



THE FEDERAL UNIVERSITY OF TECHNOLOGY, AKURE

Department of Architecture

ARC 205 – Building Components and Materials I

COURSE PARTICULARS

Course Code: ARC 205

Course Title: Building Components and 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%20205>

Prerequisite: NIL

COURSE INSTRUCTORS

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COURSE DESCRIPTION

This is a study of the elementary methods of construction with analysis of the wood frame and masonry construction types. Emphasis is on understanding techniques principles and forms of building construction; functions of a building and its enclosure. Methods of building: Traditional, Post-Traditional (or conventional), Rationalised Foundations-Soils and characteristics of foundation types and choices, Lowest floor basements, Walls and Piers. Types of walls, external walls and internal partitions. Openings: door and window-types. Internal divisions and components: partitions, staircases. Suspended floors/ceilings, roof-types and basic principles.

COURSE OBJECTIVES

The objectives of this course are to:

- introduce students to the study of the elementary methods of construction; and
- Emphasis should be on understanding techniques principles and forms of building construction.

COURSE LEARNING OUTCOMES / COMPETENCIES

Upon successful completion of this course, the student will be able to:

- Analyse the use of the wood frame and masonry construction types;
- classify and explain the function of different Construction techniques; and
- Identify the functions of a building and its enclosure.

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GRADING SYSTEM FOR THE COURSE

This course will be graded as follows:

Class Attendance	5%
Assignments	10%
Test(s)	25%
<u>Final Examination</u>	<u>60%</u>
<u>TOTAL</u>	<u>100%</u>

GENERAL INSTRUCTIONS

Attendance: It is expected that every student will be in class for lectures and also contribute in interactive section. 65% in 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 eating during lecture, 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 singing, dancing, texting, watching videos, *etc.*) during lectures. Food and drinks are not permitted in the studio.

READING LIST

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

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

¹Fadamiro, 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 Basic Design Ideas. History of Design.	
2 & 3	<ul style="list-style-type: none"> • Design Concept and development • Types of design • Part of design • Element of design • Principles of design • The design process 	
4 & 5	<ul style="list-style-type: none"> • Building design and element • Design and planning • Types of design • Sequence of design operation • Drawing instrument and techniques • Standard drawing practices • Building drawings • Model building • Production drawings 	
6	Building regulations and approval, Functions of planning authority	
7 & 8	<ul style="list-style-type: none"> • Forms of building contract • Essential of a contract • Parties of a building contract • Contract documents • Types of contract • Roles, duties and responsibilities of the construction team • The construction team 	MID-SEMESTER TEST
9 & 10	<ul style="list-style-type: none"> • Basic construction methods • Building construction tools and equipment • Site preparation tools and equipment • Preliminary site works • Site investigation • Site clearance • Ground water drainage • Site organization and layout plan • Setting out and site levels 	
11 & 12	<ul style="list-style-type: none"> • Foundations • Factors affecting the choice of foundation • Types of foundation • Floors • Types of floors • Walls • Types of walls 	

	<ul style="list-style-type: none"> • Bonding • Opening of walls • Roof • Classification of roofs 	
13 & 14	<ul style="list-style-type: none"> • Doors and windows • Ironmongery • Stairs • Finishings • Building services 	
15	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.