Marwadi University

Master of Technology

Construction Project Management

Project Planning and Control

01CP0101

Objective of the Course:

- Provide a basic understanding of project management.
- Providing knowledge on the structure and life cycle of a construction project.
- To impart information of Project Planning and Development of Construction Project.
- Provide information about the functions and responsibilities of project management.

Credit Earned: 4

Students learning outcomes:

After successful completion of the course, it is expected that student will be able to,

1. Distinguish clearly between construction management and project management and their application.
2. Understand the basic functions and responsibilities of project management
3. Apply fundamental principles of construction project management for real project management in the construction sector.
4. Capable of applying project management tools and techniques in the planning and scheduling of construction projects.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	CSE (I)	IA (M)	Viva (V)	Term Work (TW)	
03	01	00	04	50	30	20	25	25	150

Detailed Syllabus

Sr No.	Title of the unit	Number of hours
1	**Introduction to CPM**	**08**
	Challenges of the construction industry, Roles and Objectives of Construction Management, Definition, Concept & Scope of Project and Project Management, Types of Project, Role & Responsibilities of a Project Manager, Probability of Success of a Project, Reasons of Project Failure	
2	**Project Organization**	**08**

	Organization structure, Requirement of Project Organization, Integration of subunits of projects, Liaison Role, Task Force and Teams, Project Expeditors and Coordinators, Pure Project Organization, Matrix Organization, Selecting an organization form for projects	
3	**Project System Development Cycle and Conception**	**04**
	System Definition, System Life Cycle, System Development Cycle, Conception Phase, Project Feasibility, Project Proposal, Project Contracting, System development in Industry and Government	
4	**Fundamental Planning of Project**	**08**
	Project Planning Steps, Project Master Plan, Definition and Scope of Work, Work Breakdown Structures, Project Organization and its responsibility, Scheduling, Planning and Scheduling, Line of balance, Procurement Management	
5	**Design Management and Risk in Project**	**08**
	Role of design, Understanding design, What design has to do, Role of Design Management, Managing the project triple constraints, Design Liability, Briefing and Interface control. Risk Concepts, Identification and Assessment, Risk Response Planning, Risk Tracking and Response; Role of Project Management in Risk Management	
6	**Project Finance**	**06**
	Funding for projects, Sources of Project Finance, Financial instruments, Financial Engineering, Debt financing contract, types of loans, Appraisal and validity of financing project, Risks associated with Project Finance	
	Total	**42**

Suggested Theory Distribution

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
15%	15%	20%	20%	20%	10%

Instructional Method and Pedagogy:

1. Use of Learning Management system like canvas
2. Demonstration through presentations on power point and videos and lectures
3. Brainstorming and group discussion sessions
4. Collaborative learning

Recommended Study Material

Text Books:

1. Chitkara K K, (2011), “Construction Project Management- Planning, Scheduling and Controlling”– Tata McGraw Hill Education Private Limited.
2. Punmia B C, Khandewal, (2012), “Project Planning and Control with PERT and CPM” Laxmi Publications Private Limited.
3. Rangwala S C, (2012), “Construction of structures and management of works” –Charotar Publishing House Private Limited.

Reference Books:

1. PMBOK Guide – 5th Edition
2. Nicholas, John M. “Managing Business & Engineering Projects”
3. Joy, P.K. “Handbook of Construction Management” Macmillan, Delhi, 1990
4. Iyer, P. Parameshwar “Engineering Project Management with Case Studies” Wheeler Publishing (A division of A.H. Wheeler & Co. Ltd., New Delhi, Allahabad)
5. Gopalakrishnan P, (2011), “Handbook of Materials Management” - PHI Learning Private Limited.
6. Harris, F. & McCaffer, R. “Modern Construction Management” BSP Professional Books, Oxford London Edinburgh.