

Branch Name:	Computer Engineering (Software Engineering)
Program Code:	ET203
Course Title:	Software Project Management
Course Code:	2ET2030301T
Pre-requisite Course:	Fundamentals of Object-Oriented Analysis & Design and Software Engineering

Course Objectives: The course aims to provide an understanding of management issues during software project management. It provides holistic views of different aspects of the 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 and Examination Scheme:

Credit	Teaching Scheme Hours per week				Evaluation Scheme (Marks)								Total (Marks)
					Theory (Marks)				Practical (Marks)				
	L	T	P	Total	SEE		CCA		SEE		CCA		
					Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	
3	3	-	-	3	24	60	16	40	-	-	-	-	100

Course Contents:

Unit No	Topics	Total Hours	Weightage (%)
1	Introduction software project management: Project Definition – Contract Management – Activities Covered By Software Project, Requirement Specification, Management – Overview Of Project Planning – Stepwise Project Planning.	06	05
2	Project Evaluation: Strategic Assessment – Technical Assessment – Cost Benefit Analysis –Cash Flow Forecasting – Cost Benefit Evaluation Techniques – Risk Evaluation.	09	05
3	Activity Planning: 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.	09	25
4	Monitoring and Control: 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.	09	25
5	Managing People and Organizing Teams: 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.	04	20
6	Software Testing and Maintenance : 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.	05	15
7	Software Testing Tools:	02	05

	Test case Generation Methodology, Study of various Testing Tools (Win Runner, Load Runner), Automatic Testing Tool		
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Reference Books:

1. Bob Hughes, Mikecoterrell, "Software Project Management", Third Edition, Tata
2. Software Project Management, Sanjay Mohapatra, Cengage Learning
3. Software Project Management in Practice, PankajJalote, Pearson
4. Software Engineering, Eighth Edition, Sommerville, Pearson
5. Ramesh, Gopalaswamy, "Managing Global Projects", Tata McGraw Hill, 2001.
6. Royce, "Software Project Management", Pearson Education, 1999.

List of Open-Source Software/learning website:

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

Course Learning Outcomes (CLO):

Course Outcomes	Description	Bloom's Taxonomy Level
COL1	To understand the issues related to design and development of good quality software	Understanding (2) Applying (3)
COL2	Data gathering, and interpretation and learn the relevant techniques and quality models	Applying (3)
COL3	Student can Understand Behaviour , concept of Managing People and Organizing Teams	Understanding (2) Applying (3)
COL4	The student will be able to use some software testing tools	Applying (3)

Mapping of CLO with PO and PSO:

Course Learning Outcomes	Program Outcomes (POs)												Program Specific Outcomes (PSOs)			
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4
CLO1	H	M	M		M											
CLO2	H	M			M							L				
CLO3	H	M	M		M											
CLO4	M	M	M		M							L				

H: High, M: Medium, L: Low