

# PESIT Bangalore South Campus

## 15CS42: SOFTWARE ENGINEERING

Faculty :Mrs. Shubha Raj K.B. and Saraswathi P

No Of Hours: 50

Class#	Chapter Title/ Reference Literature	Topics to be covered	%of Portion Covered	
			Reference Chapter	Cumulative
	<b>MODULE 1</b> <b>Chapter 1, 2 &amp; 4</b>	<b>Introduction:</b> Software Crisis,	24%	24%
1		Need for Software Engineering		
2		Professional Software Development, Software Engineering Ethics. Case Studies.		
3		<b>Software Processes:</b> Models: Waterfall Model ( <b>Sec 2.1.1</b> ),		
4		Incremental Model ( <b>Sec 2.1.2</b> ) and Spiral Model ( <b>Sec 2.1.3</b> ).		
5		Process activities.		
6		<b>Requirements Engineering:</b> Requirements Engineering Processes ( <b>Chap 4</b> ).		
7		Requirements Elicitation and Analysis ( <b>Sec 4.5</b> ).		
8		Functional and non-functional requirements ( <b>Sec 4.1</b> ).		
9		The software Requirements Document ( <b>Sec 4.2</b>		
10		Requirements Specification ( <b>Sec 4.3</b> ).		
11		Requirements validation ( <b>Sec 4.6</b> ).		
12	Requirements Management ( <b>Sec 4.7</b> )			
	<b>MODULE 2</b>	<b>System Models:</b>		

13	<b>Chapter 2.4 , 5 ,7 &amp; 17</b>	Context models ( <b>Sec 5.1</b> ).	22%	46%
14		Interaction models ( <b>Sec 5.2</b> ).		
15		Structural models ( <b>Sec 5.3</b> )		
16		Behavioral models ( <b>Sec 5.4</b> ).		
17		Model-driven engineering ( <b>Sec 5.5</b> ).		
18		<b>Design and Implementation:</b> Introduction to RUP ( <b>Sec 2.4</b> ),		
19		Design Principles ( <b>Chap 17</b> ).		
20		Object-oriented design using the UML ( <b>Sec 7.1</b> ).		
21		Design patterns ( <b>Sec 7.2</b> ).		
22		Implementation issues ( <b>Sec 7.3</b> ). Open source development ( <b>Sec 7.4</b> ).		
		<b>MODULE 3 Chapter 8 &amp; 9</b>		
23	<b>Software Testing:</b> Development testing ( <b>Sec 8.1</b> ),			
24	Test-driven development ( <b>Sec 8.2</b> ) continued			
25	Release testing ( <b>Sec 8.3</b> ),			
26	User testing ( <b>Sec 8.4</b> ).			
27	Test Automation ( <b>Page no 42, 70,212, 231,444,695</b> ).			
28	Test Automation ( <b>Page no 42, 70,212, 231,444,695</b> ).			
29	<b>Software Evolution:</b> Evolution processes ( <b>Sec 9.1</b> ).			
30	Program evolution dynamics ( <b>Sec 9.2</b> )			
31	Software maintenance ( <b>Sec 9.3</b> ).			
	<b>MODULE 4 Chapter 23 &amp; 24</b>	<b>MODULE 4</b>	20%	84%
32		<b>Project Planning:</b> Software pricing ( <b>Sec 23.1</b> ).		
33		<b>Project Planning:</b> Software pricing ( <b>Sec 23.1</b> ).		
34		Plan-driven development ( <b>Sec 23.2</b> ).		
35		Plan-driven development ( <b>Sec 23.2</b> ).		
36		Project scheduling ( <b>Sec 23.3</b> ):		
37		Estimation techniques ( <b>Sec 23.5</b> )		

38		<b>Quality management:</b> Software quality ( <b>Sec 24.1</b> ).		
39		Reviews and inspections (Sec 24.3).		
40		Software measurement and metrics ( <b>Sec 24.4</b> )		
41		Software standards ( <b>Sec 24.2</b> )		
42		Software standards ( <b>Sec 24.2</b> ) continue		
	<b>MODULE 5</b> <b>Chapter</b> <b>2.3,3.3,3.2,3.4</b> <b>&amp; 3.5</b>	<b>SYSTEM MODELS, PROJECT MANAGEMENT</b>	16%	100%
43		<b>Agile Software Development:</b> Coping with Change ( <b>Sec 2.3</b> ),		
44		Coping with Change ( <b>Sec 2.3</b> ) continue		
45		The Agile Manifesto: Values and Principles.		
46		The Agile Manifesto: Values and Principles continue		
47		Agile methods: SCRUM (Ref " <b>The SCRUM Primer, Ver 2.0</b> ") and Extreme Programming ( <b>Sec 3.3</b> ).		
49		Plan-driven and agile development ( <b>Sec 3.2</b> ).		
49		Agile project management ( <b>Sec 3.4</b> ),		
50		Scaling agile methods ( <b>Sec 3.5</b> ):		

#### Literature:

<b>Book Type</b>	<b>Code</b>	<b>Title &amp; Author</b>	<b>Publication Info</b>		
			<b>Edition</b>	<b>Publisher</b>	<b>Year</b>
Text Book	T1	<b>Software Engineering</b> – Ian Somerville Pearson Education, 2012	<b>9th</b>	<b>Pearson Education</b>	<b>2012</b>
WEB SITE	T1	The SCRUM Primer, Ver 2.0, <a href="http://www.goodagile.com/scrumprimer/scrumprimer20.pdf">http://www.goodagile.com/scrumprimer/scrumprimer20.pdf</a>			
Reference Book	R1	<b>Software Engineering: A Practitioners Approach</b> - Roger S.	<b>7th</b>	<b>McGraw-Hill</b>	<b>2007</b>
Reference Book	R2	<b>An Integrated approach to Software Engineering,</b> - Pankaj Jalote	<b>Wiley India</b>	<b>McGraw-Hill</b>	<b>2009</b>





