

Course Syllabus

Course Name: Introduction to Marine Technology

Course Number: MARR 20

Course Credits and Hours: 1 credit; 30 hours lecture/lab

Prerequisites: None

Course Description: Introduces the student to career opportunities in marine technology. It also serves as an orientation to the Marine Education and Training Center (METC) and its policies. Students will be trained to fit personal protective equipment and to understand Material Safety Data Sheets. Marine nomenclature is also introduced with an emphasis on the terms that must be understood when vessels are hauled and secured on land.

Course Objectives:

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

1. Demonstrate understanding and practical application of METC policies
2. Understand key health and safety components of a Material Safety Data Sheet.
3. Fit and test an organic respirator.
4. Name and identify the purpose of each tool in the first semester tool kit
5. Name and properly use “directionals” (This is how a marine technician indicates the relative positions of components on a boat)
6. Identify and state the purpose of each component of a vessel that a marine technician must be aware of in order to safely haul and secure a vessel on land. (Cleats, stanchions, transducers, shafts, props...)
7. Secure a vessel to the dock or pier with correct placement of fenders, lines, and appropriate knots
8. Name and identify the rigging components of a sailing vessel

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Course Outline:

I. METC POLICY AND PROCEDURES

II. MARINE NOMENCLATURE

- A. Personal Safety
 - 1. eye protection
 - 2. hearing protection
 - 3. back protection
 - 4. hazardous fume protection (test fit respirator)
 - 5. proper clothing and shoes
- B. Fire Safety
- C. Electrical Hazards
 - 1. ground fault protection
 - 2. faulty extension cords
- D. Environmental compliance
- E. Material Safety Data Sheets overview

III. TOOL IDENTIFICATION

IV. SECURING A VESSEL TO A DOCK

- A. Dock line identification
- B. Tide and current considerations
- C. Fender placement

V. LINE

- A. Handling
 - 1. Coiling and throwing
 - 2. Stowing
- B. Knots
 - 1. Belaying cleats
 - 2. Square knot
 - 3. Bowline
 - 4. Rolling hitch
 - 5. Clove hitch
 - 6. Fisherman's bend
 - 7. Eye splice and whipping (if time)

VI. BASIC MARINE NOMENCLATURE

- A. Directional Terms (bow, stern, port, starboard, aft, fwd, aloft, athwartships)
- B. Boat Parts (cleat, sampson post, stanchion, bowsprit, chock)
- C. Design Terms (LOA, LWL, Beam, Draft, Displacement, Freeboard)

D. Parts of Boat

- 1. Stem

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2. Transom
3. Sheer
4. Deck
5. Bulwark
6. Cockpit
7. Salon
8. V-berth
9. Head
10. Sole

E. Underwater Mechanical Components

1. Rudders
2. Shafts And Struts
3. Transducers

VII. HULL SHAPES AND CONFIGURATIONS

- A. Full Keel
- B. Fin Keel
- C. Hard Chine
- D. Multi-Hulls

VIII. SAILBOAT RIGGING AND COMPONENTS

- A. Spars
- B. Standing Rigging
 1. Shrouds
 2. Stays
 3. Turnbuckles
- C. Running Rigging

Evaluation:

Standard Alpha System:

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

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 principles.

20%- METC's Work Habits Evaluation **

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** You will be given a copy of the Work Habits Evaluation. 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)
1.5 hours or less	A
3 hours or less	B
4.5 hours or less	C
6 hours or less	D
More than 6 hours	F

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

Boatowner's Mechanical and Electrical Manual, 2nd Edition, Nigel Calder, International Marine/McGraw-Hill