

**Title:** Project Management

**Code Number:** MS3105

**Credit Hours:** 2 (2+0)

**Prerequisites:** Nil

**Semester:** 5<sup>th</sup>

### **Course Objectives**

The course will enable students to:

1. Develop competencies in project costing, budgeting, and financial appraisal;
2. Gain exposure to project Planning Control and Management, using standard tools and schedule variance analysis;
3. Appreciate the elements of risk and quality in hi-tech projects;
4. Learn Project Management by "practice", through the medium of "End of Semester Group Project"
5. Understand the use of computers in Project Management, especially a tool like MS Project & Primavera etc.

### **Contents**

#### **Unit 1: Project Management Concepts**

1. History of Project Management
2. Introduction to Project Management
3. Project, Program & Portfolio Management
4. Project characteristics
5. Objectives & Requirements
6. Project Phases/Stages
7. Project Life Cycle
8. Project Environment
9. Project Scope & Project Charter
10. Project Manager
11. Project Stakeholder Analysis

#### **Unit 2: Project Proposal Development**

1. Project Proposal
2. Characteristics of good proposal
3. Types of Proposals
4. Request for Proposal
5. Request for Quotation
6. Proposal Templates

#### **Unit 3: Project Feasibility**

1. Project Feasibility
2. Technical
3. Social
4. Managerial Economics
5. Financial & Marketing

6. Administrative

#### **Unit 4: Project Selection Criteria (Economic Analysis of Engineering Projects)**

1. Break Even Analysis
2. Cost Benefit Ratio
3. Internal Rate of Return
4. Net Present Value

#### **Unit 5: Project Contract & Procurement Management**

1. Engineering contracts
2. Type of contracts
3. Understanding of procurement Process & Cycle
4. PPRA Rules

#### **Unit 5: Project Planning and Scheduling**

1. Project Planning (Resource & HR Planning)
2. Work Breakdown Structure
3. Project Network & Scheduling
4. Manning Schedule and Activity Charts
5. Critical Path Method (CPM)
6. Project Evaluation & Review Techniques

#### **Unit 6: Project Costing & Estimation**

1. Cost Estimation in Projects
2. Cost components in projects and methods for cost estimation in projects
3. Cost Control in Projects
4. Estimation of Outstanding Work
5. Earned Value Management
6. Schedule & cost variance analysis

#### **Unit 7: Project HRM & Communication Management**

1. Effective organization and communication for Successful Projects
2. Project Organizational Structures (Project matrix and project based organizations)
3. Project HR Plan preparation
4. HR Need Assessment and HR Matrix
5. Building and Managing effective project team
6. Selection & control mechanism of HRM in Projects
7. Effective Communication Plan.

#### **Unit 8: Project Risk Management**

1. Definitions Project Risk
2. Project Risk Management Tools
3. Types of Project Risk
4. Project Risk Assessment
5. Risk Identification and Mitigation
6. Monitoring & Controlling Risk
7. Generic Risk Management Strategies & Technique.

#### **Unit 9: Computer Application in Project Management**

1. Basic/Elementary Introduction
2. Hands on basic exposure of use of MS Project

### 3. Primavera P6 Software in Project Management

#### Unit 10: Project Quality Management

1. Defining Quality
2. Quality Assurance
3. Quality Management
4. Quality Improvement Tools for Project Management
5. Project Quality Management Plan
6. Quality Management Processes and Strategies

#### Unit 11: Project Closure & Termination

1. Project Evaluation
2. Defining project success
3. Project Completion Criteria
4. Project Audit
5. Project Termination
6. The termination process
7. Project Close Up & lesson learnt
8. Project Archive

#### Teaching-Learning Strategies:

Lectures (audio/video aids), Written Assignments/ Quizzes, Tutorials, Case Studies relevant to engineering disciplines, Semester Project, Guest Speaker, Project/Field Visits Group discussion, Community Service, Report Writing Social Impact Review and Social Audit of Engineering Project.

#### Assignments/Types and Number with calendar:

A minimum of four assignments to be submitted before the written exams for each term.

#### Assessment and Examinations:

Sr. No.	Elements	Weightage	Details
1.	Midterm Assessment	35%	It takes place at the mid-point of the semester.
2.	Sessional Assessment	25%	It is continuous assessment. It includes classroom participation, attendance, assignments and presentations, homework, attitude and behavior, hands-on-activities, short tests, quizzes etc.
3.	Final Assessment	40%	It takes place at the end of the semester. It is mostly in the form of a test, but owing to the nature of the course the teacher may assess their students based on term paper, research proposal development, field work and report writing etc.

### **Recommended Books:**

1. Project Management: A system Approach to Planning, Scheduling and Controlling 11th Edition, Harold Kerzner
2. Bennett, F. Lawrence. 1996. The management of engineering. New York: Wiley
3. Cleland, David. Field guide to project management. New York: Wiley. 4. Eisner, H. Essentials of project management and systems engineering management. New York: Wiley
4. Frame, J. D. Managing projects in organizations. San Francisco: Jossey-Bass 6. Goldratt, Eliyahu. Critical chain. North River Press
5. Haynes, M.E. Project management: From idea to implementation. Los Altos, CA: Crisp Publications.
6. Lewis, James, Project planning, scheduling & control. New York: McGraw- Hill
7. Lewis, James, P. 1998. Mastering project management. New York: McGraw- Hill
8. Lientz, Bennet & Rea, Kathryn. 1995. Project management for the 21st century. San Diego: Academic Press.
9. Miller, Roger & Lessard, Donald. 2000. The strategic management of large engineering projects. Cambridge, MA: MIT Press.
10. Nicholas, J.M. Managing business & engineering projects. Englewood Cliffs, NJ: Prentice Hall
11. Shtub, Avraham, Bard, Jonathan, & Globerson, Shlomo. 1994. Project management: Engineering, technology, and implementation. Englewood Cliffs, Prentice-Hall
12. Project Management by Adrienne Watt
13. J.R. Meredith and S.J. Mantel. Project Management: A Managerial Approach. John Wiley and Sons. New York. 2019. (Reference).