[A-3]COURSE SYLLABUS

1. Course Description (Approximately 100 words)

This course introduces concepts of program design, implementation and testing within a framework of object-oriented programming using the Java programming language for the development of small to medium sized application programs. The course first introduces basic programming concepts like operators, methods and arrays as the foundation. After that, more comprehensive concepts on object-oriented programming, interfaces and classes, error handling mechanisms, inner classes and multi-threading model are introduced for efficient programming in Java. To prepare students to become proficient Java Programmers, advanced Java programming concepts like Java Graphical User Interface (GUI),event-driven programming, Java I/O, database programming using Java Database Connectivity API, Java Applets and Networking are designed in the course.
*Java SE Development Kit, Eclipse or Netbean IDEs are used for practical works.

2. Course Goals and Objectives (Approximately 100 words)

To be able to develop Java application programs using sound OOP practices and proper program structuring
To understand basic principles of the object oriented development process and apply this understanding to the analysis and design of solutions for small to medium sized problems
To be able to analyze and implement comprehensive Java applications by means of the approaches introduced in the course
To be able to demonstrate their ability to work on larger, more complex projects by collaboratively designing and then individually implementing applications, in whole or in part.

3. Textbook (Title, Author, Publisher, Year of Publication, etc.)

Herbert Schildt, Java™2: The Complete Reference, Fifth Edition, McGraw-Hill/Osborne, USA, 2002.

4. Reference

IY. Daniel Liang, Introduction To Java Programming, Pearson Education, Inc., Prentice Hall, USA, 2013.

5. Course Requirements and Grades

Exam : 80%
Practical Assignments: 20%

6. Course Calendar

Week	Main Content
1	Overview, Data Types, Variables and Arrays
2	Operators and Control Statements
3	Classes and A closer look at Methods and Classes
4	Inheritance, Overriding and Polymorphism
5	Interfaces and Packages
6	Exception Handling and Multi-threaded Programming
7	String Handling
8	Exploring java.lang and More utilities classes
9	Java Collections Framework
10	Java I/O
11	Basic Graphical User Interface
12	Event Handling
13	Database Programming
14	Applet and Networking