

COURSE CODE	COURSE TITLE	L	T	P	C
1152CS305	ADVANCED JAVA PROGRAMMING	0	0	4	2

**Course Category: Program Elective**

**A. Preamble:**

Graduates of the Advanced Java Programming will have Java development skills necessary to be an effective team member on medium- to large-scale Java projects.

**B. Prerequisite Courses:**

Sl No	Course Code	Course Name
1	1150CS201	Problem solving using C
2	1151CS117	Java Programming

**C. Link to another Course:**

Sl. No	Course Code	Course Name
1	1156CS701	Major Project

**D. Course Educational Objectives:**

Students undergoing this course are expected

- To learn advanced Java programming concepts like interface, threads, Swings etc.
- To develop network programs in Java
- To understand Concepts needed for distributed and multi-tier applications
- To understand issues in enterprise applications development.

**E. Course Outcomes:**

Upon the successful completion of the course, students will be able to:

CO Nos.	Course Outcomes	Knowledge Level (Based on revised Bloom's Taxonomy)
CO1	Design and Develop Swing-based GUI components.	S3
CO2	Develop client/server applications using socket programming	S3
CO3	Build and retrieve the data from the database using SQL	S3
CO4	Develop distributed applications using RMI and component-based Java software using JavaBeans	S3
CO5	Develop and Implement server-side programs in the form of Servlets and enterprise applications.	S3

**F. Correlation of COs with POs and PSOs:**

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

## G. Course Content:

### LIST OF EXPERIMENTS:

#### CYCLE – I

S.No.	Experiment Name
1	Implementation of multithread application using Java.
2	Create a full set of UI widgets and other components, including windows, menus, buttons, checkboxes, text fields, scrollbars and scrolling lists, using Abstract Windowing Toolkit (AWT) & Swings.
3	Apply Event Handling on AWT and Swing components.
4	Implementation of Socket program for chat application.
5	Invoke the remote methods in an application using Remote Method Invocation (RMI)
6	Develop java Applet program to accept two numbers from user and output the sum, difference in the respective text boxes.
7	Servlet program to implement and demonstrate get () and post() methods (using HTTP Servlet class).
8	Session tracking for a hit count using Java Servlet.

#### CYCLE – II

S.No.	Experiment Name
1	Establishing Communication between Applet and Servlet.
2	Create three tier application using Servlet by incorporating Java Database Connectivity inside Servlet to save data in a table.
3	Creating JSP program to implement attributes of directive tags.
4	Cookies and session management using JSP.
5	Create MVC application with Struts framework: using Servlet /JSP
6	Creating Stateless and Stateful Session Beans.
7	EJB Application that demonstrates Entity Bean.
8	EJB Application that demonstrates Session Bean.

**TOTAL: 60 Hours**

## H. Learning Resources

### i. Text Books:

1. Elliotte Rusty Harold, “Java Network Programming”, O’Reilly publishers, 2004
2. Ed Roman, “Mastering Enterprise Java Beans”, John Wiley & Sons Inc., 2004.

### ii. Reference Books:

1. Hortsman& Cornell, “CORE JAVA 2 ADVANCED FEATURES, VOL II”, Pearson Education, 2002.
2. Patrick Naughton, “COMPLETE REFERENCE: JAVA2”, Tata McGraw-Hill, 2003.
3. Michael Morrison, The Complete IDIOT’s, Guide to JAVA 2”, Prentice Hall of India.

### iii. Online resources

1. [www.cs.rit.edu/~jmk/java707/lecnotes/lecnotes.html](http://www.cs.rit.edu/~jmk/java707/lecnotes/lecnotes.html)
2. <http://www.inf.ed.ac.uk/teaching/courses/cs2/LectureNotes/CS2Bh/APJ/apj5.pdf>
3. <http://ebookmaterials.blogspot.in/2011/07/advanced-programming-in-java-lecturer.html>
4. <http://java.sun.com>.