

Subject Code: 1ET1100205	Subject Title: Software Engineering and Modeling
Pre-requisite	UML Design in Software Engineering

Course Objective: To describe how a given software implementation will affect its surroundings. To address the requirements and planning of an Information System. To acquire knowledge about design and development of various software process models and Information system tools. To apply standard coding practice in developing software project. To know about planning and management of software projects as per industry standard.

Teaching Scheme (Hours per week)				Evaluation Scheme (Marks)				
Lecture	Tutorial	Practical	Credit	Theory		Practical		Total
				University Assessment	Continuous Assessment	University Assessment	Continuous Assessment	
3	1	2	5	70	30	30	20	150

6	Case study: Analyze and design the following systems: Online banking system, Online furniture shopping mobile application, E-health care management system, Online bus reservation system, Human resource management system, Online examination system.	6	15
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Course Learning Outcomes (CLO): On completion of this course, the students will be able to:

CLO	Description	Bloom's Taxonomy Level
CL01	After learning this course students will understand the actual process of software developing.	2. Understanding
CL02	Students can analyze the whole software from the initial phase.	1. Remembrance 3. Application
CL03	At the end of this course, learners can test Software quality via various testing techniques.	5. Evaluate
CL04	Students will be able to know various processes used In all the phases of the product.	4. Analyze
CL05	Demonstrate an understanding of and apply current theories, models, and techniques that provide a basis for the software lifecycle.	3. Application

Mapping of CLOs with POs & PSOs

Course Learning Outcomes	Program Outcomes (POs)												Program Specific Outcomes(PSOs)			
	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO10	PO11	PO12	PSO 1	PSO 2	PSO 3	PSO 4
CL01	-	H	M	L	M	L	L	M	H	L	M	H	H	M	H	M
CL02	M	L	L	-	H	L	-	M	M	M	H	H	H	H	M	M
CL03	M	L	L	L	M	M	L	L	H	M	M	H	M	H	M	H
CL04	H	L	M	L	-	L	L	L	M	M	L	H	H	M	M	M
CL05	M	L	M	M	H	M	L	M	M	M	H	H	H	M	M	M

H: High, M: Medium, L: Low

List of Book References:

1. Sommerville, "Software Engineering ", Pearson.
2. Pressman, "Software Engineering: A Practitioner's Approach", TMH.
3. Rajib Mall, "Fundamentals of Software Engineering " , PHI
4. James R Rumbaugh, "Object Oriented Modeling and Design with UML".

E-Resources / Web Links

1. <http://nptel.ac.in/>
2. <http://www.mhhe.com/engcs/compsci/pressman/student/olc/cases.mhtml>
3. [http://www.softwaretestingclass.com/softwaretesting tools list/](http://www.softwaretestingclass.com/softwaretesting%20tools%20list/)
4. <http://www.rspa.com/spi/>
5. <https://www.edx.org/school/ucberkeleyx>

List of Experiments:

1. Study about various software development models.
2. Gathering and analyzing requirements of any two software systems.
3. Prepare SRS for a software system.
4. Design activity and use case diagram for your system.
5. Design Data dictionary for your system.
6. Prepare class diagram and ER diagram for a system.
7. Design Data flow diagram for system.
8. Study about various testing techniques.
9. Prepare various test cases for any two systems.
10. Study about different types of testing tools and discuss any two in details.