



## MANIPAL UNIVERSITY JAIPUR

School of Computing and Information Technology

Department of Computer Science and Engineering  
Course Hand-out

Software Engineering | CS 1502 | 4 Credits

Session: 2015-2016 | Faculty: Roheet Bhatnagar

**Course Outcomes:** At the end of the course, students will be able to

- [I502.1]. Describe basic concept related to software engineering Methods, tool, Process Model and use them in software project.
- [I502.2]. Apply different Estimation Techniques based on project Metrics, Measures and indicators
- [I502.3]. Design software and architecture at different detail levels based on requirements for software projects
- [I502.4]. Demonstrate the Testing methods and their procedures to implement in any project
- [I502.5]. Improve entrepreneurship skills by Assess quality of software projects based on software quality assurance techniques.

### A. SYLLABUS

Introduction: The Evolving Role of Software, The changing nature of software, Legacy software, Software Myths, Software Engineering: A Layered Technology, A Process Framework, umbrella activities, measures, metrics, indicators, The Capability Maturity Model Integration (CMMI), Specialized Process Models, The Unified Process; Agile development: Agile Process Models Software Engineering Practice, Communication Practice, Planning Practices, Modeling Practices, Construction Practice, Deployment Computer-Based Systems, The System Engineering Hierarchy, Business Process Engineering: An Overview; Product Engineering: An Overview, Data Modeling Concepts, Object Oriented Analysis, Flow-Oriented Modeling, Taxonomy of Quality Attributes, Perspectives of Quality, Quality System, Software Quality Assurance, Capability Maturity Model Observation on Estimation, The Project Planning Process, Software Scope and Feasibility, Human Resources, Empirical Estimation Model.

### B. TEXT BOOKS

- i. Pressman R, Software Engg. Practioner Approach (MGH), 2006
- ii. Jalote Pankaj, An integrated approach to Software Engineering (Narosa)
- iii. Rajib Mall, Introduction to Software Engineering, TMH

