

**SCHOOL OF PLANNING AND ARCHITECTURE, VIJAYAWADA
(LECTURE PLAN)**

Subject: **Lean Construction (MBEM 414)**

Class: MBEM, IV Semester

Dr. M. Kranti Kumar
Internal Marks: 50

Dept: Architecture
External Marks: 50

Number of Hours: 03
Total Marks: 100

Objective: Lean can be defined as creating predictable, reliable, and uninterrupted workflow by eliminating no value-added activities. Objective of this course is to introduce the lean project delivery system (LPDS) applied to the construction industry.

S.NO	DATE	TOPIC OF CLASS LECTURE & DISCUSSION	REMARKS
1	Week 1	➤ Introduction to lean philosophy	Lecture
2	Week 2	➤ Definition of lean ➤ Overview of history of lean principles ➤ Lean principles in other sectors	Lecture
3	Week 3	➤ Lean practices in construction ➤ Process orientation versus task orientation ➤ Transformation value-flow	Lecture
4	Week 4	➤ Lean principles and practices in construction ➤ Designing with lean principles ➤ Lean in design process ➤ Designing for lean construction	Lecture
5	Week 5	➤ Linkages of lean and green concepts in design of the built environment ➤ Enhancing lean construction culture	Lecture
6	Week 6	INTERNAL TEST/PRESENTATION	
7	Week 7	➤ Lean in procurement ➤ Lean in production planning ➤ Lean in coordination and logistics	Lecture
8	Week 8	➤ Lean and offsite ➤ Lean for real estate and infrastructure projects	
9	Week 9	➤ MID -TERM ASSESSMENT	
10	Week 10	➤ Lean construction techniques such as Waste avoidance and reduction ➤ Partnering, Target Value Design and Set Based Design ➤ Building Information Modelling (BIM)	Lecture
11	Week 11	➤ Pull Planning and Last Planner System ➤ Huddle Meetings ➤ 5S	Lecture
12	Week 12	➤ Visual Management	Lecture

		<ul style="list-style-type: none"> ➤ Work Structuring ➤ Continuous improvement 	
13	Week 13	<ul style="list-style-type: none"> ➤ Pokea-yoke ➤ Just in Time ➤ A3 Reports ➤ Value Stream Mapping 	Lecture
14	Week 14	<ul style="list-style-type: none"> ➤ Lean project delivery ➤ Value of lean for design and construction organizations ➤ Implementation issues 	Lecture
15	Week 15	<ul style="list-style-type: none"> ➤ Drivers and barriers to lean implementation in the construction sector ➤ Linkages of lean paradigm to other industry initiatives 	-
16	Week 16	INTERNAL TEST/PRESENTATION	

Tentative Break-up of Internal Assessment

S. No.	Evaluation	Marks	Note
1	Internal test/ Individual Assessment	15	1. Marks allotted at each stage is tentative 2. New stages or categories of evaluation may be included if and when the need arises
2	Mid Term Assessment	20	
3	Seminar Presentation	15	

Reference Books

1. Sacks, Rafael, Samuel Korb, Ronen Barak (2017) Building Lean, Building BIM: Improving Construction the Tidhar Way. Routledge.
2. Garbutt Charlie (2017), lean construction, a small contractor's journey, Advantage Media Group
3. Blokdyk Gerardus (2018), lean construction, a complete guide, 5starcooks

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