योजना तथा वास्तुकला विद्यालय, विजयवाड़ा
School of Planning and Architecture, Vijayawada
An Institute of National Importance, Ministry of Education Gov. of India

Department of Architecture

Course: 10110706-Construction Project Management
Class: 4th Yr B. Arch VIII Sem. AY 2023-24
Internal Assessment: 50
Instructor: Dr. Uma Sankar Basina
External Assessment: 50
Contact Periods/Wk: 04 periods
Total Marks: 100
Timetable: Tuesday (1,2,3,4 periods)
Credits: 03
Attendance: Min 75%
Min. Passing Marks: 50% each in Internal & External Assessment, 50% in Aggregate

Objective:

The intent of the course is to equip students with a practical approach to implement building projects, basic knowledge about construction industry, project management techniques needed for managing and coordinating building projects in a professional manner. The course should help in developing the necessary skills and sensitivity towards working in teams and organizations.

LECTURE PLAN

Sl.No.	Week	Topic of Class Lecture & Discussion	Class activities & Assignments
01	Week 1	Introduction to project management, construction industry, stakeholders, roles, responsibilities and functional relationships.	Lecture
02	Week 2	Construction projects; lifecycle; existing construction practices & project management systems, OBS, WBS. Concepts of project planning, scheduling & controlling. Project scale and construction technology, human aspects in managing projects.	Lecture
03	Week 3	Inputs of project planning; Liner Scheduling methods: Gantt Chart and LOB.	Lecture
04	Week 4	Activities and interdependencies, Redundancy check, Fulkerson's numbering rule, Network methods: AON & AOA	Lecture
05	Week 5	**Field Visit/Study Tour***	Lecture
06	Week 6	**Field Visit/Study Tour***	Lecture
07	Week 7	Enumerated Method, CPM, PERT.	Lecture
08	Week 8	**Mid-term Assessment**	Written
09	Week 9	Floats. Project progress tracking, Network update. Project direct and indirect costs. Crashing Project Schedules, its impact on time, cost and quality. Project Crashing Exercises.	Lecture
10	Week10	Methods of material/resource estimation and management, Resources scheduling and levelling. Resource Levelling Exercises.	Lecture
11	Week11	Site layout and organization, Site investigations. Quality tests for construction material and processes. Quality control inspections;	Lecture, Building Materials Testing Lab
12	Week12	**Internal Assessment - 1**	Presentation
13	Week13	Safety in Construction Projects; Labour welfare, applicable labour Legislations.	Lecture
14	Week14	Value engineering, its application in building design and construction. Construction equipment types, characteristics & applications.	Lecture
15*	Week15*	Types of building contracts, their merits and de-merits. Types of building tenders, contents of tender documents, tendering process.	Lecture
16*	Week16*	General conditions of contract, security deposits, interim certificates, defect liability periods, retention amounts, Mobilization money and virtual completion.	Lecture
		Internal Assessment - 2	Presentation

***Extra Class**

Tentative break-up of internal assessment marks.

S. No.	Category of Evaluation	Marks
01	Internal Assessment 1	15
02	Internal Assessment 2	15
03	Mid-term Assessment	20

Reference Books:

1. Gupta, B.L. and Gupta, Amit., Construction Management, Machinery and Accounts, 3rd ed. Standard Pub, 2005.
2. Callahan, M. T., Quackenbush, D. G., & Rowings, J. E. (1992). Construction Project Scheduling. McGraw-Hill.
3. Chitkara, K. K. (2004). Construction Project Management: Planning, Scheduling and Controlling. Tata McGraw–Hill Education.
4. O'Brien, J. J., and Plotnick, F. L. (2009). CPM in Construction Management. McGraw-Hill Professional.
5. Punmia, B. C., and Khandelwal, K. K. (2006). Project planning and control with PERT and CPM. New Delhi : Laxmi Publications.
6. Wiest, J. D., and Levy, F. K. (1982). A Management Guide to PERT/CPM. New Delhi : Prentice Hall of India.

Dr. Uma Sankar Basina