

COURSE OUTLINE

Introduction to Construction

Course title

CT 113

Dept. & Course No.

I. COURSE DESCRIPTION:

This course covers common construction materials, product, and system as well as construction efficiency and safety in the delivery, handling, and installation of building materials. Information on building materials, products, systems and procedure will be presented.

II. SEMESTER CREDITS: 3 CREDITS

III. CONTACT HOURS PER WEEK:

<u>1</u>	<u>6</u>	<u>7</u>
Lecture	Lab	Total

IV. PREREQUISITES: None

V. STUDENT LEARNING OUTCOME:

VI. COURSE CONTENT

Upon completion of this course, students will be able, with 65% accuracy to:

- List and discuss terms associated with wood products and match them to their correct definition.
 - Terms and definitions
 - Wood identification
 - Wood Products
 - Wood usage
 - Wood Conservation and preservation
 - Wood characteristics
 - Grade
 - Size
 - Sawing method
 - Drying method
 - Surface finishing
 - Types of wood
 - Soft wood
 - Hardwood
 - Types and grading
 - Types of plywood
 - Grading
 - Wood panels
 - Solid wood paneling
 - Boards
 - Trims & moldings
 - Types
- Identify wood characteristics by their definition or by their representative drawing.
- Identify types of wood to their appropriate uses.
- Differentiate plywood types and grades.
- Identify types of wood paneling.
- Describe and select the various types of trims and moldings.

2. Shapes & designs
3. Location

7. Identify common fasteners and explain their primary applications.

- G. Fasteners
1. Nails
 2. Screws
 3. Bolts & nuts
 4. rivets
 5. Hangers

8. Estimate lumber and concrete quantities and prepare requisition form.

- H. Estimations & Requisitions
1. Linear estimation
 2. Area estimation
 3. Cubic estimation
 4. Requisition form
 5. Requisition Process

9. Apply safe handling and delivery of building Materials

- K. Building Materials
1. Storage
 2. Handling
 3. Delivery

VII. MATERIALS AND EQUIPMENT:

1. Hand tools
2. Overhead projector
3. Transparencies
4. Shop equipments
5. Power tools
6. Hand outs
7. TV & VCR
8. Transportation
9. Required Materials

VIII. TEXT AND REFERENCES:

1. Text: Instructor made hand outs
2. References:
 - a. Wagner, Willis H. and Smith, Howard B. Modern Carpentry. South Holland, Ill: The Goodheart- Wilcox, 1996.
 - b. Curriculum and Instructional Materials Center. Fundamentals of Carpentry. Stillwater, OK: Oklahoma Department of Vocational and Technical Education, 1999.

IX. METHOD OF INSTRUCTION:

1. Lecture
2. Discussion
3. Demonstration
4. Laboratory work
5. Field Trip (Site observation)

X. METHOD OF EVALUATION:

Lecture presentation is tested on written test. Lab evaluation is based on skill development and knowledge acquisition.

Four criteria is used in evaluating projects and operation performance are:

1. Accuracy
2. Techniques
3. Appearance
4. Completion

The components used in the computation of the final grade are:

1. Participation.....	25%
2. Quizzes/Homework.....	10%
3. Mid – Term and Final Test.....	25%
4. Projects.....	40%
Total.....	100%

The transmutation of percent to letter grade are:

90 – 100.....	A
80 – 89.....	B
70 – 79.....	C
65 – 69.....	D
0 – 64.....	F

TASK LISTING SHEET

CT 113 INTRODUCTION TO CONSTRUCTION

CREDITS: 1 2 96 Course No.
 Lecture Lab Total Lab Hrs

& Title

TASK

TIME

SLO #1

3 hrs.

1. Using the terms worksheet, match the correct terms with the products and its associated Components and definitions.

SLO # 2

20 hrs.

1. Identify grade of wood.
2. Differentiate between nominal size and actual size of lumber.
3. Demonstrate edge grained sawing.
4. Perform a flat grained sawing.
5. Demonstrate methods of seasoning lumber.
6. Demonstrate surface finishing.

SLO # 3& 4

10 hrs.

1. Identify kinds of wood.
2. Matches different kind of softwood and hardwood to different kinds of work.
3. Differentiate various grade of softwood plywood and hardwood plywood.
4. Identify types of plywood and the inner core construction.

SLO # 5

1 hrs.

1. Select different types of panel.

SLO # 6

7 hrs.

1. Select trim and molding for a given job.
2. Cut and install trim and molding.

SLO # 7

7 hrs.

1. Select different types of nails for a given job.
2. Identify sizes of nail base on penny.
3. Demonstrate application of various wood fasteners such as screws, hangers, bolt & nuts, rivets, and nail plate.

SLO # 8

30 hrs.

1. Compute linear estimation on building frames
2. Compute square estimation in building sidings, paneling, masonry, and painting materials
3. Compute volume estimation on concrete and other quarry products essential in building construction
4. Compute amount of raw materials used to producing concrete.

SLO # 9

18 hrs

1. Demonstrate methods of handling and delivering building materials.
2. Select and apply different building materials.

TOTAL LAB HOURS

96 hrs

**Course Level Achievement
Form A
(Used for shop courses as well as other program courses)
CT113 INTRODUCTION TO CONSTRUCTION**

Student's Name (print): _____
Instructor's Name (Print): _____

Semester/Year: _____

Directions: Evaluate the student using the rating scale below and encircle the appropriate number to indicate the degree of competency. The numerical ratings of 5, 4, 3, 2, and 1 are not intended to represent the traditional school grading system of A, B, C, D, and F. The descriptions opposite the numbers will determine the level of student performance for each of the competencies listed below.

- Rating Scale:**
- 5 Excellent
 - 4 Above average
 - 3 Average
 - 2 Below average
 - 1 Unacceptable

COMPETENCY	RATING
1. Recognize various careers in construction industry.	5 4 3 2 1
2. Select local and foreign wood products and classify them according to their appropriate use.	5 4 3 2 1
3. Select proper sawing, drying, and handling of wood products.	5 4 3 2 1
4. Select various non-wood products used in building construction.	5 4 3 2 1
5. Estimate concrete, lumber, and plywood quantities required in building construction.	5 4 3 2 1

I certify that the student has completed all the competencies in this program and has achieved ratings as shown under each respective competency.

Instructor's signature

Date

COMPETENCY #1 Recognize various careers in construction industry.

5. Identify all the careers in building construction industry in the area of plumbing, electrical, HAVC, carpentry, cabinetry, steel works, heavy equipment operator, welding, architecture, building inspector, engineering, and describe how to achieve such careers with 90-100% accuracy.
4. Identify all the careers in building construction industry in the area of plumbing, electrical, HAVC, carpentry, cabinetry, steel works, heavy equipment operator, welding, architecture, building inspector, engineering, and describe how to achieve such careers with 80-89% accuracy.
3. Identify all the careers in building construction industry in the area of plumbing, electrical, HAVC, carpentry, cabinetry, steel works, heavy equipment operator, welding, architecture, building inspector, engineering, and describe how to achieve such careers with 70-79% accuracy.
2. Identify all the careers in building construction industry in the area of plumbing, electrical, HAVC, carpentry, cabinetry, steel works, heavy equipment operator, welding, architecture, building inspector, engineering, and describe how to achieve such careers with 65-69% accuracy.
1. Identify all the careers in building construction industry in the area of plumbing, electrical, HAVC, carpentry, cabinetry, steel works, heavy equipment operator, welding, architecture, building inspector, engineering, and describe how to achieve such careers with below 65% accuracy.

COMPETENCY #2 Select local and foreign wood products and classify them according to their appropriate use.

5. Demonstrate ability to properly select commonly used local and imported wood products based on its quality, origin, specifications, and price and determine its appropriate use accordingly with 90 – 100% accuracy.
4. Demonstrate ability to properly select commonly used local and imported wood products based on its quality, origin, specifications, and price and determine its appropriate use accordingly with 80 – 89% accuracy.
3. Demonstrate ability to properly select commonly used local and imported wood products based on its quality, origin, specifications, and price and determine its appropriate use accordingly with 70 – 79% accuracy.
2. Demonstrate ability to properly select commonly used local and imported wood products based on its quality, origin, specifications, and price and determine its appropriate use accordingly with 65 – 69% accuracy.
1. Demonstrate ability to properly select commonly used local and imported wood products based on its quality, origin, specifications, and price and determine its appropriate use accordingly with below 65% accuracy.

COMPETENCY #3 Select proper sawing, drying, and handling of wood products.

5. Demonstrate ability to properly describe and select which type of sawing method and arrangement will maximize production, the type of drying method applicable, and safe handling methods of both local and imported wood products according to standardized requirement with 90 – 100% accuracy.

4. Demonstrate ability to properly describe and select which type of sawing method and arrangement will maximize production, the type of drying method applicable, and safe handling methods of both local and imported wood products according to standardized requirement with 80 – 89% accuracy.
3. Demonstrate ability to properly describe and select which type of sawing method and arrangement will maximize production, the type of drying method applicable, and safe handling methods of both local and imported wood products according to standardized requirement with 70 – 79% accuracy.
2. Demonstrate ability to properly describe and select which type of sawing method and arrangement will maximize production, the type of drying method applicable, and safe handling methods of both local and imported wood products according to standardized requirement with 65 – 69% accuracy.
1. Demonstrate ability to properly describe and select which type of sawing method and arrangement will maximize production, the type of drying method applicable, and safe handling methods of both local and imported wood products according to standardized requirement with below 65% accuracy.

COMPETENCY #4 Select non-wood products commonly used in building construction.

5. Demonstrate ability to properly describe and select non-wood products including concrete, metal, steel, plastic, rubber, and composite products commonly used in building construction according to their quality, origin, specifications, and price and determine its appropriate use accordingly with 90 – 100% accuracy.
4. Demonstrate ability to properly describe and select non-wood products including concrete, metal, steel, plastic, rubber, and composite products commonly used in building construction according to their quality, origin, specifications, and price and determine its appropriate use accordingly with 80 – 89% accuracy.
3. Demonstrate ability to properly describe and select non-wood products including concrete, metal, steel, plastic, rubber, and composite products commonly used in building construction according to their quality, origin, specifications, and price and determine its appropriate use accordingly with 70 – 79% accuracy.
2. Demonstrate ability to properly describe and select non-wood products including concrete, metal, steel, plastic, rubber, and composite products commonly used in building construction according to their quality, origin, specifications, and price and determine its appropriate use accordingly with 65 – 69% accuracy.
1. Demonstrate ability to properly describe and select non-wood products including concrete, metal, steel, plastic, rubber, and composite products commonly used in building construction according to their quality, origin, specifications, and price and determine its appropriate use accordingly with below 65% accuracy.

COMPETENCY # 5 Estimate concrete, lumber, and plywood quantities required in building construction.

5. Demonstrate ability to accurately estimate - using linear, area, ratio proportion, and volume formulas - required amount of materials including all types of concrete, lumber, and paneling and plywood products commonly used in building construction according to plan with 90 - 100% accuracy.
4. Demonstrate ability to accurately estimate - using linear, area, ratio proportion, and volume formulas - required amount of materials including all types of concrete, lumber, and paneling and plywood products commonly used in building construction according to plan with 80 - 89% accuracy.
3. Demonstrate ability to accurately estimate - using linear, area, ratio proportion, and volume formulas - required amount of materials including all types of concrete, lumber, and paneling and plywood products commonly used in building construction according to plan with 70 - 79% accuracy.
2. Demonstrate ability to accurately estimate - using linear, area, ratio proportion, and volume formulas - required amount of materials including all types of concrete, lumber, and paneling and plywood products commonly used in building construction according to plan with 65 - 69% accuracy.
1. Demonstrate ability to accurately estimate - using linear, area, ratio proportion, and volume formulas - required amount of materials including all types of concrete, lumber, and paneling and plywood products commonly used in building construction according to plan with below 65% accuracy.