# 19CS32E1 - SOFTWARE PROJECT MANAGEMENT

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| **Course Category:** | Professional Elective | **Credits:** | 3 |
| **Course Type:** | Theory | **Lecture – Tutorial – Practical:** | 3-0-0 |
| **Prerequisite:** | Student need to have knowledge in Software engineering | **Sessional Evaluation:**  **Univ. Exam Evaluation:**  **Total Marks:** | 40  60  100 |
| **Objectives** | * To study how to plan and manage projects at each stage of the software development life cycle (SDLC) * To train software project managers and other individuals involved in software project planning and tracking and oversight in the implementation of the software project management process. * To understand successful software projects that support organization’s strategic goals | | |

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| **Course Outcomes** | Upon successful completion of the course, the students will be able to: | |
| CO1 | Understand the basics of software organization as related to project and process management. |
| CO2 | Recognize the basic capabilities of software project. |
| CO3 | Procure the basic steps of project planning and project management. |
| CO4 | Compare and differentiate organization structures and project structures |
| CO5 | Employ the responsibilities for tracking the software projects. |
| CO6 | Track the process automation and project control. |
| **Course Content** | UNIT – I  **Conventional Software Management:** The waterfall model, conventional software Management performance.  **Evolution of Software Economics:** Software Economics, pragmatic software cost estimation.  UNIT – II  **Improving Software Economics:** Reducing Software product size, improving software processes, improving team effectiveness, improving automation, Achieving required quality, peer inspections.  **The old way and the new:** The principles of conventional software Engineering, principles of modern software management, transitioning to an iterative process.  UNIT – III  **Life cycle phases:** Engineering and production stages, inception, Elaboration, construction, transition phases.  **Artifacts of the process:** The artifact sets, Management artifacts, Engineering artifacts, programmatic artifacts.  UNIT – IV  **Model based software architectures**: A Management perspective and technical perspective.  **Work Flows of the process:** Software process workflows, Iteration workflows. **Checkpoints of the process:** Major mile stones, Minor Milestones, Periodic status assessments.  UNIT – V  **Iterative Process Planning:** Work breakdown structures, planning guidelines, cost and schedule estimating, Iteration planning process, Pragmatic planning.  Project Organizations And Responsibilities: Line-Of-Business Organizations, Project Organizations, Evolution Of Organizations.  UNIT –VI  Process Automation: Automation Building Blocks, The Project Environment.  Tailoring The Process: Process Discriminants.  Project Control And Process Instrumentation: The Seven Core Metrics, Management Indicators, Quality Indicators, Life Cycle Expectations, Pragmatic Software Metrics, Metrics Automation. | |
| **Text Books and References:** | **Text Books:**   1. Software Project Management, Walker Royce: Pearson Education, 2005.   **Reference Books:**   1. Software Project Management, Bob Hughes and Mike Cotterell: Tata McGraw-Hill Edition. 2. Software Project Management, Joel Henry, Pearson Education. 3. Software Project Management in practice, Pankaj Jalote, Pearson Education.2005. | |
| **E-Resources** | 1. [**https://nptel.ac.in/courses**](https://nptel.ac.in/courses) 2. [**https://freevideolectures.com/university/iitm**](https://freevideolectures.com/university/iitm) | |