

SPROJM **(Software Project Management)**

I Course Objectives:

Software & IT systems have become critical and central enablers for today's businesses. As future business managers, irrespective of whether one works in a conventional business house or a Software Product Development company or even an IT Services company or even a pure play Consulting Company, one will be, many a times required to participate and lead the development & implementation of Software Systems for the organization or a client. Software development is typically carried out as a Project as majority of the efforts in the life cycle of Software is expended in the development cycle.

The key differences in managing a Software Project comes from the challenges in conceiving & formalizing the features of the software system, analyzing and establishing the exact user-requirements of the software system, project planning, effort estimation, inability to physically see the work-in-progress product early in the development phase, effectively managing people and most importantly monitoring the progress of the software project. This 3-credit course aims at equipping the business managers and leaders with the requisite knowledge on various aspects of Software Project Management including effective Change Management and Risk Management.

II Course Contents:

Types of Software Projects – Application Development, Product Development, Maintenance, Off-the-shelf product implementation or customization, Migration & Porting, Re-engineering etc.; **Acquiring & Initiating a Software Project** – Bidding for a Software Project; Establishing a Statement of Work (SOW) or a contract after winning, Establishing responsibilities of all stake holders, Project Charter, Key considerations; Project Triple Constraints for a Software Project; Establishing the Project phases and methodology; Preparing Project Plan; **Scope Management** – Establishing the Scope of the Software System, Work Breakdown Structure (WBS), Establishing the Acceptance Criteria for the Software, Change Management & Change Control System; **Estimation & Schedule Development** – Effort Estimation, (FP, OP, COCOMO, Analogous, Expert Judgment,) Estimating Duration, Schedule Development, Resource Planning; **Software Quality Management** – Meeting the functional requirements, Process Orientation, CMM Process Framework, Establishing Key Metrics for monitoring and managing various aspects of software quality, Defect Prevention; **Risk Management** – Importance of Risk Management for Software Projects, Identification of Risks early in the project phase, Analysis, Response Planning & continuously Managing identified risks, Establishing the impact of identified risks on project schedule, cost & quality; **Project Monitoring & Control** – Processes and Tools for effectively monitoring project progress, Issue Management & Resolution for effective project progress; **HR & Team Management** – Establishing roles & responsibility matrix, Identifying right resources for every role, Motivation & team dynamics, People Management; **Project Communication Management; Critical Success Factors for Project Success** – Business Case, Stakeholder & User Engagement, Top Executive Support, Third Party Relationship, Project Management, Change Management, Resource Availability;

III Pedagogy: -

1. Lectures on key concepts
2. End to end Case Study on different types of Software Projects
3. Group Discussions & Presentations for all areas of project management on each of the case studies
4. Case discussions on reasons of Project Failures and Critical Success Factors for Project Success
5. Critical discussions based on Best Practices and a Practitioner's Approach during the case discussions

IV Evaluation: -

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| 1. Quizzes | 25% |
| 2. End Term Exam | 30% |
| 3. Group Presentations | 15% |
| 4. Group Project Assignment | 15% |
| 5. Class Participation | 15% |

V Prerequisite for attending the course: -

1. A genuine interest to understand the specific challenges in IT and Software Project Management and structured approach thereof to manage them successfully.
2. Some prior work experience & exposure to Software Development Life Cycle and some Software Development Technologies is desirable

V Books & References: -

1. Project Management Body of Knowledge (PMBOK) from PMI, USA
2. Schwalbe, IT Project Management, Cengage Learning, 2006
3. Bob Hughes and Mike Cotterell, "Software Project Management", Third Edition 2002, McGraw-Hill
4. Pankaj Jalote, "Software Project Management in Practice", 2002, Pearson Education Asia.
5. Roger S. Pressman, "Software Engineering: A practitioner's Approach", Fifth Edition 2001 McGraw-Hill
6. Robert T. Futrell, Donald F. Shafer, and Linda I. Shafer, "Quality Software Project Management" 2002, Pearson Education Asia.
7. Ramesh Gopalaswamy, "Managing Global Software Projects", 2003, Tata McGraw-Hill

VI Faculty Profiles: -

The course will be facilitated jointly by the below team of faculty members.

1. Keshav Tripathy have more than 23 years of industry experience as Project and Program Managers. Keshav has worked with giants like NIC, Tata Steel, Satyam, GE, IBM etc. Keshav has managed complex & large IT programs with more than 250 engineers working from multiple global sites with revenue size in access of USD 15 million from a single program. Keshav holds a Post Graduate Degree from National Institute of Technology, Rourkela.
2. Sunil Agrawala,PMP has more than 20 years of work experience with more than 15 years as Project & Program Manager. Sunil has worked with giants like Cap Gemini USA, Bell Labs, Satyam, HCL Technologies, Keane Inc. to name a few. Sunil has managed country specific IT programs and entire business unit with top line and bottom line responsibilities with team size of 150+ and revenue size in access of USD 10 million. Sunil holds a MS degree in Computer Science from Florida Institute of Technology, USA. He is also a Project Management Professional (PMP) certified from PMI, USA.