

MCPE2016 SOFTWARE PROJECT MANAGEMENT (3-0-0)

Course Objectives:

- This course describes the key aspects of a software project.
- It introduces the basic principles of Engineering Software Projects. Most, if not all, student's complete projects as part of assignments in various courses undertaken. These projects range in size, subject and complexity but there are basic project essentials that need to be understood and practiced for successful team project outcomes.
- The course provides an understanding of the purpose, methods and benefits of process management by exposing the student to the concepts, practices, processes, tools and techniques used in process management for software development.

Module 1 (8 Hour)

PROJECT CONCEPTS AND ITS MANAGEMENT: Project life cycle models, ISO 9001 model, Capability Maturity Model, Project Planning, Project tracking, Project closure. Software Management Process Framework: Phases, Artifacts, Workflows, Checkpoints, Project Organization and Responsibilities.

Module 2 (6 Hour)

COST ESTIMATION: Problems in Software Estimation, Algorithmic Cost Estimation Process, Function Points, SLIM (Software Life cycle Management), COCOMO II (Constructive Cost Model), Estimating Web Application Development.

Module 3 (6 Hour)

SOFTWARE QUALITY MANAGEMENT: Software Quality Factors, Software Quality Components, Software Quality Plan, Software Quality Metrics, Software Quality Costs, Software Quality Assurance Standard, Certification and Assessment.

SOFTWARE MANAGEMENT AND METRICS: Software Configuration Management

Module 4 (10 Hour)

Risk Management: Risk Assessment: Identification / Analysis / Prioritization – Risk Control: Planning / Resolution / Monitoring, Failure Mode and Effects Analysis (FMEA), Defect Management, Cost Management. PROJECT EVALUATION AND EMERGING TRENDS: Strategic Assessment, Technical Assessment, Cost Benefit Analysis, Cash Flow Forecasting, Cost Benefit Evaluation Technique, Software Effort Estimation.

Course Outcome:

1. To understand Software Project Models and Software Management Concepts.
2. To understand the various methods of Cost Estimation.
3. To Study about Software Quality Management.
4. To understand Software Risk management and Project Evaluation.

BOOKS

1. Roger S.Pressman, "Software Engineering- A Practitioner's Approach", 7th Edition ,McGraw Hill, 2010.
2. Daniel Galin, "Software Quality Assurance: from Theory to Implementation", AddisonWesley, 2003.
3. Pankaj Jalote, "Software Project Management in Practice", Pearson, 2002.