



THE FEDERAL UNIVERSITY OF TECHNOLOGY, AKURE

Department of Forestry and Wood Technology

FWT 504 – Wood Structures

COURSE PARTICULARS

Course Code: FWT 504

Course Title: Wood Structures

No. of Units: 3

Course Duration: 2 hours of theory and two hour of practicals per week for 15 weeks.

Status: Compulsory

Course Webpage:

Prerequisite: NIL

COURSE INSTRUCTORS

Dr. J. S. Fabiyi

Room 01, Postgraduate Research Phase I Building,

Dept. of Forestry & Wood Technology,

Federal University of Technology, Akure, Nigeria.

Phone: +2348165111175

Email: jsfabiyi@futa.edu.ng

COURSE DESCRIPTION

The course outline will include: Wood as a constructional material. Factors influencing the selection of wood for structural purposes. Basic theory of structures including considerations of elastic and non-elastic deformation. General requirements for structural designs. Standard dimensions of structural timbers. Grade stresses, grouping of Nigeria timber species. Design of wooden beams, columns, trusses and timber superstructures (bridges, buildings and water front structures).

COURSE OBJECTIVES

The objectives of this course are to:

- provide the students with an understanding of various structural applications of wood; and
- expose the students to the basic knowledge of using mathematical modeling to compute the general requirement parameters for designing wood structures.

COURSE LEARNING OUTCOMES / COMPETENCIES

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

(*Knowledge based*)

- describe the various structural applications of wood; and
- understand the importance of meeting the general requirement of wood structure design

GRADING SYSTEM FOR THE COURSE

This course will be graded as follows:

Class Attendance	5%
Assignments	5%
Practicals	20%
Test(s)	10%
<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 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. **No late assignments will be accepted without prior arrangement.** Missing assignments due to improper submission by the student will be given a grade of zero.

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

^{2,4}Keraiani, A. (1999). *Structural Timber Design*. Blackwell Publishing company. Great Britain. 261p. [ISBN-13: 978-0-632-05091-8]

Legend

- 1- Available in the University Library
- 2- Available in Departmental/School Libraries
- 3- Available on the Internet.
- 4- Available as Personal Collection

COURSE OUTLINE

Week	Lecture	Remarks
1&2	Basic theory of structures	
3	Types of design values	Mathematical models will be developed using FWT computer Lab.
4&5	Wood beams	Mathematical models will be developed using FWT computer Lab.
6	Wood columns	
7	Review for the Mid Semester Test Wood columns	
8	MID-SEMESTER BREAK	MID-SEMESTER BREAK
9 & 10	Wooden trusses	Construction of wooden trusses at FWT Wood workshop
11&12	Wooden bridges	
13	Building/Pre-fabricated building	
14	Waterfront structures	
15	REVISION	