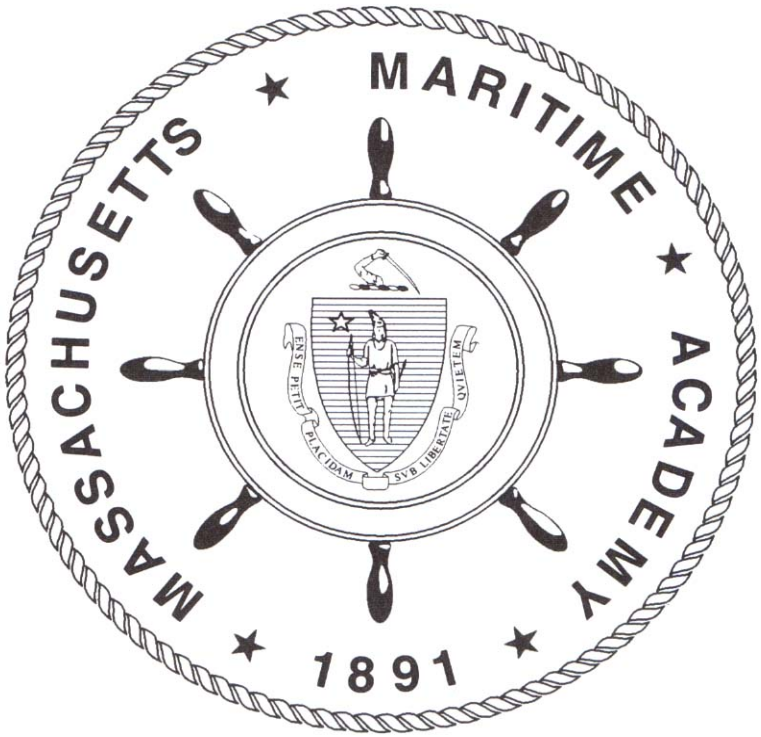
2013 CRUISE TRAINING PROGRAM

Department of Marine Transportation

FIRST CLASS



A Second 100 Years of Maritime Excellence

Training Voyage of U.S.T.S. Kennedy

Prepared By:

Captain Tim Brady
Deck Training Coordinator
Dept of Marine Transportation

Cadet _____
Division _____
Berthing Location _____

INTRODUCTION

The focus of the 1/C Sea Term Deck Training Program is to build upon the skills previously introduced in departmental courses with the goal of attaining a level of professional competency necessary for a USCG licensed *Third Mate, Unlimited, Oceans* and STCW certification as *Officer in Charge of a Navigational Watch*. The following professional areas will be highlighted:

- Watchkeeping
- Navigation at the Operational Level
- Ship Maneuvering and Handling
- Cargo Operations
- General Seamanship

The 1/C cruise is the zenith of your professional undergraduate training. We are fortunate to have the *USTS Kennedy* as a training platform. This vessel, along with the Marine Transportation staff, is made available for each of you to further enhance your skill level. The goal of the department for this sea term is to bring your knowledge level up to that of an entry level Third Mate. We will be focusing upon the following areas:

- Navigator
- Radar Observer/ARPA Operator
- Cadet Officer of the Watch (Underway)
- Cadet Officer of the Watch (In port)
- Cadet Radio Officer of the Watch

Ultimately, what is accomplished towards this endeavor over the next two months, no matter how hard we try, remains largely up to each of you. You will be expected to make use of every opportunity that the cruise affords to make yourself a consummate professional.

Also while on this cruise, all 1/C deck cadets will be required to satisfactorily complete the mandated STCW assessments identified by the list you will receive from the STCW officer prior to start of Sea Term***.***

It will be your responsibility to ensure completion and proper sign off for ALL these requirements. Failure to do so will result in a grade of INCOMPLETE which can impact your planned graduation date.

If you have any doubt concerning the assessment requirements, contact Captain Earl Mayhofer, the Academy's STCW compliance officer, who will be working closely with the Deck Training Coordinator, Captain Ford, to create ample opportunities for your STCW assessment completion. Be advised that the Alternate Duty Section may provide time for you to do your assessments. Most of the celestial assessments will be completed within your Celestial Navigation Project. It is strongly advised that you get going ***early*** to assure completion of all your assessments.

All 1/C deck cadets will be required to maintain a Navigation Journal. Navigation Journal procedures and minimum content requirements will be found within the Celestial Navigation booklet you will receive prior to start of Sea Term. The Deck Training Coordinator will carry a few extra copies in case they are needed during sea term. If completed successfully, the navigational calculations chosen will help fulfill your STCW requirements. Pay close attention in your Celestial Navigation lectures for instructions, guidance and help in completing the Celestial Navigation Project successfully.

It should be noted that the STCW qualification parts of this project are graded Pass/Fail.

You must complete these sign offs by demonstrating competency in ALL OF THEM this voyage unless they have been signed off on your junior cruise and Captain Mayhofer has a record of them. ***The responsibility for completing these assessments is yours.*** Failure to accomplish this goal will result in a sea term grade of *Incomplete.*

Keep in mind that there may not be another time to do some of these assessments until the next MMA cruise!

STCW Assessments for Celestial Navigation may begin according to the schedule in your celestial work book.

For many of you, this will be the last time in your cadet career that you will stand a bridge watch and/or serve as navigator without the awesome burden of total vessel responsibility upon you. This is the time to sharpen your skills and ask those questions, the answers to which you will be expected to know, when next you sail as a licensed officer.

CRUISE GRADING PROCEDURES

Successful completion of the Sea Term is a pre-requisite for graduation. Two multiple choice examinations, a mid-term and a final, will be administered. They will cover material learned in lectures on board and will be administered as shown below.

In addition, there will be two cel-nav exams given, the first as a cel-nav mid- term, and the second as a cel-nav final. These along with the below listed components make up your sea term grade.

MIDTERM FOR ALL DIVISIONS:
CEL NAV 1 FEB
MID TERM 1 FEB

FINAL FOR ALL DIVISIONS:
CEL NAV 22 FEB
FINAL 22 FEB

FINAL SEA TERM GRADE
The final Sea Term Grade will be based on the following formula:

Mid Term Exam	10%
Final Exam	10%
Cel-Nav Project & Assessments (See Celestial Work Book)	25%
Celestial Mid-term	10%
Celestial Final Exams	15%
Bridge Watchstanding	20%
Maintenance (Provided by Chief Mate)	5%
Mentor Score (Provided by input from your 4/C)	5%
Total	100%

Bridge Watchstanding: You will be evaluated for your performance on the bridge while performing the roles of Cadet Officer of the Watch, Navigator and Radar Observer. Your grades will be collected daily and compiled to give you your bridge watchstanding grade component. An explanation of the evaluation process follows in Section 2. You will be graded by the Bridge Watch Officer with input from the Bridge Training Officer .

All 1/C deck cadets will be assigned a number of 4/C cadets to mentor. Your role is to be a source of knowledge and advice for the 4/C cadets on your list. The list is included in this manual as well as the 4/C manual. You are instructed to seek out your 4/C mentors in the first two weeks of cruise and offer any help/advice. They will be instructed to seek you out if they need help and or advice. Your mentor score will have input from your assigned 4/C cadets.

TRAINING MATERIAL AND EQUIPMENT

The following equipment and textbooks will be required to complete the 1/C Deck Training Program:

- MARINE FIREFIGHTING, Brady - To be taken out on loan from ship's library prior to your firefighting classes and returned immediately thereafter
- Current Nautical Almanac
- H.O. 229 Vol. 1,2 & 3 -- To be taken out on loan from Academy Library prior to cruise
- Bowditch Tables Vol. 2 -- To be taken out on loan from Academy Library prior to cruise
- Cel-Nav workbook
- Universal Plotting sheets
- USCG Rules of Road Manual
- Cornell Manual for Lifeboatmen
- Bole's Radar and ARPA manual
- Ranger Manual
- Seamanship Notes - Modic
- Standardized Navigation Journal
- Personal calculator
- (2) Navigation triangles, dividers, and drawing compass
- Pocket knife, flashlight and work gloves
- Safety steel toe shoes
- Safety goggles
- Hard hat

Any other equipment as required by Com Cad’s Sea Bag List.

Recommended Publications for the cruise are:

- BRIDGE WATCHKEEPING, The Nautical Institute
- AMERICAN MERCHANT SEAMAN'S MANUAL
- AMERICAN PRACTICAL NAVIGATOR, NAVPUB #9
- STABILITY AND TRIM FOR THE SHIP'S OFFICER, LaDage
- MARINE CARGO OPERATIONS - Suerbier
- AMERICAN MERCHANT MARINE OFFICER'S HANDBOOK
- NAVIGATION PUB 1310 Radar Navigation Manual
- MODERN SEAMANSHIP - Knights
- WEATHER FOR THE MARINER
- DUTTONS

These items will not be provided by the Academy and may not be available in the Ship’s Store. Cadets are advised accordingly.

SEXTANTS

Students must draw a sextant from the academy prior to the cruise. Issuing times will be posted so that sextants will be picked up in the Harrington Building prior to the ship's departure. A cadet who reports to a scheduled celestial navigation class without a sextant or who retains a sextant beyond the authorized time period will be placed on report as will students reporting without required publications and or equipment necessary to complete the scheduled class or evolution. Stow all sextants in the proper racks while at sea and in your quarters when in port.

DO NOT leave sextants in the chart rooms while the ship is in port!

Cadets losing or damaging a sextant through inattention or negligence will be charged for its replacement value. **A cruise grade will not be forwarded to the Registrar until this bill is paid.**

DEPARTMENTAL TRAINING SCHEDULES

Cadets are advised to consult the 1/C Deck Long Term Training Schedule (Section 4) to determine subjects and locations of weekly training evolutions. A Daily Training Schedule will be posted at 1900 each evening to update the Long Term Training Schedule to reflect last minute changes resulting from ship operational requirements, weather, or other circumstances. The Daily Training Schedule will be posted in the following locations:

1. CADET CHARTROOM BULLETIN BOARD (Fwd and Aft Nav Labs)
2. BULLETIN BOARDS OUTSIDE CLASSROOMS 6-2 AND 6-4
3. CENTRAL LADDERWELL MIDSHIPS STBD SIDE
4. DIVISION BULLETIN BOARDS
5. SHIP'S LIBRARY

Make sure you see a copy of the next day's training schedule if you have training the next day.

The Daily Training Schedule will take precedence over the long-term schedule.

Cadets will be held accountable for its contents and must report for all classes as scheduled.

A great deal of effort has been made to provide you with insight into the training objectives of each training lecture that you are scheduled to attend. The lecture profile of each lecture will be found in Appendix II. It is your responsibility to familiarize yourself with the contents of the lecture profile for your scheduled class prior to your attending that session. You will be ***held accountable for the reading material assigned in the lecture profile*** and for providing any personal equipment required to carry out the session objectives i.e. safety gear, calculators and the like.

Cadets failing to meet a class as scheduled, leaving a class without the permission of the instructor, or returning late from a Fire/Abandon Ship or other drill will be placed on report. Students who may become confused by any of these schedules or have other questions relating to your Deck Training Program should see the Deck Training Coordinator at the Deck Training Office for clarification or assistance.

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2013 CRUISE TRAINING PROGRAM
Department of Marine Transportation

FIRST CLASS

Section 1
STCW Assessments

SECTION 1 STCW ASSESSMENT REQUIREMENTS

STCW ASSESSMENTS RULES

Captain Earl Mayhofer – STCW Compliance Officer

All 1/C STCW Assessments are the sole responsibility of each individual cadet. Each 1/C cadet has been given a list and a description of all the assessments that they have not yet completed. It is each cadet's responsibility to satisfactorily complete all assessments. Designated time to complete these assessments will be scheduled, posted, and explained on cruise. Assessments must be completed on this cruise.
See Captain Mayhofer for any questions on STCW assessments

Failure to complete these assessments prior to end of Sea Term will result in a grade of INCOMPLETE for your 1/C Sea Term. You will not receive a grade for the Sea Term until these assessments are completed.

2013 CRUISE TRAINING PROGRAM

Department of Marine Transportation

FIRST CLASS

Section 2
Watch Evaluation Procedures

Department of Marine Transportation
Sea Term Watch Evaluation
First, Second, and Third Class Marine Transportation Cadets

Explanation of the Watch Evaluation Procedures

"Bridge watchkeeping is the single most important activity conducted at sea. Upon the watchkeeper's diligence rests the security of the ship and all who sail on board. It is a demanding activity, frequently undervalued, which needs support, encouragement, motivation, self discipline and high standards of professionalism".

The Nautical Institute on Bridge
Watchkeeping, 1993

It remains the responsibility of every cadet who assumes a watch station on the bridge to be keenly aware of the contents of the Master's Standing Orders and the *T.S.KENNEDY* Bridge Procedures Manual.

In order to provide an objective analysis of individual cadet performance while on watch, the Bridge Training Officer and Mate on watch will evaluate the performance of individual cadets assigned to designated watch stations using a standardized Watch Station Performance Evaluation. On completion of this evaluation, a numerical grade will be assigned for the watch. Cadets are encouraged to review their individual Watch Station Performance Evaluation with the Watch Officer at a convenient time upon completion of the watch. Every First, Second, and Third Class watch station has a multi-question Watch Station Performance Evaluation sheet. These watch station performance evaluations will be posted in the Nav. Lab and are provided on the following pages. Cadets are encouraged to become familiar with the Watch Station Performance Evaluation criteria before standing their initial watch. A copy of the evaluation for your class follows.

The following pages will provide a reference for questions regarding each watch station's duties and expectations. Cadets can expect higher grades per watch if they attempt to comply with these expectations: However, this does not compromise the Officer of the Watch's individual demands or requirements that he/she may desire of the cadet watch standers.

DEPARTMENT OF MARINE TRANSPORTATION
CADET WATCH EVALUATION SHEET

OFFICER OF THE WATCH INSTRUCTION

The following paragraph is the instruction to the Watch Officer for completing the Cadet Watch Evaluation Sheet at the end of each deck watch.

INSTRUCTIONS: The Bridge Watch Officer shall complete and sign the following evaluation sheet at the completion of each watch and retain same for grade compilation at the end of cruise. Indicate date, division, watch, sea/coastal condition and cadet name adjacent to the watch station he/she is being evaluated upon. Check off the box corresponding to the grade granted for each watch interrogative. If the Watch Officer considers performance above or below grade, place + or – in the box following the grade (this addition to grade is not required). The Bridge Watch Officer should average the five grades for each cadet in the space provided.

We are grading each First, Second, and Third class watch position using five specific questions for that watch station. Watch station questions are included in the Watch Evaluation loose-leaf on the bridge. A copy of the evaluation questions is included with this memo for your information. At the end of each watch you are to complete the evaluation sheet for the watch. These watch grade sheets are to be kept in a bridge binder found in the chart room file cabinet. The Deck Coordinator will periodically collect the sheets and enter them in the grade record for sea term.

Watch grades are transferred from the evaluation sheet to a computer spreadsheet for cruise grade computation. Because the computer requires numerical inputs, PLEASE INPUT A NUMERICAL GRADE FOR EACH CADET, ***NOT*** A LETTER GRADE. Please use the system below for assigning numerical grades.

This grading method allows the Watch Officer the opportunity to add a plus or minus to a grade. For example, if a cadet is felt deserving of an A, with no plus or minus, the numerical input is 95; but if a plus is graded, the input is 100, and if a minus, 90. This system works the same through the B, C, D grades, but changes in the F grade. An F is granted a 50, an F plus is 55, but an F minus equates to 30. Because of the low numerical award for F-, Watch Officers should be absolutely certain the cadet deserves such a damaging grade. The Watch Officer should average the five grades for each cadet in the space provided below the watch station and should make every effort to

go over watch evaluation sheets with their watch before they go below after being relieved.

If you have any additional questions, please contact me.

Capt. Tim Brady, Deck Training Coordinator

FIRST CLASS WATCH EVALUATION

CADET OFFICER OF THE WATCH (COOW)

1. **At what level did this Cadet take charge of the watch, in particular, changing over and insuring subordinate watch station fundamentals were observed as per the Master's Standing Orders?**

   The Watch Officer should expect the COOW to assume the watch in a manner similar to that which the Watch Officer him/herself relieves the previous Watch Officer, in particular, following the guidelines established in the Standing Orders, T. V. Kennedy. Also, the COOW must comply with the administrative duties described in the Deck Sea Term Manual, page 9. Generally, however, the Watch Officer must evaluate this question based upon how smoothly the watch is assumed by the entire relieving watch, in particular noting whether each subordinate is cognizant of their duties without prompting by the COOW or the Watch Officer. The COOW must demonstrate the proper knowledge and confidence to earn the highest grade.

2. **At what level did this Cadet insure the vessel's position was monitored and maintained in relation to the navigation track?**

   The Watch Officer expects the COOW to be in complete compliance with the Standing Orders interfacing thoroughly with the Cadet Navigator. In most cases the COOW can expect the Cadet Navigator to be compliant, but will never be sure unless the navigation is checked periodically and additional directions are given to the Cadet Navigator. The COOW must quickly assess position fixing and course recommendations demonstrating knowledge and confidence to earn the highest grade.

3. **At what level did this Cadet insure the vessel was navigated in compliance with the Rules of the Road, in particular, as to look-out, safe speed and determination of risk of collision?**

   The Rules of the Road govern a great deal of the COOW's actions while on watch. The Standing Orders describe look-out, safe speed and determination of risk of collision. This question dictates the COOW to be supervising look-outs' positioning, instruction and efficiency as per Rule 5; taking into account the 12 safe speed determinations established in Rule 6; and interfacing with the Cadet Radar Observer and look-outs in compliance with Rule 7. Only the COOW who demonstrates a comprehensive awareness of all the above factors can expect the highest grade.

4. **At what level did this Cadet insure the seaworthiness of the vessel was properly monitored, maintained and recorded?**

This question dictates the COOW is working with and merging the efforts of the Cadet Boatswain, the bridge watch standers and the Quartermaster of the Watch. The Cadet Boatswain is detailing and logging DETEX routes and making frequent rounds about the vessel him/herself. The bridge watch standers are all within visual and audible alarm range of fire detection systems, and the Quartermaster must make appropriate entries to record drills, routine activities and abnormalities.
The Standing Orders describe DETEX security and log entries. If the Watch Officer can use the COOW's logbook and the Quartermaster's log to fill in the Deck Logbook with no questions asked, then the COOW can expect the highest grade.

5. **At what level did this Cadet Insure the Plan of the Day was carried out and nautical protocols observed.**

   The Plan of the Day dictates normal and abnormal routines which are carried out by the entire ship's crew. Although considered useful from about 0600 until 2200, due to piping requirements, the POD gives information such as division assignments and watch assignments of responsible persons from 0000 until 2359. Additionally certain nautical protocols are invisibly followed by mariners, such as calling the watch at prescribed times. The COOW who anticipates the POD and protocols before being prompted by the Watch Officer can expect the highest grade.

CADET NAVIGATOR OF THE WATCH

1. **At what level did this Cadet understand and pre-plan for the demands of navigation required during his/her watch at the time of relieving the watch?**

   Pre-planning for the demands of navigation may be as simple as bringing a sextant to the bridge when at sea. But it may become a bit more challenging when considering the need to get an accurate compass comparison before making a landfall. The Watch Officer must ascertain how much forethought was made by the navigator, and how smoothly the watch relief took place. Specifically, the requirements provided in the Standing Orders should be followed. The Cadet Navigator who comprehensively applies the theoretical skills into practice, regardless of skill level, may expect the highest grade.

2. **At what level did this Cadet comply with the minimum position fixing requirements as detailed in the Master's Standing Orders?**

   The Standing Orders clearly establish requirements for navigation, whether coastal, at sea or with a pilot aboard. The Cadet Navigator who does not exceed the minimum time set forth and uses the appropriate means to obtain fixes, may expect the highest grade.

3. **At what level did this Cadet comply with minimum compass comparison requirements as detailed in the Master's Standing Orders?**

The compass comparison requirements for the navigator are established in the Standing Orders. The Cadet Navigator must meet the minimums for comparison, but should consider exceeding the minimums for azimuth, amplitude or ranges. It is easy to justify the rolling vessel to preclude taking an azimuth, but the exercise provides skill reinforcement, regardless of the results. The Cadet Navigator who exceeds the minimum requirement of the Standing Orders may expect the highest grade.

4. **At what level did this Cadet interpret external environmental forces affecting the vessel's navigational track performance?**

   Wind and current may cause variance from course steered. But the Cadet Navigator cannot immediately interpret a fix off the navigation track as being completely caused by external forces until he or she rules out controllable internal forces, such as compass error or helmsmanship. The conclusion that an external force is working must be justified and a solution must be offered to the Watch Officer in order for the Cadet Navigator to expect the highest grade.

5. **At what level did this Cadet keep the COOW apprised of vessel position, compass comparisons and environmental effects, and recommendations to improve deficiencies?**

   Every effort in navigation is useless unless it is interpreted in a timely fashion and used to improve the navigation of the vessel in the future. In that the Cadet Navigator does not have the control of the vessel, he or she must articulately pass observations along to the conning officer with explanations and recommendations for improvement. The Cadet Navigator who quickly reacts to navigational observations by improving the vessel's navigation can expect the highest grade.

CADET RADAR OBSERVER

1. **At what level did this Cadet understand the characteristics, efficiency and limitations of the operational radars upon relieving the watch in compliance with the Master's Standing Orders?**

   The knowledge retained from Radar Observer and Rules of the Road classes must be comprehensively applied when actually standing radar watch aboard a vessel. The Cadet Radar Observer who demonstrates a skill level equal to the demands of Radar Qualification examination may expect the highest grade.

2. **At what level did this Cadet apply the skills of radar observation toward position fixing and collision assessment?**

   Radar observation should include both collision assessment and navigation. Toward this end, the radar observer must consider various methods and information for true collision assessment, and realize the radar aids the navigation effort only. Standing Orders establish minimum requirements the radar observer must observe. The Cadet Radar Observer who exceeds the minimum standards may expect the highest grade.

3. **At what level did this Cadet apply the Rules of the Road to avoid collision for situations in which risk of collision had been deemed to exist?**

   Collision information derived from the radar can be considered instrumental to the Rules of the Road, but contain some very clear restrictions which are intended to limit sole use of radar in decision making. The Cadet Radar Observer should be well versed in the implied and stated radar requirements of Rules 5, 6, 7 and 19. The Cadet Radar Observer who complies fully with the Rules of the Road can expect the highest grade.

4. **At what level did this Cadet perform the corollary function of Cadet Training during his/her watch?**

   Radar observation can become extremely boring if no targets require immediate attention. Cadet Radar Observers are expected to train cadets of lower classes in proper use of radar equipment and bridge equipment adjacent to the radar equipment, such as fire detection equipment. When training it is imperative he or she limit knowledge dissemination to areas of which they are thoroughly confident. It is better to stay clear of a device, or to acknowledge insufficient knowledge than to promote incorrect information. Ask the Watch Officer prior to any training attempt if uncertain. The Cadet Radar Observer who demonstrates an enthusiastic approach to the training requirements, while not ignoring the basic radar observation requirements, can expect the highest grade.

5. **At what level did this Cadet keep the COOW apprised of risk of collision and recommendations to avoid collision?**

   Radar information concerning risk of collision is useless unless presented intelligently to the conning officer, with adequate recommendations. For a Watch Officer to observe a COOW extracting information from the Cadet Radar Observer concerning targets indicates the Observer was not fully prepared when target information was offered. The Cadet Radar Observer who is ready to answer any question concerning traffic, and has viable recommendation prepared, can expect the highest grade.

DEPARTMENT OF MARINE TRANSPORTATION CADET WATCH EVALUATION SHEET

1/C - CADET WATCH EVALUATION SHEET

NAME:	DATES:	DIV:	WATCH:

Cadet Officer of the Watch: (COOW)	- √ +	Grade
1. COOW took charge of the watch, from change-over insuring subordinate 1/C watch station fundamentals were observed.		
2. COW insured the vessel position was monitored and maintained in relation to the navigation track.		_____
3. COOW at all times insured the vessel complied with Rules of the Road, in particular, look-out; safe speed; and determination of risk of collision.		Number
4. COOW insured seaworthiness of the vessel was monitored, maintained, and recorded via Cadet Boatswain, Quartermaster of the Watch, and bridge watchstanders.		_____
5. Proper use of professional terminology. Response during stress.		Initials

Cadet Junior Officer of the Watch: (JOOW is a 2/C if on board)	- √ +	Grade
1. JOOW assisted in taking over the watch, from change-over to insuring subordinate underclass watch station fundamentals were observed. Supervise underclass in relieving the watch.		
2. JOOW supervises and participates in training of underclass cadets on bridge equipment and procedures.		_____
3. JOOW assists the COOW to ensure the vessel complied with Rules of the Road, in particular, look-out; safe speed; and determination of risk of collision.		Number
4. JOOW coordinates with the Bosun to ensure vessel security, lookout rotation, safety, and training.		_____
5. Proper use of professional terminology. Response during stress.		Initials

Cadet Navigator of the Watch:	- √ +	Grade
1. Navigator understood and pre-planned for the demands of navigation required during the watch at watch relief.		
2. Navigator complied with minimum fixing requirements as detailed in the Master's Standing Orders.		_____
3. Navigator complied with minimum compass comparison requirements as detailed in the Master's Standing Orders.		Number
4. Navigator correctly interpreted the external forces impacting the vessel's navigational track performance (set and drift, leeway/wind)		_____
5. Navigator kept COOW apprised of vessel position, compass comparison, and environmental effects and recommended ways to improve deficiencies.		Initials

Cadet RADAR Observer:	- √ +	Grade
1. Observer understood the characteristics, efficiency and limitations of the operational radars upon relieving the watch in compliance with Master's Standing Orders.		
2. Observer applied the skills of radar observation toward position fixing and collision assessment and followed the minimum requirements set for in the Standing Orders.		_____
3. Observer correctly applied the Rules of the Road when risk of collision existed and understood the limitations of the sole use of radar in decision making, utilizing visual bearings in making assessment.		Number
4. Observer utilized time if available to train under class cadets on watch, i.e. how to use radar equipment.		_____
5. Observer kept the COOW apprised of risk of collision and provided proper recommendations to avoid collision.		Initials

Cadet ECDIS Observer:	- √ +	Grade
1. Observer understood the characteristics, operation, and limitations of the ECDIS unit upon relieving the watch.		
2. Observer applied the skills of ECDIS observation toward position fixing and safe navigation, course and speed recommendations.		_____
3. Observer correctly identifies and advises COOW of AIS targets.		Number
4. Observer utilizes acquired skills to train underclass cadets when appropriate.		_____
5. Observer kept the CADET NAVIGATOR appraised of the vessels position, XTE and made recommendations if needed to maintain the safe navigation of the vessel.		Initials

Cadets are reminded to be pro-active regarding the completion of watch evaluation sheets. Your watch grades are an important part of your final sea term grade. Do not hesitate to remind your Watch Officer, at an appropriate time, if your evaluation has not been recorded for each bridge watch you stand.

2013 CRUISE TRAINING PROGRAM
Department of Marine Transportation

FIRST CLASS

Section 3
Cruise Lecture Profiles

TABLE OF CONTENTS
CRUISE LECTURE PROFILES

LECTURE TITLE: CELESTIAL NAVIGATION 1

TRAINING SUBJECT: MARINE SEXTANT

SPECIAL REQUIREMENTS:

- One functioning sextant
- One disassembled sextant with adjustment tools
- *Navigation Pub. No. 9 (1995)*
- Three-Arm protractor

TRAINING LECTURE OBJECTIVE:

A. Familiarize students with the parts of the sextant
B. Provide the student with an overview of adjustable and non adjustable sextant errors.
C. Familiarize the student the principles of sextant operation, angle of incidence, etc.

DISCUSS:

A. Adjustable and Non - adjustable Sextant errors
B. Prismatic, Graduation and Centering errors
C. Perpendicularity, Index, Side and Collimation errors
D. Use of the sextant for vertical and horizontal measurements
E. Maintenance and care of the instrument
F. Reading a micrometer drum and a vernier sextant
G. Artificial horizons

SHOW/DEMONSTRATE:

A. Measurement of sun's altitude
B. Horizontal angles of geographic objects
C. Use of the sextant and gyro repeater

READING ASSIGNMENT:

Navigation Pub. No. 9 (1995), articles 1600-1615

MISCELLANEOUS:

A. Cadets are instructed to procure a sextant prior to demonstration period
B. Instructor will remove all errors from Academy owned sextant assigned to individual students and facilitate repairs if possible.

TEST QUESTIONS:

- How does one remove side error?
- What is error of collimation?
- How does one remove index error?

WATCHSTATION/GENERAL TRAINING REF.:

Navigation at the operational level; Table A-II/1 (a)

LECTURE TITLE: CELESTIAL NAVIGATION 2

TRAINING SUBJECT: SUNLINE/AZIMUTH

SPECIAL REQUIREMENTS:

- Nautical almanac, sextant, chronometer, Navigation Pub. No. 229 and a plotting sheet for the appropriate latitude.
- Navigation plotting equipment, Cadet Navigation Journal, azimuth circle

TRAINING LECTURE OBJECTIVE:

A. To increase cadet proficiency in obtaining a celestial observation of the sun.
B. To increase cadet proficiency working out a sunline and azimuth and making appropriate entries in Cadet Navigation Journal and compass record book.

DISCUSS:

A. Use of Nautical Almanac
B. Use of sextant
C. Use of plotting equipment
D. Use and care of azimuth circle
E. Sight reduction procedures

SHOW/DEMONSTRATE:

A. Instructor to supervise all aspects of sunline observation and reduction including azimuth.

READING ASSIGNMENT:

A. Navigation Pub. No. 9 Art. 2000-2005, 2006-2007, 2009-2010, 1700-1702, 1704-1706

MISCELLANEOUS:

Lecture profiles:

- Use of sextant
- Use of Navigation Pub. No. 229
- Use of Nautical almanac

TEST QUESTIONS:

Observe the sun at 1010 local time today and answer the following questions:

- What was the Hc?
- What was the true azimuth?
- What was the intercept?
- What was the true bearing of the sun at that time?

WATCH/STATION GENERAL REF.:

- Navigation at the operational level; Table A-II/1 (a)

SIGHT REDUCTION TABLES (NO 229, CELESTIAL LINE OF POSITION) - SUNLINE

Explain the function(s) of the SIGHT REDUCTION TABLES (NO 229, CELESTIAL LOP) USING NAUTICAL ALMANAC) SYSTEM as stated in:

A. American Practical Navigator Navigation Pub. No. 9 (Bowditch 1995)
B. Navigation and Piloting (Dutton)

SYSTEM COMPONENTS

Discuss the designated items listed below

A. Explain the function(s) of this component in terms of what it does for the system.
B. Describe the sources of information for this component.

- Date (Greenwich)
- Greenwich mean time (GMT)
- Greenwich hour angle (GHA) of body
- Local hour angle (LHA)
- True declination
- Apparent altitude (Ha)
- Observed altitude (Ho)
- Computed altitude (Hc)
- Altitude intercept (a)
- Azimuth (Zn)
- Assumed position

LECTURE TITLE: CELESTIAL NAVIGATION 3

TRAINING SUBJECT: COMPUTATION OF LAN

SPECIAL REQUIREMENTS:

- Sextant, nautical almanac
- Navigation Pub. No. 229
- Universal plotting sheets
- Chronometer
- Cadet Navigation Journal.

TRAINING LECTURE OBJECTIVE:

A. To review procedures for observing a morning sunline and advancing same to LAN.
B. To show student how to determine time of LAN.
C. To show student how to observe the sun at LAN.
D. To determine ship's position at LAN.

DISCUSS:

All procedures necessary to:

A. Compute time of LAN
B. Observe the sun's altitude at LAN
C. Determine the ships' position by a running fix at LAN

SHOW/DEMONSTRATE:

A. Determining the ship's position by celestial observations prior to and at LAN.
B. Pre computation of latitude at LAN.

READING ASSIGNMENT:

Navigation Pub. No. 9, Articles 2000-2004, 2006, 2007-2010

MISCELLANEOUS:

Student Navigation Journal entries to be reviewed by instructor.

TEST QUESTIONS:

Based upon your morning sunlines:

- What is the time of LAN?
- What is the ship's position at LAN?
- What has been the distance run and speed made good from the previous noon?

WATCH/STATION GENERAL TRAINING REF.:

SIGHT REDUCTION (LATITUDE AT LAN) (USING NAUTICAL ALMANAC) SYSTEM

Explain the function(s) of the SIGHT REDUCTION (LATITUDE AT LAN) (USING NAUTICAL ALMANAC) SYSTEM as stated in:

A. Navigation and Piloting (Dutton)
B. American Practical Navigator Navigation Pub. No. 9 (Bowditch 1995)
C. Quartermaster 3 & 2

Draw a sample sight reduction form of this system from memory using appropriate symbols and showing all components.

SYSTEM COMPONENTS

Discuss the designated items listed below;

A. Explain the function(s) of this component in terms of what it does for the system.
B. Describe the sources of information for this component.
    - Difference in longitude
    - Watch time of local apparent noon (LAN)
    - GMT of LAN
    - Apparent altitude (Ha)
    - Observed altitude (Ho)
    - True declination
    - Zenith distance
    - Latitude
    - Sextant altitude (Hs)

COMPONENT PARTS

Discuss the designated items listed below

A. Explain the function(s) of this component part in terms of what it does for the system component and how it carries out that function.
B. Describe the source(s) of information for this component part.
C. Describe the entering arguments to determine the information for this component part.
D. Describe the placement of correct sign (+ or -) to this component part and explain the reason(s) for that sign.

LECTURE TITLE: CELESTIAL NAVIGATION 4

TRAINING SUBJECT: RISING PHENOMENA SUNRISE/MOONRISE

SPECIAL REQUIREMENTS:
- Nautical Almanac
- Ship's Dead-reckoning position

TRAINING LECTURE OBJECTIVE:
A. To teach or review use of the Nautical Almanac.
B. To determine sunrise, sunset, moonrise, moonset.

DISCUSS:
A. Lecture profile requirements
B. Navigation Journal entries.

SHOW/DEMONSTRATE:
Proper methods of determining:
A. Sunrise,
B. Sunset
C. Nautical and Civil twilight,
D. Moonrise and Moonset.

READING ASSIGNMENT:
Navigation Pub. No 9, Articles 1908-1912
Lecture profiles - Moonrise, Sunrise etc.

MISCELLANEOUS:
- Review requirements of Navigation I, 2
- Instructor may review Cadet Navigation Journal

TEST QUESTIONS:
- What will be the time of moonrise tomorrow at Portsmouth, England?
- What will be the time of sunset tonight?

WATCH/STATION GENERAL TRAINING REF.:
- Quartermaster - Navigation Assistant
- Navigator - 1.25
- Professional Achievement Examination
- Navigation at the operational level; Table A-II/1 (a)

SUNRISE/SUNSET/TWILIGHT (NAUTICAL ALMANAC)
Explain the function(s) of the SUNRISE/SUNSET/TWILIGHT (NAUTICAL ALMANAC) SYSTEM as stated in:
A. Navigation and Piloting (Dutton)
B. American Practical Navigator (Bowditch 95)
C. Quartermaster 3 & 2

SYSTEM COMPONENTS
Discuss the designated items listed below

Describe the entering arguments to determine the information for this component part.

- Local mean time (LMT) at tabulated latitude
- Local mean time (LMT) of sunrise/sunset/twilight
- Zone time of sunrise/sunset/twilight

COMPONENT PARTS

Discuss the designated items listed below

A. Explain the function(s) of this component part in terms of what it does for the system component and how it carries out that function.
B. Describe the entering arguments to determine the information for this component part.
C. Describe the placement of correct sign (+ or -) to this component part and explain the reasons for this sign.

LMT of sunrise/sunset/twilight:

A. LMT as tabulated latitude
B. Latitude correction

Zone time of sunrise/sunset/twilight:

A. LMT of sunrise/sunset/twilight:
B. Difference of longitude correction (+ or -)

PRINCIPLES OF OPERATION

Demonstrate an understanding of the internal operation of this system by describing the necessity for correct and accurate computations of sunrise/sunset/twilight.

MOONRISE/MOONSET (NAUTICAL ALMANAC) SYSTEM CEL NAV 5

Explain the function(s) of the MOONRISE/MOONSET (NAUTICAL ALMANAC SYSTEM) as stated in:

A. Navigation and Piloting (Dutton)
B. American Practical Navigator (Bowditch)
C. Quartermaster 3 & 2

SYSTEM COMPONENTS

Discuss the designated items listed below

A. Explain the function(s) of this component in terms of what it does for the system.
B. Describe the entering arguments to determine the information for this component part.
    - Local mean time (LMT) first date
    - Local mean time (LMT) second date
    - Corrected LMT (standard meridian)
    - Zone time (moonrise/moonset)

COMPONENT PARTS

Discuss the designated items listed below

A. Explain the function(s) of this component in terms of what it does for the system component and how it carries out that function.

B. Describe the entering arguments to determine the information for this component part.

C. Describe the placement of correct sign (+ or -) to the component part and explain the reasons for that sign.

LECTURE TITLE: CELESTIAL NAVIGATION 5

TRAINING SUBJECT: VOYAGE ABSTRACTS

SPECIAL REQUIREMENTS:
- Voyage Abstract Form
- Arrival/Departure Slips
- Noon Position Reports
- Chief Engineer's Noon Report

TRAINING LECTURE OBJECTIVE:
A. Instruct the student in the proper preparation, logging and distribution of the indicated forms.

DISCUSS:
A. Purpose of Voyage Performance Reports.
B. Determination of vessel performance.

SHOW/DEMONSTRATE:
A. Completion method for each of indicated forms.
B. File procedures.

READING ASSIGNMENT:
Patriot State Bridge Procedures Manual, P. 88, P. 232

MISCELLANEOUS:

TEST QUESTIONS:
- Determine days run.
- Determine Apparent Slip for the past twenty four hours.
- Determine the Total Port time during last port stay.
- Determine Total Steaming Time from Departure to Noon today.

WATCHSTATION/GENERAL TRAINING REF.:

LECTURE TITLE: CELESTIAL NAVIGATION 6

TRAINING SUBJECT: STAR SIGHT, H.O. 249 METHOD

SPECIAL REQUIREMENTS:
- Nautical Almanac
- H.O. 249 - appropriate volume for latitude and year
- Sextant, chronometer & plotting sheets
- Ship's Dead-Reckoning position

TRAINING LECTURE OBJECTIVE:
A. Instruct student in the use of H.O. 249 for star sight reduction and identification.

DISCUSS:
A. H.O. 249 - Epoch year, precession and nutation corrections.
B. Local Hour Angle of Aries.
C. Sextant corrections.
D. Selected stars.

SHOW/DEMONSTRATE:
A. Proper use of H.O. 249 to obtain a star fix by observation using four selected stars.

READING ASSIGNMENT:
*Navigation Pub. No. 9 (*1995)
Air Almanac Pub. 249

MISCELLANEOUS:
1. Instructor to assist student to obtain sight using Pub. 249
2. Student's work to be done in Navigation Journal

TEST QUESTIONS:
- How do you determine which selected stars in H.O. 249 will give you the best cut?
- Why must you check to see if you need to apply a precession and nutation correction?

WATCH/STATION GENERAL TRAINING REF.:
- Navigation at the operational level; Table A-II/1 (a)

LECTURE TITLE: CELESTIAL NAVIGATION 7

TRAINING SUBJECT: LATITUDE BY POLARIS

SPECIAL REQUIREMENTS:
- Nautical Almanac
- Sextant
- Chronometer

TRAINING LECTURE OBJECTIVE:
A. To teach the student to determine latitude by observation of Polaris.

DISCUSS:
A. Use of the DR position for determination of LHA
B. Discuss A0, A1, & A2 corrections
C. Sextant corrections

SHOW/DEMONSTRATE:
A. Identification of the Pole Star by compass bearing and by constellation.
B. Proper use of tables in Nautical Almanac.

READING ASSIGNMENT:
Navigation Pub. No. 9 (1995) Art. 2011
Nautical Almanac

MISCELLANEOUS:
1. Instructor to assist student in observation of Polaris.
2. Student's work to be done in Navigation Journal.

TEST QUESTIONS:
- Can Polaris be used to approximate gyro error without calculation?

WATCH/STATION GENERAL TRAINING REF.:
- Quartermaster - Navigation Assistant
- Navigator - 1.31
- All Cadet Navigation Rates
- Navigation at the operational level; Table A-II/1 (a)

LECTURE TITLE: ELECTRONIC NAVIGATION 1

TRAINING SUBJECT: LORAN C SYSTEMS

SPECIAL REQUIREMENTS:

- Power and access to LORAN C receivers. Pub. 221, Lattice Tables
- Manufactures' instruction manuals for each LORAN C receiver

TRAINING LECTURE OBJECTIVE:

A. Expose cadets to the operational similarities, differences and limitations of installed Trimbl Raynav 750 and other Loran C receivers.

DISCUSS:

A. Initialization of receivers
B. Operation features including: SNR, ASF, Blinking and Cycle matching
C. Receiver capability and limitations
D. Purpose of Lattice Tables
E. Antenna and self-test functions

SHOW/DEMONSTRATE:

A. Receiver start-up
B. Special features
C. System similarities and differences
D. Use of Lattice Tables

READING ASSIGNMENT:

Navigation Pub. No. 9 (1995) Articles 1019, 1200-1210
Operation Manuals for respective equipment

MISCELLANEOUS:

Patriot State Procedures Manual P. 76 - Electronic Position Fixing Aids

TEST QUESTIONS:

- How do you set the notch filters in the Meico C-Master; Raynav 750?
- What SNR range constitutes "usable" signal strength on the Raynav 750?
- What is minimum acceptable oscillator deviation?
- When is an ASF correction warranted?

WATCHSTATION/GENERAL TRAINING REF.:

- Navigator 1.21
- Cadet Officer of the Watch - Fundamentals 1.4, 1.61
- Navigation Assistant 1.1, 1.2, 1.7, 1.11 1.15, 1.16,1.17

LECTURE TITLE: ELECTRONIC NAVIGATION 2

TRAINING SUBJECT: GLOBAL POSITIONING SATELLITE NAVIGATION SYSTEMS

SPECIAL REQUIREMENTS:
- Power and access to satellite navigation units

TRAINING LECTURE OBJECTIVE:
A. Familiarize students with the operation and navigational use of installed satellite navigation receivers.

DISCUSS:
A. Capabilities and limitations of GPS and DGPS satellite navigation system
B. Operational features of the Trimble System.
C. Operational features of the Raytheon System.
D. Random errors involved with satellite navigation.
E. System Initialization and fault monitoring.
F. Antenna and other maintenance practices.

SHOW/DEMONSTRATE:
A. Entering information into designated navigation system.
B. Voyage planning with waypoints.
C. Keyboard lock mode.

READING ASSIGNMENT:
Navigation Pub. No. 9 (1995), Articles 1100-1115
T.S. Patriot State Bridge Procedures Manual, P. 240 - Navigation Equipment

MISCELLANEOUS:

TEST QUESTIONS:
- How many satellites are required to obtain a three dimensional fix?
- What is meant by Selective Availability (SA)?
- What is GDOP?
- What are the differences in accuracy and theory between GPS and DGPS satellite navigation systems?
- How can you evaluate the accuracy of a fix obtained on a designated receiver?
- How do you assess Satellite health?
- How do you enter a man overboard position?
- How do you enter a waypoint/route?

WATCHSTATION/GENERAL TRAINING REF.:

LECTURE TITLE: ELECTRONIC NAVIGATION 4

TRAINING SUBJECT: ELECTRONIC CHART DISPLAY AND INFORMATION SYSTEMS

SPECIAL REQUIREMENTS:

- Live or simulated Electronic Chart Display and Information System (ECDIS)

TRAINING LECTURE OBJECTIVE:

A. Familiarize students with the operating procedures and capabilities of the ECDIS system installed aboard the USTS ENTERPRISE.

DISCUSS:

A. System Configuration
B. System Capabilities
C. System sensor inputs
D. System Errors and Limitations

SHOW/DEMONSTRATE:

A. Start up procedures
B. Chart selection and scale
C. Warnings
D. Environmental selections

READING ASSIGNMENT:

Navigation Pub. No. 9 (1995), Articles 1400-1408

MISCELLANEOUS:

TEST QUESTIONS:

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WATCHSTATION/GENERAL TRAINING REF.:

LECTURE TITLE: ELECTRONIC NAVIGATION 5 GMDSS

TRAINING SUBJECT: GLOBAL MARINE DISTRESS & SAFETY SYSTEM

SPECIAL REQUIREMENTS:

-

TRAINING LECTURE OBJECTIVE:

A.

DISCUSS:

A.

SHOW/DEMONSTRATE:

A.

READING ASSIGNMENT:

MISCELLANEOUS:

TEST QUESTIONS:

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WATCHSTATION/GENERAL TRAINING REF.:

LECTURE TITLE: FIREFIGHTING 10

TRAINING SUBJECT: SHIP'S PREPLANS

SPECIAL REQUIREMENTS:
- Access to copy of *TV ENTERPRISE* fire control plan.
- Access to spaces aboard the *TV ENTERPRISE*
- Copies of 46 CFR Subchapter H Extracts

TRAINING LECTURE OBJECTIVE:
A. Demonstrate the advantages of having a "Preplan Document".
B. Create a preplan for a given compartment with critical information in a form usable by shore side firefighters and newly embarked personnel.

DISCUSS:
A. Preplanning for fire emergency aboard ship.
B. Vulnerability of the vessel in port with a minimum crew and newly arrived personnel aboard.
C. Preplan parameters: sectors, data requirements, priority areas, and procedural requirements.
D. Standardized preplan format

SHOW/DEMONSTRATE:
A. Sample Fire Preplan
B. Assign teams of cadets the task of generating a preplan for a specific zone, sector, or compartment

READING ASSIGNMENT:
MARINE FIREFIGHTING, Brady, pp.357-361
46 CFR PART 72--CONSTRUCTION AND ARRANGEMENT Extracts

MISCELLANEOUS:
- Instructor handout

TEST QUESTIONS:

WATCHSTATION/GENERAL TRAINING REF.:
All First and Second Class Deck cadets
Navigation at the support level Table A-II/4 (a)
Navigation at the support level Table A-II/4 (b)
Monitor the loading, stowage etc. of cargo; Table A-II/1 (i)

LECTURE TITLE: FIREFIGHTING 11

TRAINING SUBJECT: STRUCTRUAL FIRE PROTECTION

SPECIAL REQUIREMENTS:
- Access to copy of *TV ENTERPRISE* fire control plan.
- Access to spaces aboard the *TV ENTERPRISE*
- Copies of 46 CFR Subchapter H Extracts

TRAINING LECTURE OBJECTIVE:
A. Identify the structural fire protections engineered into the vessel's structure.
B. Make the student aware of the CFR requirements for structural fire protection under 46 CFR Subchapter H.
C. Student will prepare a preplan of a designated space.

DISCUSS:
A. Engineering solutions vs. operational solutions.
B. Classification of bulkheads.
C. Stair towers and other penetrations between fire zones.
D. Closures both manual and automatic necessary to prevent the spread of fire, heat and smoke.
E. Means of escape
F. Ventilation requirements

SHOW/DEMONSTRATE:
A. Location, construction and arrangement of bulkheads, A, B and C.
B. Identify fire zones on the vessel's fire control plan and locally within the vessel.
C. Student will demonstrate knowledge of preplan parameters:
   1. Sectors
   2. Data Requirements
   3. Priority; areas
   4. Procedural requirements
D. Preplan Development

READING ASSIGNMENT:
MARINE FIREFIGHTING, Brady, pp.357-361
46 CFR PART 72--CONSTRUCTION AND ARRANGEMENT Extracts

MISCELLANEOUS:
- Instructor handout

WATCHSTATION/GENERAL TRAINING REF.:
All First and Second Class Deck cadets
Navigation at the support level Table A-II/4 (a)
Navigation at the support level Table A-II/4 (b)
Monitor the loading, stowage etc. of cargo; Table A-II/1 (i)

SEE ADDENDUM AT END OF TRAINING MANUAL

LECTURE TITLE: PILOTING 2

TRAINING SUBJECT: PILOTING EVOLUTION ACTUAL OR SIMULATED

SPECIAL REQUIREMENTS:

- Radar Simulator or live radar when available
- Three VHF radios for communication between stations
- One radar designated for Training Division
- Alidade, charts, navigation plotting instruments, sextant, three arm protractor

TRAINING LECTURE OBJECTIVE:

A. Increase piloting and navigational skills of cadets while operating in restricted waters from sea to a selected anchorage or along a coastwise track under visual or simulated radar conditions.

DISCUSS:

A. Necessary pre-voyage planning procedures.
B. Environmental conditions and navigational hazards.
C. Special requirements and communication procedures.

SHOW/DEMONSTRATE:

A. Navigation of vessel in restricted waters
B. Special case running fixes
C. Use of horizontal and vertical sextant angles
D. Danger bearings
E. Chain of soundings

READING ASSIGNMENT:

Navigation Pub. No. 9 (1995) Articles 801-820
Patriot State Procedures Manual, P. 114 -129, Voyage Planning

MISCELLANEOUS:

- May be conducted in conjunction with Radar Navigation evolution

TEST QUESTIONS:

- What was the set and drift encountered during the approach?
- Demonstrate obtaining a fix using horizontal sextant angles

WATCHSTATION/GENERAL TRAINING REF.:

Navigation Assistant - 1.11-1.14, 1.25-.129, 1.34-1.37
Quartermaster of the Watch
Navigation at the operational level; Table A-II/1 (a)

LECTURE TITLE: RIGGING 1

TRAINING SUBJECT: PRACTICAL SEAMANSHIP TRAINING
Pilot ladder, Boatswain's Chair, Staging, Gin Pole & Shear legs

SPECIAL REQUIREMENTS:
- Pilot ladder and grab-lines and illumination requirements
- Boatswain's chair and gantline
- Staging
- 2 x 50' Gantlines
- 1 x 15' piece 2" diameter steel pipe
- 3 x 10' pieces 4x4 wood
- Students to wear hard hats and safety shoes

TRAINING LECTURE OBJECTIVE:
A. To train students in the proper and safe rigging of the above units.

DISCUSS:
A. Reasons for rigging this equipment.
B. Safety precautions to be observed.

SHOW/DEMONSTRATE:
Rigging of:
- Pilot Ladder
- Boatswain's Chair
- Staging
- Gin Pole
- Shear legs

READING ASSIGNMENT:
American Merchant Seaman's Manual, Chapter 4

MISCELLANEOUS:

TEST QUESTIONS:

WATCHSTATION/GENERAL TRAINING REF.:
Boatswain Mate of the Watch 1.2
Seaman 1.3, 1.4,
Monitor the loading, stowage etc. of cargo; Table A-II/1 (i)
Respond to emergencies; Table A-II/1 (d)

LECTURE TITLE: SAFETY 11

TRAINING SUBJECT: SAFETY PROCEDURES

SPECIAL REQUIREMENTS:

- ENTERPRISE's MSDS Manual
- ENTERPRISE's Safety Manual
- Copies of Permits
- Gas Meter from Chief Mate

TRAINING LECTURE OBJECTIVE:

A. To prepare cadets for proper procedures in permitting and safe operations of:
   - Enclosed Space Entries
   - Hazardous Atmospheres
   - Lock Out / Tag Out
   - Working Aloft
   - Respiratory Protection
   - Hearing Protection

B. To prepare cadets for safety duties normally found on merchant ships as 3rd mate.

DISCUSS:

A. Safety Equipment Inspections
B. Permitting Procedures on Enterprise
C. Safety of Enclosed spaces
D. Slips, Trips, Falls
E. Use of MSDS

SHOW/DEMONSTRATE:

A. Proper method of checking safety equipment
B. Do sample permits
C. Demonstrate awareness of dangers on board

READING ASSIGNMENT:

MISCELLANEOUS:

TEST QUESTIONS:

-

WATCH/STATION GENERAL TRAINING REF.:

LECTURE TITLE: SEAMANSHIP 2

TRAINING SUBJECT: SPLICING FIBER ROPE

SPECIAL REQUIREMENTS:
- Six feet of three inch manila line per student.
- Fid, sail twine, sail needle, masking tape, thimble and knife.

TRAINING LECTURE OBJECTIVE:
A. Instruct the student in the procedures for making an eye splice and a short splice in fiber rope.

DISCUSS:
A. Tools required
B. Whippings
C. Tucks
D. Safety factors of finished splices
E. Safety precautions
F. Thimbles
G. Tapers

SHOW/DEMONSTRATE:
A. Eye splice
B. Short splice
C. Back splice

READING ASSIGNMENT:
American Merchant Seaman's Manual , P. 1-28 to 1-31
Modern Seamanship, Knight, P. 617- 619

MISCELLANEOUS:

TEST QUESTIONS:
- What percentage of the strength of a line is lost in the splice?
- Which of the following is stronger, the short splice or the long splice?
- What is a cant line?
- Which of the lines shown is a right lay rope?
- What is a cable laid rope?
- What is a plaited rope?

WATCHSTATION/GENERAL TRAINING REF.:
Boatswain Mate of the Watch
Seaman 1.2
Cadet Officer of the Deck In-port 1.5, 3.3, 3.4, 3.10

LECTURE TITLE: SEAMANSHIP 3

TRAINING SUBJECT: DOCKING AND MOORING WITH FIBER LINES & WIRE ROPE

SPECIAL REQUIREMENTS:
- Heaving lines
- Mooring lines and rope stoppers
- Block and tackles

TRAINING LECTURE OBJECTIVE:
A. Teach students proper line handling and mooring procedures.
B. Instill in students a need for constant safety awareness when working with mooring lines.

DISCUSS:
A. Mooring line commands
B. Names and positions of mooring lines
C. How lines are faked, coiled and fleshed
D. Safety procedures- Hospital side and safe side of a synthetic mooring line under tension
E. Winches and capstans
F. Mooring lines singled up, bights singled up, doubled up
G. Dipping the eye
H. Elongation and slipping

SHOW/DEMONSTRATE:
A. Passing types of rope stoppers
B. Taking up mooring lines with winches
C. Making lines fast to bits
D. Proper way to throw heaving lines
E. Taking up a mooring line with a tackle
F. Methods of letting go safely

READING ASSIGNMENT:
American Merchant Sea Manual, Chapter 4, P. 9-17

MISCELLANEOUS:

TEST QUESTIONS:
- Where is the hospital side of a nylon line?
- What is a backhand rope?
- What is meant by the lay of a rope?
- What is a contline? A cable laid rope? A plaited rope?
- What is hard laid rope?

WATCH/STATION GENERAL TRAINING REF.:

LECTURE TITLE: TANKER 1

TRAINING SUBJECT: ATMOSPHERE TESTING

SPECIAL REQUIREMENTS:
- Suitable enclosed space for atmosphere testing.
- MSA 260, MSA Tankscope, MSA Explosimeter, and calibration kit for meters.
- Dragermeter and sample tubes.
- *Chemical Data Guide* CG 388.

TRAINING LECTURE OBJECTIVE:
A. To familiarize students with techniques involved in testing a space for; explosive gases, toxic gases and oxygen content.

DISCUSS:
A. Need for atmosphere testing.
B. Theory of operation of each instrument.
C. Application and limitation of instruments.
D. Proper calibration.
E. Techniques in safely testing a space.
F. Interpretation of sample results.

SHOW/DEMONSTRATE:
A. Calibration, operation and maintenance of instruments.
B. Sample atmosphere in space.
C. Interpretation of sample results.

READING ASSIGNMENT:
Tanker Operations , Martin, P. 141-147
Marine Firefighting, Brady, P. 361-365
American Merchant Seaman's Manual, P. 20-5 to 20-13

MISCELLANEOUS:

TEST QUESTIONS:
- To insure that inerted cargo tank does not pass through the flammable range upon gas freeing, the tank must be purged until the hydrocarbon content is less than what percentage?
- Explain the procedures for spanning and zeroing of an oxygen meter.
- Explain the theory of operation of an explosimeter.

WATCHSTATION/GENERAL TRAINING REF.:
Cadet Officer of the Watch
Boatswain Mate of the Watch
Professional Achievement Examination
Monitor the loading, stowage etc. of cargo; Table A-II/1 (i)

LECTURE TITLE: CARGO GEAR

TRAINING SUBJECT: PRACTICAL SEAMANSHIP TRAINING
Hydraulic and Conventional Cargo Gear

SPECIAL REQUIREMENTS:
- Access to ships gear
- Load charts for ships gear
- Slings, nets, hooks
- Cargo Hatches
-
-
- Students to wear hard hats and safety shoes

TRAINING LECTURE OBJECTIVE:
A. To train students in the proper and safe operation of the types of cargo gear and associated equipment on the training ship.

DISCUSS:
A. Different types of gear (pros and cons).
B. Safety precautions to be observed.

SHOW/DEMONSTRATE:
Rigging of:
- Barrel
- Pipe
- Bulk
- Married Fall
-

READING ASSIGNMENT:
American Merchant Seaman's Manual, Chapter 5

MISCELLANEOUS:

TEST QUESTIONS:

LECTURE TITLE: CHART CORRECTIONS

TRAINING SUBJECT: PRACTICAL NAVIGATION TRAINING
Chart correction, STCW prep

SPECIAL REQUIREMENTS:
- Charts (corrected and uncorrected).
- Notice to mariners
- Local notice to mariners
- Broadcast notice to mariners
- Charts to correct
- Summary of corrections
-

TRAINING LECTURE OBJECTIVE:
A. To instruct students in proper correction of charts and prepare them for the STCW qual.

DISCUSS:
A. Notice to mariners/chart correlation.
B. Chart notations.
C. STCW requirements

SHOW/DEMONSTRATE:
Correction of:
- Bouys
- Depth / Obstruction
- Lights
- Notes
-

READING ASSIGNMENT:
Dutton article 3604, Bowditch articles 346, 418,419

MISCELLANEOUS:

TEST QUESTIONS:

LECTURE TITLE: PUBLICATION CORRECTION

TRAINING SUBJECT: PRACTICAL NAVIGATION TRAINING
Correction of various pubs, STCW preparation

SPECIAL REQUIREMENTS:
- Notice to Mariners
- Summary of Corrections
- Coast Pilot
- Light List
- Sailing Directions
- List of Lights
-

TRAINING LECTURE OBJECTIVE:
A. To train students to properly correct various publications and prepare for the STCW qual.

DISCUSS:
A. Publication / resource to correct.
B. Proper notation / correction.

SHOW/DEMONSTRATE:
Correction of:
- Coast Pilot
- Light List
- List of Lights
- Sailing Directions
-

READING ASSIGNMENT:
Dutton article 3604, Bowditch articles 404,406, 418, 419

MISCELLANEOUS:

TEST QUESTIONS:

LECTURE TITLE: **NAVAL ARCHITECTURE I**

TRAINING SUBJECT: **VOYAGE STABILITY**

SPECIAL REQUIREMENTS:

- *Stability Booklet*
- Power point with projector and white screen
- Draft Survey Forms
- Vessel Hydrostatic Tables

TRAINING LECTURE OBJECTIVE:

A. Familiarize students with proper nomenclature
B. Review basic concepts from Stability and Trim
C. Introduce students to the draft survey

DISCUSS:

A. TPI
B. LCB & LCG
C. GM is the best indicator of initial stability
D. Tipping Center and LCF
E. Effects of good stability, what makes for bad stability
F. Hogging and Sagging

SHOW / DEMONSTRATE:

A. Procedures for measuring draft and determining freeboard
B. Procedures for determining displacement
C. Effective use of Stability Booklet

READING ASSIGNMENT:

Stability and Trim
AMSM

MISCELLANEOUS:

Stability and Trim Tables to be provided

TEST QUESTIONS:

- How is mean draft determined?
- How do you measure freeboard?
- What is the vessel's displacement at a draft of 24'06" ?

WATCHSTATION/GENERAL TRAINING REF:

- Controlling the Operation of the Ship
- Cadet Officer of the Watch

LECTURE TITLE: **NAVAL ARCHITECTURE II**

TRAINING SUBJECT: **VOYAGE STABILITY**

SPECIAL REQUIREMENTS:

- T.S. KENNEDY abbreviated stability book
- Vessel's fuel, cargo and ballast status

TRAINING LECTURE OBJECTIVE:

A. Show student procedures necessary to prepare a complete pre-voyage stability calculation meeting NCB and USCG requirements

B. Assign students to prepare same for a selected phase of voyage

DISCUSS:

A. Calculation of vessel's GM

B. Effects of fuel consumption and distribution throughout voyage on GM and vessel damage stability

C. Vessel's stability characteristics, range of stability and draft survey results

SHOW/DEMONSTRATE:

A. Requirements for complete pre-departure voyage stability calculations and methods for confirming results through use of draft survey

READING ASSIGNMENT:

AMSM Ch.15

MISCELLANEOUS:

Abbreviated *T.S. KENNEDY Stability Booklet* and draft survey forms to be provided by instructor.

TEST QUESTIONS:

- Did GM increase or decrease during voyage leg?
- Was there sufficient reserve GM to sustain 100% free surface flooding of #1 hold throughout the voyage?
- Is the vessel initially stiff or tender?

WATCHSTATION/GENERAL TRAINING REF:

- Cadet Officer of the Watch
- Deck Rate of the Watch
- Controlling the operation of the ship

LECTURE TITLE: LIFESAVING EQUIPMENT IX

TRAINING SUBJECT: SEARCH AND RESCUE

SPECIAL REQUIREMENTS:

- Man Overboard Instructions
- EPIRB
- SART

TRAINING LECTURE OBJECTIVE:

A. Review lifesaving procedures and equipment used in abandon ship situations

DISCUSS:

A. Anderson, Williamson, Racetrack, and Scharnow Turns
B. Advantages and Disadvantages of each turn
C. Which turn suits the situation
D. EPIRB and SART use, identification and frequencies

SHOW/DEMONSTRATE:

A. How to self-test SART and EPIRB
B. How to execute the aforementioned MOB turns

READING ASSIGNMENT:

AMSM
SART and EPIRB Operation Manual
Ranger Manual

MISCELLANEOUS:

TEST QUESTIONS:

- What channels does the survival craft VHF transceiver operate on?
- How many hours of operation are survival craft VHF radios batteries rated?
- Where is the EPIRB located and how does it work?

WATCHSTATION/GENERAL TRAINING REF:

Navigation at the support level; Table A-II/4 (d)
Operate life saving appliances; Table A-II/1 (m)

LECTURE TITLE: **RADAR I**

TRAINING SUBJECT: **INTRODUCTION TO RADAR WATCHSTANDING**

SPECIAL REQUIREMENTS:

- Live RADAR with traffic or RADAR simulator
- Grease pencils, speed sticks and RADAR log
- RADAR plotting sheets

TRAINING LECTURE OBJECTIVE:

A. Introduce students to principles of RADAR systems

DISCUSS:

A. True Motion and Relative Motion
B. Components of a basic pulse modulated RADAR
C. Stabilized and unstabilized displays
D. Principles of system operation
E. RADAR Indicator controls

SHOW/DEMONSTRATE:

A. Display Set-up and Tuning
B. EBL, VRM, and Cursor operation
C. Reflection Plotter Use

READING ASSIGNMENT:

T.S. KENNEDY Bridge Navigation Manual
Navigation Pub. No. 9 (1995) Article 1300-1315

MISCELLANEOUS:

Prepare students to meet Assistant RADAR Watch standing Qualifications

TEST QUESTIONS:

- What is STC used for?
- What is FTC used for?
- What is the sweep or trace?
- What is the performance monitor?
- What is the preferred marine RADAR system for collision avoidance purposes? Why?

WATCHSTATION/GENERAL TRAINING REF:

- RADAR Observer 1.5 through 1.9
- Assistant RADAR Observer
- Navigation at the Support Level
- Navigation at the Operational Level

LECTURE TITLE: **RADAR II**

TRAINING SUBJECT: **RADAR PLOTTING**

SPECIAL REQUIREMENTS:

- Live RADAR with traffic or RADAR simulator
- Grease pencils, speed sticks and RADAR log
- RADAR plotting sheets

TRAINING LECTURE OBJECTIVE:

A. Introduce students to rapid RADAR plotting
B. Introduce students to RADAR derived collision assessment practice

DISCUSS:

A. True Motion and Relative Motion
B. Bearing Drift
C. Vector Triangle
D. Speed Stick
E. Reflection Plotter

SHOW/DEMONSTRATE:

A. Mark targets at standard plotting intervals
B. Determine bearing drift and risk of collision
C. Draw RM vector and ER vector
D. Solve for EM Vector
E. Solve for new course to maintain prescribed minimum CPA

READING ASSIGNMENT:

T.S. KENNEDY Bridge Navigation Manual
Navigation Pub. No. 9 (1995) Article 1300-1315

MISCELLANEOUS:

Prepare students to meet Assistant RADAR Watch standing Qualifications

TEST QUESTIONS:

- What is the direction of Relative Motion of the designated contact?
- Course change or speed change scenario with designated contact
- At what time will designated target be at the CPA?

WATCHSTATION/GENERAL TRAINING REF:

- RADAR Observer 1.5 through 1.9
- Assistant RADAR Observer
- Navigation at the Support Level
- Navigation at the Operational Level

LECTURE TITLE: **RADAR III**

TRAINING SUBJECT: **RADAR NAVIGATION**

SPECIAL REQUIREMENTS:

- Live RADAR with traffic or RADAR simulator with correlating land mass charts
- Grease pencils, speed sticks and RADAR log

TRAINING LECTURE OBJECTIVE:

A. Introduce students to RADAR navigation techniques
B. Demonstrate parallel indexing and radar range fixing methods

DISCUSS:

A. Use of RADAR ranging vice RADAR bearing for fixing positions
B. Use of 3cm RADAR with large scanner to optimize bearing resolution and optimum fix accuracy when using RADAR bearings
C. Parallel Indexing as track monitoring
D. Effects of scale on chart-like presentation; fix accuracy, and proper RADAR range scale selection for effective position determination

SHOW/DEMONSTRATE:

A. Standard and Franklin methods of parallel indexing
B. RADAR position determining with 3 or more interesting range arcs

READING ASSIGNMENT:

Navigation Pub. No. 9 (1995) Article 1300-1315

MISCELLANEOUS:

Prepare students to meet Assistant RADAR Watch standing Qualifications

TEST QUESTIONS:

- Prepare a chart using parallel indexes
- Obtain a RADAR fix with 3 appropriate targets
- Obtain the XTE

WATCHSTATION/GENERAL TRAINING REF:

- RADAR Observer 1.5 through 1.9
- Assistant RADAR Observer
- Navigation at the Support Level
- Navigation at the Operational Level

LECTURE TITLE: **RADAR IV**

TRAINING SUBJECT: **AUTOMATIC RADAR PLOTTING AIDS**

SPECIAL REQUIREMENTS:

- Live RADAR/ARPA with traffic or RADAR/ARPA simulator with correlating land mass charts

TRAINING LECTURE OBJECTIVE:

A. Introduce students to ARPA navigation techniques as a collision avoidance aid

DISCUSS:

A. Self-Test and Set-Up procedures
B. Capabilities of individual systems
C. Target acquisition and tracking procedures
D. Modes, features and limitations
E. Raw target data vice sensor derived data
F. Thinking like an ARPA

SHOW/DEMONSTRATE:

A. Joystick use
B. Track Ball use
C. Key pad uses
D. Menu and sub menu features

READING ASSIGNMENT:

Navigation Pub. No. 9 (1995) Article 1300-1315

MISCELLANEOUS:

T.S. KENNEDY Bridge Procedures Manual

TEST QUESTIONS:

- How do you conduct a trial maneuver on a designated system?
- How do you set up exclusive zones?
- What vectors should be utilized in trial maneuver?
- What factors influence the accuracy of the ARPA derived information?

WATCHSTATION/GENERAL TRAINING REF:

- RADAR Observer 1.5 through 1.9
- Assistant RADAR Observer
- Navigation at the Support Level
- Navigation at the Operational Level

2013 CRUISE TRAINING PROGRAM

Department of Marine Transportation

FIRST CLASS

Section 4

Navigation Journal Requirements

YOU WILL RECEIVE YOUR CEL NAV PACKET SEPERATELY FROM CAPTAINS DeCastro and Mayhofer

2013 CRUISE TRAINING PROGRAM

Department of Marine Transportation

FIRST CLASS

SECTION 5 & 6

Cruise Calendar

Long Term Training Schedule

Deck Logbook

raining Day 9	CEL NAV PROJECT FWD NAV LAB	BLUE-ECDIS GOLD-CONFINED SPACE AFT NAV LAB
Training Day 10	WEATHER FORECASTING FWD NAV LAB	PRECISION ANCHORING FWD NAV LAB

	Period 1	Period 2	Period 3	Period 4
Training Day 11	BLUE-CONFINED SPACE GOLD-ECDIS AFT NAV LAB		CEL NAV PROJECT FWD NAV LAB	
Training Day 12	PILOT LADDER SAFETY FWD NAV LAB	SAR FWD NAV LAB	CEL NAV PROJECT FWD NAV LAB	

	Period 1	Period 2	Period 3	Period 4
Training Day 21	CHART & PUB CATALOGS FWD NAV LAB		CEL NAV PROJECT FWD NAV LAB	
Training Day 22	SEAMANSHIP 1-2 SEATORIUM		ADVANCED FIREFIGHTING 1-1 SEATORIUM	

	Period 1	Period 2	Period 3	Period 4
Training Day 23	BLUE-AIS GOLD-CARGO GEAR AFT NAV LAB	GOLD-AIS BLUE-CARGO GEAR AFT NAV LAB	ADVANCED FIREFIGHTING 1-1 SEATORIUM	

Training Day 24	SAFETY INSPECTION SEATORIUM	VESSEL SECURITY OFFICER FWD NAV LAB

Division 2 Training Schedule

	Period 1	Period 2	Period 3	Period 4
Training Day 5	CEL NAV PROJECT FWD NAV LAB		BLUE-ECDIS GOLD-CONFINED SPACE AFT NAV LAB	
Training Day 6	WEATHER FORECASTING FWD NAV LAB		PRECISION ANCHORING FWD NAV LAB	

	Period 1	Period 2	Period 3	Period 4
Training Day 7	BLUE-CONFINED SPACE GOLD-ECDIS AFT NAV LAB		CEL NAV PROJECT FWD NAV LAB	
Training Day 8	PILOT LADDER SAFETY FWD NAV LAB	SAR FWD NAV LAB	CEL NAV PROJECT FWD NAV LAB	

	Period 1	Period 2	Period 3	Period 4
Training Day 17	CHART & PUB CATALOGS FWD NAV LAB		CEL NAV PROJECT FWD NAV LAB	

Training Day 18	SEAMANSHIP 1-2 SEATORIUM	ADVANCED FIREFIGHTING 1-1 SEATORIUM

	Period 1	Period 2	Period 3	Period 4
Training Day 19	BLUE-AIS GOLD-CARGO GEAR AFT NAV LAB	GOLD-AIS BLUE-CARGO GEAR AFT NAV LAB	ADVANCED FIREFIGHTING 1-1 SEATORIUM	

Training Day 20	SAFETY INSPECTION SEATORIUM	VESSEL SECURITY OFFICER FWD NAV LAB

Division 3 Training Schedule

	Period 1	Period 2	Period 3	Period 4
Training Day 1	CEL NAV PROJECT FWD NAV LAB		BLUE-ECDIS GOLD-CONFINED SPACE AFT NAV LAB	

Training Day 2	WEATHER FORECASTING FWD NAV LAB	PRECISION ANCHORING FWD NAV LAB

	Period 1	Period 2	Period 3	Period 4
Training Day 3	BLUE-CONFINED SPACE GOLD-ECDIS AFT NAV LAB		CEL NAV PROJECT FWD NAV LAB	

	Period 1	Period 2	Period 3	Period 4
Training Day 4	PILOT LADDER SAFETY FWD NAV LAB	SAR FWD NAV LAB	CEL NAV PROJECT FWD NAV LAB	
Training Day 13	CHART & PUB CATALOGS FWD NAV LAB		CEL NAV PROJECT FWD NAV LAB	
Training Day 14	SEAMANSHIP 1-2 SEATORIUM		ADVANCED FIREFIGHTING 1-1 SEATORIUM	
Training Day 15	BLUE-AIS GOLD-CARGO GEAR AFT NAV LAB	GOLD-AIS BLUE-CARGO GEAR AFT NAV LAB	ADVANCED FIREFIGHTING 1-1 SEATORIUM	
Training Day 16	SAFETY INSPECTION SEATORIUM		VESSEL SECURITY OFFICER FWD NAV LAB	

CONSULT DAILY POSTED SCHEDULES AFTER 1900 FOR ANY CHANGES

January 27 is Mid-term EXAM DAY - Schedules for TESTS will be posted.
February 18 is Final EXAM DAY – Schedules for TESTS will be posted

WHEN AN EMERGENCY DRILL IS SCHEDULED, EXCEPT WHEN SUCH DRILLS OCCUR AT 1530 OR LATER, TRAINING SESSIONS WILL RESUME/COMMENCE 10 MINUTES AFTER "SECURE FROM ALL DRILLS" IS PIPED.

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Addendum 1 Preface

Bridge Procedures Manual was written and edited by Captain Joseph S. Murphy, II in consort with contributing members from the Department of Marine Transportation at the Massachusetts Maritime Academy. These procedures are intended for instructional purposes only during the sea term aboard the academy training vessel and as a bridge procedure training guide in the bridge training simulator at the Massachusetts Maritime Academy.

Principle references consulted include, publications of the U.S. Coast Guard, United States Department of Transportation, Maritime Administration, International Maritime Organization, International Chamber of Shipping, as well as published and unpublished data, and information from the files of the Massachusetts Maritime Academy.

An Instructional Guide For Training Purposes Only:
It is impossible to prescribe procedures or provide regulations which will cover every situation. The *Bridge Procedures Manual* are issued for the guidance of the students and are not intended in any way to restrict the Master's authority or obligation to conduct himself, in his/her judgment, in the best interest of the training ship or Massachusetts Maritime Academy. This manual has been designed to address points not covered elsewhere and to provide those onboard, responsible for conducting daily routine operations as well as emergency responses, with background information that may not otherwise be available to them. It in no way replaces or supersedes any of the equipment manuals provided onboard but should be used in conjunction with them. Care has been taken in the preparation of this manual to avoid contradictory information. In the event that discrepancies are found between the advice provided herein and elsewhere, the student should be guided by the official manuals, but shall promptly draw such differences to the attention of the Master who will effect such changes as the circumstances of the particular case admit.

If the procedures described in the *Bridge Procedures Manual* are to produce uniformity in daily routines and understandable procedures, they must be followed in detail, unless the circumstances of the particular case make alternate procedures advisable.

Deck Log Book Procedures

1. INTRODUCTION

A. The Deck Logbook is the legal and permanent record of the ship's life and operation. Because of the many ramifications involved, it is absolutely essential that an accurate, complete and proper logbook be kept. The importance of the Deck Logbook cannot be sufficiently emphasized, as in the case of any proceedings, legal or otherwise, it is the only record that will be accepted as evidence.

B. It is required that all Officers responsible for logbook entries (especially newly assigned Officers) review these instructions. The Master is responsible for proper logbook maintenance and should make a concentrated effort to see that these instructions are followed. How well you write the logbook directly reflects on your personal degree of professionalism.

C. The Deck Logbook is an official record of the vessel and a confidential document. The confidentiality of this logbook will NOT be compromised and NO person will be allowed access to the logbook nor to any copies of same, while in the custody of the vessel, for any reason, including, but not limited to such purposes as examination, note-taking, photocopying, etc., without the express authorization of the Master.

2. GENERAL

A. Exceptional care must be used to write the logbook legibly, using proper nautical terms. All entries must be made in non-erasable ink, using a fine or medium point ball pen. All entries will be made in black ink except Arrival, Departure, S. B. E., F.W.E., Drills and Inspections which are to be entered in red ink and underlined. Entries should be neat and as compact as possible, consistent with a complete and comprehensive record of all activities onboard. It is preferred that all entries be printed rather than written in long hand and that the size of all letters not be larger than one line space.

B. Erasures in the Deck Logbook will never be made, nor pages removed from the logbook because of errors. Where an error is made, draw a single line through the error, initial same, and continue with the correct entry. Alterations on the left hand side of the page may be made by drawing a line through the error, initialing same, and inserting the correct data above.

C. Slips of paper will not be attached to the Deck Logbook under any circumstances. Rubber stamps will not be ordered nor used for the Deck Logbook without prior authorization from the Master.

D. Each page of this Deck Logbook is in two (2) copies consisting of a white original copy for retention onboard the vessel and a yellow duplicate copy for submission to the Academy. The white original pages, comprising every other page in this Deck Logbook, are perforated. When all entries for a day are completed, checked, and signed by the Master and Chief Officer, in chronological order, the white perforated original pages will be removed and inserted into a booklet which will be retained onboard the vessel in the vessel's file. The yellow duplicate copy will be retained in the logbook with covers intact and held for delivery to the Academy Administration at the end of the voyage.

E. The Logbook is to be carefully written up by the Officer of the Watch (OOW) every four (4) hours at sea and/or inport. Officers making single entries shall sign their names and rank after each entry.

The officer standing watch must sign his/her name and rank at the end of each watch. Initials are not to be used except when lining out errors as above descried.

F. The Logbook, when completed and its correctness certified by the officer of each watch, and signed by the Chief Officer, shall be placed before the Master for his/her inspection each day at 1200 hours and he/she is to affix his/her signature thereto as proof of his/her having read same and having ascertained that there are no inaccurate or omissions and that he/she agrees with the entries.

G. The Logbook shall be kept continuously day by day from the beginning of the voyage to the end and all times are to be recorded on a 24 hour basis.

H. At sea, the Logbook shall be kept by watches. All appropriate spaces on the left-hand side of the page shall be filled in. On the right-hand side of the page, at sea, watches shall be headed-up as follows: 0000-0400, 0400-0800, 0800-1200, etc. The main intent of the Deck Logbook at sea is to keep a record of the ship's movements and activities so that her passage can be accurately plotted, the weather experienced noted, and all important events recorded. It follows that all navigational data entered must be sufficiently complete and in such form which will facilitate plotting, at any time, the ship's position (dead reckoning) at sea or at anchor or on pilot passage.

3. PARTICULARS *(J. P. GRUNDY PRINTERS, INC., FORM NO. D81)*

TOP OF THE LOG SHEET

A. Heading

(1) **NAME:** Enter *T. S. Enterprise*
(2) **FROM/TO:** Enter the passage or Port/Pier location
(3) **DATE:** Enter the day, date, and zone description (See: Time Zones Table)
(4) **VOYAGE NO. :** Voyage number-Year (Sample: 001-98).

LEFT-HAND SIDE OF LOG SHEET

B. Columnar Entries

(1) **COURSE:** Courses are entered in degrees - Gyro course, gyro compass error as determined by azimuth, amplitude or range, standard compass course, local variation, heading deviation.
(2) **WIND:** Direction - True wind direction entered in point of the compass; Force - Beaufort force. (See: Beaufort Table)
(3) **BAROMETER:** Enter reading in millibars
(4) **TEMPERATURE:** Air: Enter outside air temperature, dry/wet bulb readings in degrees Fahrenheit. Sea: Enter the sea water injection temperature in degrees Fahrenheit which is obtained from the engine-room at the end of each four (4) watch.
(5) **R. P. M. :** Revolutions per minute of the engines; average R. P. M. is obtained from the engine-room at the end of each four (4) watch.
(6) **LOOK-OUTS, DETEX OR GANGWAY WATCH:** Enter last names of personnel on wheel or serving as look-outs; the names of Detex watchmen and/or gangway watchmen shall also be entered in these spaces as necessary.
(7) **DAILY NOON SUMMARY:** Enter the Noon Position Information daily at sea. Data will be transcribed from the Navigator's and Chief Engineer's Noon Slips.
(8) **SUMMARY PASSAGE:** Enter the passage data which will be transcribed from the Navigator's and Chief Engineer's Passage Reports.

(9) **FUEL/WATER:** Enter the arrival, departure, shifting and/or received fuel oil and water data.

(10) **DRAFTS:** The forward, aft, and mean drafts shall be entered as follows:

(a) On arrival and departure from any place.

(b) Daily inport at 0800, 1600 and 2400 hours.

(c) Before and after taking bunkers, fresh water, ballast or embarking/disembarking large numbers of personnel. Always note the density of the water in which the vessel is floating, the freshwater allowance correction or list.

B. Columnar Entries

(11) **SEA WATCHES:** Enter the time and date that sea watches are broken and/or set for the officer's and crew.

(12) **SAILING/SHIFTING BOARD:** Enter the time and date that the Sailing/Shifting Board is posted and/or changed.

RIGHT-HAND SIDE OF LOG SHEET

A. Remarks at Sea and/or inport, where applicable.

(1) Each watch shall begin with the time of day, Relieving Officer's name, the chart in use, a brief description of the weather, sea and swell conditions, vessel's riding status, the speed by nozzles and engine revolutions, course being steered and made good and the steering system in use and its operating mode as well as the active radar/ARPA systems.

(2) Any changes in course shall be entered with the time of such changes.

(3) Any changes in speed shall be entered with the time of such changes.

(4) Any changes in vessel status or equipment shall be entered with the time of such changes.

(5) Watch Condition Status which will be set and changed by the Master or watch officer consistent with the Standing Orders as the circumstances of the case admit in order to take proper and effective action to avoid collision. (Red)

(6) Precautions taken during reduced visibility. (Red)

(7) The name, in full, of every pilot assisting the Master as well as the time of boarding or departing, and the time of his/her taking or giving up pilotage duties.

(8) Principal navigational aids used, with true bearings and distance of any land or lights in sight.

(9) Any important bow, beam, and cross bearings taken.

(10) When and what soundings are obtained, including sounding over various depth curves.

(11) Time zone changes, International Date Line and Equator crossings are to be noted. (Red)

(12) Any changes in weather shall be entered with the time of such changes.

(13) Sea - True direction and height (state) of sea conditions

(14) Unusual changes in sea temperature particularly when associated with passage through ocean currents.

(15) When vessel is laboring, pitching, straining, rolling or taking water, the word “spray” is never to be used. The vessel is considered to be either taking seas or not taking seas. Describe all measures taken to ease vessel's motion and secure during heavy weather.

(16) Diversions and detentions - reason, time expended, and miles deviated. (Red)

(17) If radar is not working and repairs are not possible. This entry must be signed by the Master, Chief Officer, and Second Officer. (Red)

(18) Any alleged accidents, casualties, fires, or unusual circumstances or occurrences that may affect the safety of the vessel or cargo, or welfare of the crew and environment. In case of grounding, collision, or other marine disaster, a very careful and complete record of all events leading up to, during and immediately following shall be entered in the Logbook,

including the name of the officer of the watch, and the names and stations of the men on the look-out and at the helm. In these cases, entries in the Logbook shall receive early and most careful consideration of the Master and Chief Officer, in consultation with officer writing the Logbook. All entries should be confined to statements of fact and any assistance given to, or received from, an outside party should be recorded in detail. (Red)

(19) Any births or deaths that may occur among the cadets or crew and, in the latter case, the time and place of burial and the disposition of personal effects. (Red)

(20) Details of ballasting and de-ballasting and/or the pumping of bilges or slop tanks noting times, quantity of liquid and tanks involved.

3. PARTICULARS

B. Remarks on Arrivals, Sailing and Shifts.

(1) Time anchors are cleared and ready for immediate use.

(2) Time of S.B.E. or F.W.E. - first bell and time and position of arrival as contained in the Bell Book. Tenth of an hour or six (6) minute time increments will be used to expedite passage report requirements. (Red)

(3) The name, in full, of every pilot assisting the Master as well as the time of boarding or departing, and the time of his/her taking or giving up pilotage duties.

(4) After Pilot is onboard and at the con, make following entry as appropriate: “Various courses and speeds as per Pilot's orders while proceeding to berth/sea as noted in the bell book. “

(5) Names of principal lighthouses, jetties and landmarks, etc. passed.

(6) If vessel anchors, enter time let go, port or starboard anchor, amount of chain, fathoms of water, and true bearings of the anchorage. Enter time began heaving and anchors aweigh. (Red)

(7) Time watertight integrity is changed. The time sideports or hatches are opened/closed.

(8) Names and times tugs are alongside and location alongside the vessel.

(9) Time entering locks, secure in locks, and clear of locks.

(10) The time first line to dock, time alongside, and time secure. (Red)

(11) Time finished with engines and give conditions. (Red)

(12) Times Pilot and tugs away.

(13) Time singled-up, first or last line, and clear of dock or all secure. (Red)

(14) Time and place of departure. (Red)

C. Remarks inport.

(1) The first remark at the start of each day, should state the status of the vessel and be entered at the top of the lined area of the "Remarks" section, such as: (See Deck Watch Entry inport). Subsequent watches may indicate "moored as before" supplemented by the following comments.
(2) Summary of weather at sunrise and sunset (supplemented by appropriate entries in the "wind", "barometer", and "thermometer" columns.
(3) Times of use of deck, cargo, gangway and special lights.
(4) All Detex watchmen's names, times of duty, and location.
(5) Exact time barges arrive and leave the vessel, whether loaded or empty. Also, names of tugs towing, location alongside, and work performed i.e. bunkering operations.
(6) Details of bunkering operations including the time and location operations were conducted, type and net barrels of oil received, vendor's name and method of conveyance (barge/pipeline).
(7) Any alleged injuries to personnel other than crew members. These entries should be limited to statement of fact. (Red)
(8) When and for what purpose boats leave the vessel and return, identifying same with the boat number, coxswain or person in charge and the number of persons aboard.
(9) The times and names of any officials, surveyors, or inspectors aboard and purpose and result of the visit, such as:
    (a) USCG Inspectors
    (b) ABS Surveyors
    (c) Board Underwriter Inspectors
    (d) Customs, Immigration, Personnel
    (e) Quarantine & Other Officials
    (f) MARAD Officials
    (g) Police
    (h) Private Surveyors
    (i) Shipyard Repair
    (j) Others
(10) Times of opening and closing sideports and hatches, identifying same. (Red)

C. Remarks inport.

(11) Times started and finished required USCG inspections and drills.
(12) If radar is not working and repairs are not possible. This entry must be signed by the Master, Chief Officer, and Second Officer. (Red)
(13) The exact times when passengers/observers are embarked or landed.
(14) Anything of interest that occurs in or around the vessel shall be entered in the Logbook.
(15) The approximate number of Cadet Corps Sections aboard.
(16) All times involving cargo or stores activities to be entered to the minute.
(17) Times of starting and ending training evolutions as well as the instructor in charge.
(18) Times of starting and ending of repair activities including the actual work undertaken, the repair vendor's name and the approximate number of laborers involved.
(19) In cases of unscheduled stoppage of the any of the above operations, enter times stopped and resumed operations and reason for stoppage such as lost ship's power, rain, equipment failure, etc. (Red)
(20) A statement to the effect that the vessel is properly secured and that the vessel has been carefully inspected and is seaworthy and secure for sea in all respects prior to sailing. This entry will be signed by the Master. (Red)

D. Remarks inport during Dry-dock Periods.

(1) Time entered dry dock. (forefoot over the sill)
(2) Time the vessel rests on keel blocks.
(3) Time vessel is dry.
(4) General condition, observed damage, cleaning and paint of the bottom.
(5) Time began flooding.
(6) Time the vessel is afloat.
(7) Time clear of the dry-dock. (Forefoot clear of the sill)

E. Inspections, Tests, Searches and Drills. (All entries should be made in red ink.)

(1) Fire, emergency and boat drills.
(2) Launching of lifeboats and exercising the crew under oars.
(3) Inspection of lifeboat equipment.
(4) Change-over of lifeboat fuel.
(5) Inspection and service of liferaft equipment.
(6) Inspection of exposure suits.
(7) Inspection and service of firefighting equipment.
(8) Stripping and overhaul of lifeboats.
(9) Test of lifeboat winch motor controllers, control, master disconnect and limit switches.
(10) Test of line-throwing appliance.
(11) Test of EPIRB.
(12) Test of emergency lighting and power systems including storage batteries.
(13) Pre-Arrival tests and inspections.
(14) Pre-Departure tests and inspections.
(15) Emergency steering drills.
(16) Tests and inspections of bridge equipment daily at 1200 zone time:
    (a) Test the ship's whistle.
    (b) Test the General Alarm Bells.
    (c) Test all means of vessel internal control communications.
    (d) Set and synchronize ship' s clocks with the chronometers.
    (e) Test bridge and engine-room telegraphs and revolution indicators.
    (f) Test the steering system in all modes of operation and the change-over procedure.
    (g) Test radio-room auto-alarm.
    (h) Test watertight and flame screen doors.
    (i) Test hazard monitoring equipment including change over procedures.
    (j) Test the operation of the radar/ARPA systems.
    (k) Test the operation of speed/distance recorder.
    (l) Test the navigation and emergency lights.
    (m) Test the echo sounder and depth recorder.
    (n) Ventilation of cargo holds and living spaces.
(17) Master's sanitary inspections conducted.
(18) Inspection of shell plate and wheel after docking and shifts.
(19) Inspections prior to bunkering operation.
(20) Inspection of cargo gear.
(21) Inspection of cargo gear prior to loading, discharge or cadet training.
(22) Inspection of cargo holds prior to loading.
(23) Inspections of deck cargo lashings prior to sailing.

(24) Inspections of dangerous cargo, deck cargo, boat and container lashings made daily by the Chief Officer.
(25) Stowaway search. This entry to be signed by the Master and Department Heads. (Red)
(26) Search for contraband prior to arrival and/or departure. This entry to be signed by the Master and Department Heads. (Red)

4. TERMINOLOGY

A. At Sea

The term *"Routine Inspections"* will include:

(1) That the ventilation of training, storage and living spaces has been attended to.
(2) Training and storage spaces secure.
(3) Ventilators properly trimmed.
(4) Radio antennas inspected by Radio Officer.
(5) Lifeboats, launches and davits, sideports, cargo gear, running rigging, deadlights, and watertight doors are properly secured.
(6) Engineer on watch will be notified when temperature falls to 34° F and again when it is 32° F.
(7) Running lights, internal monitoring and alarm systems are operating in proper working condition.

B. Inport

The term *"Routine Inspections"* will include:

(1) When inflammable cargo is being handled, sufficient lengths of fire hose are available and connected to reach vicinity.
(2) Mooring lines are periodically tended.
(3) Deck and passageways are properly lighted.
(4) Gangways are properly rigged, lighted and manned.
(5) Red warning lights are placed on stern.
(6) Detex watchmen know and are attentive to their duties.
(7) Engineer on watch will be notified when temperature falls to 34° F and again when it is 32° F.

5. ANCILLARY DOCUMENTS

A. Official Logbook - must be kept in strict conformity with rules and regulations of the U.S. Coast Guard. Refer to Actions to be Logged (46 CFR 97.35-5).

B. Chronometer Rate Book, Bell Book, Compass Observation Book, Anchor or Bearing Record Book, Navigation Logbook, Radiotelephone Log and Radar Log - these are to be kept with in accordance with the detailed instruction provided on the inside cover of each individual record book. Every attention and care should be exercised so as to show a fair and faithful record of the performance and efficiency of the equipment or the operation being recorded. They must never be removed from the vessel.

C. Tank and Bilge Soundings Book - the books supplied for the purpose of recording the soundings of wells and ballast tanks must be carefully kept. Enter in the Deck Logbook daily at 0800 hours.

D. Master's Voyage Report - Passage Summary and Port Time Information is to be entered on the master's Voyage Report by the navigator and it is not necessary to make these entries on the daily logbook page.

6. NOTES

A. The vessel is never to be left without an Officer of the Watch (OOW). At sea, the Officer of the Watch (OOW) is to keep his/her watch on the Bridge and, when on duty, is not to allow his/her attention to be diverted from his/her work. In case he/she believes the vessel to be running into danger, it is his/her duty to act at once upon his/her own judgment and take the necessary precautionary measures; he/she will, however, immediately pass the word to call the Master. No Officer, on any occasion is to leave the Bridge during the watch nor until properly relieved of duty.

B. When the vessel is securely moored in a port, an officer must be assigned for duty who will satisfy himself that everything is in order, Detex watchmen at their posts and vigilant that all precautions against fire have been taken.

C. When bunkering, all regulations must be observed, i. e., red flag or light displayed, scuppers plugged, bilge soundings taken every half-hour and one hour after finish, pass the word that "The smoking lamp is out throughout the vessel during bunkering operations" and appropriate entries made in the Deck Logbook.

D. Immediate steps will be taken to confine and clean oil spills. The U.S. Coast Guard and/or Local Officials also will be advised in accordance with their instructions (1-800-421-8802). An entry will be made in the Deck Logbook regarding the notification of all parties concerned, giving details pertaining to the confinement and clean-up, including the name of the Contractor employed.

E. Entries must conform to the requirements of the U.S. Coast Guard and to applicable master's circulars and memorandums. Obviously, it is not possible to list here all the incidents which should be logged. Refer to the Sample Logbook Entries for additional guidance.

F. At the end of the voyage, the properly completed Deck Logbook, consisting of the yellow duplicate sheets retained in the logbook with covers intact, which has been signed by the Master and Chief Officer, will be forwarded promptly to the Massachusetts Maritime Academy Administration.

OFFICIAL LOGBOOK: ACTIONS REQUIRED TO BE LOGGED

CFR Reference: 46 CFR 97.35-5

(a) The actions and observations noted in this section shall be entered in the official logbook. This section contains no requirements which are not made in other portions of this sub-chapter, the items being merely grouped together for convenience.

(1) Fire and Boat Drills. Weekly. See 46 CFR 97.15-35

(2) Steering Gear, Whistle, and Means of Communication. Prior to departure. See 46 CFR 97.15-3, 33 CFR 164.25

(3) Drafts and Load Line Markings. Prior to leaving port, ocean, coastwise, and Great Lakes services only. See 46 CFR 97.15-5.

(4) Hatches and other openings. All openings and closings, or leaving port without closing. Except vessels on protected waters. See 46 CFR 97.15-20.

(5) Line Throwing Appliances. Once every 3 months. See 46 CFR 97.15-25.

(6) Emergency Lighting and Power Systems. Weekly and semi-annually. See 46 CFR 97.15-30.

(7) Electric Power Operated Lifeboat Winches. Once every 3 months. See 46 CFR 97.15-40.

(8) Fuel oil data: Upon receipt of fuel oil onboard. See 46 CFR 97.15-55.

(9) Cargo gear inspections: At least once a month. See 46 CFR 91.37-70 of this subchapter.

(a) On vessels where an Official Logbook is required by R.S. 4290 (46 U.S.C. 201), all items relative to the crew and passengers, as well as with respect to any casualties which may occur, shall be entered in the Official Logbook as required by this law.

SAMPLE LOGBOOK ENTRIES FOR SAFETY EQUIPMENT

LIFEBOATS - LIFEBOATS DRILLS
CFR Reference: 46 CFR 97.15-35, 46 CFR 97.15-45, 46 CFR 97.15-50; 46 CFR 97.15-30; Weekly
At 1400 hours, in position *Lat. 40°-56′ N, Long. 052°-20′ W* conducted emergency drills. Fire signals sounded, engine on stand-by cadets and crew mustered and instructed in their duties. Emergency squad mustered and exercised in their duties. Five (5) hoses led out and good pressure applied. Watertight and firescreen doors, emergency lighting and power systems inspected and operated. 1430 hours, fire drill secured. hours, abandon ship drill. 1431 Signals sounded. Cadets and crew mustered at their stations wearing life jackets and instructed in their duties. Six (6) lifeboats lowered to the embarkation deck. Diesel engines in lifeboats No. 1, 2, & 5 operated for five (5) minutes in the ahead and astern modes. Flemming gear in lifeboat No. 6 exercised. Radio receiver operated with artificial aerial. Winches, switches and drains in good order. 1445 hours boats secure, secured from drill. All equipment in good working order. Length of drill Forty-five (45) minutes.

LIFEBOATS - LIFEBOAT EQUIPMENT INSPECTION
CFR Reference: 46 CFR 97.15-35 (b) (9); Monthly

At *1500* hours, in position *Lat. 40°-21' N, Long. 035°-58' W* examined all port and starboard lifeboat equipment this date. All found to be complete and in good working order and condition.

SAMPLE LOGBOOK ENTRIES FOR SAFETY EQUIPMENT

LIFEBOATS - LAUNCHING & EXERCISE AT OARS
CFR Reference: 46 CFR 97.15-35 (b) (6); Quarterly (Every 3 Months)
At *0900* hours, in position *Lat. 45°-26' N, Long. 065°-23' W* lifeboat/lifeboats lowered to the water and released. Releasing gear, blocks, sheaves, falls and all moving parts inspected and greased. Lifeboat engine/Flemming gear operated ahead and astern. Crew exercised at oars. *0928* Lifeboat/lifeboats secured and crew dismissed. All equipment in good working order.

ELECTRIC POWER OPERATED LIFEBOAT WINCH INSPECTION
CFR Reference: 46 CFR 97.15-40; Quarterly (Every 3 Months)
At *1600* hours, in position *Lat. 35°-21' N, Long. 055°-58' W* lifeboat winch motor controllers, control switches, master disconnect switches and limit switches were opened and found to be dry and in good working order.

LIFEBOATS - LIFEBOAT EQUIPMENT INSPECTION
CFR Reference: 46 CFR 97.15-40; Annually (Yearly)
At *1500* hours, in position *Lat. 40°-21' N, Long. 035°-58' W* all lifeboat (s), rescue boat (s) were stripped cleaned and thoroughly overhauled. Fuel tanks of all motor-propelled lifeboats were emptied and the fuel changed. Examined all lifeboat equipment this date. All found to be complete and in good working order and condition.

EMERGENCY POSITION INDICATING RADIOBEACON (EPIRB)
CFR Reference: 46 CFR 97.15-65; Monthly
At *1500* hours, in position *Lat. 40°-21' N, Long. 035°-58' W* examined and tested emergency position indicating radio beacon. Equipment was found to be in good working order.

LINE THROWING APPLIANCES
CFR Reference: 46 CFR 97.15-25; Quarterly (Every 3 Months)
At *1500* hours, in position *Lat. 40°-21' N, Long. 035°-58' W* demonstrated and tested impulse-projected rocket type, line throwing appliance. *Test rocket No. RQ/5671* with flexible line of proper size and length, suitably faked or laid out was used. All equipment was found to be in good working order.

EMERGENCY STEERING DRILL
CFR Reference: 33 CFR 164.25; Quarterly (Every 3 Months)
At *1500* hours, in position *Lat. 40°-21' N, Long. 035°-58' W* conducted an emergency steering drill. Operated and inspected main steering within the steering gear compartment, tested means of communication between the Navigation Bridge and steering compartment, operated alternative power supply for the steering gear. (U.S. Waters only)

EMERGENCY LIGHTING AND POWER SYSTEMS
CFR Reference: 46 CFR 97.15-30 (a); Weekly
At *1500* hours, in position *Lat. 40°-21' N, Long. 035°-58' W* tested emergency storage batteries and emergency generator. Emergency diesel generator was operated under full load conditions. Observed steady state temperatures and electrical load characteristics. All equipment found to be in good working order.

EMERGENCY LIGHTING AND POWER SYSTEMS
CFR Reference: 46 CFR 97.15-30 (b); Monthly
At *1500* hours, in position *Lat. 40°-21' N, Long. 035°-58' W* tested emergency storage batteries and emergency generator. Emergency diesel generator was operated under full load conditions for two (2) hours from *1500 to 1700.* Observed steady state temperatures and electrical load characteristics. All equipment found to be in good working order.

SAMPLE LOGBOOK ENTRIES FOR SAFETY EQUIPMENT

EMERGENCY LIGHTING AND POWER SYSTEMS
CFR Reference: 46 CFR 97.15-30 (c); Semi-annually (Every 6 months)
At *1500* hours, in position *Lat. 40°-21' N, Long. 035°-58' W* tested storage batteries for emergency lighting and power systems. Demonstrated the ability of storage batteries to supply the emergency loads for the period of time specified in Table 46 CFR 112.05-5 (a). All equipment found to be in good working order.

SAMPLE LOGBOOK ENTRIES FOR VESSEL OPERATIONS

NAVIGATION EQUIPMENT
CFR Reference: 46 CFR 97.15-3; Daily (At noon)
At *1200* hours, in position *Lat. 40°-21' N, Long. 035°-58' W* tested and examined engine order telegraphs, general alarm bells, navigation lights, and whistle, echo sounder, smoke detection system, watertight doors, ventilation control systems steering gear and changed over to the *(Port or Starboard)* steering control unit. Synchronized bridge and engine-room clocks. All equipment was found in working good order. (Except as noted)

DANGEROUS CARGO
CFR Reference: 49 CFR 176.39; Daily (When carried aboard)
At *1500* hours, in position *Lat. 40°-21' N, Long. 035°-58' W* conducted a visual inspection of all cargo holds and compartments containing hazardous materials. All was found in good order.

SANITARY INSPECTIONS
CFR Reference: 46 CFR 91.35-1, 46 CFR 97.15-10; Daily or when made.
At *1500* hours, in position *Lat. 40°-21' N, Long. 035°-58' W* Master conducted a sanitary inspection of the vessel. All quarters, toilet and washing spaces, serving pantries, galleys, living and recreations spaces found to be in good order.

SEAWORTHINESS INSPECTION PRIOR TO GETTING UNDERWAY
At *0800 hours, in the port of Buzzards Bay, Massachusetts* the Master conducted a visual inspection of the vessel and found the vessel properly secured and seaworthy in all respects for her intended voyage.

STEERING GEAR, WHISTLE, AND MEANS OF COMMUNICATION
CFR Reference: 46 CFR 97.15-3, 33 CFR 164.25; Tests before entering or getting underway.
At *1500* hours, in position *Lat. 40°-21' N, Long. 035°-58' W* or *(In the Port of Buzzards Bay, Massachusetts)* tested and examined both the primary and secondary steering gear, engine order telegraph, general alarm bells, hand and electric whistles, navigation lights, channel 13 and 16 FM VHF radios, radars and automatic radar plotting aids/collision avoidance systems, echo sounder, all electronic position fixing equipment, compared magnetic and gyro compasses and synchronized master gyro and gyro repeaters, synchronized the bridge and engine-room clocks, tested watertight doors, all internal vessel communications, vessel control alarms, stand-by or emergency generator, storage batteries for emergency lighting and power systems in the vessel control and propulsion machinery spaces and the main propulsion machinery in the ahead and astern modes. Conducted an emergency steering drill. All equipment was found to be in working good order. (Except as noted)

CARGO GEAR INSPECTIONS
CFR Reference: 46 CFR 91.37-70; Monthly
At *1500* hours, in position *Lat. 40°-21' N, Long. 035°-58' W* visually inspected and examined all wire rope, chains other than bridle chains attached to booms or masts, and all rings, hooks, links, shackles, swivels and blocks used in loading or unloading. All equipment found in working good order.

SAMPLE LOGBOOK ENTRIES FOR VESSEL OPERATIONS

EXPOSURE SUITS
CFR Reference: 46 CFR 97.15-37; Monthly (When carried aboard)
At *1500* hours, in position *Lat. 40°-21' N, Long. 035°-58' W* each member of the crew participated in a demonstration on the donning and use of exposure suits. Each passenger was instructed at the beginning of the voyage on the stowage location of exposure suits and was encouraged to read the instructions for donning and use of exposure suits at that time. Each passenger is instructed at each fire and boat drill on the donning and use of exposure suits.

BUNKERING OPERATIONS
CFR Reference: 33 CFR 155-156, 33 CFR 155.710 (e) (1); (Prior to receiving fuel oil aboard)
At *0800 hours, in the port of Buzzards Bay, Massachusetts* prior to the commencement of bunkering operations a complete inspection of the vessel was conducted by the person-in-charge (PIC) of bunkering operations. In the opinion of the person-in-charge (PIC) of bunkering operations all precautions have been taken and that vessel is in compliance with all applicable rules and regulations and is ready in all respects to conduct bunkering operations. Signed by Master, Chief Engineer and Chief Officer

FUEL OIL
CFR Reference: 46 CFR 97.15-55; (When fuel oil is received aboard)
At *0800 hours, in the port of Buzzards Bay, Massachusetts* received onboard *4,600 Net Barrels of IFO 240 Fuel Oil,* with a flash point *120°F*, produced by *Shell Oil Co.* The vendor is *Patriot Petroleum Co.* The fuel oil was received aboard this vessel via the *Barge Petrobas No. 16.*A half pint sample of each lot of fuel oil was drawn, sealed and suitably labeled at the time the supply was delivered. These samples will be preserved until the particular supply of oil is exhausted. Signed by Master, Chief Engineer and Chief Officer

STOWAWAY SEARCH
Prior to sailing from foreign ports and prior to entry into the United States
At *1500* hours, in position *Lat. 40°-21' N, Long. 035°-58' W* completed a search of all quarters, storerooms, machinery and other accessible spaces. No stowaways found. Signed by Master, Chief Engineer and Chief Officer, Commandant of Cadets, Chief Engineer Chief Steward.

CONTRABAND SEARCH
Prior to entry into the United States
At *1500* hours, in position *Lat. 40°-21' N, Long. 035°-58' W* completed a search of all quarters, storerooms, machinery and other accessible spaces. No dutiable articles, contraband, or narcotics found. Signed by Master, Chief Engineer and Chief Officer, Commandant of Cadets, Chief Engineer Chief Steward.

RESTRICTED VISIBILITY
At *1500* hours, in position *Lat. 40°-21' N, Long. 035°-58' W* approaching restricted visibility, established watch condition 2, stand-by-engine, proceeding at safe speed, initiated fog signals, additional look-outs posted and instructed in their duties, both radars in operation with an effective radar watch being maintained by the bridge team. All USCG Rules and Regulations observed.

DECK WATCH RELIEF ENTRY (AT SEA)
1600-2000, the watch was properly relieved by *1/C Will Graduate, COOW*. The Master's Standing and/or Night Orders observed, courses and the vessel's position were verified on Chart No. 13006. Overcast, moderate visibility, vessel rolling and pitching moderately in a rather rough northeasterly sea and high short swell. Engine is at full sea speed at approximately 13 nozzles/85 RPM's. Steering on the starboard steering control unit in the hand steering mode. Both 3cm and 10cm radars are in use.

A chronological list of watch activities follows. The remarks contained in the body of the watch text should reflect the entries which are delineated in The Directions for Keeping the logbook.

SAMPLE LOGBOOK ENTRIES FOR VESSEL OPERATIONS

The vessel's position at *1950* hours is *Lat. 43°-06.1' N, Long. 069°-08.0' W*. The vessel's position and compasses were checked frequently. The watch was properly relieved at *1950* hours by *1/C Joe Deckie, COOW*. Routine inspections and Detex rounds conducted, all in good order. *1/C Will Graduate, COOW*

CHANGE OF COURSE
At 1930 hours, Diamond Shoals Light Tower is abeam to starboard bearing 270° true at a distance of 10.8 miles by radar. Altered course to 197° true, 198° gyro, 214° psc, 1° west gyro error.

CHANGE OF SPEED
At 1930 hours, vessel in a heavy pitching motion shipping white water over the weather decks forward. Removed the look-out from the forecastle and stationed him/her on the lee bridge wing. Reduced speed to 13 nozzles/85 RPM's in order to ease the vessel's motion in very rough quartering seas. Secured the weather decks to all personnel until further notice.

CODE OF FEDERAL REGULATIONS REFERENCE GUIDE

DAILY TESTS & INSPECTIONS

Sanitary inspection (When made)	46 CFR 91.35-1, 46 CFR 97.15-10
Bridge equipment inspection/tests (At noon)	46 CFR 97.15-3

WEEKLY TESTS & INSPECTIONS

Emergency lighting and power systems inspection	46 CFR 97.15-30 (a)
Fire and boat drills	46 CFR 97.15-35
Motor propelled lifeboat engines ahead and astern test	46 CFR 97.15-45 (3) (b)
Radio apparatus for lifeboats test	46 CFR 97.15-50

MONTHLY TESTS & INSPECTIONS

Sanitary inspection (At least monthly)	46 CFR 91.35-1, 46 CFR 97.15-10
Responsibility of ship's officer for inspection of cargo gear	46 CFR 91.37-70
Emergency lighting and power systems (2 hour load test)	46 CFR 97.15-30 (b)
Lifeboat equipment inspection	46 CFR 97.15-35 (b) (9)
Exposure suits inspection and demonstration (When carried)	46 CFR 97.15-37
Emergency position indicating radio beacon (EPIRB) Inspection	46 CFR 97.15-65

QUARTERLY TESTS & INSPECTIONS EVERY (3 MONTHS)

Emergency Steering Drill	33 CFR 164.25 (d)
Line-throwing appliance test	46 CFR 97.15-25
Lifeboat lowered to the water and crew exercised at oars	46 CFR 97.15-35 (b) (6)
Electric power operated lifeboat winch inspection	46 CFR 97.15-40

SEMIANNUAL TESTS & INSPECTIONS EVERY (6 MONTHS)

Emergency lighting & power systems, storage batteries inspection	46 CFR 97.15-30 (c)

ANNUAL TESTS & INSPECTIONS

Inspection for certification	46 CFR 91.25
Service liferafts	46 CFR 91.25 (a) (6)
Service hydrostatic releases	46 CFR 91.25 (a) (8)
Inspection of assembled cargo gear	46 CFR 91.37-1 (b)
Test and service hand portable, semiportable, and fixed fire extinguishing systems	46 CFR 91.60 (b)
Flashlight batteries for lifeboats	46 CFR 94.20-15 (j)
Strip and over-haul lifeboats and rescue craft	46 CFR 97.15-45 (c)
Change fuel in motor operated lifeboats and rescue craft	46 CFR 97.15-45 (d)

VESSEL OPERATIONS

Test before entering or getting underway	33 CFR 164.25, 46 CFR 97.15-3
Draft and load line markings	46 CFR 97.15-5
Examination of boilers and machinery	46 CFR 97.15-15
Hatches and other openings	46 CFR 97.15-25
Requirements for fuel oil	46 CFR 97.15-55
Dangerous cargo inspection (When carried)	49 CFR 176.39