



# PROJECT PLANNING & CONTROL

## **PROF. KOSHY VARGHESE**

Department of Civil Engineering  
IIT Madras

**INTENDED AUDIENCE :** UG/PG/Industry Participants

**PRE-REQUISITES :** Basic Mathematics with Probability & Statistics

**INDUSTRIES APPLICABLE TO :** All leading construction companies.

## **COURSE OUTLINE :**

This course will cover the basic concepts in Project Planning and Control with a focus on construction projects. The course is relevant to Civil Engineering senior level undergraduate as well as post-graduate students in the area of construction management. Practicing engineers who are part of the planning team on construction projects will also benefit from the concepts covered in the course.

## **ABOUT INSTRUCTOR :**

Prof. Koshy Varghese is a Professor with the Building Technology & Construction Management Division of Department of Civil Engineering, Indian Institute of Technology Madras (IITM). Prof. Varghese earned his Doctoral Degree at the University of Texas at Austin in 1992 and worked as a Post-Doctoral Fellow for a year after which he joined IIT Madras. Prof. Varghese is a pioneer in construction management education and research in India and He has received numerous academic honors, and he is on the editorial-board of several international journals. He is also a Member of the Board of Directors of ILCE (Institute for Lean Construction Excellence).

## **COURSE PLAN :**

**Week 01 :** Introduction, Course Context, Construction Project Management

**Week 02 :** Time Management, Work Breakdown Structure (WBS), Gantt Charts

**Week 03 :** Duration Estimation, Network Representation & Analysis -1

**Week 04 :** Network Representation & Analysis -2; Two-Span Bridge: Scheduling, Network Analysis and Application

**Week 05 :** Time-Cost Trade-off (Crashing)

**Week 06 :** Resource Scheduling

**Week 07 :** Precedence Diagramming Method (PDM), Project Monitoring & Control

**Week 08 :** Project Monitoring & Control (Earned Value Concepts), Uncertainty in Project Schedules (PERT), Course Summary