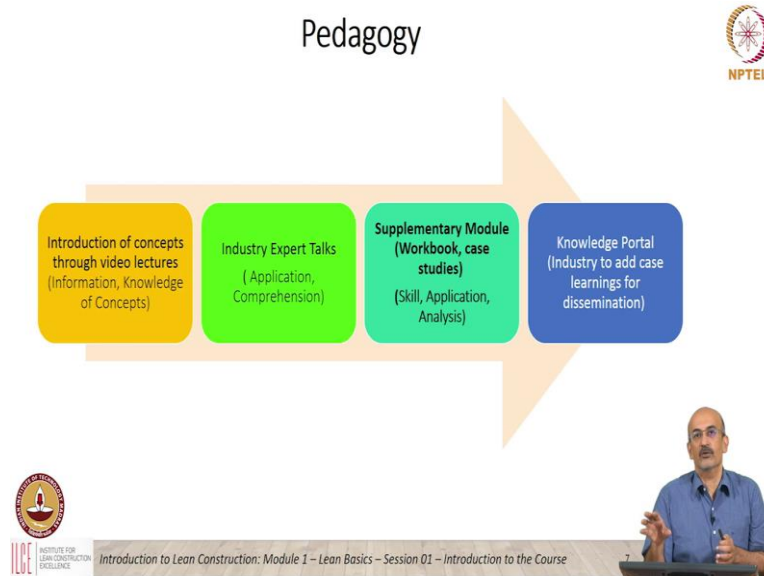


**Introduction to Lean Construction**  
**Professor Koshy Varghese**  
**Department of Civil Engineering**  
**Indian Institute of Technology Madras**  
**Module 1**

**Pedagogy, Approach, Institutions, Instructors, Audience and Pre-requisites**

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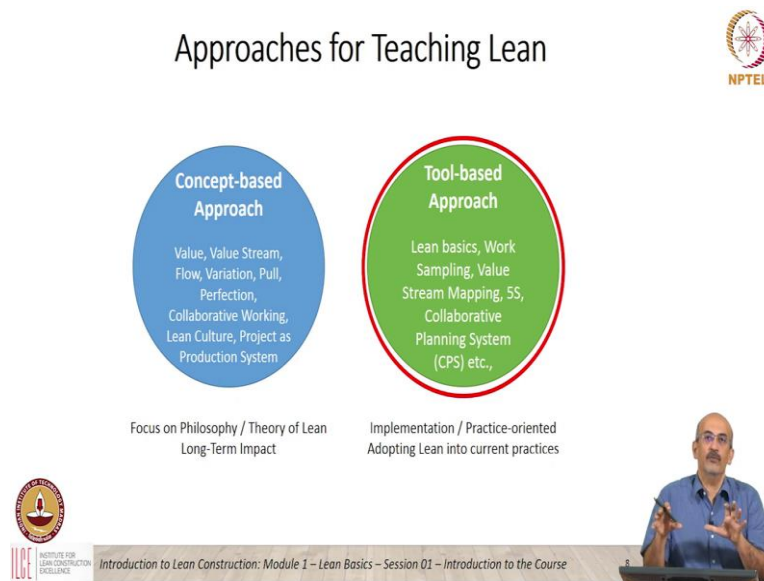


Now, when we go to the actual pedagogy, how are we going to do this? So, there will be definitely these lectures through which you will get more information knowledge of concepts and this will be through the classic lectures, which was Professor Raghavan and I will give.

Now, we will also have talks from industry experts, we will have talks from people on the field who are going to transfer their knowledge or be able to express what situations they are facing and how they have overcome.

Now, in addition to this, there is supplementary readings, where you can look at workbooks you can look at case studies and then enhance your knowledge in these areas. And as a future plan, we have, we will try to develop this knowledge portal where not only the people from industry who are giving knowledge for this, but also the students of this course as you start practicing Lean should be able to add to this course, should be able to add material, should be, add their experiences and probably grow the knowledge of this area from a practicing perspective.

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So, coming to approaches for teaching Lean, we have two approaches, one is the concept-based approach or the tool-based approach. And, a concept-based approach is a more classical approach in which the students or the participants are introduced to concepts, they are introduced to certain tools, which can be used to experience the concepts and be able to implement the concepts, but the focus is on the concepts.

On the tool-based approach, the focus is on the tools. The concepts are there, the concepts are kept to the background, but the focus is on how to operate the tools. In comparing both approaches, we have found that the tool-based approach gives a shorter way, a faster way of learning how to do Lean or how to start implementing things and as the concepts get learned slowly, they start getting refined as the application of the tools take place.

Now, if we had chosen a concept-based approach which is more conducive for a classroom-based exercise, where you are in class and we are able to discuss the concepts and be able to exchange have conversations on it one on one. So, in this module, we have chosen to go with a tool-based approach to make it a easier learning curve for the participants.

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**Institutions involved**

**ILCE** INSTITUTE FOR LEAN CONSTRUCTION EXCELLENCE

**IIT Madras**

ILCE (<https://www.ilce.in>) is a non-profit organization formed in 2008 and is the premier Institute in India for Lean Construction, its propagation and its application .  
Its Charter Members are leading construction-related organisations  
<https://www.ilce.in/>

IIT Madras is a premiere technology teaching institution formed by an Act of the Indian Parliament.  
<https://www.iitm.ac.in/>

IIT Madras is the Academic Partner.  
The Certification under this course is done jointly by NPTEL and ILCE as a not-for-profit exercise to Lean Construction Practices.

Introduction to Lean Construction: Module 1 – Lean Basics – Session 01 – Introduction to the Course

Now when we go into the NPTEL certification, I think many of you are certainly familiar with this, there is a lot of information on this on the NPTEL website. Now, we have two institutions in this case, this is IIT Madras as well as ILCE. Both are partnering to offer this course, you will find in addition to the lectures from IIT Madras faculty, there are a lot of supplementary material from ILCE companies and the practicing engineers and managers in the ILCE companies.

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**The NPTEL System**

**NPTEL** The National Programme on Technology Enhanced Learning (NPTEL) was initiated by seven IITs and IISc in 2003 and further enhanced from time to time.  
It is the largest online repository in the world of courses in engineering, basic sciences and selected humanities and social sciences subjects.  
The Swayam courses are under the accreditation of MoE (MHRD) and AICTE

**Course Access** This online course (Introduction to Lean Construction) is being offered on the NPTEL Platform.  
More details of NPTEL are given on the website <http://npTEL.ac.in> supplemented by the YouTube channel for NPTEL.  
The open platform NPTEL courses are open to everyone and are free of cost, except for certification.

**Certificate** If participant wants to get a certificate on this course (ILCE-NPTEL), he/she should register for the in-person proctored certification exam that is conducted in 100+ cities across India in collaboration with an exam partner.  
The certification exam has a nominal fee as determined by NPTEL






Introduction to Lean Construction: Module 1 – Lean Basics – Session 01 – Introduction to the Course

When we move into the NPTEL system, I think may again many of you are familiar with this, in addition to be able to access the course anytime, access the lectures, do the assignments are on schedule, you are eligible for a certificate if you register for the final

exam, and finish and pass the exam successfully. For more information, please refer to the NPTEL website. It gives you a lot more information and details on this.



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### Instructors



Prof. Koshy Varghese  
Building Technology and Construction Management Division of the  
Department of Civil Engineering,  
Indian Institute of Technology Madras  
Academic Members- ILCE Board of Directors

Prof. N. Raghavan  
Industry Experts  
(ILCE & Other  
Companies)





Introduction to Lean Construction: Module 1 – Lean Basics – Session 01 – Introduction to the Course 12

Professor Raghavan and I are happy to offer this course to you. Along with other industry experts. Professor Raghavan brings in several years of experience with industry and is currently a Professor of Practice at IIT Madras. His wisdom and knowledge is definitely a bonus for all the participants here. I have taught Lean Construction at IIT Madras to the master students for more than 10 years. And I have seen several of my students go on to practice Lean in the industry.


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### Target Audience




- UG/ PG/ Research Scholars
- Construction Site Personnel
- Middle Management
- Top Management


### Pre-requisites



- Construction management/planning concepts -
- Exposure to construction practices



NPTEL Course – Project Planning and Control - <https://nptel.ac.in/course/105/1050819>



Introduction to Lean Construction: Module 1 – Lean Basics – Session 01 – Introduction to the Course 13

Now, when we look at the target audience, we have actually designed this course for a wide range of audience. Whether it is the undergraduate or the postgraduate students or the research scholars, the construction site personnel, you can see everybody is covered here, middle management, top management.

If you have some familiarity with Lean already, it might be module 2 and module 3 that are more relevant to you. But if you have no familiarity with Lean, you have to start with module 1. And whether you are an undergraduate student or a person in top management starting with module 1 gives you the basis to be able to speak Lean terminology and go on to more advanced practices.

If you are in already have site experience you know many of these kind of practices you know many things are in place, but the Lean approach to it is not necessarily familiar to you. So that is why covering module 1 is always a requirement. Now when we go into from a prerequisite point of view, definitely having a basic course in construction management or planning is requirement for the undergraduate students or for anyone else and having some exposure to construction practices is always a benefit.

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## Quiz



1. This course is based on a Tool based approach to Lean Construction because:
- a) Lean Construction is all about the Tools
  - b) Tool based approach is the main prime mover for Lean Construction
  - c) It enables experiencing Lean concepts through implementation
  - d) Lean Construction always starts with Tools
  - e) Lean Tools are more important than Lean Concepts



# Quiz



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**c) It enables experiencing Lean concepts through implementation**





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Introduction to Lean Construction: Module 1 – Lean Basics – Session 01 – Introduction to the Course

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Supplementary  
Module

Link (to read and contribute)  
<https://tinyurl.com/ydqarrzp>



be Covered Slide

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