THE FEDERAL UNIVERSITY OF TECHNOLOGY, AKURE

Department of Architecture

ARC 206 - Building Materials I

COURSE PARTICULARS

Course Code: ARC 206
Course Title: Building Materials I
No. of Units: 3
Course Duration: Two hours of theory and three hours of practicals per week for 15 weeks.
Status: Compulsory
Course Email Address:
Course Webpage: http://www.arc.futa.edu.ng/courseschedule.php?coursecode=ARC%20206
Prerequisite: NIL

COURSE INSTRUCTORS

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COURSE DESCRIPTION

Elements and components of construction. A study of the materials available for building with emphasis on their structure, properties, application and sustained performance over the life of a building. Introduction to the basic materials and elements of construction including their properties and performances. General characteristics and properties of materials (sand, clay and stone). Laterite and earth construction. Masonry elements: bricks-production, properties of bonding and construction. Cement manufacture, types and properties, concrete, sandcrete and concrete block-production and tests for standard practice. Timber: hardwood and soft wood. Properties and defects. Treatment, forms and uses.

COURSE OBJECTIVES

The objectives of this course are to:

- Introduction to the basic materials and elements of construction including their properties and performances.

COURSE LEARNING OUTCOMES / COMPETENCIES

Upon successful completion of this course, the student will be able to:
(Knowledge based)

- Know basic materials and elements of construction including their properties and performances;
- classify and explain the function of different building materials and elements including their properties and performance;
- understand purpose and functions of an materials available for building with emphasis on their structure, properties, application and sustained performance over the life of a building.

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GRADING SYSTEM FOR THE COURSE

This course will be graded as follows:

Class Attendance	5%
Assignments	15%
Test(s)	20%
Final Examination	60%
TOTAL	**100%**

GENERAL INSTRUCTIONS

Attendance: It is expected that every student will be in class for lectures and also participate in all practical exercises. Attendance records will be kept and used to determine each person's qualification to sit for the final examination. In case of illness or other unavoidable cause of absence, the student must communicate as soon as possible with any of the instructors, indicating the reason for the absence.

Academic Integrity: Violations of academic integrity, including dishonesty in assignments, examinations, or other academic performances are prohibited. You are not allowed to make copies of another person's work and submit it as your own; that is plagiarism. All cases of academic dishonesty will be reported to the University Management for appropriate sanctions in

accordance with the guidelines for handling students' misconduct as spelt out in the Students' Handbook.

Assignments and Group Work: Students are expected to submit assignments as scheduled. Failure to submit an assignment as at when due will earn you zero for that assignment. Only under extenuating circumstances, for which a student has notified any of the instructors in advance, will late submission of assignments be permitted.

Code of Conduct in Lecture Rooms and Laboratories: Students should turn off their cell phones during lectures. Students are prohibited from engaging in other activities (such as texting, watching videos, *etc*.) during lectures. Food and drinks are not permitted in the laboratories.

READING LIST

[1]Barry, R. (2007). ‘*’The Construction of Buildings Vol.I-IV’’* Blackwell Science Ltd.

[1]Chudley, R. and Greeno, R (2010). ‘’Building Construction Handbook’’ Elsevier.

[1]Fadamiro, J.A. and Ogunsemi, D.R. (2008). Fundamental of Building Design. Construction and Materials’’ Adeyemo Publishing House, Akure.

Legend
1- Available in the University Library

COURSE OUTLINE

Week	Topic	Remarks
1	Introduction and Course Overview	During this first class, the expectation of the students from the course will also be documented.
2 & 3	Basic building materials	
4 & 5	• Laterite • Traditional use of laterite • Properties of laterite • Production of laterite Blocks • Products of laterite	
6	• Stone • Processing of stone • Properties of stone • Geological classification of stone • Stone quarrying • Constructional use of stone • Decay or deterioration of stone	
7 & 8	• Concrete • Composition of concrete • Cement • Types of cement and its properties • Aggregates • Types of aggregates • Water • Admixtures • Concrete site practice	MID-SEMESTER TEST
9 & 10	• Timber • Basic structure of the wood • Wood classification • Wood processing • Defects of timber • Manufactured timber product	
10	• Metal • classification of metal slides • types of steel • properties of metal	
11	• Plastics • Types of plastics • Properties of plastics • Its uses	
12	• Bamboo • Bamboo scaffolding • Uses of bamboo • Properties of bamboo	

13	• Glass • Manufacture of glass • Types of glass and products • Properties of glass	
14	• Paint • Composition of paint • Types of paint	
	REVISION	This is the week preceding the final examination. At this time, evaluation will be done to assess how far the students' expectations for the course have been met.