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**First Semester 2015-2016**

**Course Handout (Part II)**

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**Date:03/08/2015**

In addition to Part I (general Handout for all courses appended to the time table), this portion gives further specific details regarding the course.

**Course No. :** CS/SS G514  
**Course Title:** Object Oriented Analysis and Design  
**Instructor-in-charge :** YASHVARDHAN SHARMA(yash@pilani.bits-pilani.ac.in)  
**Course Website :** <http://csis/faculty/yash/OOAD>

**Course Objective**

To impart a good understanding of object oriented analysis and design using the unified process. To impart an ability to apply the methodology to typical cases. The course aims at imparting a good understanding of the main UML models used in the use case driven unified process and their application to given problems.

**Scope of Course**

The course covers the analysis and design methodology in sufficient depth. The student should be able to analyze requirements using a use case model, identify the classes and their responsibilities, use interaction models to capture the requirements and the design of the solution. The application of the design axioms and the iterative nature of the process are emphasized. The use of design patterns is illustrated. Some architectural aspects (the use of access and view layers) are covered.

**Text Book**

**Object-oriented modeling and design with UML / Michael Blaha, James Rumbaugh., 2 Ed., Pearson Publications,2005**

**Reference Books**

- 1.Applying UML and Patterns, Third Edition, Craig Larman, Pearson Education, 2002
- 2.Object Oriented Analysis and Design with Applications, Grady Booch, Addison-Wesley Second Edition, 1994
3. Object Oriented Systems Development using Unified Modeling Language, Ali Behrami, McGraw Hill International Edition, 1999
4. Design Patterns, Gamma et.al., Pearson Education, 2006.





## Course Plan

Lecture #	Learning Objective	Topics	Chapter Reference
1 – 2	Introduction, Object Oriented Information systems	Overview- Object Orientation	
3 – 4	Software Development Life Cycle	Object Oriented Systems Development	+ Class Notes
5 – 7	Object Oriented Methodologies	Unified Approach	
8 – 9	Unified Modeling Language	UML Notations	
10 – 15	Object Oriented Analysis	Use Case Model Class Identification, CRC cards Domain Model	Case Studies
16 – 21	Object Oriented Design	Class Design Design Axioms and GRASP Patterns Class Diagram Interaction Diagrams	Case Studies
22 – 25	Access Layer and View Layer	Object Persistence UI Design	
26 – 32	Application of Design Patterns	Design Patterns	Ref 4
33 – 35	Architecture and Framework	Object Oriented Systems Architectures Frameworks	Class Notes
36– 40	Software Quality Assurance	Object Oriented Testing	Class Notes





### Evaluation Scheme

Component	Duration	Weightage(%)	Date & Time	Venue	Mode
Mid SemTest	90 Min	25	8/10 10:00 - 11:30 AM	TBA	Closed Book
Assignments, Projects		35	To be announced		Open Book
Comprehensive	3 Hrs	40	8/12 AN	TBA	Partly Closed

### Assignments and Projects

Assignments/projects will be evaluated through a Viva-Voce.

Details of assignments/projects including problem specifications, deliverables, team sizes, deadlines, and Viva-voce schedule will be posted on the course website.

### Make-up Policy

- No Make-up will be available for any of the assignments.
- Prior Permission of the Instructor-in-Charge is required to take a make-up for a test.
- A make-up test shall be granted only in genuine cases where - in the Instructor's judgment - the student would be physically unable to appear for the test.

### Chamber Consultation Hours

To be announced through course website

### Notice

All the notices of this course will be displayed at **IPC notice board** only

Instructor-in-Charge

CS/SS G514

