearson Prentice Hall Sixth Edition, 2009.

2. E. Balaguruswamy,*Programming in java* , Second Edition,TMH,1999.

3. Graham Hamilton, Rick Cattell, Maydene Fisher ,”*JDBC Database access with java*”-1997

4. Bruce Eckel – “**Thinking in Java**” Pearson Prentice Hall Third Edition-2006

## WEB REFERENCES

1. docs.oracle.com/javaee/6/tutorial/doc/girgm.html
2. www.webreference.com/programming/java.html
3. [www.apl.jhu.edu/~hall/java/Documentation.html](http://www.apl.jhu.edu/~hall/java/Documentation.html)