Prasad.V.Potluri Siddhartha Institute of Technology ,Kanuru,Vijayawada

SOFTWARE ENGINEERING PARADIGMS

Course Code	19IT3403	**Year**	II	**Semester**	II
Course Category	PC	**Branch**	IT	**Course Type**	Theory
Credits	3	**L-T-P**	3-0-0	**Prerequisites**	Basics of IT
Continuous Internal Evaluation :	30	**Semester End Evaluation:**	70	**Total Marks:**	100

Course Outcomes		**Blooms Taxonomy Level**
Upon Successful completion of course, the student will be able to		
CO1	Understand the process of software engineering and various process models.	L2
CO2	Design the requirements of software system.	L3
CO3	Use various design elements to prepare software system.	L3
CO4	Analyze various testing techniques.	L3

Contribution of Course Outcomes towards achievement of Program Outcomes & Strength of correlations (H:High, M: Medium, L:Low)

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	**1**	**1**	**1**				**1**				**1**		**3**	**1**
CO2	**1**	**1**	**1**				**1**				**1**		**3**	**2**
CO3	**1**	**2**	**2**				**2**				**2**		**3**	**2**
CO4	**1**	**1**	**1**				**1**				**1**		**3**	**2**

Syllabus		
Unit No	**Contents**	**Mapped CO**
I	**Software and Software Engineering:** The Nature of Software, The Unique Nature of WebApps, Software Engineering, Software Process, Software Engineering Practice, Software Myths. **Process Models:** A Generic Process Model : Defining a frame work activity, Prescriptive Process Models: The Waterfall Model ,Incremental Process Model, Evolutionary Process Model, The Unified Process, What is an Agile Process?, XP Process.	**CO1**
II	**Requirements Analysis And Specification:** Requirements Gathering and Analysis, Software Requirement Specification (SRS): Characteristics of good SRS, Functional Requirements, Organization of SRS. **Software Design:** Overview of the Design Process, How to Characterize of a Design?, Cohesion and Coupling, Approaches to Software Design.	**CO2,CO3**
III	**Function-Oriented Software Design:** Overview of SA/SD Methodology, Structured Analysis, Structured Design, Detailed Design, Design Review. **User Interface Design**: Characteristics of Good User Interface, Basic Concepts, Types of User Interfaces, A User Interface Design Methodology.	**CO1,CO3**
IV	**Coding And Testing:** Coding, Code Review, Software Documentation, Testing, Unit Testing, Black-Box Testing, White-Box Testing, Debugging, Integration Testing, System Testing.	**CO1,CO4**
V	**Software Reliability And Quality Management:** Software Reliability, Statistical Testing, Software Quality, Software Quality Management System. **Software Maintenance:** Software maintenance, Maintenance Process Models, Maintenance Cost. **Software Reuse**: what can be reused? Why almost No Reuse So Far? Basic Issues in Reuse Approach.	**CO1,CO4**

Learning Resources

Text Books

1. Software Engineering - A Practitioner's Approach, Roger S. Pressman, Seventh Edition McGrawHill International Edition.
2. Fundamentals of Software Engineering, Rajib Mall, Third Edition, PHI.

References

1. Software Engineering : A Primer, Waman S Jawadekar, Tata McGraw-Hill, 2008
2. Software Engineering, A Precise Approach, PankajJalote, Wiley India,2010.
3. Software Engineering, Principles and Practices, Deepak Jain, Oxford University Press.
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E-Resources and other Digital Material

1. https://nptel.ac.in/courses/106101061/