

University of Management and Technology

Course Outline

Course code: CS151

Course title: OBJECT ORIENTED PROGRAMMING

Program	BS Electrical Engineering
Credit Hours	3
Duration	15 weeks
Prerequisites	CS-141 Programming Fundamentals
Resource Person	Dr. Farhat Kaleem (Section B) Waseem Iqbal (Sections A and C)
Counseling Timing	As on website.
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Chairman/Director signature.....

Dean's signature.....

Date...February 2016.....

Learning Objective:

Upon completion of this course, students will:

- Have a sound understanding of object oriented programming concepts
- Develop strong programming skills in Java using APIs.
- Understand elements of classes, objects, inheritance, polymorphism and their application to various problems in computing and engineering.
- Become familiar with Java's error and exception handling mechanism.
- Be able to design and code Graphical User Interfaces.
- Become familiar with the latest developments in the world wide web

Learning Methodology:

Lectures, interactive discussions, hands-on practice in lab, formal assessments.

Grade Evaluation Criteria

Following is the criteria for the distribution of marks to evaluate final grade in a semester.

Marks Evaluation	Marks in percentage
Quizzes	25%
Mid Term	25%
Attendance & Class Participation	-
Term Project	-
Presentations	-
Final exam	50%
Total	100%

Recommended Text Books:

Bruce Eckel, 'Thinking in Java' Latest edition.(4th), 2006.

Reference Books:

Java: How to Program By Dietel 9th Ed., 2011 and

Beginning Java2 by I. Horton, 2011.

Java2: The Complete Reference by P. Naughton & H. Schildt, 1996

Calendar of Course contents to be covered during semester

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Week	Course Contents	Reference Chapter(s)
1	Course outline discussion Introduction to Object Oriented Programming and Java Installation & Environment Set up Hands-on OO programming in Java: Lab 1 Primitive data types and logical operations	TB: p.41-60 Every Thing is an Object
2	Control programming flow if statement, switch statement, for loop, while loop, do-while loop, continue, break, nested loops	TB: p.63-91 Operators TB: p.93-106 Controlling Execution
3	OOP Concepts, Class Vs Object Variable declaration, Initializing and Cleanup, Static variables	TB: p.107-119
4	Constructors Method overloading. Hands-on OO programming in Java: Lab 2	TB: p.107-143

5	Reusing Classes Polymorphism	TB: p.165-217
6	Abstract Class and Interfaces	TB: p.219-241
7	Input from the user using Scanner Class Strings Hands-on OO programming in Java: Lab 3	TB: p.355-389
8	Mid Term Exam	
9	Wrapper Classes Hands-on OO programming in Java: Lab 4	Internet

10	String Buffer Collections: java.util package. (Discussion of useful classes such as ArrayList, HashMaps etc)	TB: p.276-301
11	Basic I/O concepts, Exception Handling, File Handling	TB: p.647-677
12	Basic Graphical User Interface Components	TB: p.933-945
13	Events and Event Handling	TB: p.945-951
14	Inner Classes , Adapter Classes Hands-on OO programming in Java: Lab 5	TB: p.243-272
15	Upcoming technologies & techniques Android J2ME	Internet