College of Micronesia – FSM

P.O. Box 159
Kolonia, Pohnpei

Course Outline Cover Page

Rough Framing and Exterior Finishing **Course Code VCT 173**

Course Description: This course concentrates on basic structure construction. It is designed to provide carpentry students with the skills and knowledge necessary to frame floors, walls, wall panels, roofs, and ceilings as well as the application of exterior finishing materials.

Course prepared by: Stephen Richmond **State**: Chuuk

	Hours / week		#. of weeks	Total hours		Semester Credits
Lecture/Workshop	3	x	16	= 48	=	3

Purpose of Course

Degree Requirement
Degree elective
Certificate XX
Remedial
Other (workshop)

Prerequisite(s) VCT 153 Introduction to Carpentry

Signature, Chairperson, Curriculum committee — Date Approved by Committee

Signature, President, COM, FSM — Date Approved by President

COURSE TITLE **Rough Framing and Exterior Finishing**

Nominal Duration **48 hours/3 credits**

Course Code **VCT 173**

General Objectives:

This course concentrates of basic structure construction. It is designed to provide carpentry students with the skills and knowledge necessary to frame floors, walls, wall panels, roofs, and ceilings as well as the application of exterior finishing materials.

In addition, student evaluation will include digital photos showing details of student production (listed in the specific objectives). Also each student will have a faculty generated portfolio which will include images of individual and class projects as well as a rubric for each finished product using the following criteria:

1. Accuracy in measurement
2. Attention to detail
3. Proper use of tools
4. Selection of appropriate materials
5. Attention to safety concerns

Prerequisites: **VCT 153 Introduction to Carpentry**

Learning Outcomes:

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

1. **Lay out and frame a floor system from a blueprint or sketch**
2. **Lay out and frame a structure's wall and ceiling system based on a blueprint or sketch**
3. **Lay out a roof system from blueprint or sketch**
4. **Lay out and construct roof trusses from a set of plans**
5. **Estimate materials needed for a structure's components**
6. **List terms used in the constructions of building systems**
7. **Identify and select proper tools to and building aides required for rough construction of a building or structure**

Learning Outcome 1: . Lay out and frame a floor system from a blueprint or sketch

Assessment Criteria

a. Read plans to determine needed materials
b. Identify all parts
c. Select materials
d. Select appropriate tools
e. Layout and build a sample floor to the specification in the plan

All work practices must ensure that safe practices are adopted.

Conditions **Working in groups given:**

- **Resources**
- **Verbal presentation to the group of learners**

Assessment Method **Assessment may involve any of the following methods**

- **Oral questioning**
- **Written tests**
- **Individual written assignments**
- **Active participation in group activity**

Learning Outcome 2 : Lay out and frame a structure's wall and ceiling system based on a blueprint or sketch

Assessment Criteria:

a) Name the needed parts for the project
b) Name or identify all parts for the project
c) Select appropriate materials for accomplish the task
d) Select appropriate tools to accomplish the task
e) Demonstrate proper tool usage in performing the work

All work practices must ensure that safe practices are adopted.

Conditions **Working in groups given:**

- **Resources**
- **Verbal presentation to the group of learners**

Assessment Method methods

Assessment may involve any of the following

- **Oral questioning**
- **Written tests**
- **Individual written assignments**
- **Active participation in group activity**

<u>Learning Outcome 3:</u> Lay out a roof system from blueprint or sketch

Assessment Criteria

a) Determine the pitch of roof based on the plans
b) Identify all parts for the roof system
c) Select most appropriate truss design
d) Determine the amount of material needed for the project
e) Obtain needed materials
f) Select appropriate tools
g) Construct sample roof system to specification of the plans

Conditions

Working in groups given:

- **Resources**
- **Verbal presentation to the group of learners**

Assessment Method methods

Assessment may involve any of the following

- **Oral questioning**
- **Written tests**
- **Individual written assignments**
- **Active participation in group activity**

<u>Learning Outcome 4:</u> Lay out and construct roof trusses from a set of plans

Assessment criteria

a) Determine the pitch of roof based on the plans

b) Select most appropriate truss design
c) Identify all parts for the truss system
d) Determine the amount of material needed for the project
e) Obtain needed materials
f) Select appropriate tools
g) Construct a sample truss to specification of the plans

Conditions **Working in groups given:**

- **Resources**
- **Verbal presentation to the group of learners**

Assessment Method methods **Assessment may involve any of the following**

- **Oral questioning**
- **Written tests**
- **Individual written assignments**

<u>Learning Outcome 5:</u> Estimate materials needed for a structure's components

Assessment Criteria

a) Obtain detailed blueprints of a building
b) Determine the specifications requirements for each component (e.g. Wall thickness)
c) Obtain local costs for common materials
d) Calculate needed amounts of each kind of material
e) Estimate total cost based on the above items

Conditions **Working in groups given:**

- **Resources**
- **Verbal presentation to the group of learners**

Assessment Method methods

Assessment may involve any of the following

- **Oral questioning**
- **Written tests**
- **Computer managed testing**
- **Individual written assignments**
- **Active participation in group activity**
- **Active participation in group activity**

<u>Learning Outcome 6:</u> List terms used in the constructions of building systems

Assessment Criteria

a) Read textbook sections related to parts identification and tool identification
b) Take careful notes based on reading
c) Sketch a simple plan and label parts of each component of the building system
d) List the common tool needed for each system
e) Submit a finish sketch with labels and dimensions (group project)

All work practices must ensure that safe practices are adopted.

Conditions

Working in groups given:

- **Resources**
- **Verbal presentation to the group of learners**

Assessment Method methods

Assessment may involve any of the following

- **Oral questioning**
- **Written tests**
- **Individual written assignments**
- **Active participation in group activity and production of a group presentation**

<u>Learning Outcome 7:</u> Identify and select proper tools and building aides required for rough construction of a building or structure

Assessment Criteria

a) See #6 above

All work practices must ensure that safe practices are adopted.

Conditions

Working in groups given:

- **Resources**
- **Verbal presentation to the group of learners**

Assessment Method methods

Assessment may involve any of the following

- **Oral questioning**
- **Written tests**
- **Individual written assignments**
- **Active participation in group activity and preparation of a group presentation**

Course Content:

1.**Introduction**

1. Overview of terms and graphics used in rough construction
2. Floor Framing
3. Identification of the parts of a floor framing system
4. Layout of floor system according to blueprint
5. Layout and installation of sub flooring
6. Tools and equipment required for farming floor systems'

2. Walls and Ceiling Framing

1. Identify parts and subassemblies of walls and ceiling framing systems
2. Layout standard wall section from plan or blueprint
3. Layout standard ceiling system from plan or sketch
4. Exterior wall sheathing, types and installation
5. Selection and proper use of tools
6. Attention to proper safety considerations

3. Roof Framing

1. Identify common roof types
2. Layout trusses from a plan or blueprint
3. Truss placement and roof sheathing
4. Roofing materials
5. Selecting and using proper tools of a roof system

4. Exterior Finishing

1. Installation of windows and exterior doors
2. Exterior Trim

Required Course Materials:

1. Instructor

1. **Wood shop with selected hand and power tools**
2. **Text, Instructors Resource Guide**
3. **Access to paper copying resource**
4. **Digital Camera**
5. **Computer with printer**
6. **Individual student portfolio folders**
7. **Tools lumber and woodworking supplies (See attached list)**

2. Student

1. **Student tool set (if available)**
2. **Three ring binder**
3. **Writing tools**
4. **Drafting tools**
5. **College ruled notebook**
6. **Architectural scale**
7. **Eye protection**
8. **Work gloves**
9. **Safety shoes**

Reference materials:

Carpentry and building Construction
John L. Freirer, Gilbert Hutchings, Mark Freirer, 1997
Glencoe McGraw Hill 5th edition
ISBN 007822702X

Institutional Costs

Text:	**41.99**
Instructors Guide	**50.99**
Student tool set	**350.00**

Classroom supplies 60.00

Method of Instruction:

1. **Demonstration by instructor**
2. **Lecture**
3. **Group work**
4. **Team work of projects**
5. **Discussion**
6. **Practical exercise**

Required course Materials

Supplies:

1. **Assorted nails**
2. **Corrugated fasteners**
3. **Screws, assorted**
4. **Bolts, nuts, washers, assorted lengths**
5. **Corner irons, assorted sizes**
6. **Hinges, assorted sizes**
7. **Hasps, hook and eye fasteners, assorted**

Materials:

1. **Dimensional lumber, assorted**
2. **Plywood, assorted**
3. **Exterior paneling**
4. **Gypsum board**
5. **Roofing material**

Hand Tools:

1. **Hammer, curved claw**
2. **Hammer straight claw**
3. **Hammer, Tack**
4. **Saw 10pt**
5. **Saw coping with blades**
6. **Saw, Miter**
7. **Saw, dovetail**
8. **Hacksaw**
9. **Wood chisel set**
10. **Cold chisel**
11. **Drill brace**
12. **Auger bit set**
13. **Egg beater drill**
14. **Twist drill set**
15. **Plane, block**

16. **Screwdriver set**
17. **File set**
18. **Wood rasp**
19. **Utility knife**
20. **Sharpening stone**
21. **Tape measure (25' or 30')**
22. **Carpenter square**
23. **Combination square**
24. **Spirit level**

Power tools

1. **Table saw**
2. **Circular saw**
3. **Band saw**
4. **Jointer (6 in)**
5. **Router with assorted bits**
6. **Belt sander**
7. **Electric drills (battery powered and plug in)**
8. **Electric miter box.**
9. **Extension cord**

Evaluation

1.Final grades for this course will be assessed based on meeting the course requirements at the following percentage rates:

90% - 100% A -Superior
80% - 89% B -Above Average
70% - 79% C -Average
60% - 69% D -Below Average
0 – 59% F –Failure

2. For each learning outcome the following rubric for evaluation will be used:

Criteria	A	C	F
Accuracy in measurement	**Can read measuring tools to a 1/8th inch accuracy**	**Can read measuring tools to a ½" accuracy**	**Cannot read measuring tools**
Attention to safety concerns	**Always has proper safety equipment when working with tools**	**Sometimes has proper safety equipment**	**Does not follow safety rules**
Proper use of tools	**Uses the proper tools 90% of the**	**Uses the proper tool 60% of the**	**Seldom used the proper tool**

	time	**time**	
Selection of appropriate materials	**Can identify and select proper materials 90% of the time**	**Can identify and select proper materials 60% of the time**	**Can not select proper materials for the job**

3. Competency in practical exercised in determined to be completed required project (s) within the 15+ week course time limit with +/- ¼ inch accuracy in all major dimensions.
4. Written tests

Attendance:

The COM-FSM, Attendance and honesty policy will apply