Software Project Management

Course Objectives:

To study how to plan and manage projects at each stage of the software development life cycle (SDLC)

To train software project managers and other individuals involved in software project planning and tracking and oversight in the implementation of the software project management process.

To understand successful software projects that support   organization's strategic goals

Course Outcomes:

To match organizational needs to the most effective software development model

To understand the basic concepts and issues of software project management

To effectively Planning the software projects

To implement the project plans through managing people, communications   and change

To select and employ mechanisms for tracking the software projects

To conduct activities necessary to successfully complete and close the   Software projects

To develop the skills for tracking and controlling software deliverables

To create project plans that address real-world management challenges

Syllabus:

Unit I: Introduction
Project, Management, Software Project Management activities, Challenges in software projects, Stakeholders, Objectives & goals
Project Planning: Step-wise planning, Project Scope, Project Products & deliverables, Project activities, Effort estimation, Infrastructure

Unit II: Project Approach
Lifecycle models, Choosing Technology, Protoyping
Iterative & incremental Process Framework: Lifecycle phases, Process Artifacts, Process workflows (Book 2)

Unit III: Effort estimation & activity Planning
Estimation techniques, Function Point analysis, SLOC, COCOMO, Usecase-based estimation , Activity Identification Approaches, Network planning models, Critical path analysis

Unit IV: Risk Management
Risk categories, Identification, Assessment, Planning and management, PERT technique, Monte Carlo approach

Unit V: Project Monitoring & Control , Resource Allocation
Creating a framework for monitoring & control, Progress monitoring, Cost monitoring, Earned value Analysis, Defects Tracking, Issues Tracking, Status reports, Types of Resources, Identifying resource requirements, Resource scheduling

Unit VI: Software Quality
Planning Quality, Defining Quality - ISO 9016, Quality Measures, Quantitative Quality Management Planning, Product Quality & Process Quality
 Metrics, Statistical Process Control Capability Maturity Model, Enhancing software Quality (Book3)

Text Books:

Software Project Management, Bob Hughes & Mike Cotterell, TATA Mcgraw-Hill
Software Project Management, Walker Royce: Pearson Education, 2005.
Software Project Management in practice, Pankaj Jalote, Pearson.

Reference Book:

1. Software Project Management, Joel Henry, Pearson Education.