# SOFTWARE PROCESS AND PROJECT MANAGEMENT

**Course Code:** 13IT2110 **L P C**
**4 0 3**

**Pre requisites:**

1. Software Engineering.
2. Software Project Management.

**Course Outcomes:**

At the end of the course, a student will be able to

CO 1: Describe software process maturity framework.
CO 2: Explain conventional software management and software economics.
CO 3: Discuss software projects and project planning.
CO 4: Analyze project tracking and control.
CO 5: Assess the role of project closure analysis.

**UNIT-I**

**Software Process Maturity, Software maturity Framework:** Principles of Software Process Change, Software Process Assessment, The Initial Process, The Repeatable Process, The Defined Process, The Managed Process, The Optimizing Process.

**Process Reference Models**

**Capability Maturity Model (CMM):** CMMi, PCMM, PSP, TSP, IDEAL, Process Definition Techniques.

**UNIT-II**

**Software Project Management Renaissance:** Conventional Software Management, Evolution of Software Economics, Improving Software Economics, The old way and the new way.

**UNIT-III**

**Managing Software Projects:** Project Management and the CMM, Project Management and CMMi, Project Management Process Framework.

**Project Planning:** Software Life Cycle Models, Project Organizations and Responsibilities, Artifacts of the Project Management Process, Cost and Scheduling estimation, Establishing Project Environment, Risk Management, Quality Assurance and Configuration Management.

**UNIT-IV**

**Project Tracking and Control:** Defect Tracking, Issue Tracking, Status Reports, Milestone Analysis, Defect Analysis and Prevention Methods, Process monitoring and audit, Reviews, Inspections and Walkthroughs, Seven Core Metrics, Management indicators, Quality Indicators.

**UNIT-V**

**Project Closure:** Project Closure Analysis, Role of Closure Analysis in a project, Performing Closure Analysis, Closure Analysis Report.

**CCPDS-R Case Study and Future Software Project Management Practices:** Modern Project Profiles, Next-Generation software Economics, Modern Process Transitions.

**Text Books:**

1. Watts S. Humphrey, *Managing the Software Process*, 1st Edition, Pearson Education, 2002.
2. Walker Royce, *Software Project Management A Unified Framework*, 1st Edition, *Pearson* Education, 2002.

**References:**

1. Watts S. Humphrey, *An Introduction to the Team Software Process*, 1st Edition, Addison-Wesley International Publications, 2000.

2. Watts S. Humphrey, *A Discipline to Software Engineering*, 1st Edition, Pearson Education, 2008.

3. Pankaj Jalote, *Software Project Management in Practice* , 1st Edition , Pearson Education, 2011.

4. Chris Kemerer , *Software Project Management Readings and Cases*, 1st Edition, Pearson Education, 2011.

**Web references:**

1. www.projectreference.com
2. www.projectminds.com/usefulwebsite.html