

Subject Code : 1ET2030301	Subject Title: Software Project Management
Pre-requisite :	Fundamentals of Object Oriented Analysis & Design and Software Engineering

Course Objective:

The course aims to provide an understanding management issues during software project management. It provides holistic views of different aspect of development process necessary for the management of the project which includes various activities, resources, quality, cost and system configuration etc. It also provides the student the understanding of software testing methods.

Teaching Scheme (Hours per week)				Evaluation Scheme (Marks)				
Lecture	Tutorial	Practical	Credit	Theory		Practical		Total
				University Assessment	Continuous Assessment	University Assessment	Continuous Assessment	
3	-	2	5	60	40	30	20	150

Subject Contents			
Sr. No	Topic	Total Hours	Weight (%)
1	Introduction software project management:	6	5
	Project Definition – Contract Management – Activities Covered By Software Project, Requirement Specification, Management – Overview Of Project Planning – Stepwise Project Planning.		
2	Project Evaluation	9	5
	Strategic Assessment – Technical Assessment – Cost Benefit Analysis –Cash Flow Forecasting – Cost Benefit Evaluation Techniques – Risk Evaluation.		
3	Activity Planning	9	25
	Objectives – Project Schedule – Sequencing and Scheduling Activities – Network Planning Models – Forward Pass – Backward Pass – Activity Float – Shortening Project Duration – Activity on Arrow Networks – Risk Management – Nature Of Risk – Types Of Risk – Managing Risk – Hazard Identification – Hazard Analysis – Risk Planning And Control.		
4	Monitoring and Control	9	25
	Creating Framework – Collecting The Data – Visualizing Progress – Cost Monitoring – Earned Value – Prioritizing Monitoring – Getting Project Back To Target – Change Control – Managing Contracts – Introduction – Types Of Contract – Stages In Contract Placement – Typical Terms Of A Contract – Contract Management – Acceptance.		
5	Managing People and Organizing Teams	4	20
	Introduction – Understanding Behavior – Organizational Behavior: A Background – Selecting The Right Person For The Job – Instruction In The Best Methods – Motivation – The Oldman – Hackman Job Characteristics Model – Working In Groups – Becoming A Team –Decision Making –		

	Leadership – Organizational Structures – Stress –Health And Safety – Case Studies.		
6	Software Testing and Maintenance :	5	15
	Foundations of Testing, Test Planning, Test Design and Implementation, Testing Network Management Systems, Web Based Testing, Testing Object-Oriented systems, Test Execution and Measurement, Management Issues for Software Quality, Software Testing Types: Unit, Integration, & System, Benchmarking and Certification, Control flow & loop testing, Data-flow testing, Transaction-flow testing, Domain testing, Coverage vs. usage based testing, Software Reuse, Software Aging, Product Enhancement, Reverse Engineering, Re-engineering Method, Architectural Simplification		
7	Software Testing Tools	2	5
	Test case Generation Methodology, Study of various Testing Tools (Win Runner, Load Runner), Automatic Testing Tool		

Review Presentation: The student is expected to refer at least two peer reviewed journal papers related to this domain/subject. The student is expected to identify issues/challenges and emerging trends in the domain/subject. Student is supposed to explore various video lectures (E.g. NPTEL) available in the domain/subject. Student is required to make a review-presentation on the work carried out for the same.

Recommended sites for journal papers are (1) dl.acm.org (2) springer.com (3) sciencedirect.com (4) elsevier.com (5) ieeexplore.ieee.org (6) scholar.google.co.in (7) scopus.com or others of similar repute.

Course Outcome:

After successful completion of the course, student will be able to:

- To understand the issues related to design and development of good quality software,
- Data gathering, and interpretation and learn the relevant techniques and quality models
- The student will be able to use some software testing tools
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Text Book

- Bob Hughes, Mikecatterell, “Software Project Management”, Third Edition, Tata

List of References:

- Software Project Management, Sanjay Mohapatra, Cengage Learning
- Software Project Management in Practice, PankajJalote, Pearson
- Software Engineering, Eighth Edition, Sommerville, Pearson
- Software Engineering, Rajiv Mall, PHI
- Ramesh, Gopalaswamy, "Managing Global Projects", Tata McGraw Hill, 2001.
- Royce, “Software Project Management”, Pearson Education, 1999.

E-Resources / Web Links:

- <http://nptel.ac.in/courses/106101061/>
- <https://www.youtube.com/watch?v=8lG3-DFiSSs>
- <http://nptel.ac.in/courses/106105150/>

List of Experiments:

Note: The experiment list provided beneath is for reference only. The course teacher may change/formulate it as per his/her methodology and requirement.

Practical List

1. It will consist of case study based approach (Minimum 5), which covers various aspects of Software Project Management or one project with documentation which covers most of the aspects of SPM.
2. Study and use of at least 1 SPM tool.
3. Assignments (Minimum 3) on Software testing methods.
4. Study and use of at least 1 Software testing tools.