

**1. Course Title:**

Java Programming &amp; Applications

**2. Course Code:**

EE3206

**3. Course Aims & Objectives:**

The purpose of this course are:

- To understand the object-oriented software design approach.
- To acquire basic skills for writing Java programs.

**4. Units:** 3**5. Level:** B3**6. Syllabus:**Introduction to object-oriented programming

Information hiding, data encapsulation, objects and classes, inheritance, polymorphism, discovering classes.

Java programming

The Java language, classes and methods, packages, interfaces and inner classes, inheritance in Java, streams and files, exception handling, assertions, data structures and collections, generic types, class loader, security managers and permissions, multithreading.

GUI programming

Graphical user interface components, frames and layout managers, event handling, applets, images and audio.

**7. Teaching pattern:***Duration of course:* 1 semester*Suggested lecture/tutorial/laboratory mix:* *Lecture Hour:* 26*(Tutorial conducted in laboratory) Tutorial Hour:* 13*Laboratory Hour:* 0**8. Assessment pattern:***Examination duration:* 2 hours, at the end of the semester*Percentage of coursework, examination, etc.:* 40% CW; 60% Exam

For a student to pass the course, at least 30% of the maximum mark for the examination must be obtained.

**9. Pre-requisites:** *(please quote course code & title)*CS2362 Computer Programming for Engineers Scientists or  
CS2363 Computer Programming**10. Pre-cursor:** *(please quote course code & title)*

Nil

**11. Equivalent Courses:** *(please quote course code & title)*

CS3362 Object-oriented Modelling & Design or  
CS3363 Object-oriented Programming Methodology

**12. Equivalent to the Old Course Code & Title**

IT3706 Java Programming and Applications

**13. Booklist:**Text book:

Cay S. Horstmann and Gary Cornell: Core JAVA2 Vol. I-Fundamentals, SUN Microsystems Press, 2005, ISBN:0-13-148202-5

Cay S. Horstmann and Gary Cornell: Core JAVA2 Vol. II-Advanced Features, SUN Microsystems Press, 2005, ISBN:0-13-111826-9

Reference

Harvey M. Deitel, , Paul J. Deitel,: Java How to Program, 6/E, ISBN: 0-13-129014-2, Publisher: Prentice Hall, 2005,

Y. Daniel Liang, Introduction to JAVA Programming Comprehensive Version, 5/E, Prentice Hall, 2005, ISBN: 0-13-148952-6.