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: ARC5123 Project Formulation and Financial Modelling

Class: V Yr B.Arch. IX Sem. AY 2025-26

Internal Assessment: 50

Instructor: Dr. Uma Sankar Basina

External Assessment: 50

Contact Periods/Wk: 03 periods

Total Marks: 100

Timetable: (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 an understanding the concepts of project formulation and costing of construction projects. To sensitize the techniques of project appraisal and financial modelling. 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 formulation. Project - Concepts _ Capital investments - generating and screening of Project ideas.	Lecture
02	Week 2	Project identification - Preliminary Analysis, Market, Technical, Financial, Economic, Ecological. Pre-feasibility report and its clearance.	Lecture
03	Week 3	Project Estimates and Techno-Economic Feasibility Report. Detailed Project Report. Different Project Clearances required.	Lecture
04	Week 4	Project costing and Financing. Project Cash-flows. Time Value of Money. Cost of Capital.	Lecture
05	Week 5	**Field/Study Trip**	---
06	Week 6	**Field/Study Trip**	---
07	Week 7	Project Financing. Means of Financing - Financial Institutions - Special Schemes - Key Financial Indicators - Ratios.	Lecture
08	Week 8	Project Appraisal. Pay-back period - Assessment of various methods. Indian practice of investment appraisal. International practice of appraisal.	Lecture
		Internal Assessment - 1	**Int.Assessment-1**
09	Week 9	Types of Risks, minimizing risks, mitigating losses, use of expected values, utility in investment decisions, decision trees, sensitivity analysis & their applications.	Lecture
10	Week 10	Analysis of Risk. Different methods - selection of a project and Risk Analysis in practice.	Lecture
11	Week 11	**Mid-term Examination**	**Mid-term Exam**
12	Week 12	Private sector participation in Infrastructure development projects. BOT, BOLT, BOOT.	Lecture
13	Week 13	Introduction to Financial Modelling. Database functions. Development of Charts, financial functions, creating dynamic models.	Lecture
14	Week 14	Sensitivity Analysis. Simulation using different statistical distributions used in simulations.	Lecture
15	Week 15	Generating random numbers, building models in finance using simulation.	Lecture
16	Week 16	Technology Transfer and Foreign collaboration. Scope of Technology transfer.	Lecture
		Internal Assessment - 2	**Int.Assessment-2**

Tentative break-up of internal assessment marks.

S. No.	Category of Evaluation	Marks
01	Internal Assessment 1	15
02	Internal Assessment 2	15
03	Final Test / Final Test	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.

-Sd/-

Dr. Uma Sankar Basina

Course Coordinator **H.O.D**