Second Semester 2015-2016
Course Handout Part-II

Date: Jan 12, 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	:	**AVINASH GAUTAM**
Email	:	**avinash@pilani.bits-pilani.ac.in**
Chamber	:	**6121-Y**
Course web page	:	**Course page on Nalanda, the on-campus learning management system**

Scope and Objective of the Course:
The course covers the object oriented analysis and design methodology, requirements-analysis using a use case model, use interaction models to capture the requirements and the design of the solution, in sufficient detail. The course will also cover topics like design patterns, implementation, testing, and architecture with respect to object oriented systems. After completion of the course the students will have good understanding of object oriented analysis and design using the unified process and will be able 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.

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-Wesly 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

Lecture No.	Topics to be covered	Reference
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	Weight	Date & Time	Nature
1.	Mid-Semester Test	90 Minutes	25%	17/3 4:00- 5:30 PM	CB
2.	*Project Work	4 Weeks	25%	March	OB
3.	Comprehensive Examination	180 Minutes	45%	11/5 AN	CB-OB

*   Details of project will be posted on Nalanda.

Notices	:	Notices will be displayed only on the IPC notice board or/and course website.
Makeup Policy	:	Make up will be granted only in case of hospitalization.
Chamber Consultation	:	All working days (take prior appointment through e-mail)

Instructor In-Charge
CS/SS G514