LECTURE SCHEDULE

DEPARTMENT OF COMPUTER SCIENCE ENGINEERING & INFORMATION TECHNOLOGY

Branch & Section : **III B.Tech - II Sem – CSE-2** **Regulation: R13**
Subject : **SOFTWARE ENGINEERING** **AcademicYear: 2017 -2018**
Name of the Faculty : **K.N.S.Chitra**

COURSE OBJECTIVES

At the end of the course, the students will be able to:
The students will have a broad understanding of the discipline of software engineering and its application to the development of and management of software systems.

COURSE OUTCOMES:

After completing this course the student must demonstrate the knowledge and ability to:
1. Knowledge of basic SW engineering methods and practices, and their appropriate application;
2. General understanding of software process models such as the waterfall and evolutionary models.
3. Understanding of the role of project management including planning, scheduling, risk management, etc.
4. Understanding of software requirements and the SRS document.
5. Understanding of different software architectural styles.
6. Understanding of implementation issues such as modularity and coding standards.
7. Understanding of approaches to verification and validation including static analysis, and reviews.
8. Understanding of software testing approachs such as unit testing and integration testing.
9. Understanding of software evolution and related issues such as version management.
10. Understanding on quality control and how to ensure good quality software.
11. Understanding of some ethical and professional issues that are important for software engineers.
12. Development of significant teamwork and project based experience

UNIT	TOPIC	NO. OF CLASSES
Unit 1	**Introduction to Software Engineering**	
	Introduction, Software, Software Crisis, Software Engineering definition	3
	Evolution of Software engineering methodologies, SE Challenges	2
	Software Process, Process Classification, Phased Development life cycle	2
	Software Development Process Models	2
	Total Classes Required:	**9**
Unit 2	**Requirements Engineering**	
	Software Requirements, Requirements Engineering Process	1
	Requirements Elicitation, Requirements Analysis	3
	Structured Analysis	2
	Data Oriented Analysis, Object Oriented Analysis	3
	Prototyping Analysis, Requirements Specifications	3
	Requirements Validation, Requirements Management	1
	Total Classes Required:	**13**

Unit 3	**Software Design**	
	Software Design process, characteristics of good software design	1
	Design principles	1
	Modular design, Design methodologies	2
	Structured Design, Structured Design Methodology	2
	Transform vs Transaction Analysis	1
	Object Oriented Analysis and Design Principles	3
	Total Classes Required:	**10**
Unit 4	**Implementation & Software Testing**	
	Coding Principles, Coding Practice	1
	Code Verification, Code Documentation	1
	Testing fundamentals, Test Planning	2
	Black Box Testing	2
	White Box Testing	2
	Levels of Testing, Usability Testing	2
	Regression Testing, Debugging Principles	1
	Total Classes Required:	**11**
Unit 5	**Software Project Management, Planning and Estimation**	
	Project Management essentials	1
	Project Management, Software Configuration Management	2
	Project Planning activities, Software Metrics,	2
	Project Size Estimation, Effort Estimation Techniques	3
	Total Classes Required:	**8**
Unit 6	**Software Quality, Software Maintenance**	
	Software quality factors	1
	Verification and Validation	2
	Software quality assurance	1
	Capability Maturity Model	1
	Software Maintenance	2
	Maintenance cost, Reengineering	2
	Reengineering activities, Software reuse	1
	Total Classes Required:	**10**

OVERALL NUMBER OF CLASSES REQUIRED: **61**

TEXT BOOKS:

1. Software Engineering, concepts and practices, Ugrasen Suman, Cengage learning
2. Software Engineering, 8/e, Sommerville, Pearson.
3. Software Engineering, 7/e , Roger S.Pressman , TMH

REFERENCES:

1. SOFTWARE ENGINEERING, A PRECISE APPROACH, PANKAJ JALOTE, WILEY
2. SOFTWARE ENGINEERING PRINCIPLES AND PRACTICE, W S JAWADEKAR, TMH
3. SOFTWARE ENGINEERING CONCEPTS, R FAIRLEY, TMH

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