



First Semester 2016-2017 Course Handout Part-II

Date: 02/08/2016

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 G514 / SS G514

Course Title : Object Oriented Analysis and Design

Instructor-in-Charge : YASHVARDHAN SHARMA

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Chamber: 6120-I

Course web page : Course page on Nalanda, the on-campus learning management system

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, and 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.

Textbook:

T1. Object Oriented Modeling and Design using UML, Second Edition, Michael Blaha and James Rumbaugh, Pearson Education, 2005

Reference Books:

R1. Applying UML and Patterns, Third Edition, Craig Larman, Pearson Education, 2002

R2. Object Oriented Analysis and Design with Applications, Grady Booch, Addison-Wesley Second Edition, 1994

R3. Object Oriented Systems Development using Unified Modeling Language, Ali Behrami, McGraw Hill International Edition, 1999

R4. Design Patterns, Gamma et. al., Pearson Education, 2006.





Lecture Plan:

Lecture No.	Topics to be covered	Reference
01 - 03	Introduction, Object Oriented Information systems Overview- Object Orientation	T1.Ch01 + Class Notes
03 - 04	Software Development Life Cycle Object Oriented Systems Development	T1.Ch 21 + Class Notes
05 - 07	Object Oriented Methodologies Unified Approach	T1.Ch 21, 22
08 - 09	Unified Modeling Language UML Notations	Class Notes
10 - 15	Object Oriented Analysis, Use Case Model, Class Identification, CRC cards, Domain Model, Activity Diagrams, System Design	T1.Ch 2,10,11,12,13, 14 and Case Studies
16 - 21	Object Oriented Design, Class Design, Advanced Class Modeling, Design Axioms and GRASP Patterns, Class Diagram Interaction Diagrams, Advanced Interaction Modeling	T1.Ch 15,3,7, 8 and Case Studies
22 - 23	State Modeling, UML State Charts, Advanced State Modeling	T1.Ch 5,6
24 - 25	Access Layer and View Layer, Object Persistence, UI Design	T1.Ch 19
26 - 26	Implementation: Implementation Modeling	T1.Ch 17
27 - 32	Application of Design Patterns Design Patterns	T1.Ch 20, R4
33 - 35	Architecture and Framework, Object Oriented Systems Architectures Frameworks	Class Notes
36 - 40	Software Quality Assurance Object Oriented Testing	Class Notes

Evaluation Scheme:

S. No.	Evaluation Component	Duration	Weightage	Date & Time	Nature
1.	Mid-Semester Test	90 Minutes	25%	4/10 4:00 - 5:30 PM	Closed Book
2.	Assignments, Projects		35%		Open Book
3.	Comprehensive Examination	180 Minutes	40%	5/12 AN	Partly Closed Book

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 **CSIS notice board** only

Instructor-in-Charge

CS/SS G514

