

Course syllabus

Department of Civil Engineering, Indian Institute of Technology Madras

CE6050- Lean construction project delivery

Credit Distribution: C:9 L:3 T:0 P:0 E:0 O:6 TH:9

Course Type: Theory

Description: The overall objective of this course is to develop a basic understanding of lean thinking and its application to the EPC process. A major part of the course will focus on lean tools, methodologies in each phase as well as across phases.

Course Content:

Overview: Introduction to lean thinking, Manufacturing vs Construction Supply Chains, Introduction to waste and value, Types of waste, Total Quality Management, Six Sigma.

Lean Design: Introduction to lean design, Design Structure Matrix, Building Information Modeling, Collaborative Design, Lean Design Strategies.

Lean Procurement: Introduction to lean procurement value and flow, Value Stream Mapping, Process Charts, Elimination of waste, Creating buffers for various resources.

Lean Construction: Sources of lost time, Productivity measurement systems, Work Sampling, Crew Balance Charts, Last Planner System, Reducing Variability, Continuous Improvement, Integrated Project Delivery.

Text Books: No Text Books specified - Class Notes available on website.

Reference Books: Modern Construction: Lean Project Delivery and Integrated Practices (Industrial Innovation Series) Hardcover 25 Oct 2010 by Lincoln H. Forbes, Syed M. Ahmed

Prerequisites: Nil