



# INTRODUCTION TO LEAN CONSTRUCTION (MODULE 1 - LEAN BASICS)

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**PRE-REQUISITES** : Basic Construction practices Project; Planning and Control

**INTENDED AUDIENCE** : Academic - UG/ PG/ Research Scholars/ Faculty members; Industry - All levels of engineers, architects, managers/ consultants who are responsible for construction project delivery

**INDUSTRIES APPLICABLE TO** : Institute for Lean Construction Excellence (ILCE) - [www.ilce.in](http://www.ilce.in)

## **COURSE OUTLINE :**

Lean Construction Management is a radical shift from traditional construction management. It is an adaptation of Lean Manufacturing principles to the construction realm. Lean approach seeks to improve project delivery by minimizing waste and maximizing Value to the customer. This course has been designed to impart the key concepts, tools, and practices to Civil Engineering Senior Level under-graduates, post-graduate students, and Faculty as well as practicing engineers, architects, and managers/ consultants.

## **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). Dr. 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. Dr. 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).

Prof. N. Raghavan is Professor of Practice in Building Technology & Construction Management Division, Department of Civil Engineering., IIT Madras (IITM). He has a B.Tech from IITM and M.Tech from IITB. Also, Member of the Board-of Directors of ILCE (Institute for Lean Construction Excellence). Earlier he retired from Larsen & Toubro Construction as Head- Hydrel & Nuclear Sector. He was also Chief Executive/ Director- L&T- Ramboll Consulting Engrs Ltd; He has been a Pioneer in India for spreading Lean concepts and has organised several Lean conferences and programmes.

## **COURSE PLAN :**

**Week 1:** Introduction to the Course; Lean Overview; Need for Productivity Measurement and improvement; Productivity Measurement System (PMS)

**Week 2:** Sampling/ Work Sampling; Survey/ Foreman delay survey; Value Stream/ Process Mapping

**Week 3:** 5S (Part 1 and 2, Collaborative Planning System (CPS)/ Last Planner™ System (LPS)

**Week 4:** Big Room Approach, IT/BIM and Lean, How to Start Practicing Lean Tools in Project Sites-1