Birla Institute of Technology & Science, Pilani
Hyderabad Campus

FIRST SEMESTER 2015-2016
INSTRUCTION DIVISION
COURSE HANDOUT (Part-II)

30/07/2015

Course No. : **IS C341**
Course Title : **Software Engineering**

INSTRUCTOR-IN-CHARGE: **RAKHEE** **rakhee@hyderabad.bits-pilani.ac.in**

INSTRUCTOR: Rakhee, KCS Murti

Course Description
Software Engineering Concepts and Methodologies; Formal Requirements Specification; Estimation; Software Project Planning; Detailed Design; Techniques of Design; Productivity; Documentation; Programming Language Styles; Code Review; Tools; Integration & Validation; Software Quality Assurance; Software Maintenance; Automated Tools in Software Engineering.

Objectives
- Teach fundamental principles and techniques used in the development of large software systems.
- Provide ability to work on real life IT projects.

At the end of the course, the students will be able to take up software development projects following standard processes.

Text Book

T1 Pressman, R.S., Software Engineering: A Practitioner's Approach, MGHISE, 7th Ed. 2010 and MGHISE,6th Ed.2005
T2 Larman, C., Applying UML and Patterns: An Introduction to Object-Oriented Analysis & Design and the Unified Process, Pearson Education, 2nd Ed., 2002.

Reference Books
R0 Pankaj Jalote, An integrated Approach to Software Engineering, Narosa
R1. Summerville I, Software Engineering, Pearson Education, 7th Edition, 2005
R2. Grady Booch et.al, Unified Modeling Language User Guide, Pearson Education, 1999
R3. Meilir Page-Jones, Fundamentals of Object-Oriented Design in UML, Pearson Education.
R4. Martin Fowler et.al., UML Distilled, Pearson Education, 2000.
R5. Terry Quatrani, Visual Modeling with Rational Rose 2000and UML, Addison Wesley, 2000.
R6. James W Cooper: Java Design Patterns; A Tutorial, Pearson Education, 2000
R7. Erich Gamma et. al., Design Patterns : Elements of Reusable Object-Oriented Software, Pearson Education, 2000

Note that a significant amount of UML related material is available on the OMG website: www.omg.org

Lecture Plan:

Lecturer No.	Topics	Reference Text Book
L1	Introduction to Software Engineering (SE)	Ch. 1
L2-4	SE - Process Models, Unified Process	Ch 2-3
L5-6	Agile View of Process	Ch 4
L7-10	Requirements Engineering	Ch6,7
L11-13	System Models	Ch8
L14-17	Software Design Notations (functional and object oriented)	Ch8, 9,T2, R2
L18-21	UML design techniques	T2, R2
L21	Design engineering	Ch8, 9,T2, R2
L22-25	Software Architecture, design patterns	Ch 11,12 R1
L26-31	Software Testing – Strategies & Tactics	Ch 13,14
L32 – L37	Software project management – Estimation , Project Schedule & Risk Management	Ch 23-27
L38-40	Software Metrics	Ch 15
L41-42	Quality Assurance and Reliability	Ch26
L43–L44	Advanced Topics in SE	-

EVALUATION SCHEME:

S No.	Component	Duration	Weightage	Date, Day & Hour	Remarks
1	Test-1	1hour	15%		Close Book
2	Test-2	1hour	15%		Close Book
3.	Labs/assignments		40%		Open Book
4.	Comprehensive Examination	3 hours	30%(10% closed+20 %open)		Close /Open Book

Labs/Assignments will include the following components involving complete SDLC:

- Requirements
- Design and documentation using UML
- Project management
- Quality

Chamber Consultation Hours: To be announced later.

Make-up Policy: No makeup will be given for Team project and assignments. However for Tests makeup may be granted on only genuine grounds if permission is sought from the Instructor-in-charge prior to the test.

Notices: Notices regarding the course will be posted on CMS.

Instructor-in-charge

IS C341