

**Honolulu Community College  
Small Vessel Fabrication  
And Repair**

**Course Syllabus**

**Course Name:** Mold Fabrication

**Course Number:** MARR 50

**Course Credits and Hours:** 3 credits; 90 hours lecture/lab

**Prerequisites:** MARR 43

**Course Description:** This course focuses on creating a mold from the plug which was fabricated in MARR 43. Emphasis will be placed on preparing the plug for the laminating process, including repair of imperfections. Surface quality of the plug will be emphasized. Flange placement and draft considerations as it relates to mold fabrication will be discussed and implemented. Release materials will be shown and demonstrated. The course will finalize with a mold produced from the plug. Skills in the use of a chopper gun will be shown and practiced.

**Course Objectives:**

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

1. Define terms standard to the mold making industry
2. Design a laminating schedule for the mold
3. Apply gel-coat to the mold
4. State fundamentals of insuring quality mold cosmetics
5. Apply manually and sprayable mold release systems
6. Repair surface imperfections in the mold
7. Install compressed air release systems in mold
8. Understand and practice procedures for removing the mold from the plug
9. Create supports for the mold
10. Understand and use a Chopper Gun

**Course Outline**

Marine Education & Training Center  
MARR 50  
**Course Syllabus**

I. PRACTICE TERMS STANDARD TO THE MOLDING INDUSTRY

II. DESIGN CONFIGURATION OF THE MOLD

- A. Industry Standards for mold thickness
- B. One vs. Multiple Part Molds
- C. Flange fabrication and finishing

III. APPLICATION OF TOOLING GEL-COAT

- A. Thickness
- B. Spraying Techniques

IV. PRACTICE FUNDAMENTALS OF INSURING QUALITY COSMETICS

V. MOLD RELEASE SYSTEMS

- A. Manual Applied
- B. Sprayable

VI. AIR RELEASE SYSTEMS FOR MOLD

VII. MOLD REMOVAL

VIII. DEMONSTRATE AND PRACTICE CHOPPER GUN USE

- A. Advantages/Disadvantages
- B. Production Procedures

IX. MOLD SUPPORT CONFIGURATIONS

**Evaluation:**

Standard Alpha System:

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

Marine Education & Training Center  
MARR 50  
Course Syllabus

**Evaluation by percentages:**

40%- Hands on projects and excercises are graded for accuracy, neatness, and attention to detail.

40%- Written tests are given to determine understanding of principals.

20%- METC Work Habits and Rating Scale\*

\*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?”

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.**

If you miss:	You are eligible for a(n)
5 hours or less	A
10 hours or less	B
15 hours or less	C
20 hours or less	D
More than 20 hours	F

**Each Tardy will equal 1/2 Hour Absent. This includes being late to returning to class after a designated 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.

**Required Textbooks:**

*Fiberglass Boatbuilding For Amateurs*, Ken Hankinson, Glen-L Publishing