

COURSE PREFIX:	FPT 121
COURSE TITLE:	Wood Science
LEC HRS/ WEEK:	3.0
LAB HRS/WEEK:	3.0
CREDIT HRS/SEMESTER:	4.0

[Distance Learning Attendance/VA Statement](#)
[Textbook Information](#)

Course Description

This course explores the physical and chemical composition of wood. It includes the appearance and properties of wood and the potential for its conversion into various products.

Course Competencies

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

Module 1: Introduction

- Describe the basic organizational structure of the plant kingdom (class, order, family, etc.)
- Describe the classification and properties of woody plants:
 - Conifers (Coniferophyta)
 - Deciduous trees (Angiospermophyta, Class Dicotyledoneae)
Identify the basic components of tree structure
 - Root systems
 - Trunks
 - Branches
- Identify basic wood structures:
 - Cell organization and wall structure
 - Matrix materials
 - Softwoods
 - Hardwoods
 - Tropical woods

Module 2: Physical and Chemical Properties of Wood

- Identify the physical properties of woods
 - Moisture content
 - Density/Specific gravity
 - Strength
- Identify the chemical properties of woods
 - Major chemical components (cellulose and lignin)
 - Basic chemical reactions
 - Esterification

- Pyrolysis
 - Bleaching
- Identify the variables that influence wood's properties
 - Location within the trunk (sapwood and heartwood)
 - Reaction wood
 - Age (juvenile and mature wood)
 - Biological degradation
- Identify basic test methods used to assay raw wood
- Identify common defects found in wood

Module 3: Overview of Non-woody Plant Fibers

- Identify non-woody plants used as sources of cellulosic fiber
- Identify uses of non-woody plant fiber in paper making

Minimum Standards

To successfully complete this course, the student must meet course competencies with an average accuracy of 70%. The student must meet this standard in order for the course to serve as a prerequisite and/or for the course to apply towards a certificate.

Course Requirements

Students are responsible for attaining competencies through completion of the following course requirements:

Attendance Policy

Students will be bound by the policies stated in the York Technical College Student Handbook. Students must attend 80% of the hours assigned the class for a semester to receive credit for the course. In case a student does miss a class, the student is responsible for obtaining the material that was covered during the absence. If a student is aware that a class will be missed, then the student should notify the instructor at the earliest possible date. Students with unexcused absences during tests will be allowed to make up tests at the discretion of the instructor. The student has the burden to be sure that some arrangement has been made with the instructor for taking a make-up test.

Academic Honesty

York Technical College adheres to the South Carolina Tech Student code, approved by the State Board for Technical and Comprehensive Education on March 13, 1974 (last revised April 25, 1984). Copies of this code are available in the Library and from Student Services. Any student involved in cheating or any other academic dishonesty will be given a grade of zero and will be subject to further disciplinary action. See the student handbook section "Student Life" subheading "Student Conduct" for further details.

Class Participation

Students will be expected to participate in class discussions, to demonstrate problem-solving techniques, and to complete tests, homework, lab experiments, lab reports, and other assigned work.

Evaluation Strategies/Grading

The grading scale will be as follows:

Grade Points

A	90-100
B	80-89
C	70-79
D	60-69
F	00-59

Evaluation Method

Tests may be written or oral and may contain questions that are true or false, short answer, multiple choice, fill in the blank and/or problems. Students should refer to the instructor for the number of tests to be given and the material to be covered on each test. Each test will be of equal weight unless otherwise indicated by the instructor. Lab grades will be based on the completion of the course competencies, team work, safety, class participation, and housekeeping.

Final grades will be determined as follows:

Module 1	Tests	20%
	Lab	15%
Module 2	Tests	30%
	Lab	20%
Module 3	Tests	15%
Total Grade		100%

Entry-Level Skills

Students should demonstrate hand-eye coordination, manual dexterity, and be able to work in an industrial environment.

Prerequisites – None

Co-Requisites – None