

Course Descriptor
CVEN544 Design of Temporary Structure



ACADEMIC YEAR	2020-21	SEMESTER	Spring Semester
Course Code	CVEN544	Course Title	Design of Temporary Structures
Credit hours	3	Level of study	Year 5
College / Centre	COE	Department	CVEN
Co-requisites	Engineering	Pre-requisites	CVEN443 Foundation Engineering, CVEN340

1. COURSE OUTLINE

This course is to introduce engineering principles in the design of temporary structures and operations used in construction projects.

2. AIMS

The aim of this course is to provide basic knowledge and skills required to analyse, design and assess temporary structures in construction projects in order to gain a clear understanding of the essentials of temporary structural design and to acquire the ability to apply these knowledges to typical projects from a practical perspective.

3. LEARNING OUTCOMES, TEACHING, LEARNING AND ASSESSMENT METHODS

Learning Outcomes (Definitive)	Teaching and Learning methods (Indicative)	Assessment (Indicative)
Upon successful completion of this course. Students will be able to:		
1. Understanding design loads during construction	Lecturer, Presentation	<i>Assignment, Midterms, and Final Exam</i>
2. Design temporary structures such as formwork, scaffolding, bracing, cofferdam to support construction operations	Lecturer, Presentation	<i>Assignment, Midterms, and Final Exam</i>
3. Be aware of business practices and legal aspects associated with temporary structures	<i>Lecturer, Presentation</i>	<i>Assignment, Midterms, and Final Exam</i>
4. Select appropriate materials, methods and techniques associated with temporary structures in various construction operations.	<i>Lecturer, Presentation</i>	<i>Assignment, Midterms, and Final Exam</i>



4. ASSESSMENT WEIGHTING

Assessment	Percentage of final mark (%)
Quizzes	20
Mid-term Examination	20
Assignments	10
Final Examination	50
TOTAL	100

5. ACHIEVING A PASS

Students will achieve 03 credit hours for this course by passing [ALL](#) of the course assessments and achieving a **minimum overall score of 50%**



6. COURSE CONTENT (Indicative)		
WEEK	LECTURE TOPIC	TIME (HOURS)
1	Introduction	1.5
	Introduction to temporary structures	1.5
2	Introduction to temporary structures	1.5
	Introduction to temporary structures	1.5
3	Construction loads	1.5
	Construction loads	1.5
4	Standards related to temporary structures during construction	1.5
	Standards related to temporary structures during construction	1.5
5	Design of temporary wood structures	1.5
	Design of temporary wood structures	1.5
6	Shoring and re-shoring	1.5
	Shoring and re-shoring	1.5
7	Formwork design	1.5
	Formwork design	1.5
8	Scaffolding	1.5
	Scaffolding	1.5
9	Cofferdam design	1.5
	Cofferdam design	1.5
10	Foundation underpinning	1.5
	Foundation underpinning	1.5
11	Trenching and excavation	1.5
	Trenching and excavation	1.5
12	Earthwork bracing	1.5
	Earthwork bracing	1.5
13	Bracing of masonry wall	1.5
	Bracing of masonry wall	1.5
14	Construction failures and lessons learned	1.5
	Construction failures and lessons learned	1.5
15	Construction failures and lessons learned	1.5
	Activity -1: Case Study on Construction Failures & Lessons learnt Summary	1.5

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	TOTAL HOURS	45
1 - 15	Plus RECOMMENDED INDEPENDENT STUDY HOURS	90
	TOTAL COURSE HOURS	135

7. RECOMMENDED READING

Core text:

Christopher, S. (2014). *Temporary Structure Design*. ISBN: 1118939964, 9781118939963.
Wiley.USA.

Robert, R. (2012). *Handbook of Temporary Structures in Construction*, 3rd edition, ISBN 978-0-07-175307-4, McGraw-Hill Professional.

Murray Grant and Peter Pallett (2012) *Temporary Works: Principles of Design and Construction*, ICE Publishing.