Tribhuwan University

Bachelor of Computer Science and Information Technology

Course Title   : **Software Project Management**

Course No   **: CSC-408**

Credit Hours   : 3

Nature of course   **:** Theory (3 Hrs.) + Lab (3 Hrs)

Course Synopsis   **:** Concept of software project, software project management framework

Full Marks : 60 +20+20	
Pass Marks : 24+8+8	

Goal: This course introduces the concepts of Software Project, software project management

framework, project evaluation, Software quality assurance and project management and

its tools.

Micro Syllabus

Unit	Break down	Hours
1. Introduction to Software Project Management (SPM)	1. Software engineering problem and software product, software product attributes 2. Definition of a Software Project (SP), SP Vs. other types of projects 3. activities covered by SPM, categorizing SPs, 4. Project management cycle, SPM framework, types of project plan	1 1 1 2
2. Project Organization, Scheduling and management issues	1. Project life cycle and product life cycle 2. Project planning and scheduling 3. Resource allocation	2 2 1
3. Project Evaluation & Estimation	1. Cost benefit analysis, cash flow forecasting, cost benefit evaluation techniques, risk evaluation. 2. Selection of an appropriate project report; Choosing technologies, choice of process model 3. Structured methods, rapid application development, water fall 4. Spiral- models. Prototyping	2 1 2 1

Unit	Break down	Hours
4. **Activity planning**	1. Objectives of activity planning, project schedule, projects and activities	1
	2. Sequencing and scheduling activities, network planning model, representation of lagged activities	2
	3. Adding the time dimension, backward and forward pass, identifying critical path	2
	4. Activity throat, shortening project , precedence networks	2
5. **Resource allocation**	1. Introduction, the nature of resources, identifying resource requirements	1
	2. Scheduling resources creating critical paths, counting the cost, being specific,	2
	3. Publishing the resource schedule, cost schedules the scheduling sequence.	1
6. **Monitoring and control**	1. Introduction, creating the frame work, collecting the data, visualizing progress	1
	2. cost monitoring, earned value, prioritizing monitoring	2
	3. getting the project back to target, change control	1
7. **Managing contracts and people**	1. Introduction, types of contract, stages in contract, placement, typical terms of a contract, contract management, acceptance	1
	2. Managing people and organizing terms: Introduction, understanding behavior, organizational behavior: a back ground, selecting the right person for the job, instruction in the best methods	2
	3. motivation, working in groups, becoming a team, decision making, leadership, organizational structures, conclusion	2
8. **Software quality assurance and testing**	1. Testing principles and objectives, test plan, types and levels of testing, test strategies	2
	2. program verification and validation, software quality	1
	3. SEI-CMM,SQA activities, QA organization structure, SQA plan.	2

Unit	Break down	Hours
9. **Project management and project management tools**	1. Software configuration management, SCM tasks and roles 2. Risk management, risk management process 3. SPM tools	2 1 1

Laboratory Work: The project management activities will have to be performed using Project Management tools like MS project, OpenProj etc.

Reference Books:
1. Software Project Management by Bob Hughes and Mike Cotterell, Latest Publication
2. Software project management-Rajiv Chopra, 2009
3. Software Engineering – A Practitioner's approach, Roger S. Pressman Latest Publication
4. Software Project Management, Walker Royce, 1998, Addison Wesley.
5. Managing Global software Projects, Ramesh, 2001, TMH