

Course: 302 : Software Engineering-I

Course Code	302
Course Title	Software Engineering - I
Credit	3
Teaching per Week	3 Hrs
Minimum weeks per Semester	15 (Including Class work, examination, preparation etc.)
Review / Revision	June 2015
Purpose of Course	Computer software engineers apply the principles and techniques of computer science, engineering, and mathematical analysis to the design, development, testing, and evaluation of the software and the systems that enable computers to perform their many applications.
Course Objective	<ol style="list-style-type: none"> 1. To make students understand how to engineer the software. 2. To make students understand various components of software process model and their working. 3. To make students understand the importance of requirement analysis. 4. To make students understand various approaches of system design.
Pre-requisite	Prior knowledge of some software
Course Out come	After studying this, students will be able to understand how software is engineered and importance of various aspects of software engineering. This course will also help students appreciate the role of various design principles. After successful completion students will be able to perform requirement analysis and system design for their applications.
Course Content	<p>Unit 1. Introduction</p> <ol style="list-style-type: none"> 1.1 What is software? 1.2 Software characteristics. 1.3 Software Engineering: definition. <p>Unit 2. Software Engineering</p> <ol style="list-style-type: none"> 2.1 Software Applications, Myths. 2.2 Software Engineering: Generic View. <p>Unit 3. Software Process models</p> <ol style="list-style-type: none"> 3.1 Introduction of Waterfall model. 3.2 Prototype model. <p>Unit 4. Requirement analysis</p> <ol style="list-style-type: none"> 4.1 Introduction. 4.2 Current Application Analysis. 4.3 Requirement gathering techniques & Fact Finding, Recording Outcome. 4.4 DFD, Data Dictionary and Process Specification. 4.5 Importance of Requirement Specifications. 4.6 Software Requirement Specification Document. <p>Unit 5. System Design</p> <ol style="list-style-type: none"> 5.1 Design model.

	<p>5.2 Principal and Concepts.</p> <p>5.3 Functional Independence.</p> <p>5.4 Module & Sequence.</p> <p>5.5 Effectiveness of Modular Design.</p> <p>5.6 Mapping of Requirements into Design.</p> <p>5.7 Design Documentation.</p>
Reference Books	<ol style="list-style-type: none"> 1. Software Engineering - A Practitioners' approach, R. S. Pressman – McGraw Hill. 2. Software Engineering concepts, Richard Fairley – McGraw Hill. 3. An Integrated Approach to Software Engineering, Pankaj Jalota – Narosa. 4. Software Engineering A Concise Study, Kelkar - PHI 5. Fundamentals of Software Engineering, 4th Edition, Rajib Mall - PHI 6. Software Engineering, 9th Edition, Ian Sommerville - Pearson Education 7. System Analysis & Design in changing world, Sstzinger, Jackson, Burd – Course Technology 8. System Analysis, Design & Introduction to S/W Engineering, Prof. S. Parthasathy & Prof. B.W. Khalkar – Master Academy, Nashik 9. System Analysis & Design, Elias M – Galgotia Pub. 10. System Analysis & Design, Richard Fairley - Galgotia Publications
Teaching Methodology	Class Work, Discussion, Self Study, Seminars and/or Assignments
Evaluation Method	<p>30% Internal assessment.</p> <p>70% External assessment.</p>