

**Honolulu Community College
Marine Education and Training Center
Boat Maintenance and Repair Program**

Course Syllabus

Course Name: Blueprint Reading for Marine Technicians

Course Number: MARR 29

Course Credits and Hours: 2 credits; 60 hours lecture/lab

Prerequisites: Acceptance into Program

Course Description: Prepares the student to read and understand working drawings typical to the marine and cabinetry industries. Basic drafting techniques will be practiced but the emphasis is on interpretation of blueprints and understanding spatial relationships in orthographic projections. Blueprints of projects that will be built in Woodworking and Yacht Joinery will be studied. Sketching both orthographic and isometric views will be practiced. The student will attain a working knowledge of SI Metric and Imperial measurement systems, as well as demonstrate the ability to construct a “Lines Drawing” in scale.

Course Objectives:

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

1. Differentiate various lines on a drawing (i.e. object, hidden, dimension, etc.)
2. Sketch simple drawings in both orthographic and isometric styles
3. Be able to ascertain measurements in metric, decimal and fractional units
4. Utilize a scale rule to determine dimensions
5. Demonstrate a working knowledge of blueprints by laying out patterns full-scale.
6. Construct a scale “Lines Drawing of a vessel’s hull, understanding the relationship between the three views.

Course Outline:

1. Line recognition
 - A. Object
 - B. Center
 - C. Dimension
 - D. Hidden
 - E. Extension
 - F. ANSI Symbolizing
 - G. Dimensioning angles and holes

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2. Sketching
 - A. Orthographic sketching
 - B. Isometric sketching
 - C. Working sketches

3. Measuring
 - A. Using metric units
 - B. Using fractional units
 - C. Using decimal units
 - D. Methods of dimensioning angles

4. Evaluating a scaled drawing
 - A. Using a scale rule
 - B. Developing a lines drawing in scale
 - C. Developing a full size pattern from a scale drawing

5. Reading blueprints
 - A. Inter-relationships of different views
 - B. Assessing a “detail” drawing on a blueprint
 - C. Understanding the basic principals of a vessel’s “lines drawing”

Evaluation:

Standard Alpha System:

A	94-100
B	88- 93
C	80- 87
D	70- 80
F	below 70

Evaluation by percentages:

40% - Worksheets and exercises; graded for accuracy, neatness and attention to detail.

40% - Written tests; given to determine understanding of principals

20% - METC’s Work Habits Evaluation (previously issued)

The evaluation addresses behavior such as “Does the student report to class on time and prepared? Does the student use lab time wisely? Does the student cooperate with the instructor and team members? Is METC policy followed? Does the student participate in class discussions?”

Course Syllabus

Many handouts will be issued to you throughout your career at the METC. It is imperative that you keep a three-ring binder with labeled dividers. During some written tests you will be allowed to refer to your notes. You will also find it beneficial to refer to your notebook while executing projects. Your notebook will directly effect your written and "hands on" project scores. Your notebooks will periodically be turned in and evaluated.

Prompt attendance is vital to your success. Many "hands-on" projects and demonstrations simply can not be repeated. The table below demonstrates how absences and tardiness will limit how high a grade you will be eligible to receive for this course.

<i>If you miss:</i>	<i>You are eligible for a(n)</i>
3 hours or less	A
6 hours or less	B
9 hours or less	C
12 hours or less	D
More than 12 hours	F

Each Tardy will equal 1/2 Hour absent. This includes being late returning to class from break.

Please call to inform if you are going to be absent. Many of our projects are tackled as a team. We need to know if a team member is going to be absent. The answering machine is on phone # **832-3682**.

If you do not call to notify of your absence and there is a test, and you are granted permission to take a make-up test, a 14 point (based on 100 pt. scale) penalty can be deducted from your make-up score. Be advised that any make-up exam administered may be different in format from the original exam, and may include oral examination.

Textbook:

Basic Blueprint Reading and Sketching, Seventh edition: Olivo, Delmar Publishing.

Other Comments:

Students must purchase a drafting kit including:

1. Architects scale rule standard
2. Metric architects scale rule
3. Set of three French curves
4. Right triangle
5. 30/60 triangle
6. 6 inch bow compass
7. Erasing shields
8. Vinyl eraser
9. Dust Brush
10. Sandpaper pad (for shaping pencils)
11. Drafting tape
12. Protractor
13. HB, H, and 4H pencils