

## Subject: Design Patterns – CO706

<b>Class &amp; Semester:</b> Year 4, 1 <sup>st</sup> Semester			
<b>Credits:</b> 3 Credits <b>Category:</b> Core <b>Lab hours :</b> 4 hour-session in a week 180 minutes			
<b>EVALUATION</b>			
<b>S. No</b>	<b>Quizzes and exams</b>	<b>Mark distribution</b>	
1	Mid-term exam	20	
2	Assignments/ Homework/Class Attendance/Group Project	20	
3	Final exam	60	
<b>Reference Book</b>			
<b>S. No</b>	<b>Book Name</b>	<b>Author(s) Name</b>	<b>Publisher Name &amp; Edition</b>
1	Head First Design Patterns	Eric, Elisabeth	O'Reilly
<b>Recommended Books</b>			
<b>S. No</b>	<b>Book Name</b>	<b>Author(s) Name</b>	<b>Publisher Name &amp; Edition</b>
1	Design Patterns, Elements of Reusable Object-Oriented Software	Erich, Gamma	Addison-Wesley

### **Course Description:**

This course introduces the concept of design patterns: their origins in architecture and how they apply in the discipline of software design. The motivation for studying design patterns, what they are and how to use them. After completing this course, students will be comfortable with the basics of design patterns and will be able to start using them effectively.

### **Course Objectives:**

At the end of this course, students will be able to understand what design patterns are, know why they are useful. Students will also get familiar with several specific design patterns and how to relate them to their day to day java programming work. What each pattern is, where they are used, and how they are implemented.

### **Homework and class activity details**

Throughout the semester the students are expected to work on case studies in the book and assignment which lecturer will give them.

**Detailed Course Outline:**

Week	Contents
1	Introduction to DP
2	Java Overview
3	What is design pattern?
4	Observer pattern
5	Cont. Observer pattern
6	Decorator pattern
7	Cont. Decorator pattern
8	Mid Term Exam
9	Factory pattern
10	Cont. Factory pattern
11	Singleton pattern
12	Cont. Singleton pattern
13	Command Pattern
14	Cont. Command Pattern
15	<b>Course Review</b>
16	Final Term Exam