College of Micronesia – FSM
P.O. Box 159
Kolonia, Pohnpei

Course Outline Cover Page

Engineering Drawing — Course Title
ME 223 — Department and Number

Course Description: This course introduces the student to engineering drawing concepts and provides the knowledge and skills to interpret and produce basic engineering drawings relevant to the safe operation of vessels.

Prepared by: Brent Villiers **State:** FSM-FMI

	Hours per Week	No. Of Weeks	Total Hours	Semester Credits
Lecture	8/16/32	4/2/1	32	2
Laboratory	6/12/24	16/8/4	96	2
		Total Semester Credits:		4

Purpose of Course

Degree Requirement	_____XX_____
Degree Elective	_____
Advanced Certificate	_____
Certificate	_____
Remedial	_____
Other (Workshop)	_____

Prerequisite Course(s): ME 179 Practical Mathematics

_____ _____
Signature, Chairman, Curriculum Committee **Date Approved by Committee**

_____ _____
Signature, President, COM-FSM **Date Approved by the President**

General Objective: On successful completion of this course, the student will be will able to interpret and produce basic engineering drawings relevant to the safe operation of vessels.

Learning Outcomes: On successful completion of this course the student will be able to:

1. Describe the basic terminology used in engineering drawing and interpret simple engineering drawings.
2. Construct and interpret basic engineering drawings.

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.

Outline of Content: This course contains:

1. Technical Literature
   - Terminology
   - Engineering drawing terms and symbols
   - Standard abbreviations
   - Types of lines and line thicknesses
   - Sizes and layouts of drawing paper
   - Dimensioning and features

2. Drawing
   - Principles of projection through plan
   - Drawing to scale and dimensioning
   - 1st and 3rd angle orthographic projections
   - Elevation and sectional views
   - Pictorial, isometric, and oblique sketches
   - Engineering fastenings
   - Working drawings

Learning Outcomes: On completion of this course the learner will be able to:

Learning Outcome 1 **Recognize the basic terminology and symbols used in engineering drawing.**

Assessment criteria

1.1 Fundamental terms, symbols, and sections are explained.
1.2 Standard abbreviations are explained.
1.3 Types of lines and line thicknesses are explained.

1.4 Sizes and layouts of drawing sheets are explained.
1.5 Dimensioning methods are explained.

Conditions and Method of assessment

As specified in the Assessment Strategy listed at the end of this outline and by a combination of:

- Written assessment
- Assignments
- Oral assessment
- Practical drawing assessment

Learning Outcome 2 **Construct and interpret basic engineering drawings.**

Assessment criteria

2.1 The principles of projection through plan and producing 1st and/or 3rd angle orthographic views are explained.
2.2 Basic engineering fastenings, such as nuts and bolts, studs, rivets, keys, collets, couplings, splined shafts etc. are drawn.
2.3 Simple scaled and dimensioned engineering drawings to standards are constructed.
2.4 Simple elevation and sectional views in 3rd angle are drawn.
2.5 Simple pictorial, isometric, or oblique freehand sketches from a drawing of 3 (sufficient) view are constructed.
2.6 Basic engineering drawings are read and interpreted.

Conditions and Method of assessment

As specified in the Assessment Strategy listed at the end of this outline and by a combination of:

- Written assessment
- Assignments
- Oral assessment
- Practical drawing assessment

Delivery strategy

The module provides for delivery by on-the-job and off-the-job training and assessment.

Some areas of content may be common to more than one learning outcome, and therefore integration of training and assessment may be appropriate.

Methods of instruction includes:

1. Classroom lectures with handouts, course notes, overhead

transparencies (or equivalent), slide presentations, video material, and whiteboard notes;
2. Calculation via examples and tutorials; and
3. Practical demonstrations
4. Practical drawing tutorials

Resource requirements — Delivery of the training will require:

- Classroom
- Whiteboard
- Overhead projector (or equivalent)
- Video player
- Drawing board and instruments

Assessment Strategy

Assessment Method — Knowledge based criteria will be satisfied through a combination of calculations, written and oral assessments.
Skill based criteria will be satisfied through practical exercises.

Condition of Assessment — This module may be assessed on-the-job and off-the-job. Competence may be assessed in the following situations: classroom; laboratories; and appropriate vessels.

Evaluation:

Final Grade for this course will be based on meeting the course requirements at the following percentage rates:

96% - 100%	A – Superior
90% - 95%	B – Above Average
80% - 89%	C – Average
69% - 79%	D – Below Average
0 % - 69%	F – Failure

Attendance:

The COM-FSM attendance policy will apply.