

SYLLABUS/
CURRICULUM



PANDIAN SARASWATHI YADAV ENGINEERING COLLEGE

(Approved by AICTE & Affiliated to Anna University, Chennai)

Madurai - Sivagangai Highway, Arasanoor, Thirumansolai Post, Sivagangai Dt. - 630 561, Tamilnadu
Mobile : 9842102628, 7373002628 Email: info@psyec.edu.in Website : www.psyec.edu.in

City Office : 10, Pandian Saraswathi St, Sivagami Nagar, Narayanapuram, Madurai - 625 014. Telefax- 0452 2682338, Mobile : 98423-02628

DEPARTMENT OF CIVIL ENGINEERING

Academic Year 2022-2023

VACCE2223SC - STREAMLINED CONSTRUCTION TECHNIQUE INNOVATIONS AND APPLUICATIONS

Objective of the Course

- To gain comprehensive understanding and practical application of lean principles and methodologies in construction projects, with a focus on enhancing efficiency, minimizing waste, and optimizing project delivery.
- To develop the skills necessary to identify opportunities for lean implementation, apply lean tools and techniques, and lead lean initiatives within construction projects, resulting in improved project outcomes and client satisfaction.

Chapter 1

5

The lean principles and their application in the construction industry - the history and evolution of lean construction, highlighting- importance - improving project efficiency and minimizing waste.

Chapter 2

6

The fundamental lean concepts – the value, waste, flow, and continuous improvement. - case studies, The types of waste in construction projects

Chapter 3

6

The various lean tools and techniques used in construction projects. the methodologies of 5S, Kanban, pull planning, Last Planner System (LPS), and root cause analysis.

Chapter 4

6

The importance of collaborative planning and scheduling in lean construction. the techniques for involving all project stakeholders - the stages of planning process - ensuring buy-in and alignment of project goals.

Chapter 5

6

the significance of visual management in lean construction. - visual management systems - communication, promote transparency, - facilitate decision-making on construction sites.

Chapter 6

6

The role of leadership - lean initiatives - fostering a culture of continuous improvement - the characteristics of lean leaders - learn strategies for overcoming resistance - construction teams

TOTAL HOURS:35

A. Sultan
Course-Coordinator

D. S. S. S.
HOD

[Signature]
PRINCIPAL



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DEPARTMENT OF CIVIL ENGINEERING

Academic Year 2022-2023

VACCE2223SC - STREAMLINED CONSTRUCTION TECHNIQUE INNOVATIONS AND APPLUICATIONS

Course Schedule

Date	Time	TOPICS
12/07/2022	9.00 am to 12.15 pm	The lean principles and their application in the construction industry - the history and evolution of lean construction, highlighting- importance - improving project efficiency and minimizing waste.
	1.00 pm to 4.15 pm	
13/07/2022	9.00 am to 12.15 pm	The fundamental lean concepts – the value, waste, flow, and continuous improvement. - case studies, The types of waste in construction projects
	1.00 pm to 4.15 pm	
14/07/2022	9.00 am to 12.15 pm	The various lean tools and techniques used in construction projects. the methodologies of 5S, Kanban, pull planning, Last Planner System (LPS), and root cause analysis.
	1.00 pm to 4.15 pm	
15/07/2022	9.00 am to 12.15 pm	The importance of collaborative planning and scheduling in lean construction. the techniques for involving all project stakeholders - the stages of planning process - ensuring buy-in and alignment of project goals.
	1.00 pm to 4.15 pm	
16/07/2022	9.00 am to 12.15 pm	the significance of visual management in lean construction. - visual management systems - communication, promote transparency, - facilitate decision-making on construction sites
	1.00 pm to 4.15 pm	
17/07/2022	9.00 am to 12.15 pm	The role of leadership - lean initiatives - fostering a culture of continuous improvement - the characteristics of lean leaders - learn strategies for overcoming resistance - construction teams
	1.00 pm to 4.15 pm	

Total Hours :35

Tea Break : FN- 11:00 am to 11:15am & AN-03:00 pm to 03:15 pm

Lunch : 12:15 pm to 01:00pm

A. Sultan
Course-Coordinator

D. S. S.
HOD

[Signature]
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DEPARTMENT OF CIVIL ENGINEERING

Academic Year 2022-2023

One-page Report


Name of the course : **Streamlined Construction Technique Innovations and Applications**
Development Course Code : **VACCE2223SC**
Course Coordinator : Mr.A. SULTHAN, , AP / Civil
Date/Duration : 12.07.2022-17.07.2022 — **35 hours**

I here affirm that the third-year students of strength 22 have been taught the value-added course title “**Streamlined Construction Technique Innovations and Applications**” as per the syllabus and completed within the stipulated time duration.

I confirm that the value-added course titled “**Streamlined Construction Technique Innovations and Applications**” has been conducted in the beginning of the semester and course delivery along with the attendance of the students was recorded.

I confirmed that all the students were actively participated in the course and the eligible students were certified for the course.


Course-Coordinator


HOD


PRINCIPAL

ASSESSMENT PROCEDURE

PANDIAN SARASWATHI YADAV ENGINEERING COLLEGE

ARASANOOR-630561

DEPARTMENT OF CIVIL ENGINEERING

Academic Year 2022-2023

VACCE2223SC - Streamlined Construction Technique Innovations and Applications

Assessment Questions with Answer

1. What is the primary goal of lean construction?

- A) Maximizing waste
- B) Minimizing value
- C) Maximizing value and minimizing waste**
- D) Minimizing efficiency

2. How does lean construction differ from traditional construction methods?

- A) Lean construction focuses on waste elimination and efficiency**
- B) Traditional construction methods focus on collaboration and transparency
- C) Lean construction relies on hierarchical decision-making
- D) Traditional construction methods prioritize individual performance

3. What are some common types of waste in construction, according to lean principles?

- A) Overproduction, underutilization, over-processing
- B) Overproduction, waiting, transportation**
- C) Over-processing, underutilization, defect
- D) Waiting, transportation, defects

4. What is a value stream map, and how is it used in lean construction?

- A) A tool for visualizing project timelines
- B) A tool for identifying areas of waste and improvement**
- C) A tool for scheduling construction activities
- D) A tool for tracking project costs

5. What role does continuous improvement play in lean construction?

- A) It involves constant deterioration of processes
- B) It focuses on maintaining the status quo
- C) It emphasizes constant seeking of improvement**
- D) It involves occasional, large-scale improvements

6. How can lean construction principles be applied to project scheduling and planning?

- A) By using traditional Gantt charts
- B) By using collaborative scheduling and pull planning**
- C) By relying solely on individual expertise
- D) By following a fixed schedule

7. What is the significance of visual management in lean construction?

- A) It creates confusion among project stakeholders
- B) It facilitates transparency and communication**
- C) It slows down decision-making processes
- D) It increases project costs

8. How does lean construction promote collaboration among project stakeholders?

- A) By excluding certain stakeholders from the process
- B) By fostering a culture of secrecy
- C) By involving all stakeholders early and promoting shared goals**
- D) By relying on hierarchical decision-making

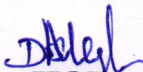
9. What are some key lean tools and techniques used in construction projects?

- A) 5S, value stream mapping, and root cause analysis**
- B) Traditional project management techniques
- C) Just-in-time delivery and Kanban
- D) All of the above

10. What are the benefits of implementing lean construction principles?

- A) Increased costs and longer project durations
- B) Reduced efficiency and lower quality outcomes
- C) Improved project efficiency and higher customer satisfaction**
- D) Decreased productivity and increased waste


Course-Cordinator


HOD


PRINCIPAL

PANDIAN SARASWATHI YADAV ENGINEERING COLLEGE
ARASANOOR-630561

DEPARTMENT OF CIVIL ENGINEERING

Academic Year 2022-2023

VACCE2223SC - Streamlined Construction Technique Innovations and Applications

Assessment Test Paper

REGISTER NUMBER: 912019 103301

NAME OF THE STUDENT: Priyadharsini M

9/10

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A. Sultan
Course-Cordinator

Adel
HOD

[Signature]
PRINCIPAL

Academic Year 2022-2023

Student Performance Sheet

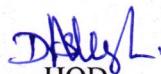
Period of course: 12.07.2022 to 17.07.2022

Duration of Course: 35 hours

VACCE2223SC - STREAMLINE CONSTRUCTION TECHNIQUE INNOVATIONS AND APPLICATIONS

Sl. No	Register Number	Student Name	Assessment Marks
1	912019103001	ABIMANYU V	92
2	912019103002	ALLAN JONES A	86
3	912019103003	ARUNKUMAR K	82
4	912019103004	BALAJI G	85
5	912019103005	CHANDRA BOSE S	80
6	912019103007	GAUTHAM M	91
7	912019103009	GURUNATHAN K	83
8	912019103012	KAVIN KUMAR S	77
9	912019103014	NAGARAJ M	80
10	912019103015	PRABU P	82
11	912019103016	RAGUL S	76
12	912019103017	RAHUL P	78
13	912019103018	RAJESH G	95
14	912019103019	RATHINESHWARAN R	90
15	912019103020	SAKTHI SUNDAR C	80
16	912019103021	SEEMAN T	93
17	912019103022	THIRUKKURALARASA N D	86
18	912019103023	VASANTH L	92
19	912019103301	PRIYADHARSHINI M	90
20	912019103501	ARUNKUMAR N	82
21	912019103701	KATHIRAVAN K	85
22	912019103702	SIVA B	80


Course Coordinator


HOD


Principal

Enrollment
Student Name
List

Academic Year 2022-2023

Student Registration Sheet

Period of course: 12.07.2022 to 17.07.2022

Duration of Course: 35 hours

VACCE2223SC - STREAMLINE CONSTRUCTION TECHNIQUE INNOVATIONS AND APPLICATIONS

Sl. No	Register Number	Student Name	Signature of the Student
1	912019103001	ABIMANYU V	Abimanyu.v
2	912019103002	ALLAN JONES A	ALLAN JONES. S
3	912019103003	ARUNKUMAR K	Arunkumar.k
4	912019103004	BALAJI G	Balaji
5	912019103005	CHANDRA BOSE S	CHANDRA BOSE S
6	912019103007	GAUTHAM M	Gautham.m
7	912019103009	GURUNATHAN K	Gurunathan.k
8	912019103012	KAVIN KUMAR S	Kavin.kumar.s
9	912019103014	NAGARAJ M	Nagaraj
10	912019103015	PRABU P	Prabup
11	912019103016	RAGUL S	Rahul.s
12	912019103017	RAHUL P	Rahul.p
13	912019103018	RAJESH G	Rajesh
14	912019103019	RATHINESHWARAN R	Rathin.
15	912019103020	SAKTHI SUNDAR C	SAKTHI SUNDAR.C
16	912019103021	SEEMAN T	SEEMAN T
17	912019103022	THIRUKKURALARASAND	ND.Thirukurala
18	912019103023	VASANTH L	VASANTH L
19	912019103301	PRIYADHARSHINI M	Priyadharshini
20	912019103501	ARUNKUMAR N	Arunkumar.N
21	912019103701	KATHIRAVAN K	KATHIRAVAN.K
22	912019103702	SIVA B	Siva.B

A. Sultan
Course Coordinator

Daleh
HOD

Principal

STUDENTS ATTENDANCE

Academic Year 2022-2023

Student attendance Sheet

Period of course: 12.07.2022 to 17.07.2022

Duration of Course: 35 hours

VACCE2223SC - STREAMLINE CONSTRUCTION TECHNIQUE INNOVATIONS AND APPLICATIONS

Attendance Sheet			Day 1	Day 2	Day 3	Day 4	Day 5	Day 6
Sl. No	Register Number	Student Name	09.00 am - 04.15 pm	09.00 am - 04.15 pm	09.00 am - 04.15 pm	09.00 am - 04.15 pm	09.00 am - 04.15 pm	09.00 am - 04.15 pm
1	912019103001	ABIMANYU V	ABV	ABV	ABV	ABV	ABV	ABV
2	912019103002	ALLAN JONES A	ALLAN	ALLAN	ALLAN	ALLAN	ALLAN	ALLAN
3	912019103003	ARUNKUMAR K	ARUN	ARUN	ARUN	ARUN	ARUN	ARUN
4	912019103004	BALAJI G	BALAJI	BALAJI	BALAJI	BALAJI	BALAJI	BALAJI
5	912019103005	CHANDRA BOSE S	CHANDRA	CHANDRA	CHANDRA	CHANDRA	CHANDRA	CHANDRA
6	912019103007	GAUTHAM M	GAUTHAM	GAUTHAM	GAUTHAM	GAUTHAM	GAUTHAM	GAUTHAM
7	912019103009	GURUNATHAN K	GURUNATHAN	GURUNATHAN	GURUNATHAN	GURUNATHAN	GURUNATHAN	GURUNATHAN
8	912019103012	KAVIN KUMAR S	KAVIN	KAVIN	KAVIN	KAVIN	KAVIN	KAVIN
9	912019103014	NAGARAJ M	NAGARAJ	NAGARAJ	NAGARAJ	NAGARAJ	NAGARAJ	NAGARAJ
10	912019103015	PRABU P	PRABU	PRABU	PRABU	PRABU	PRABU	PRABU
11	912019103016	RAGUL S	RAGUL	RAGUL	RAGUL	RAGUL	RAGUL	RAGUL
12	912019103017	RAHUL P	RAHUL	RAHUL	RAHUL	RAHUL	RAHUL	RAHUL
13	912019103018	RAJESH G	RAJESH	RAJESH	RAJESH	RAJESH	RAJESH	RAJESH
14	912019103019	RATHINESHWARAN R	RATHINESHWARAN	RATHINESHWARAN	RATHINESHWARAN	RATHINESHWARAN	RATHINESHWARAN	RATHINESHWARAN
15	912019103020	SAKTHI SUNDAR C	SAKTHI	SAKTHI	SAKTHI	SAKTHI	SAKTHI	SAKTHI
16	912019103021	SEEMAN T	SEEMAN	SEEMAN	SEEMAN	SEEMAN	SEEMAN	SEEMAN
17	912019103022	THIRUKKURALARASAND	THIRUKKURALARASAND	THIRUKKURALARASAND	THIRUKKURALARASAND	THIRUKKURALARASAND	THIRUKKURALARASAND	THIRUKKURALARASAND
18	912019103023	VASANTH L	VASANTH	VASANTH	VASANTH	VASANTH	VASANTH	VASANTH
19	912019103301	PRIYADHARSHINI M	PRIYADHARSHINI	PRIYADHARSHINI	PRIYADHARSHINI	PRIYADHARSHINI	PRIYADHARSHINI	PRIYADHARSHINI
20	912019103501	ARUNKUMAR N	ARUN	ARUN	ARUN	ARUN	ARUN	ARUN
21	912019103701	KATHIRAVAN K	KATHIRAVAN	KATHIRAVAN	KATHIRAVAN	KATHIRAVAN	KATHIRAVAN	KATHIRAVAN
22	912019103702	SIVA B	SIVA	SIVA	SIVA	SIVA	SIVA	SIVA

Tea Break : FN- 11:00 am to 11:15am & AN-03:00 pm to 03:15 pm

Lunch : 12:15 pm to 01:00pm


Course Coordinator


HOD


Principal

MODEL
CERTIFICATES

PANDIAN SARASWATHI YADAV ENGINEERING COLLEGE

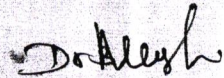
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Value added course on
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CERTIFICATE

This is to Certify that *Balaji. 07* from Final year students has participated in the value-added course on **Streamlined Construction Technique Innovations and Applications** by the Department of Civil Engineering from 12.07.2022 to 17.07.2022 (35 Hours) at Pandian Saraswathi Yadav Engineering College, Sivagangai.



Dr. MEENAKSHI SUDARVIZHI

HOD



Dr. R. RAJA

PRINICIPAL

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CERTIFICATE

This is to Certify that *Ragu. S.* from Final year students has participated in the value-added course on **Streamlined Construction Technique Innovations and Applications** by the Department of Civil Engineering from 12.07.2022 to 17.07.2022 (35 Hours) at Pandian Saraswathi Yadav Engineering College, Sivagangai.

Dr. Meenakshi Sudarvizhi
Dr. MEENAKSHI SUDARVIZHI

HOD

Dr. R. Raja
Dr. R. RAJA
PRINICIPAL

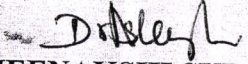
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Dr. MEENAKSHI SUDARVIZHI
HOD


Dr. R. RAJA
PRINCIPAL