

Course syllabus

Department of Civil Engineering, Indian Institute of Technology Madras

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**CE4010 - Construction Project Management**

**Credit Distribution:** C:10 L:3 T:1 P:0 E:0 O:6 TH:10

**Course Type:** Theory

**Description:** NIL

**Course Content:** The course is divided into three modules - Engineering Economics, Estimation and Tendering, and Construction Planning and Control. Topics covered under each module are given below: A. Engineering Economics: Time Value of Money, Discounted Cash Flows, Evaluating Alternatives, Replacement Analysis, Cost Benefit Analysis, Break-even analysis, Probabilistic Decision Analysis. B. Estimation and Tendering: Estimating Earthwork, Estimating Reinforced Concrete Structures, Formwork, Reinforcement, MEP elements, Estimating equipment costs, Labour costs, Rate analysis, Bid process management, contracts C. Construction Planning and Control: Work Breakdown Structures, Bar Charts, Precedence Diagrams, Critical Path Method, PERT, Earned Value, Resource Leveling, Time-Cost Trade-offs, Introduction to Lean Construction and Building Information Modeling, Line of Balance Scheduling.

**Text Books:** NIL

**Reference Books:** NIL

**Prerequisite:** NIL