Massachusetts Maritime Academy

VESSEL SAFETY FAMILIARIZATION AND BASIC TRAINING
COURSE: MT-1111 (4 CREDITS)
FALL SEMESTER, 2016

Lecture Instructors
John Carlisle HA 318 jcarlisle@maritime.edu
Captain Mike Orbe HA 307 morbe@maritime.edu

Laboratory Instructors
LT B. Bosanquet, HA 305-B, email: bbosanquet@maritime.edu
LT E. Vacha, HA 305-B, email: evacha@maritime.edu

Textbook(s)
(1) Ritchie, Gary. *Onboard Safety*. Witherby Seamanship International. February, 2012. Print.
(2) Pham et al. *USTS KENNEDY SAFETY EQUIPMENT MANUAL.* 6th Edition, 2011. Print.
(3) Hayler, William B. and Keever, John M., and Seiler, Paul M. T*he CORNELL MANUAL for Lifeboatmen, Able Seamen, and Qualified Members of Engine Department*. 2nd Edition. Centreville, MD: Cornell Maritime Press, 2006. Print.
(4) *Chafing* Gear from Orientation 2016.

Scope-Knowledge, understanding and proficiency (KUP)
This course is based on IMO Model Course(s) 1.19-*Personal Survival Techniques*, elements pertaining to 1.20-*Basic Fire Fighting*, 1.21-*Personal Survival and Social Responsibility*, 1.23-*Survival Craft (other than fast rescue boats)* and*;* 1.39 *Leadership and Teamwork (2014).*

The course follows the mandatory minimum requirements for *Safety Familiarization Training, Basic Training and instruction for all seafarers*, per Chapter VI in the STCW-2011 edition; Manila Amended Sections (table A-VI/1-4) and; Proficiency in Survival Craft (table A-VI/2-1). In addition, the course examines operational level-*Leadership and Teamworking Skills* as seen in STCW tables A-II/1 and A-III/1.

Learning Objectives
Each cadet is required to complete the learning objectives and assessment standards set forth in the STCW-2010 Manila Amended Sections for Safety Familiarization Training (table A-VI/1-4) and; Proficiency in Survival Craft (table A-VI/2-1).

Learning Outcomes

Upon completion of this course, students will be able to react in a correct manner during emergency situations, take measures appropriate to his/her own survival and to the survival of others, and use survival equipment correctly. Additionally, a student will be able to react in a correct manner in the event of an outbreak of fire, to take appropriate measures for the safety of personnel and of the ship, and use fire appliances correctly. He/she will also be able to state and demonstrate that he/she has acquired knowledge and skills, which, in some instances, will enable him/her to identify and correct defects and thus prevent emergencies from occurring.

Entry Standards

This course is presented in English. Trainees must be able to read, write, speak and understand English. This course is open to any cadet and must be successfully completed before enrolling for Sea Term aboard the *T.S. Kennedy*. There are no prerequisite educational requirements. All trainees must be certified by a doctor to be in good health and fit in all respects for training in personal survival.

Teaching Facilities and Equipment

The Vessel Familiarization and Basic Safety Training (MT1111) course will be presented in the Massachusetts Maritime Academy's academic facilities. A classroom or lecture hall equipped with a black/white board or flip chart supported by audio-visual aids when making use of audio-visual materials such as personal computer presentation software, transparencies, videos or slides will be provided for lectures. Course information and course documents will be posted electronically on the Blackboard.

In addition, practical demonstrations and/or drills will be conducted at the Academy's full equipped Sea Laboratory, swimming pool and waterfront facilities as well as aboard the Training Ship Kennedy, Training Vessel *Ranger* as well as motor whale-boats and monomoys whenever the instruction or practical exercises require access to water or use of SOLAS/U.S. Coast Guard approved survival equipment.

Teaching Aids (A)

Al Vessel Familiarization and Basic Safety Training (MT1111) Instructor Manual
A2 Classroom handouts/notes
A3 Audiovisual aids: PowerPoint presentations

Teaching Aids (A) (continued)

A4 Audiovisual aids: Video projector A5 Audiovisual aids: Multimedia projector with computer
A6 Personal computer
A7 Cutaway equipment
A8 *T.S. Kennedy*, equipment and fittings
A9 *T.V. Ranger*, equipment and fittings
A10 Certified lifeboat/gravity davit
A11 Motor whale boat
A12 USCG certified inflatable liferaft cradle and davit launch/immersion suits
A13 USCG approved covered lifeboat
A14 Monomoy (pulling) rowing boat

Teaching Aids (Video)

V1 Water Entry and Survival Techniques (27 minutes)
V2 Man Overboard, A Guide to Rescue and Treatment of Man Overboard Victims (31 minutes)
V3 Lifeboat Operation and Survival Practices (25 minutes)
V4 Liferaft Operation and Survival Practices (28 minutes)
V5 First Aid Basics Training Program (30 minutes)
V6 Snap-back (USN)

Zero Tolerance phone/tablet/laptop devices in the classroom
Any telecommunication device that emits an audible signal, vibrates, displays a message, or otherwise summons or delivers a communication to the user or including but not limited to: cell phones, i-Phones and Androids, are prohibited from this class (including the lectures and the laboratories).

In the event of a medical condition or personal circumstance necessitating the cadet to be in touch with a doctor or a parent, a reasonable accommodation will be made between the instructor and the cadet. This is your first and only warning. Failure to comply with this directive will result in the following Class Two Mast Report Offense: Disobedience of a Direct Order.

Safety Routines

Safety precautions during drills are a major component of this course, and affect its organization. Trainees must be protected from danger at all times whilst the course is in progress.

Instructors and their assistants must strictly supervise the trainees, and act as their safety guards. First aid supplies, including a resuscitation kit, must be close at hand. If drills are to take place in the sea, a rescue boat must be in attendance. Night drills must not be performed unless all trainees and instructors have been provided with lifejackets having retro-reflective material as specified in SOLAS, Chapter 111, Regulation 30.2.7. Searchlights must illuminate the practice area.

References (R)

Rl The International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978 (STCW 1978), including the 2010 Manila Ammendments.

R2 International Convention for the Safety of Life at Sea, 1974 (SOLAS 1974), as amended (IMO Sales No. 110 86.02.E).

R3 Merchant Ship Search and Rescue Manual (MERSAR) (IMO Sales No. 963 86.08.E).

R4 A Pocket Guide to Cold, Water Survival (IMO Sales No. 946 81.03.E).

Textbooks (T)

T1 Hayler, W.B., Keever, J.M. and Seiler, P. M., The Cornell Manual for Lifeboatman, Able Seamen and Qualified Members of the Engine Department, 1st ed. (Centreville, MD: Cornell Maritime Press, 1984) ISBN 0-87033-313-5

T2 Murphy, II, J.S., *Vessel Familiarization and Basic Safety Training (MT1111), Class Workbook.* (Buzzards Bay, Massachusetts Maritime Academy, 1998)

T3 Brady, R., *Marine Fire Prevention, Firefighting and Fire Safety*, (Prentice-Hall Publishing) (ISBN 0-87618-994-X)

T4 Murphy, II, J.S., *T.S. Kennedy Vessel Particulars, Standing Orders, Bridge Procedures, and Directions for Keeping the Deck Logbook (Version MMA PSBD 001-1998), as revised,* (Buzzards Bay, MA: Massachusetts Maritime Academy, 1998)

Bibliography/Textbooks (B)

B1: Bo, Olav. *Basic Safety Course: Sea Safety and Survival*. Oslo: Norwegian University Press, 1987. (ISBN 82-00-432122.)
B2: Richards, P. and Banigan, J.J. *How to Abandon Ship*. Cornell Maritime Press, 1942.
B3: Wright, C. H. *Survival at Sea: The Lifeboat and Liferaft.* Liverpool: The James Laver Printing Co. Ltd., 1986.
B4: Wright, C. H. *Know Your Liferaft*. Liverpool: The James Laver Printing Co. Ltd., 1986.
B5: Lewis, J.H. *Life Saving Appliance Manual*. London: Stanford Maritime Limited, 1976. (ISBN 0-540-07286-9)
B6: House, D.J. *Marine Survival and Rescue Systems*. Cornell Maritime Press, 1988. (ISBN 087033-387-9)
B7: Lee, E. C. B. and Lee,. K. *Safety and Survival at Sea*. London: W. W. Norton, 1980. (ISBN 0393-03242-6.)
B8: *Safety at Sea* (selected issues of the monthly journal). Redhill, Surrey, England: Industrial and Marine Publications, Ltd.
B9: Unden, J.E., *Safety at Sea*. Denmark: Viking, A/S Nordisk Gummibaadsfabrik, 1985.
B10: Baldridge, D. *Shark Attack*. London: MacDonald Futura Publications, 1979. (ISBN 0-70881483-2.)
B11: Wright, C. H. *Survival at Sea: The Lifeboat and Liferaft.* Liverpool: The James Laver Printing Co. Ltd., 1986.
B12: Muern, R.J. Survival Guide for the Mariner. Cornell Maritime Press, 1993. (ISBN 0-87033441-1)
B13: Water Safety and You. Seafarers Harry Lundberg School of Seamanship, 1981
B14: Murphy, II, J.S., Deck Officer Study Guide, Volume 1, Deck General, 1998 ed., (Buzzards Bay, MA: Academy Publishing Company, 1998)
B15: Murphy, II, J.S., Deck Officer Study Guide, Volume 3, Deck Safety, 1998 ed., (Buzzards Bay, MA: Academy Publishing Company, 1998)
B16: Murphy, II, J.S., Deck Officer Study Guide, Volume 6, Deck Examination Illustration Booklet, 1998 ed., (Buzzards Bay, MA: Academy Publishing Company, 1998)

Course Structure

The course is four credits, involving two (2) lectures per week and one (1), two-period laboratory per week.

The lecture segment will provide theoretical and practical knowledge to demonstrate competency in the topic areas (table below). The laboratory segment (sometimes known as SeaLab) compliments the lectures by providing practical application of the theoretical and to develop the skills necessary to demonstrate knowledge, understanding and proficiency.

Methods of Demonstrating Competence

The methods chosen to carry out an evaluation will depend upon what the candidate is expected to achieve in terms of knowledge, comprehension and application of the course content.

The methods used may include:

- Direct observation and participation in classroom training.
- Oral examination a simple question-and-answer discussion with the candidate (either individually or as a group)
- Written test instruments prepared multiple choice tests requiring the selection of correct or best responses from given alternatives, the correct matching of given items, the supply of short fill-in answers, the supply of more extensive essay written responses to prepared questions or mechanical drawings and technical sketches.
- Practical demonstration where the course content is aimed at the acquisition of practical skills, the test may involve a practical demonstration by the candidate making use of appropriate equipment, tools, or simulation.

The responses demanded may therefore consist of:

- the recall of facts or information, by oral response or objective tests
- the practical demonstration of an attained skill
- the oral or written description of procedures or activities
- rendering technical drawings, diagrams or sketches of vessel components and/or systems
- identification and use of data from diagrams, drawings, publications, charts, tables, etc.
- carrying out calculations to solve numerical problems
- the writing of an essay, journal, or technical report (i.e. workbook assignments)

Massachusetts Maritime Academy is committed to providing reasonable accommodations to students with documented disabilities. Students who believe they may need accommodations in this class are required to report to Dr. Fran Tishkevich, Director of Disability Compliance, within the first two weeks of class. (Ftishkevich@maritime.edu, Office: Room H-311A, Ext. 2208)

Examinations and Grading:

A minimum of four unit examinations will be administered during the lecture segments. The minimum passing grade on each unit exam is 70% for STCW certification. Every candidate will be given two opportunities to achieve the minimum passing grade of 70% on each unit exam. Failure to achieve a passing grade in any one of the four unit exams will result in failure of the course. Lecture examinations will be announced and given during a full lecture period. In the laboratory (SeaLab) segments quizzes and practical examinations will be administered. All examinations and quizzes may take the form of either multiple choice or short answers. Both the lecture and laboratory instructors may give unscheduled quizzes at their discretion. Always carry a *Number 2* pencil with you in class and in the Sealab.

Final Exam:

The final examination will be held during the final exam week in December. The final examination will consist of retake opportunities for incomplete/failed unit examinations. A candidate who successfully passes the unit examinations on the first attempt will be exempt from that unit exam on the final examination.

Final Grade:

Quizzes, Unit Exams, and Final Exam	75%
SeaLab Quizzes and Qualifications	25%
	100%

A final grade of 70.0% or better is required to pass this course.

Final Grade (continued from previous page):

The following is a breakdown of the final course grading:

93.0 100	**A**
90.0 – 92.9	**A-**
87.0 – 89.9	**B+**
83.0 – 86.9	**B**
80.0 – 82.9	**B-**
77.0 – 79.9	**C+**
73.0 – 76.9	**C**
70.0 – 72.9	**C-**
67.0 – 69.9	**D+**
63.0 – 66.9	**D**
60.0 – 62.9	**D-**
Below 60.0	**F**
Incomplete	**I**

Attendance Policy

ATTENDANCE AT ALL CLASSES AND LABORATORIES IS MANDATORY. Unauthorized absence will not be tolerated. Disciplinary action and/or grade point reduction will be administered for unauthorized absences. Instructors will dismiss cadets who are disruptive or found sleeping in class. Administratively sanctioned absences are absences just as absence due to illness are absences. All absences will be reported to the Commandant's Office. Dismissal from class or lab will be considered an absence for that class or lab.

All work and examinations missed as a result of an absence will result in a ZERO GRADE. Cadets repeating this class must retake all sections and the laboratory.

The Vessel Safety Familiarization and Basic Training Course and Laboratory must be attended and completed successfully in accordance with STCW regulations. More than four (4) absences from classroom lectures and/or SeaLabs will result in a failure of the course. If absences exceed four hours of missed class and/or laboratory for any reason, the student will fail the course. The total hours missed combined between the lab and class portions cannot exceed four hours (NOTE: One laboratory session counts as two hours and one lecture session counts as one hour).

Attendance Policy (continued from previous page)

Instructors will dismiss cadets who are found sleeping in class and/or fail to bring required course materials (text book, class notes, etc.). Dismissal from class will be considered an absence for attendance purposes.

NOTE: Examinations missed will receive a ZERO GRADE.

Syllabus Changes

The syllabus and course schedule is tentative and may be adjusted as required to meet the goals and objectives of the course. Notice of changes will be made to students as soon as possible.

Classroom and Laboratory Policies

Cadets will wear the appropriate uniform of the day in lecture classrooms, and the issued uniform boiler suits while in the Sealab. Commuter students should wear clothing in the Sealab that will launder easily. ***Every cadet will bring their "Youngie" gear to all classes.*** Laboratories are conducted in all weather conditions. Always bring appropriate clothing, such as a warm jacket, as the fall progresses to winter, and rain gear if there is any chance of rain or snow. Cadets *will not* be excused from Sealab because of the lack of a jacket or rain gear. Any USCG approved floatation coat (Floatcoat) may be substituted for Type-III approved PFD's during waterborne laboratories. Students may wear soft shoes (sneakers) while in the boats only.

1. Pocketknives are required at all times in the classroom and laboratories.
2. The use of computers or electronic communication devices in class is prohibited.
3. Eating, drinking or the use of tobacco products is prohibited from all classes and laboratories.

Safety FAM Basic Training Topics
Introduction to Basic Safety Training
IMO conventions; regulatory compliance
Principals Survival at Sea
Comply emergency procedures; immediate action
Leadership and Teamwork
Contribute to effective shipboard communications
Value of training and drills
Fire & emergency drills; immediate action
Lifesaving appliances (LSA)
Muster and embarkation; duties
Launching of survival craft
Ship abandonment
Survival craft and rescue boats
Use of survival craft; taking charge
Operate a survival craft engine (LAB)
Management of survivors in survival craft
Use of emergency locating devices
Emergency communications and pyrotechnics
Dangers to survivors
Cold water survival
Effective communications
Safe working practices (SWA)
Helicopter assistance
Marlinespike seamanship (LAB)
Mooring and line handling procedures (LAB)
Introduction to the principles of firefighting
Minimizing risk of fire; respond to fire emergencies
Fire prevention
Fire detection
Firefighting systems & equipment (LAB)
Shipboard firefighting organization
Watchstanding

MT 1111L VESSEL FAMILIARIZATION LAB

- LAB IS WEEKLY, 2 PERIODS IN LENGTH
- CLASS MEETS AS A GROUP IN BRESNAHAN-131 FOR ATTENDANCE
- TWO INSTRUCTORS MAY DIVIDE THE SECTION

THE FOLLOWING IS A SAMPLE OF LAB SCHEDULING

6 WEEKS LIFEBOAT and ROWING...3 LABS OF INSTRUCTION WITH EACH
2 WEEKS KNOTS/ SPLICES...1 LAB OF INSTRUCTION WITH EACH
1 WEEK OF LINE HANDLING 1
1 WEEK OF LINE HANDLING 2
1 WEEK LAUNCHING OF THE DAVIT ASSISTED LIFERAFT
1 WEEK IMMERSION SUIT
1 WEEK OF QUESTIONS AND REVIEW...OPTIONAL IF SCHEDULING ALLOWS 1 WEEK KNOTS AND SPLICES PRACTICAL
14 WEEKS

TESTING MARLINSPIKE PRACTICAL

FINAL LAB GRADE IS 25% OF THE COURSE GRADE

LAB TRAINING OBJECTIVES
****NOTE...LAB NUMBERING IS NOT INDICATIVE OF LAB SCHEDULING ORDER**

LAB 1, 2, 3 LEARN HOW TO LAUNCH, LOWER AND RELEASE LIFEBOATS. HANDS-ON EXPERIENCE IN EACH STEP; LEARN STANDARD COMMANDS ASSOCIATED WITH LIFEBOATS AND LAUNCHING. DISCUSS EPIRB, SART, LIFEBOAT RADIO, PYROTECHNICS, AND LINETHROWING APPLIANCE. WORK WITH LIFEBOAT ENGINE.

LAB 4, 5, 6 LEARN ROWING COMMANDS AND HOW TO SUCCESSFULLY MANEUVER CRAFT UNDER OARS

LAB 7, 8 MARLINSPIKE SESSIONS 1 AND 2. LEARN HOW TO TIE THE FOLLOWING WHIPPINGS, KNOTS AND SPLICES:

1. WHIPPING, TEMPORARY
2. WHIPPING, SAILMAKERS
3. OVERHAND KNOT or THUMB KNOT
4. FIGURE EIGHT
5. SQUARE KNOT

6. BOWLINE
7. FRENCH BOWLINE
8. SINGLE BECKET BEND
9. DOUBLE BECKET BEND
10. CLOVE HITCH
11. ROUND TURN AND TWO HALF HITCHES
12. EYE SPLICE (THREE STRAND)
13. SHORT SPLICE (THREE STRAND)
14. BACK SPLICE (THREE STRAND)

LAB 9 LINE HANDLING (1ST OF 2)

1. IDENTIFY LEAD/PURPOSE OF BOW , BREAST AND SPRING LINES
2. IDENTIFY...DOUBLING UP, BIGHT, DIPPING THE EYE, ON SHORE vs. OFF SHORE LEAD
3. POINT OUT THREE STRAND vs. EIGHT STRAND CONSTRUCTION
4. IDENTIFY
    a. BOW
    b. FORECASTLE HEAD
    c. BRIDGE
    d. STERN
    e. FOR'CASTLE DECK, MAIN DECK, POOP DECK
    f. BOLLARD, CLEAT, CHOCK (CLOSED AND ROLLER TYPE), BITT, FAIRLEAD, HEAVING LINE, HAWSER AND STOPPER
5. MAKE UP AND THROW A HEAVING LINE, NUMBER TO HAVE ON HAND
6. FAKE LINE ON DECK (REVERSE FLAKES)
7. USE OF A MESSENGER
8. METHOD FOR TYING HEAVING LINE TO MESSENGER, AND MESSENGER TO HAWSER

LAB 10 LINE HANDLING (2ND OF 2)

9. LINE HANDLING SAFETY
    a. DANGERS OF STANDING IN A BIGHT
    b. LEARNING TO PASS HAWSER THROUGH BITTS BEFORE PAYING OUT TO CREATE ENOUGH FRICTION SO THAT THE HAWSER WILL NOT TRAVEL OUT WILDLY
    c. FINGERS AND PINCH SPOTS for ex. HAWSER/CHOCK
    d. USE STOPPER NOT FEET
    e. DANGER ZONE FOR A PARTING LINE, STAND CLEAR IN SAFE AREA WHEN LINE IS UNDER STRAIN

10. PUT SHORT BREAST HAWSER TO DOCK AND MANUALLY TAKE IN, STOP OFF AND MAKE UP...DIVIDE THE CLASS IN THREE GROUPS...SHIP PERSONNEL, DOCK WORKERS(NEED TO WEAR LIFEJACKETS) AND OBSERVERS...ROTATE GROUPS THROUGH EACH POSITION

LAB 11 IMMERSION SUITS

LEARN HOW TO DON AN IMMERSION SUIT

1. LEARN HOW TO SAFELY ENTER THE WATER
2. LEARN THE HELP, HUDDLE AND CHAIN POSITIONS
3. LEARN TO STAY TOGETHER AS A GROUP, USING THE BACK STROKE TO MANEUVER
4. LEARN HOW TO ENTER A LIFERAFT
5. LEARN THE USE OF THERMAL PROTECTION AIDS

LAB 12 OBSERVE THE PROCEDURES FOR LAUNCHING A DAVIT ASSISTED LIFERAFT.

LAB 13 TESTING MARLINSPIKE PRACTICAL TEST ON THE TYING OF KNOTS AND SPLICES. LIST THE STEPS AND EXPLAIN THE PROCEDURES FOR LAUNCHING A LIFEBOAT, LINE HANDLING NOMENCLATURE.

LAB 14 MAKEUPS