Master of Technology

Construction project Management

Lean Construction

01CP0106 (PEC)

Objective of the Course:

- To introduce various concepts of lean construction currently used in the industry
- To make students aware of state of the art construction practices used in current approach

Credit Earned: 3

Students learning outcomes:

After successful completion of the course it is expected that student will be able to,

1. Understand the concept of the lean construction
2. To develop various performance indicators for construction projects.
3. To interpret and apply the various implementing strategies.
4. To analyze the practical application of methods of lean construction.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	IA (M)	CSE (I)	Viva (V)	Term Work (TW)	
03	00	00	03	50	30	20	25	25	150

Detailed Syllabus

Sr No.	Title of the unit	Number of hours
1	**Concepts**	**10**
	Lean production in construction, Lean production theory, The knowledge process	
2	**Performance measurement**	**13**
	Identifying and monitoring key indicators of project success, Modeling waste and performance in construction, Characterization of waste in building construction projects	

3	**Implementation strategies**	**11**
	Reducing inflow variation, : Stabilizing work flow, Improving downstream performance, Identification of critical factors in the owner-contractor relation in construction projects, Construction supply-chains: Case study, integrated cost and performance analysis	
4	**Practical Applications**	**8**
	Lean manufacturing of construction components, New tools for lean construction, Lean production as a purpose for computer integrated construction	
		42

Suggested Theory Distribution

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
5%	5%	20%	25%	25%	20%

Instructional Method and Pedagogy:

1. Use of Learning Management system like canvas
2. Demonstration through presentations on power point and videos and lectures
3. Brainstorming and group discussion sessions
4. Collaborative learning

Recommended Study Material:

Reference Book:

1. Lincoln H. Forbes, Syed M. Ahmed (2010); "Modern Construction: Lean Project Delivery and Integrated Practices (Industrial Innovation)", CRC press. ISBN-142006312x
2. Alarcon (1997); "Lean Construction", A.A. Balkema Publisher. ISBN 90 54 10 648 4
3. Clive Thomas Cain (2004); "Profitable Partnering for Lean Construction" Blackwell Publishing Ltd. ISBN 1-4051-1086-4