



Course Title : Software Engineering			
Course Code : P18CS54	Semester : 5	L :T:P : 4:0:0	Credits: 4
Contact Period: Lecture: 52 Hrs, Exam: 3 Hrs		Weightage: CIE:50%, SEE:50%	

Prerequisites : Knowledge of process and product software.

Course Content

Unit-1

OVERVIEW: Introduction to Software Engineering, Introduction, Professional software development, Software engineering ethics.

Software processes: Software process models, Process activities, coping with change, The Rational Unified Process.

Self study component : Case studies.

8 Hours

Unit-2

Agile software development: Agile methods, Plan driven and agile development, Extreme programming, Agile project management.

Requirements engineering: Functional and non-functional requirements, the software requirements document Requirements specification, Requirements engineering processes, Requirements elicitation and analysis, Requirements validation, Requirements management.

Self study component : Scaling agile methods.

12 Hours

Unit-3

System modelling: Context models, Interaction models, Structural models, Behavioural models, Model-driven engineering.

Architectural design: Architectural design decisions, Architectural views, Architectural patterns.

Self study component : Application architectures

12 Hours

Unit-4

Design and Implementation: Object-oriented design using the UML Design patterns, Implementation issues.

Software testing: Development testing, Test-driven development, Release testing, User testing.

Self study component : Open source development.

10 Hours

Unit-5

Project management: Risk management, Managing people, Teamwork.

Configuration management: Change management, Release management.

Self study component : Version management System building.

8 Hours

Text book:

1. **Software Engineering** – Ian Somerville, 10th Edition, ©2016 | **Pearson** .

Reference books :

1. **Software Engineering: A Practitioners Approach** - Roger S. Pressman, 7th Edition, McGraw-Hill, 2007.
2. **Software Engineering Theory and Practice** - Shari Lawrence Pfleeger, Joanne M. Atlee, 3rd Edition, Pearson Education, 2006.



3. **Software Engineering Principles and Practice**–Waman S Jawadekar, Tata McGraw Hill, 2004 **Software Engineering** – Pankaj Jalote, Tata McGraw Hill

Course Outcomes : At the end of the course the student should be able

1. **Explore** the various types of software process.
2. **Elaborate** the importance of software development.
3. **Asses** the significance of software engineering.
4. **Compare** different Software Development methods.
5. **Identify** the different forms of Software Development.

CO-PO mapping

Semester: 5 th		Course code : P18CS54					Title : Software Engineering								
CO	Statement	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PS O1	PS O2
1	Introduction to Software Engineering.	3	2	1	1		1	1							1
2	Describe the process of Software Engineering, the technologies used for Software Engineering, and configuration management of Software Engineering.	3	2	2	1	2	1		1				1		2
3	Apply Architectural Design Architectural design decisions System organization Modular decomposition styles Control styles.	2	2	2		1			1	1					2
4	Understand what Software Testing is.	2	2	3	1			1		1					2
5	Explain Project management Risk management, Managing people, Teamwork, Understand Configuration management	2	1	1		1		1	1	1		1	1		2