

College of Micronesia - FSM
P.O. Box 159
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Course Outline Cover Page

Steel Framed Buildings

Course Code: VCT 210

Course Description: This course is designed to provide students with a basic understanding of steel framed buildings and construction methods for application in Micronesia. This course of study will apply to a range of single occupancy residential dwellings and associated buildings.

Course Prepared by: Jeff Steel

State: Pohnpei

	Hours per Week	No. Of Weeks	Total Hours	Semester Credits
Lecture/Workshop	<u>3</u>	x <u>16</u>	= <u>48</u>	= <u>3</u>

Purpose of Course:

Degree Requirement.....	
Degree Elective.....	<u>XX</u>
Certificate	
Apprenticeship	<u>XX</u>
Remedial.....	
Other (workshop).....	<u>XX</u>

Prerequisite Course(s): VSP 153a Industrial Safety

Signature, Chairperson, Curriculum Committee

Date Approved by Committee

Signature, President, COM-FSM

Date Approved by President

COURSE TITLE	Steel Framed Buildings
Nominal Duration	36 Hours/3 Credits
General Objectives:	This course is designed to provide students with a basic understanding of steel framed buildings and construction methods for application in Micronesia. This course of study will apply to a range of single occupancy residential dwellings and associated buildings.
Prerequisites	VSP 153a Industrial Safety
Specific Objectives:	<p>By the completion of this course the student will be able to:</p> <ol style="list-style-type: none"> 1. Identify the components of a steel stud system. 2. Identify and select tools and fasteners used in a steel frame system. 3. Identify applications for steel frame systems. 4. Explain and demonstrate how to construct and erect a steel house frame.
Delivery	Delivery methods must provide for the demonstration of competence in skills specified in all learning outcomes.
Assessment	More than one learning outcome may be assessed at once, by observing the learners ability to apply both specified skills and knowledge.

STUDENTS SHOULD BE MADE AWARE OF OCCUPATIONAL HEALTH AND SAFETY ISSUES IN ALL SITUATIONS AND BE EXPECTED TO DEMONSTRATE SAFE WORKING PRACTICES AT ALL TIMES.

Learning Outcome 1

Identify components of a steel frame system

VCT 210.1

Identify the various components and describe the different grades available in steel construction

Assessment Criteria

- | | |
|----------------|---|
| 210.1.1 | Recognize and observe Occupational Safety and Health requirements. |
| 210.1.2 | Identify and describe the profiles of light Steel frame sections and components. |
| 210.1.3 | Determine sections and quantities required from drawings and specifications. |
| 210.1.4 | Explain four (4) advantages of steel framing over timber framing. |

All work practices must ensure that safe practices are adopted.

Conditions

Working in groups given:

- **Resources/Industry Specifications**
- **Verbal and Video presentation to the group of learners**
- **Workplace visits to study recent and emerging trends that are current to the industry.**

Assessment Method

Assessment may involve any of the following methods

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

Learning Outcome 2

Tools and Fasteners

VCT 210.2

Identify and select tools and fasteners used in a steel frame system.

Assessment Criteria

- | | |
|----------------|---|
| 210.2.1 | Identify hand and power tools to be used for framing with steel components. |
| 210.2.2 | Explain where and how the each tool is used. |
| 210.2.3 | Demonstrate safe use of tools when performing framing tasks. |
| 210.2.4 | Identify alternative fasteners and fastening techniques used in steel framing. |

All work practices must ensure that safe practices are adopted.

Conditions

Working in groups given:

- **Resources**
- **Verbal and Video presentation to the group of learners**
- **Workplace visits to study recent and emerging trends that are current to the industry.**

Assessment Methods

Assessment may involve any of the following methods

- **Oral questioning**
- **Written tests**
- **Computer managed testing**
- **Practical Assignment**
- **Active participation in group activity**

Learning Outcome 3

Steel Framing Applications

VCT 210.3

Identify applications for steel frame systems

Assessment Criteria

210.3.1

Explain the various applications of steel wall framing. Include:

- Framing walls
- Framing Wall Openings
- Bracing walls
- Radius Walls
- Furrings
- Joists and Roof Trusses

All work practices must ensure that safe practices are adopted.

Conditions

Working in groups given:

- **Resources**
- **Verbal and Video presentation to the group of learners**
- **Workplace visits to study recent and emerging trends that are current to the industry.**

Assessment Methods

Assessment may involve any of the following methods

- **Oral questioning**
- **Written tests**
- **Computer managed testing**
- **Practical Projects**
- **Active participation in group activity**

Learning Outcome 4

Construction Techniques

VCT 210.4

Explain and demonstrate how to construct and erect a steel house frame.

Assessment Criteria

- 210.4.1** List three (3) methods of assembling a steel frame:
- Welding.
 - Screwing.
 - Riveting.
- 210.4.2** Demonstrate three (3) methods of assembling a steel frame:
- 210.4.3** Explain how studs are installed in single lengths at spacing and positions determined by the building code.
- 210.4.4** Explain the installation of headers over openings.
- 210.4.5** Explain how walls are braced.
- 210.4.6** Explain how walls are erected, temporarily braced in location and fixed to base.
- 210.4.7** Describe how walls are set plumb, level, straight and square.

All work practices must ensure that safe practices are adopted.

Conditions

Working in groups given:

- Resources
- Verbal and video presentation to the group of learners
- Workplace visits to study recent and emerging trends that are current to the industry.

Assessment Methods

Assessment may involve any of the following methods

- Oral questioning
- Written tests
- Computer managed testing
- Practical project
- Active participation in group activity

SUGGESTED REFERENCE MATERIALS

- **Manufacturers manuals**

- **Level Three, Wheels of Learning, NCCER, 2000**
Prentice-Hall, Inc Upper Saddle River, New Jersey.

- **Audio-Visual:**
Films:
 - **Framing in Steel, Steel Wall, Floor and Roof framing.**

RESOURCES

- **Workshop Facilities**
- **Tools of Trade**
- **Steel components for Demonstration**
- **Video/TV Set**
- **Overhead Projector**

GRADES

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 |

ATTENDANCE

The COM-FSM attendance policy will apply