SOFTWARE PROJECT MANAGEMENT

Course Objectives:

1. To understand the fundamental principles of software project management.
2. To have a good knowledge of responsibilities of project manager.
3. To be familiar with the different methods and techniques used for project management
4. To be familiar with the different activities involved in Software Project Management.
5. To understand basic knowledge of managing of peoples and working in a team

Module I (6 Hrs)

Introduction To Software Project Management and Step Wise Project Planning: Introduction, what is a Project? Software Projects Versus Other Types of Project, Contact Management and Technical Project Management, Activities Covered by Software Project Management, Plans, Methods, and Methodologies, Some ways of Categorizing Software Projects, What is Management?, Problems with Software Projects, Setting Objectives, Stakeholders, The Business Case, Requirement Specification, Management Control, Overview of Project Planning (Step wise).Project Evaluation: Introduction, Strategic Assessment, Technical Assessment, Cost-Benefit Analysis, Cash Flow Forecasting, Cost- Benefit Evaluation Techniques, Risk Evaluation.

Module II (7 Hrs)

Project Planning: Introduction to step wise Project Planning, Selection of an Appropriate Project Approach: Choosing Methodologies and Technologies, Software Process Model Choice of Process Model, Waterfall Model, Spiral Model, Software Prototyping, Incremental Delivery, Rapid Application Development, Agile Methods, Extreme Programming, Scrum Model, Selection of appropriate process model.

Software Effort Estimation: Introduction, Problems with Over- and Under- Estimates, Software Effort Estimation Techniques, Bottom Up and Top-Down approach, Expert Judgment, Estimating by Analogy, Albrecht Function Point Analysis, Function Point Mark II, COCOMO II, Cost Estimation.

Module III (5 Hrs)

Activity Planning: Introduction, Project Schedules, Projects and Activities, Sequencing and Scheduling Activities, Network Models. Risk Management: Categories of Risk, Framework for Dealing with Risk – Risk Identification, Risk Assessment, Risk Planning, Risk Management, Application of PERT Technique.

Module IV (6 Hrs)

Resource Allocation: Nature of Resources, Identifying Resources Requirements, Scheduling Resources, Scheduling Sequence. Monitoring and Control: Creating the Framework, Collecting the Data, Review, Project termination review, Visualizing Progress, Cost Monitoring, Earned Value, Prioritizing Monitoring, Getting the Project Back to Target, Change Control.

Module V (6 Hrs)

Managing Contracts: Types, Stages in Contract Placement, Typical Terms of a Contract, Contract Management, and acceptance. Managing People: Selecting the Right Person for The Job, Motivation and The Oldham-Hackman Job Characteristics Model.

Working in Teams: Becoming A Team, Decision Making, Organization and Team Structures, Leadership.

Course Outcomes:

CO1: To understand the fundamentals of project management and evaluation of a project.
CO2: Apply project management concepts and techniques to an IT project.
CO3: Identify issues that could lead to IT project success or failure.
CO4: To apply resource allocation and monitoring activities.
CO5: Apply project management concepts through working in a group as team leader.

Essential Reading

1. B. Huges, M. Cotterell, Rajib Mall- Software Project Management, TMH
2. P. Jalote- Software Project Management in Practice, Pearson Education

Supplementary Reading

1. Ashfaque Ahmed- Software Project Management- CRC Press.