



Course Descriptor

CVEN332-Civil Engineering Materials

ACADEMIC YEAR	2019-20	SEMESTER	Fall-2019-2020
Course Code	CVEN-332	Course Title	Civil Eng Materials
Credit hours	3	Level of study	Undergraduate
College / Centre	Engineering	Department	Civil Engineering
Pre-requisites	ENGR220, CVEN231	Co-requisites	ENGR321

1. COURSE OUTLINE

Study of the properties of construction materials such as cement, aggregates, concrete, metals, steels, timber, bricks and blocks. The course includes extensive laboratory sessions.

2. AIMS

The students should be able to understand properties, strength and test required for the different materials used in civil engineering by using Universal Testing Machine, Slump cone testing equipment, Sieves Analyzer, Vicat Apparatus and Concrete Coring Machine.

3. LEARNING OUTCOMES, TEACHING, LEARNING and ASSESSMENT METHODS (Indicative)

Learning Outcomes (Definitive)	Teaching and Learning methods (Indicative)	Assessment (Indicative)
1. Able to demonstrate the construction material properties through hands-on experience coupled with personal observation	Lectures, presentation	<i>Assignment and Quizze,</i>
2. Demonstrate laboratory safety, ability to perform test for, cement, concrete and metals	Lectures, presentation	<i>Assignment and, Quizze,</i>
3. Interpret Asphalt properties, Masonry & its types	Lectures, presentation	<i>Assignment and, Quizze,</i>
4. Develop skills in note taking and reporting for laboratory work	Lectures, presentation	<i>Assignment and, Quizze,</i>

4. ASSESSMENT WEIGHTING

Assessment	Percentage of final mark (%)
Assignments/ Presentation	20%
Mid-term Examination	2x20 = 40%
Final Examination	40%
TOTAL	100%



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5. ACHIEVING A PASS

Students will achieve **3** credit hours for this course by passing **ALL** of the course assessments [*alternatively, list the compulsory pass assessments**] and achieving a **minimum overall score of 50%**

NB *Ensure that ALL learning outcomes are taken into account

6. COURSE CONTENT (Indicative)		
WEEK	LECTURE TOPIC	TIME (HOURS)
1	Introduction	1 - 30
	Laboratory safety	1 - 30
2	Laboratory measurements	1 - 30
	Recording and presenting technical information	1 - 30
3	Standards for Civil Engineering Materials	1 - 30
	Standards for Civil Engineering Materials	1 - 30
4	Material properties	1 - 30
	Material properties	1 - 30
5	Tensile testing of metals	1 - 30
	Tensile testing of metals	1 - 30
6	Aggregates	1 - 30
	Mid Term I	1 - 30
7	Aggregates Continued	1 - 30
	Cement	1 - 30
8	Types of Cement	1 - 30
	Cement Tests	1 - 30
9	Cement Tests - continued	1 - 30
	Concrete and its Types	1 - 30
10	Concrete Design	1 - 30
	Concrete Mixing and Testing	1 - 30
11	Wood, its properties & Testing	1 - 30
	Wood, its properties & Testing- Continued	1 - 30
12	Asphalt	1 - 30
	Asphalts Properties	1 - 30
13	Masonry, Masonry types	1 - 30
	Mid Term II	1 - 30
14	Laboratory equipment for Materials	1 - 30
	Laboratory equipment for Materials - Continued	1 - 30
15	Final Revision Question and Answers	1 - 30
	Final Exam	1 - 30
	TOTAL HOURS	45
1 - 15	Plus RECOMMENDED INDEPENDENT STUDY HOURS	90
	TOTAL COURSE HOURS	135



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7. RECOMMENDED READING

Core text/s:

Materials for Civil & Construction Engineers 3rd edition, Michael S. Mamlouk, John P. Zaniewski. 2011. Pearson.

Library + online resources:

1. NPTEL website for Civil Engineering Students.
2. ICE virtual Library (www.ice.org.uk)