SOFTWARE PROCESS AND PROJECT MANAGEMENT

Course Code: 15IT2110

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Pre requisites:
1. Software Engineering.
2. Software Project Management.

Course Outcomes:
At the end of the course, a student will be able to
CO1: Describe software process maturity framework.
CO2: Explain conventional software management and software economics.
CO3: Discuss software projects and project planning.
CO4: Analyze project tracking and control.
CO5: Assess the role of project closure analysis.

UNIT-I (10-Lectures)
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

UNIT-II (10-Lectures)
Capability Maturity Model (CMM): CMMi, PCMM, PSP, TSP, IDEAL, Process Definition Techniques.
Software Project Management Renaissance: Conventional Software Management, Evolution of Software Economics, Improving Software Economics, The old way and the new way.

UNIT-III (10-Lectures)
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 (10-Lectures)

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 (10-Lectures)

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