CVM UNIVERSITY
Aegis: Charutar Vidya Mandal (Estd.1945)

FACULTY OF ENGINEERING & TECHNOLOGY

Effective from Academic Batch: 2020-21

Programme: **Bachelor of Engineering (Information Technology)**

Semester: **VI**

Course Code: **102046713**

Course Title: **Software Project Management**

Course Group: **Professional Elective Course - II**

Course Objectives: This course provides the understanding of project management and related tools and technologies. 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. The student will be able to use software tools for Project management activity.

Teaching & Examination Scheme:

Contact hours per week			Course Credits	Examination Marks (Maximum / Passing)				
				Theory		J/V/P*		Total
Lecture	Tutorial	Practical		Internal	External	Internal	External	
3	0	2	4	40 / 14	60 / 21	20 / 7	30 / 10	150 / 52

* **J**: Jury; **V**: Viva; **P**: Practical

Detailed Syllabus:

Sr.	Contents	Hours
1	**Software Project Management Concepts:** Rationale, Software Projects Vs other types of Projects, Selecting Project Approach, SDLC, overview of Software Processes and Process Models, Choice of Process Models, A Generic Project Model, Contract Management and Technical Project Management, Activities Covered by SPM, Plans, Methods and Methodologies, Categorizing Software Projects, Project Charter, Stakeholders, Setting Objectives, Project Success and Failure, Management Control, Project Management Life Cycle, Traditional versus Modern Project Management Practices.	09
2	**Project planning and Scheduling:** Tasks in Project Planning; Work breakdown Structures (WBS), Planning Methods, Software Cost Estimation; COCOMO Model; Budgeting. Scheduling Techniques, Program Evaluation and Review Technique (PERT), Gantt Chart, Critical Path Method (CPM), Automated Tools.	06

3	**Project Monitoring and control:** Project Status Reporting; Project Metrics; Earned Value Analysis (EVA); Project Communication Plan & Techniques; Steps for Process Improvement. Standard costing and Variance analysis.	**03**
4	**Risk Management:** Concepts of Risks and Risk Management; Risk Management Activities; Effective Risk Management; Risk Categories; Aids for Risk Identification; Potential Risk Treatments; Risk Components and Drivers; Risk Prioritization.	**04**
5	**Configuration Management:** Software Configuration Management (SCM) – Baselines, Software Configuration Items (SCI), SCM Process, Identification of Objects in the Software Configuration, Version Control, Change Control, Configuration Audit, Status Reporting, Goals of SCM.	**04**
6	**Quality standards** Software Quality Assurance Activities, Software Qualities, Software Quality Standards – ISO Standards for Software Organization, Capability Maturity Model (CMM), Comparison between ISO 9001 & SEI CMM, Other Standards.	**04**
7	**Software Maintenance and Project closure:** Software Maintenance Problems, Redevelopment vs. Reengineering, Business Process Reengineering, Software Reengineering Process Model, Technical Problems of Reengineering. Project Closure Analysis, Case Study of Software Company's Project Closure Analysis Report.	**04**
	Total	**34**

List of Practicals / Tutorials:

1	Explore various real time projects like Amazon, Uber, Flipkart, Make my trip etc. You may select any other application of your choice. Select one of the projects in group of 2-3 Student. Select minimum 5 module to study of selected project and complete experiment from 2 to 10 on same project.
2	Prepare Software Requirement Gathering for selected project. (Technical, Non-Technical and Functional requirements).
3	Study and use Team Project/ClickUp Tool for Software project management to load your project requirement and other details.
4	Estimate project cost and prepare project schedule using Gantt chart.
5	Select the appropriate approach to track and monitor your project.
6	Estimate project time and prepare project timeline using Timeline chart.
7	Explore testing tool TestLink and Test Project.
8	Prepare a project report (3-4 pages) to test quality parameter using six sigma and ISO standards.
9	Evaluate risk management approaches suitable for the selected project.
10	Study the component of Closure report and write a closure report for your project.
11	Prepare a case study for Make My Trip and submit report (3-4 pages) based on software project management approach.

12	Prepare a case study for AmazonGo and submit report (3-4 pages) based on software project management approach.

Reference Books:

1	Bob Hughes and Mike Cotterell, "Software Project Management", Tata McGraw Hill, 4th edition, 2006
2	Walker Royce, "Software Project Management", Pearson Education, 2005
3	Kieron Conway, "Software Project Management", Dreamtech Press, 2001
4	S. A. Kelkar, "Software Project Management", PHI Publication, 15th edition, 2013.
5	Roger S. Pressman, "Software Engineering – A Practitioner's approach", Tata McGraw Hill, 2009
6	Ramesh," Managing Global software Projects", Tata McGraw Hill, 2001
7	Shailesh Mehta, "Project Management and Tools & Technologies – An overview", SPD, 2017

Supplementary learning material:	
1	NPTEL - Swayam Courses https://nptel.ac.in/courses/106105218
2	https://www.coursera.org/specializations/product-management

Pedagogy:

- Direct classroom teaching
- Audio Visual presentations/demonstrations
- Assignments/Quiz
- Continuous assessment
- Interactive methods
- Seminar/Poster Presentation
- Industrial/ Field visits
- Course Projects

Suggested Specification table with Marks (Theory) (Revised Bloom's Taxonomy):

Distribution of Theory Marks in %						**R**: Remembering; **U**: Understanding; **A**: Applying; **N**: Analyzing; **E**: Evaluating; **C**: Creating
R	**U**	**A**	**N**	**E**	**C**	
15%	25%	25%	15%	20%	---	

Note: This specification table shall be treated as a general guideline for students and teachers. The actual distribution of marks in the question paper may vary slightly from above table.

Course Outcomes (CO):

Sr.	Course Outcome Statements	%weightage
CO-1	Able to Understand Project Management concepts through various methods.	**25**
CO-2	Understand to estimate Time and Cost estimation of Software Project.	**22**
CO-3	To be able to Schedule, Monitor and Tracking of Project through various tools and technology.	**15**
CO-4	To be able to apply Quality standards of Six sigma and ISO standards to measure project quality.	**18**

CO-5	To explore various project management tools.	**20**

Curriculum Revision:	
Version:	1.0
Drafted on (Month-Year):	June-2020
Last Reviewed on (Month-Year):	-
Next Review on (Month-Year):	June-2025