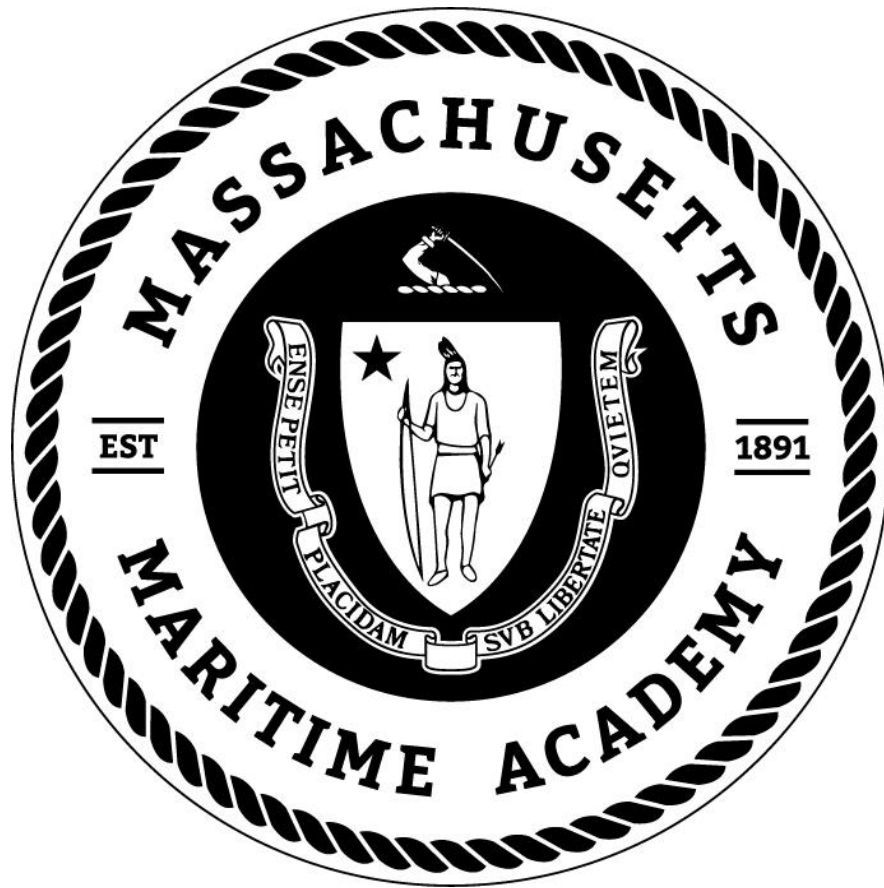

2021 CRUISE TRAINING PROGRAM

Department of Marine Transportation

SEA TERM IV: MARINE TRANSPORTATION FIRST CLASS



A Second 100 Years of Maritime Excellence

2021 TRAINING VOYAGE OF THE T.S. KENNEDY

Cadet _____

Division _____

Berthing Location _____

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COURSE

MT-4371 - Sea Term IV: Marine Transportation

CREDITS

6 academic credits

COURSE DESCRIPTION

Provides an opportunity for cadets to obtain sea service as an officer in charge of a navigational watch in a structured shipboard training program compliant with Chapter II of STCW and the requirements of 46 CFR Subpart C. The training uses a building-block approach bringing the cadet up to an acceptable level of proficiency in each area of required competence. Shipboard training is closely integrated with the shore-based academic curriculum at the Academy. Particularly focusing on watchstanding and celestial navigation, the senior cruise is an opportunity for the Marine Transportation cadet to put together all facets of shipboard operations and to utilize them while in charge of the vessel and watches.

PREREQUISITE

All Cadets MUST HAVE PASSED Applied Shiphandling (MT-3231), Automatic Radar Plotting Aids (ARPA) (MT-3222), and either Sea Term III (MT-3371) or Commercial Sea Term (MT-3372) to be eligible to participate in Sea Term IV.

COURSE CONDUCT

- Course conduct will be in accordance with the MMA regimental system and *T.S. Kennedy* rules.
- All Cadets shall wear the appropriate uniform to each class.
- The MMA honor code will be strictly followed.

STCW KNOWLEDGE-BASED LEARNING OBJECTIVES

Completion of this course will demonstrate knowledge and understanding of the following STCW elements:

- OICNW-A2.3 The use of routing in accordance with the General Provisions on Ships' Routing

STCW PRACTICAL ELEMENT LEARNING OBJECTIVE (See Section 2)

Completion of this course will demonstrate proficiency in the following skills:

- OICNW-1-1A Adjust a sextant
- OICNW-1-1B Measure the altitude of the sun
- OICNW-1-1C Obtain a celestial fix
- OICNW-1-1D Measure the altitude of the sun at meridian passage (local apparent noon)
- OICNW-1-1E Celestial running fix
- OICNW-1-1F Star Fix
- OICNW-1-1G Measure the altitude of at least 3 stars
- OICNW-1-3B Chart selection
- OICNW-1-3C Route planning
- OICNW-1-4A Position fix by GPS
- OICNW-1-4B Use of GPS position save function
- OICNW-1-4D Use of echo sounder
- OICNW-1-5F Azimuth of the sun
- OICNW-1-6A Steering gear test
- OICNW-1-6B Set weather controls
- OICNW-2-2A Watch relief

You must complete these assessments by demonstrating competency in ALL OF THEM this voyage unless they have been passed one or more at some other time and Capt. 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 or possibly Failure

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 are detailed in the Cel Nav Manual.

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

COURSE CONDUCT

- Course conduct will be in accordance with the MMA regimental system and T.S. Kennedy rules.
- All Cadets shall wear the appropriate uniform to each class.
- The MMA honor code will be strictly followed.

COURSE INTRODUCTION

The focus of Sea Term IV 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:

TRAINING

- Celestial Navigation
 - Marine Sextant
 - Sunline/ Azimuth
 - Computation of LAN
 - Rising Phenomena
 - Voyage Abstracts
 - Star Sight
 - Latitude by Polaris
- Cargo Gear
 - Fundamentals of Cargo Ops.
 - Married Fall Rig
 - Hydraulic Crane
- Communications
 - VHF Radio Telephone
 - GMDSS Workstation
- Electronic Navigation
 - AIS
 - Satellite Navigation Systems
 - ECDIS
- Advanced Firefighting
 - Ship's Preplans
 - Structural Fire Protection
- Lifesaving
 - Lifeboat Launching and Recovery
 - Liferaft Davits
 - Survival Craft Locating and Communicating Devices
 - Search and Rescue
- Navigation General
 - Lookout
 - Steering Systems and Engine Order Commands
 - Navigation Rules
 - Marine Weather Obs
 - Heavy Weather Avoidance
 - Logbook Review
 - Chart & Pub Corrections
 - Bridge Control Systems
- Piloting
 - Advanced Piloting Evolution
 - Precision Anchoring Planning

COURSE INTRODUCTION CONT.

- RADAR
 - Radar Watchstanding
 - Radar Plotting & Navigation
 - ARPA
- Rigging
 - Boatswain's Chair, Stage, and Pilot Ladders
 - Rigging Exercise
- Safety
 - Hand Tools
 - SOLAS & USCG Inspections
 - Safety Procedures Aboard the T.S. KENNEDY
- Shiphandling
 - Shiphandling & Man Overboard
 - Precision Anchoring Exercise
- Seamanship
 - Splicing: Braided/Plaited Line
 - Mooring Lines
 - Ground Tackle
- Watch Standing
 - Intro to Deck Watchstanding
 - Bridge Command and Control Systems
 - Collision Avoidance

WATCHKEEPING

- Cadet Officer of the Watch
 - Bridge Resource Management
 - Proper Watch Assumption and Relief
 - Vessel Underway Monitoring
 - Complied with Rules of the Road
 - Use of Professional Terminology
 - Bridge Equipment Operation Competency
 - Maintenance of Situational Awareness
- Navigator
 - Vessel Position Fixing Intervals
 - Use of Charts & Publications
 - Computing Compass Error
 - Effective Communication
- RADAR and ECDIS Observer
 - Maintain Vigilant Watch
 - Used Equipment to Fix Vessel Position
 - Assessed Risk of Collision
- Helmsman
 - Accurate Steering
 - Vigilant Supervision of Underclassmen
- Weather Watch
 - Provide Updated Weather Report
 - Ensure Accurate Weather Observation and Reporting

COURSE INTRODUCTION CONT.

MAINTENANCE

- Work on Deck with Chief Mate & Bosun
 - Supervision of Underclassmen
 - Coating Upkeep
 - Shipboard Equipment Upkeep

Sea Term IV/Senior Cruise is the zenith of your professional undergraduate training. We are fortunate to have the *TS 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/OICNW. We will be focusing upon the following areas:

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

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.

COURSE REQUIREMENTS

While on this cruise, all First Class 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 Capt. Mayhofer, the Academy's STCW compliance officer, who will be working closely with the Deck Training Coordinator, Capt. Belle, 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.

COURSE REQUIREMENTS CONT.

All First Class 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 IV. 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.

CRUISE GRADING PROCEDURES

The following grading policy applies to all cadets participating in Sea Term IV.

- Successful completion of the Sea Term IV is a pre-requisite for graduation.
- In accordance with the Mass Maritime Academy academic policy, the minimum passing grade for Sea Term IV, MT-4371 is 70%.
- Grades will not be scaled.
- The + - system will be used.
- Final grades for Sea Term II will be based on the following percentage values:

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

*Two written examinations will be administered during the cruise training cycle. Examinations will be scheduled as follows:

MID TERM Covering Phase One Training Subjects ALL DIVISIONS 10 June

FINAL Covering Phase Two Training Subjects ALL DIVISIONS 22 June

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 administered on the dates noted above

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 and ECDIS Observer, Training, Helmsman, etc. 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 3. You will be graded by the Bridge Watch Officer with input from the Bridge Training Officer.

***All 1 First Class deck cadets will be assigned approximately two 4/C MT major cadets to mentor. Your role is to be a source of knowledge and advice for the 4/C cadets. You will be informed of your assigned 4/C mentees prior to cruise. You are instructed to seek out your 4/C mentees 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:

- **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 Project**
 - **Cel-Nav Workbook / Navigation Journal**
 - **Universal Plotting sheets**
 - **Rude Star Finder sign out from library possible**
 - **Plotting Equipment - Navigation triangles, dividers, compass, mechanical pencil**
 - **Accurate Timepiece (watch)**
 - **Personal calculator/Laptop**

 - Marine Firefighting, Brady - To be taken out on loan from ship's library prior to your firefighting classes and returned immediately thereafter
 - USCG Rules of Road Manual
 - Cornell Manual for Lifeboatmen
 - Radar & ARPA Manual - Bole
 - Dutton's Nautical Navigation
 - ECDIS Basics, Ralph Becker-Heins
 - Marine Radionavigation and Communications, Monroe and Bushy
 - Ranger Manual
 - Cel Nav class notes & Commercial Sea Project Cel Nav Workbook
 - Coastal & Deep Sea Nav Class Notes
 - Basic & Advanced Seamanship Class Notes
 - Applied Ship Handling Class Notes
 - Meteorology Class Notes
 - Pocket knife, flashlight (with red lens), hard hat, accurate watch, and work gloves
- 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
- Cargo Work - House
- American Merchant Marine Officer's Handbook
- Navigation Pub 1310 Radar Navigation Manual
- Modern Seamanship - Knights
- Weather for the Mariner - Kotsch

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

SEXTANTS

Cadets 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 on Navigation Bridge or in the Nav Labs 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 First Class Deck Long Term Training Schedule (Section 6) to determine subjects and locations of daily 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. OUTSIDE Deck Training Office (Rm: 6-1)
2. 5 Hold Upper 'Tween Deck Bulletin Board
3. Forward House Rate Bulletin Board
4. Nav Labs & Seatorium

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.

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 with any misunderstanding of use of any of these schedules or any other questions relating to your Deck Training Program should see the Deck Training Coordinator at the Deck Training Office for clarification or assistance.

DEPARTMENTAL TRAINING SCHEDULES CONT.

A great deal of effort has been made in providing you with insight into the contents of each lecture which you are scheduled to attend. It is your responsibility to familiarize yourself with the contents of the lecture profile found in Section 4 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 equipment specified in the lecture profile required to carry out the session.** Cadets failing to report to a scheduled class without the required publications and or equipment necessary to complete the scheduled class or evolution will be placed on report.

A great deal of effort has been made in providing you with insight into the contents of each lecture which you are scheduled to attend. It is your responsibility to familiarize yourself with the contents of the lecture profile found in Section 3 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 equipment specified in the lecture profile required to carry out the session.** Cadets failing to report to a scheduled class without the required publications and or equipment necessary to complete the scheduled class or evolution will be placed on report.

Massachusetts Maritime Academy is committed to providing reasonable accommodations to students with documented disabilities. Students who believe they may need accommodations in this class are required to contact the & Sea Term Director of Disability Compliance, within the first two weeks of classes.

CONCLUSION

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.

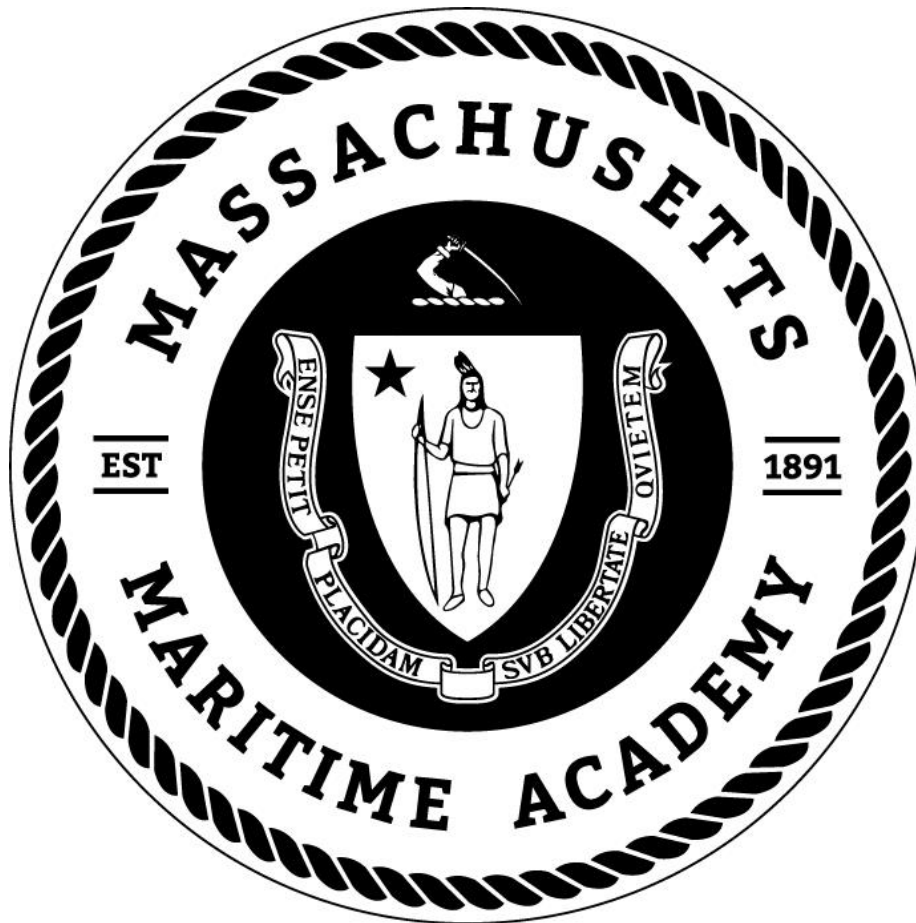
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2021 CRUISE TRAINING PROGRAM

Department of Marine Transportation

SEA TERM IV

FIRST CLASS



Section 2

STCW Assessments

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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 or FAILURE for senior cruise and may require you to repeat Sea Term IV, or at least delay receipt of your USCG MMC and diploma after graduation.

You will not receive a grade for the cruise until these assessments are completed.

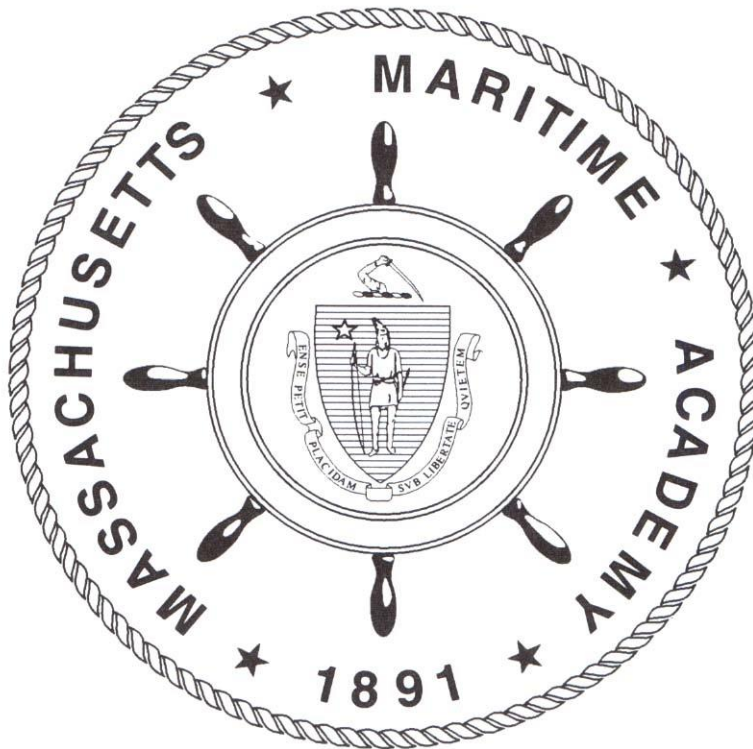
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2021 CRUISE TRAINING PROGRAM

Department of Marine Transportation

SEA TERM IV

FIRST CLASS



SECTION 3

WATCH EVALUATION PROCEDURES

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Department of Marine Transportation First Class Sea Term Watch Evaluation

Explanation of the Watch Evaluation Procedures

“Bridge watchkeeping is the single most important activity conducted at sea. Upon the watchkeeper’s diligence rest 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 Officer of the Watch will evaluate the performance of individual cadets assigned to designated watch stations using a standardized Watch Evaluation Sheet. On completion of this evaluation, a numerical grade will be assigned for the watch. Cadets are encouraged to review their individual Watch Evaluation Sheet with the Officer of the Watch at a convenient time upon completion of the watch. Every First and Third Class watch station has a multi question section on the Watch Evaluation Sheet. These watch station performance evaluations are provided on the following pages. Cadets are encouraged to become familiar with the Watch Evaluation Sheet criteria before standing their initial watch.

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

MAKE SURE THAT YOU TRACK ALL YOUR CRUISE WATCH GRADES AS THEY ARE A MAJOR COMPONENT (20%) OF YOUR 1/C SEA TERM GRADE! IF YOU ARE UNSURE OF A GRADE AFTER STANDING A WATCH SEEK OUT THE WATCH OFFICER OR THE COOW FOR THE WATCH. YOU MAY, OF COURSE, ALWAYS CONSULT WITH ME IN THE DECK TRAINING OFFICE IF THERE REMAINS ANY CONFUSION/CONCERN OVER A GRADE.

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.

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**DEPARTMENT OF MARINE TRANSPORTATION
CADET WATCH EVALUATION SHEET****OFFICER OF THE WATCH INSTRUCTION**

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

We will be grading each First and Third class watch position using specific questions for that watch station. Watch station questions are included in the Watch Evaluation Sheet. Bridge watch standing will comprise 20% of each cadet's final overall cruise grade.

Separate Watch Evaluation Sheets have been prepared for 1/C watch positions and 3/C watch positions. One of each sheet should be completed for each watch.

- **Please indicate date, division, and watch on the top of the sheet.**
- **Each cadet's name shall be noted adjacent to the watch station for which they are being evaluated.**
- **At the end of each watch, please evaluate the Cadet Officer of the Watch (COOW).**
- **After reviewing this evaluation with the COOW, along with the COOW and with input from the Bridge Training Officer if present, complete the evaluations on the remaining 1/C & 3/C positions.**
- **Watch score totals shall be added and divided as directed on the Watch Evaluation Sheet. $\sqrt{\quad} = 7.5$; $\sqrt{+} = 9$; $\sqrt{\quad} = 6$**
- **If the Watch Officer and/or COOW considers performance "Outstanding" or "Unsatisfactory", they are encouraged to make a short comment next to the scoring boxes.**
- **Completed Watch Evaluation Sheets shall be placed in the three ring Watch Evaluation Binder.**
- **Every day or two, the completed evaluations will be collected and watch grades will be transferred from the evaluation sheet to a computer spreadsheet for cruise grade computation.**

Your assistance with this part of cadet grading and evaluation is greatly appreciated and will help our cadets develop and improve their withstanding skills.

If you have any additional questions, please contact me.

Thank You,

**J. Belle,
Deck Training Coordinator**

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SECTION 3

WATCH EVALUATION PROCEDURES

1/c Watch Evaluation Sheet

Date: _____

Div: _____

Watch: _____

Cadet Officer of the Watch Name: _____

	√+	√	√-	Score
Managed bridge resources. Took charge of watch and delegated responsibilities appropriately. Ensured watch station fundamentals were observed by all (including 1/c).				
Reported to watch prepared. Carried out a proper watch relief with a detailed passthrough of information.				
Monitored the vessel's position and adhered to the navigator's trackline.				
Complied with Rules of the Road, in particular, look-out; safe speed; and determination of risk of collision. Made clear reports and sound recommendations to the master.				
Monitored seaworthiness of the vessel. Maintained records via BMOW, QMOW, and bridge watchstanders.				
Used professional terminology.				
Competent in the operation of all bridge equipment.				
Maintained situational awareness. Thinks ahead and stays engaged.				
Managed reactions while under stress.				

Total Score: √+ =9.5; √ = 8.0; √- = 6.5

÷ 8 =

Final Watch Grade
(out of 10 pts)

Navigator Name: _____

	√+	√	√-	Score
Complied with minimum fixing requirements as detailed in the Master's Standing Orders.				
Used all charts & publications; brought the appropriate gear (nav gear, red light, foul wx gear).				
Complied with compass comparison requirements as detailed in the Standing Orders.				
Apprised COOW of vessel position, compass comparison, environmental effects, and set & drift. Recommended course and/or speed changes to the COOW.				

Total Score: √+ =9.5; √ = 8.0; √- = 6.5

÷ 4 =

Final Watch Grade
(out of 10 pts)

RADAR and ECDIS Observer Name: _____

	√+	√	√-	Score
Applied RADAR and ECDIS observation skills to fix the ship's position and assess collision risk in accordance with the Standing Orders. Used and understood AIS information.				
Apprised the COOW of risk of collision and provided proper recommendations to avoid collision. Did not rely solely on RADAR - utilized visual bearings to assess ROC.				
Continuously increased knowledge on RADAR and ECDIS systems. Trained underclassmen if time was available.				

Total Score: √+ =9.5; √ = 8.0; √- = 6.5

÷ 3 =

Final Grade
(out of 10 pts)

Helmsman Name: _____

	√+	√	√-	Score
Steered the vessel safely. Followed the conning officer's instructions.				
Vigilantly supervised and trained underclass helmsmen.				
Competent in the operation of all related equipment.				

Total Score: √+ =9.5; √ = 8.0; √- = 6.5

÷ 3 =

Final Grade
(out of 10 pts)

Weather Name: _____

	√+	√	√-	Score
Supervised and ensured accuracy of VOS report elements obtained by 3/c Weather				
Ensured VOS report was properly prepared and transmitted by 3/c Weather.				
Prepared to supply COW, Watch Officer, and/or Master a detailed weather report.				

Total Score: √+ =9.5; √ = 8.0; √- = 6.5

÷ 3 =

Final Grade
(out of 10 pts)

Key to Scoring:

√+ : 9.5 : Performance demonstrating a very high level of professional skill, maturity and experience. Performance well above that normally expected of a 1/cMTRA Cadet.

√ : 8.0 : Performance normally expected of a hard-working and prepared 1/cMTRA cadet.

√- : 6.5 : Performance which is less than that normally expected of a person with 1/c training and experience.

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2021 CRUISE TRAINING PROGRAM

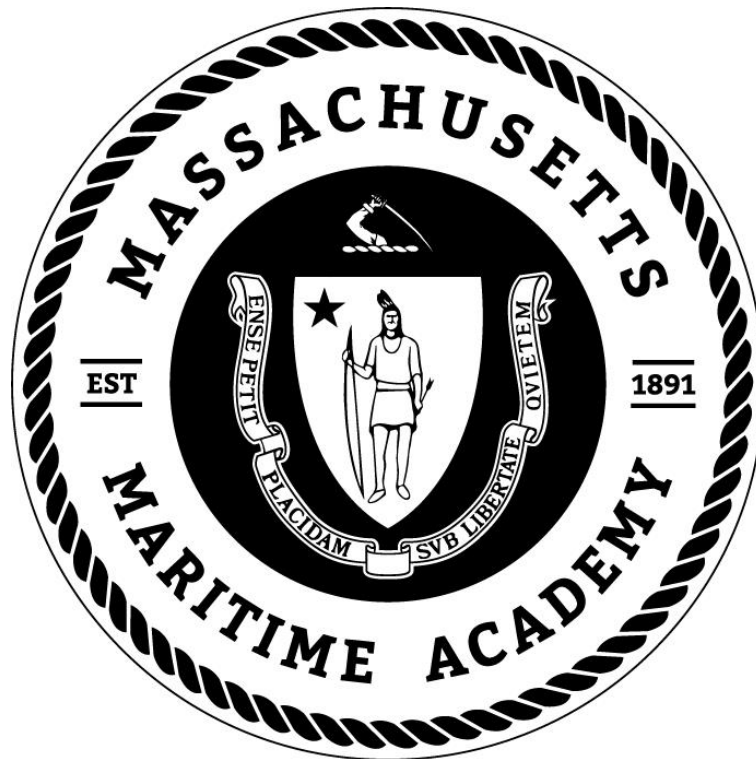
Department of Marine Transportation

SEA TERM IV

FIRST CLASS

Section 4

Cruise Lecture Profiles



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LECTURE TITLE: CELESTIAL NAVIGATION I

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 II

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:

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

DISCUSS:

- Use of Nautical Almanac
- Use of sextant
- Use of plotting equipment
- Use and care of azimuth circle
- Sight reduction procedures

SHOW/DEMONSTRATE:

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

READING ASSIGNMENT:

- 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 (H_a)
- Observed altitude (H_o)
- Computed altitude (H_c)
- Altitude intercept (a)
- Azimuth (Z_n)
- Assumed position

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LECTURE TITLE: CELESTIAL NAVIGATION III

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 (H_a)
 - Observed altitude (H_o)
 - True declination
 - Zenith distance
 - Latitude
 - Sextant altitude (H_s)

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 IV

TRAINING SUBJECT: RISING PHENOMENA SUNRISE/MOONRISE

SPECIAL REQUIREMENTS:

- Nautical Almanac
- Ship's Dead-reckoning position

TRAINING LECTURE OBJECTIVE:

- To teach or review use of the Nautical Almanac.
- To determine sunrise, sunset, moonrise, moonset.

DISCUSS:

- Lecture profile requirements
- Navigation Journal entries.

SHOW/DEMONSTRATE:

Proper methods of determining:

- Sunrise,
- Sunset
- Nautical and Civil twilight,
- 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:

- Navigation and Piloting (Dutton)
- American Practical Navigator (Bowditch 95)
- 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 V

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 VI

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 VII

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. 2014
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: CARGO GEAR I

TRAINING SUBJECT: CARGO OPERATIONS

SPECIAL REQUIREMENTS:

- One set of cargo gear and power to the winches
- Students will wear work gloves, hard hats, and safety shoes
- Storage Shipping Container and Reefer

TRAINING LECTURE OBJECTIVE:

- A. Introduce students to cargo operations and equipment incl. booms, winches, hatch covers, containers. etc.
- B. Develop practical experience at cargo gear operations

DISCUSS:

- | | |
|-----------------------|--|
| A. Safety Procedures | F. Spotting procedures |
| B. Nomenclature | G. Operating procedure |
| C. Hand Signals | H. Lowering procedures |
| D. Winch operations | I. Securing for sea |
| E. Topping procedures | J. Cargo Gear Record Book and deck log entries |

SHOW / DEMONSTRATE:

- A. Traditional Cargo Gear
- B. Hatch Covers and Coamings
- C. Cargo Hold decks and components
- D. Hydraulic Cranes
- E. Cargo gear inspection procedures

READING ASSIGNMENT:

- *AMSM* p. 5:20 – 5:23
- *Marine Cargo Operations* p.390-417
- *Merchant Marine Officers Handbook* ch. 10

MISCELLANEOUS:

TEST QUESTIONS:

- A. What is the purpose of the schooner guy?
- B. What size and type of wire is used on cargo gear with a ten ton SWL as a preventer guy?
- C. What are the parts of a shipping container.

WATCHSTATION / GENERAL TRAINING REFERENCE:

- Cargo Operations text
- Seaman 1.9
- Monitor the loading, stowage etc. of cargo; Table A-II / 1 (i.)

LECTURE TITLE: CARGO GEAR III

TRAINING SUBJECT: MARRIED FALL RIG

SPECIAL REQUIREMENTS:

- Familiarize student with the rigging and use of a married fall cargo system.
- Students will wear work gloves, hard hats, and safety shoes

TRAINING LECTURE OBJECTIVE:

- A. To rig, top, and spot a married fall rig.
- B. To Burton cargo with a married fall rig

DISCUSS:

- A. Safety precautions
- B. SWL and tests
- C. Rigging procedures

SHOW / DEMONSTRATE:

- A. Rigging procedures
- B. Topping procedures
- C. Lifting procedures
- D. Securing procedures

READING ASSIGNMENT:

Marine Cargo Operations, Sauerbier pp. 345-398

MISCELLANEOUS:

TEST QUESTIONS:

- Which fall is the up and down fall?
- What are two terms used to identify the spanner guy?
- What are the procedures for doubling up this gear

WATCHSTATION / GENERAL TRAINING REFERENCE:

- Seaman 1.9
- Boatswain Mate of the Watch
- Cadet Chief Mate
- Cadet Second Mate Deck Supervisor
- Monitor the loading, stowage etc. of cargo; Table A-II / 1 (i.)

LECTURE TITLE: CARGO GEAR IV

TRAINING SUBJECT: HYDRAULIC CRANE

SPECIAL REQUIREMENTS:

- Power to Crane
- Slings
- Unit to be lifted
- Permission of Chief Mate

TRAINING LECTURE OBJECTIVE:

- A.** To instruct students in the safe operation in lifting and lowering a weight with the Appleton hydraulic crane.

DISCUSS:

- | | |
|-------------------------------|---|
| A. Start-up procedures | D. Slewing Boom |
| B. Hoist Preparation | E. Sling and Boom SWL and capacities |
| C. Hand Signals | F. Safety Procedures |

SHOW / DEMONSTRATE:

- | | |
|--------------------------------|------------------------------|
| A. Hand Signals | E. Slewing of Boom |
| B. Control Panel | F. Retracting of Boom |
| C. Control Levers | G. Extension of Boom |
| D. Lifting and Lowering | H. Topping of boom |

READING ASSIGNMENT:

MISCELLANEOUS:

TEST QUESTIONS:

WATCHSTATION / GENERAL TRAINING REFERENCE:

- Boatswains Mate of the Watch
- All Cadet Deck Rates
- Monitor the loading, stowage etc. of cargo; Table A-II / 1 (i.)

LECTURE TITLE: COMMUNICATION III

TRAINING SUBJECT: VHF RADIO TELEPHONE

SPECIAL REQUIREMENTS:

- Power and access to VHF radio
- VHF Radio Telephone Log
- *IMO Standard Marine Communication Phrases*

TRAINING LECTURE OBJECTIVE:

- A. Familiarize cadets with the proper VHF radio operation procedures
- B. Familiarize students with VHF licensing and log requirements

DISCUSS:

- A. VHF radio station and operator license requirements in accordance with FCC regulations
- B. Monitor/Guard responsibilities
- C. Frequency spectrum
- D. Equipment nomenclature
- E. Traffic priority : Mayday, Pan-Pan, Securitee
- F. Digital Selective Calling capabilities and responsibilities

SHOW/DEMONSTRATE:

- A. Proper tuning procedures
- B. Proper communications techniques

READING ASSIGNMENT:

T.S. KENNEDY Bridge Procedures Manual
Manufacturer's operating manual for designated equipment

MISCELLANEOUS:

- Introduce the concept of the Global Maritime Distress and Safety System
- Introduce the concept of the *IMO Standard Marine Communication Phrases*

TEST QUESTIONS:

- Channel 16 corresponds to what frequency?
- What channels are receive only?
- What is the range of the VHF radio telephone?

WATCHSTATION/GENERAL TRAINING REF:

Navigation at the support level; Table A-II/4 (c)
Operate life saving appliances; Table A-II/1 (m)
Respond to a distress signal at sea; Table A-II/1 (e)

LECTURE TITLE: COMMUNICATION IV

TRAINING SUBJECT: GMDSS WORKSTATION FAMILIARIZATION

SPECIAL REQUIREMENTS:

- Power and access to radio shack equipment and related accessories
- Assistance of Radio Officer requested\

TRAINING LECTURE OBJECTIVE:

- A. Help form a good working liaison between the deck cadets and the Radio Officer
- B. Familiarize cadets with the Radio Officer's equipment, duties and responsibilities

DISCUSS:

- A. Watch requirements
- B. Transmitter, Receivers and Antennas
- C. Auto alarms and logbooks
- D. Time Ticks
- E. FCC Regulations and certificates
- F. GMDSS

SHOW/DEMONSTRATE:

- A. Auto alarm test procedure
- B. Proper antenna line-up
- C. Time tick procedures
- D. *IMO Standard Marine Phrases*
- E. SAFETY NET System

READING ASSIGNMENT:

Navigation Pub. No.9 Articles 2800-2808

TEST QUESTIONS:

- What combination of signal sends the radio shack into alarm?
- What frequency does the auto alarm monitor ?
- What is the responsibility of the primary GMDSS radio station operator while underway

WATCHSTATION/GENERAL TRAINING REF:

- Cadet Officer of the Watch
- Cadet Navigator
- Professional Achievement Exam
- Navigation at the Support Level
- Operating life saving appliances

LECTURE TITLE: COMMUNICATION V

TRAINING SUBJECT: GLOBAL MARINE DISTRESS & SAFETY SYSTEM

SPECIAL REQUIREMENTS:

- GMDSS master handbook
- Licensed GMDSS operator
- Access to GMDSS station

TRAINING LECTURE OBJECTIVE:

- A. Familiarize cadets with the training ships GMDSS system
- B. Enable students to identify different equipment

DISCUSS:

- A. SATELLITE CAPABILITIES
- B. SEA AREAS
- C. FCC AND USCG REGULATIONS FOR GMDSS RADIO STATION OPERATORS
- D. COMMUNICATION FUNDAMENTALS
- E. NAVTEX AND SAFETYNET
- F. PROPER RADIO ETIQUETTE
- G. AMVER SEAS

SHOW/DEMONSTRATE:

- A. EPIRB
- B. SART
- C. NAVTEX
- D. NBDP

READING ASSIGNMENT:

NAVIGATION PUB NO. 9

MISCELLANEOUS:

TEST QUESTIONS:

- What is the primary cause of false distress under the GMDSS system?
- The term MMSI normally refers to?
- What is the correct procedure to respond to a distress received by HF?

WATCHSTATION/GENERAL TRAINING REF:

LECTURE TITLE: ELECTRONIC NAVIGATION I

TRAINING SUBJECT: AUTOMATIC IDENTIFICATION SYSTEMS (AIS)

SPECIAL REQUIREMENTS:

- Live or simulated AIS

TRAINING LECTURE OBJECTIVE:

- A. Familiarize students with the operating procedures, capabilities, and uses of the AIS system installed aboard the *TS Kennedy*.

DISCUSS:

- A. System Configuration
- B. System Capabilities
- C. System sensor inputs
- D. System Errors and Limitations
- E. Integration into ECDIS and ARPA

SHOW/DEMONSTRATE:

- A. Set-Up
- B. Information Input
- C. Warnings
- D. Errors

READING ASSIGNMENT:

MISCELLANEOUS:

- Instructor handout

TEST QUESTIONS:

WATCHSTATION/GENERAL TRAINING REF.:

LECTURE TITLE: ELECTRONIC NAVIGATION II**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 III

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 *TS Kennedy*.

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:

-

WATCHSTATION/GENERAL TRAINING REF.:

LECTURE TITLE: ELECTRONIC NAVIGATION IV

TRAINING SUBJECT: ELECTRONIC SYSTEMS REVIEW

SPECIAL REQUIREMENTS:

- Access to GPS units and Operation Manuals
- Raytheon ECDIS Operators Manual
- AIS Operators Manual
- Radio Aids to Navigation Pub. 117

TRAINING LECTURE OBJECTIVE:

- A. Introduce or review principles and procedures for various electronic navigation systems installed aboard the training vessel

DISCUSS:

- A. Basic principles
- B. Accuracy and limitations of system
- C. Monitor procedures

SHOW/DEMONSTRATE:

- A. Input of data
- B. Light off procedures
- C. Waypoints, plotting of fixes and monitoring of system performance

READING ASSIGNMENT:

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

MISCELLANEOUS:

Instructor to obtain, plot and review fix obtained from each unit

TEST QUESTIONS:

- How do you input the GRI to a designated Loran receiver?
- What is the acceptable range of SNR for a designated Loran receiver?
- What effect does unusual water temperature have on the depth sounder?
- What are the Loran operator accuracy considerations if the vessel is operating well offshore?
- When are ASF corrections applied to Loran receivers?

LECTURE TITLE: FIREFIGHTING VII

TRAINING SUBJECT: SHIP'S PREPLANS

SPECIAL REQUIREMENTS:

- Access to copy of *TS Kennedy* fire control plan.
- Access to spaces aboard the *TS Kennedy*
- 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 VIII**TRAINING SUBJECT: STRUCTURAL FIRE PROTECTION****SPECIAL REQUIREMENTS:**

- Access to copy of *TS Kennedy* fire control plan.
- Access to spaces aboard the *TS Kennedy*
- Copies of 46 CFR Subchapter H Extracts

TRAINING LECTURE OBJECTIVE:

- Identify the structural fire protections engineered into the vessel's structure.
- Make the student aware of the CFR requirements for structural fire protection under 46 CFR Subchapter H.
- Student will prepare a preplan of a designated space.

DISCUSS:

- Engineering solutions vs. operational solutions.
- Classification of bulkheads.
- Stair towers and other penetrations between fire zones.
- Closures both manual and automatic necessary to prevent the spread of fire, heat and smoke.
- Means of escape
- Ventilation requirements

SHOW/DEMONSTRATE:

- Location, construction and arrangement of bulkheads, A, B and C.
- Identify fire zones on the vessel's fire control plan and locally within the vessel.
- Student will demonstrate knowledge of preplan parameters:
 - Sectors
 - Data Requirements
 - Priority; areas
 - Procedural requirements
- 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)

LECTURE TITLE: LIFESAVING II

TRAINING SUBJECT: LAUNCH / RECOVER LIFEBOAT

SPECIAL REQUIREMENTS:

- Access to Lifeboat
- Lifejackets
- All PPE (hard hat, gloves, safety shoes, extra clothing)

TRAINING LECTURE OBJECTIVE:

- A. Instruct students in the proper procedures for preparing a lifeboat for launching
- B. Instruct students in proper launching and recovery of lifeboat
- C. Prepare students for USCG Lifeboatman Examination

DISCUSS:

- A. Parts of a Lifeboat
- B. Parts of a Davit
- C. Lowering Procedures
- D. Hoisting Procedures
- E. Securing for Sea
- F. Safety Precautions

SHOW/DEMONSTRATE:

- A. Student to lower lifeboat to embarkation deck
- B. Student to hoist, test limit switches, recover boat and secure for sea
- C. Proper procedures for passing frapping lines and gripes

READING ASSIGNMENT:

AMSM, Chapter 10, pages 7-21.
T.S. KENNEDY Bridge Procedures Manual

MISCELLANEOUS:

If used for survival craft competency demonstration, provisions of STCW Table A-II/ 1 (m) apply

TEST QUESTIONS:

- When should the tracing pennant be released?
- What is the abandon ship signal?
- Name four types of davits
- What types of locating and communicating devices should be brought to the survival craft?
- Who is responsible for bringing them?

WATCHSTATION/GENERAL TRAINING REF:

- Boatswain Mate of the Watch
- Fourth Class Lifesaving Fundamentals
- Operate Life Saving Appliances

LECTURE TITLE: LIFESAVING IV

TRAINING SUBJECT: GRAVITY LAUNCHED LIFERAFT DAVIT

SPECIAL REQUIREMENTS:

- Notify Chief Mate and Officer of the Watch that you will be conducting exercise
- Access to Life Raft
- Students to wear all necessary PPE gear

TRAINING LECTURE OBJECTIVE:

- A. Instruct students or determine competency in launching and boarding an inflatable life raft

DISCUSS:

- A. Nomenclature of life raft or davit
- B. Raymond Releasing Hook
- C. Davit crew responsibilities
- D. Loading personnel into raft
- E. Davit winch operation
- F. Lowering
- G. Retrieving hook
- H. Bowsing lines
- I. Release procedures

SHOW/DEMONSTRATE:

- A. Launch Life Raft

READING ASSIGNMENT:

T.S. KENNEDY Bridge Procedures Manual

MISCELLANEOUS:

STCW Table A-II/ i (m) competency demonstration requirements apply.

TEST QUESTIONS:

- What color is the brake handle?
- What are bowsing lines?
- How do you release the Raymond Release Hook?

WATCHSTATION/GENERAL TRAINING REF:

- Boatswain Mate of the Watch
- Operating Lifesaving Appliances

LECTURE TITLE: LIFESAVING EQUIPMENT VIII

TRAINING SUBJECT: SURVIVAL CRAFT RADIO LIFESAVING APPLIANCES

SPECIAL REQUIREMENTS:

- Survival craft hand held VHF transceiver
- EPIRB
- SART

TRAINING LECTURE OBJECTIVE:

- A. Expose cadets to the parameters and operational procedures of survival craft radio lifesaving appliances.

DISCUSS:

- A. Survival craft VHF radio operation and communications procedures.
B. Search and Rescue Radar Transponder (SART) operation, testing, and maintenance procedures.
C. Electronic Positioning Indicating Beacons (EPIRB).
D. Power sources.
E. Rigging of equipment in deployed in survival craft.
F. COPAS/SARSAT satellite system.
G. False Alerts, Registration, battery maintenance, logging requirements etc.

SHOW/DEMONSTRATE:

- A. Operation and test procedures under dummy load conditions for each unit discussed
B. Installation requirements

READING ASSIGNMENT:

Navigation Publication No. 9, (1995), Articles, 2802, 2808
The Cornell Manual for Lifeboatmen, Able Seaman and QMED, P. 55-56

MISCELLANEOUS:

- This session partially addresses requirements of STCW Table A-II/I (m).
- It should be conducted by a GMDSS licensed radio station operator.
- Particular emphasis should be placed on preventing false alerts in handling 406 MHz EPIRBs and other locating devices. Instructor and students should tour ship locating each device.

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?
- How often is the EPIRB tested?
- How is the EPIRB tested?
- How long will a SART function once actuated?
- How will survival craft occupants know that a rescue vessel is nearby?

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: 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: HAZMAT II

TRAINING SUBJECT: LABELING AND PLACARDING

SPECIAL REQUIREMENTS:

- Handout: PLACARDING FOR NINE GRADES OF HAZARDOUS MATERIALS
- Copies of 49 CFR 171-172
- LABELING REQUIREMENTS FOR HAZARDOUS MATERIALS

TRAINING LECTURE OBJECTIVE:

- A. Apply the concept of Accident Potential Recognition through labeling and placarding practice.
- B. Enable the student to properly identify the specific hazard warnings that are required when transporting hazardous materials
- C. Provide the student with the ability to identify, classify and take necessary precautions when exposed to hazardous materials

SHOW/DEMONSTRATE:

- A. HAZMAT carriage requirements of 49 CFR 171 and 172 to the students by reviewing appropriate provisions with them
- B. HAZMAT ID Forms
- C. Complete HAZMAT ID Form
- D. Conduct practice walk-around
- E. Conduct post survey discussion, detail results and recommended actions

READING ASSIGNMENT:

Required hand outs and forms

T.S. KENNEDY Safety Training Manual

TEST QUESTIONS:

- Instructor to generate 3-question test which requires students to utilize appropriate HAZMAT table

WATCHSTATION/GENERAL TRAINING REF:

- Boatswain Mate of the Watch
- Prevent, control and fight fires on board
- Instructor to generate 3-question test which requires students to utilize appropriate HAZMAT

LECTURE TITLE: HAZMAT III

TRAINING SUBJECT: MATERIALS AND MARKING

SPECIAL REQUIREMENTS:

- *Manufacturer's Markings on Containers used for Transporting Hazardous Materials*
- Copies of 49 CFR 171-172

TRAINING LECTURE OBJECTIVE:

- A. Apply the concept of Accident Potential Recognition through marking and manifesting practice.
- B. Enable the student to properly identify the specific hazard warnings that are required when transporting hazardous materials

SHOW/DEMONSTRATE:

- A. HAZMAT carriage requirements of 49 CFR 171 and 172 to the students by reviewing appropriate provisions with them
- B. HAZMAT ID Forms
- C. Complete HAZMAT ID Form
- D. Conduct practice walk-around
- E. Conduct post survey discussion, detail results and recommended actions

READING ASSIGNMENT:

Required hand outs and forms

T.S. KENNEDY Safety Training Manual

TEST QUESTIONS:

- Instructor to generate 3-question test which requires students to utilize appropriate HAZMAT table

WATCHSTATION/GENERAL TRAINING REF:

- Boatswain Mate of the Watch
- Prevent, control and fight fires on board
- Instructor to generate 3-question test which requires students to utilize appropriate HAZMAT

LECTURE TITLE: HAZMAT IV

TRAINING SUBJECT: MATERIALS AND MANIFESTING

SPECIAL REQUIREMENTS:

- *Manufacturer's Markings on Containers used for Transporting Hazardous Materials*
- Copies of 49 CFR 171-172

TRAINING LECTURE OBJECTIVE:

- A. Apply the concept of Accident Potential Recognition through marking and manifesting practice.
- B. Enable the student to properly identify the specific hazard warnings that are required when transporting hazardous materials

SHOW/DEMONSTRATE:

- A. HAZMAT carriage requirements of 49 CFR 171 and 172 to the students by reviewing appropriate provisions with them
- B. HAZMAT ID Forms
- C. Complete HAZMAT ID Form
- D. Conduct practice walk-around
- E. Conduct post survey discussion, detail results and recommended actions

READING ASSIGNMENT:

Required hand outs and forms

T.S. KENNEDY Safety Training Manual

TEST QUESTIONS:

- Instructor to generate 3-question test which requires students to utilize appropriate HAZMAT table

WATCHSTATION/GENERAL TRAINING REF:

- Boatswain Mate of the Watch
- Prevent, control and fight fires on board
- Instructor to generate 3-question test which requires students to utilize appropriate HAZMAT

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: NAVIGATION GENERAL I

TRAINING SUBJECT: LOOKOUT PROCEDURES

SPECIAL REQUIREMENTS:

- Look-out watch station requirements
- 7x50 Binoculars
- Copy of rule 5
- Signal Flags

TRAINING LECTURE OBJECTIVE:

Instruct students on the proper look-out procedures under normal and emergency situations, so that cadets can be expected to meet all look-out watch qualification requirements.

DISCUSS:

- A. Reporting of contacts / targets
- B. Typical flag hoists
- C. Changing concepts of the term “lookout”
- D. Man overboard procedures
- E. use of Alidade, binoculars

SHOW/DEMONSTRATE:

- A. contact reporting using relative bearing and true bearing
- B. Williamson turn procedures
- C. Signal flags
- D. Use of water lights and lifesaving appliances use in man-overboard situations.

READING ASSIGNMENT:

Guide to The Collision Avoidance Rules, A.N Cockcroft p. 32-40.
The Cornell Manual for Lifeboatmen P. 61-63,119-120, fig. 41 p. 121
American Merchants Seaman’s Manual fig. 12-1, pages 13-4 to 13-7
Handout – Duties of a lookout.

MISCELLANEOUS:

- A. USTS Kennedy bridge procedures manual

TEST QUESTIONS:

- How many degrees relative is “Broad on the Starboard bow”?
- What signal flag is hoisted when a man is overboard?
- What are the duties of the Look-out?

LECTURE TITLE: NAVIGATION GENERAL II**TRAINING SUBJECT: STEERING SYSTEMS & ENGINE ORDER COMMANDS****SPECIAL REQUIREMENTS:**

- Power and access to ADG 6000 steering console, course recorder, rudder angle indicators and tachometers
- Power and access to steering engine room

TRAINING LECTURE OBJECTIVE:

- A. Prepare cadets to properly give and respond to helm and engine orders.
- B. Familiarize cadets with various steering components.
- C. Familiarize students with Engine Order Telegraph and engine monitoring devices on the bridge.
- D. Introduce students to Steering Engine Room and equipment

DISCUSS:

- A. Proper helm and engine orders.
- B. Importance of compass comparisons.
- C. Emergency procedures/steering change over.
- D. Course recorder operation.
- E. Standard procedures for switching steering gear
- F. Rate of Turn Indicators.
- G. Standard procedures for testing gear - pre-departure, pre-arrival
- H. Use of autopilot - adjustments, cautions

SHOW/DEMONSTRATE:

- A. ADG 6000 Steering console operation and change from manual to automatic mode.
- B. Rudder angle and rpm indicators.
- C. Course to steer and gyro error board.
- D. NFU System.
- E. Course recorder operation and routine maintenance.

READING ASSIGNMENT:

American Merchant Seaman's Manual P. 9-1 - 9-12
Navigation Pub. No. 9 (1995) , Articles 626- 630
Modern Seamanship , Knight, Sections 9.17 & 9.18

MISCELLANEOUS:

- *KENNEDY Bridge Procedures Manual, P. 42-45, Orders to the helm*

TEST QUESTIONS:

- What is the lubber's line?
- Why is it important to compare and record magnetic and gyro compass headings frequently?

WATCH/STATION GENERAL TRAINING REF:

Navigation at the support level Table A-II/4 (a)
Navigation at the support level Table A-II/4 (c)

LECTURE TITLE: NAVIGATION GENERAL III**TRAINING SUBJECT: NAVIGATION RULES : LIGHTS, SHAPES AND SOUNDSIGNALS****SPECIAL REQUIREMENTS:**

- Copy of *The Rules of the Road*
- VCR assets: Rules of the Road-Lights and Shapes
- PC, large monitor and Rules software

TRAINING LECTURE OBJECTIVE:

- A. To introduce fourth class cadets to lights, shapes and fog signals required to be carried by vessels on international waters so that they might serve as look-out, and so that they might meet knowledge minimums required of the U.S. Coast Guard ABLE SEAMAN Examination.

DISCUSS:

- A. Lights required of vessels when underway, at anchor, when engaged in special tasks and or restricted in their ability to maneuver
- B. Fog and Maneuvering signals of the above vessels
- C. Distress signals

SHOW/DEMONSTRATE:

- A. Various lights and shapes
- B. VCR Cassette
- C. Self testing procedure on micro computer programs

READING ASSIGNMENT:

American Merchant Seaman's Manual P. 9-1 - 9-12
The Rules of the Road

MISCELLANEOUS:

- This lecture should accompany Deck Watch standing I

TEST QUESTIONS:

- A day signal of a basket is displayed by?
- Match the day signals sketched with the class of the vessel denoted
- Match the lights sketched with the class of vessel denoted
- What is the fog signal sounded by a towing vessel ?

WATCH/STATION GENERAL TRAINING REF:

Navigation at the support level Table A-II/4 (a)
Navigation at the support level Table A-II/4 (c)

LECTURE TITLE: NAVIGATION GENERAL V**TRAINING SUBJECT: INTRODUCTION TO WEATHER OBSERVATION****SPECIAL REQUIREMENTS:**

- Power to Furuno fax machine
- NOAA ship's weather forms
- Basic shipboard meteorology equipment-psychrometer, barometer etc.
- NWS Observing Handbook 1

TRAINING LECTURE OBJECTIVE:

- A. To accurately observe weather elements and record same for transmission by radio
- B. Introduce students to the marine weather products available on the weather fax.

DISCUSS:

- A. Importance of routine accurate weather reports.
- B. Barometer, psychrometer, weather elements, determination of direction and velocity of true wind, and use of humidity tables.
- C. Ship's weather observation form.
- D. Radio weather messages.
- E. Fax maps and synoptic charts.

SHOW/DEMONSTRATE:

- A. Encoding of ship's weather for radio message.
- B. Use of weather fax machine.

READING ASSIGNMENT:

*National Weather Service Observing Handbook No.
Navigation Publication No. 9 (1995) Articles 3700-3800
American Merchant Seamen's Manual, P. 16-28, 1-30, P. 17-9, 17-17*

MISCELLANEOUS:

Furuno Fax Machine Operation Manual
USTS Kennedy Bridge Procedures Manual, P. 104, 244-245 Navigating in Tropical Storm Area

TEST QUESTIONS:

- What is the reason for taking routine weather observations?
- What is relative wind?
- How many numbers must be in each coded group transmitted?
- What does a rising barometer indicate?
- Why must the wet bulb properly read lower than the dry bulb thermometer?
- How is a Pilot Chart used to assist in weather forecasting at sea?

WATCHSTATION/GENERAL TRAINING REF:

- Quartermaster of the Watch 1.14, 1.15, 1.16
- Navigation at the operational level; table A-II / 1 (a.)

LECTURE TITLE: NAVIGATION GENERAL VIII**TRAINING SUBJECT: MARINE WEATHER OBSERVATION 2****SPECIAL REQUIREMENTS:**

- NWS Observing Handbook 1
- NOAA Ships Weather Observation Forms
- Radio Messages
- Surface and upper air prognostic and analysis weather maps
- Access to Furuno or Raytheon weather facsimile (w/ operators manual)

TRAINING LECTURE OBJECTIVE:

- A. Review recording of accurate weather observations and predicting future weather conditions by studying weather maps and radio messages.
- B. Familiarize cadets with the operational capabilities and limitations of facsimile receivers.

DISCUSS:

- A. Weather forecast products available by fax or internet.
- B. Air mass analysis.
- C. Surface and upper air maps
- D. Capabilities and limitations of facsimile data.
- E. Operational features of the Furuno and Raytheon fax receivers.

SHOW/DEMONSTRATE:

- A. Decode radio messages
- B. Turning procedures
- C. interpreting weather maps
- D. Changing recorded paper

READING ASSIGNMENT:

Navigation Pub. No.9 (1995), Articles: 3509-3516, 3524-3526

MISCELLANEOUS:**TEST QUESTIONS:**

- How is a cold front depicted on a surface weather map?
- Which map depicts jet stream levels?
- How does one obtain and interpret broadcast schedules?

WATCHSTATION/GENERAL TRAINING REF:

- Quartermaster – 1.15, 1.16
- Navigator – 1.12
- Cadet Officer of the Watch of the Deck – (in port) 1.10
- Navigation at the operational level; table A-II 1 (a.)

LECTURE TITLE: NAVIGATION GENERAL VII

TRAINING SUBJECT: LOG BOOK REVIEW

SPECIAL REQUIREMENTS:

- Azimuth Record Book
- Bell Book
- Deck Log
- Noon Position Reports
- Quartermaster's Notebook

TRAINING LECTURE OBJECTIVE:

- A. Prepare cadets to make proper entries in the various bridge logbooks.
- B. Prepare cadet to properly complete and distribute ship's noon position report.

DISCUSS:

- A. Importance of timely and accurate logbook entries.
- B. Proper logging procedures.

SHOW/DEMONSTRATE:

- A. Quartermaster's Notebook entries.
- B. Bell Book entries.
- C. Compass Observation Book entries.
- D. Bearing Record Book entries.
- E. Deck Log entries.

READING ASSIGNMENT:

MISCELLANEOUS:

- Ship's recent noon position report

TEST QUESTIONS:

- What is the Bell Book symbol for slow astern?
- How and why do vessels log fire and boat drills?
- What reference terminates the sea passage?

WATCH/STATION GENERAL TRAINING REF:

Navigation at the support level Table A-II/4 (c)

Deck Log Book Procedures

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.

All rights are reserved. No part of this publication can be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopy, recording, or any information storage or retrieval system, without the prior permission from Captain Joseph S. Murphy, II at the Massachusetts Maritime Academy, 101 Academy Drive, Buzzards Bay, MA 02532, (508) 830-5021.

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 or 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 in-port. 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 described.
- 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. KENNEDY*
- (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 in-port 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.

3. PARTICULARS

LEFT-HAND SIDE OF LOG SHEET**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 in-port, 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 side ports 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 in-port.

- (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 in-port). 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,
 - (e) Quarantine & Other Officials
 - (f) MARAD Officials
 - (g) Police
 - (h) Private Surveyors
 - (i) Shipyard Repair Personnel
 - (j) Others
- (10) Times of opening and closing side ports and hatches, identifying same. (Red)
- (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 in-port 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, side ports, 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 VESSEL OPERATIONS**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.

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)

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.

SAMPLE LOGBOOK ENTRIES FOR VESSEL OPERATIONS**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.

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 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 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.

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

SAMPLE LOGBOOK ENTRIES FOR VESSEL OPERATIONS**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 forecandle 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 life rafts 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, semi-portable, 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

LECTURE TITLE: NAVIGATION GENERAL X

TRAINING SUBJECT: CHART CORRECTION

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: NAVIGATION GENERAL XI

TRAINING SUBJECT: PUBLICATION CORRECTION

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: NAVIGATION GENERAL XIII

TRAINING SUBJECT: BRIDGE COMMAND AND CONTROL SYSTEMS

SPECIAL REQUIREMENTS:

- ADG 6000 Steering Stand
- Navigation light panel
- Smoke and heat fire detection systems
- Gyro / steering alarm panel
- Watertight Door Panel

TRAINING LECTURE OBJECTIVE:

- A. To familiarize students with the bridge command and control and alarm systems.

DISCUSS:

- A. Steering gear system and steering failure alarms.
B. Emergency ventilation shut down controls.
C. Smoke / heat and manual fire detection systems and individual bridge alarm panels.
D. Navigation Light Panel, test procedures and alarm indicators and manual backup systems including day shapes.
E. Watertight and fire screen door release mechanisms

SHOW/DEMONSTRATE:

FOR EACH SYSTEM:

- A. Identify system malfunction indicators
B. Identify system alarms and the appropriate response action.

READING ASSIGNMENT:

Placards affixed to wheelhouse bulkhead
USTS Kennedy Bridge Procedures Manual

MISCELLANEOUS:

TEST QUESTIONS:

- How does the Kidde System work?
- What is the proper response to a steering failure alarm?
- Why must you reset the Fire Screen door release switch after use?

WATCHSTATION/GENERAL TRAINING REF:

- Cadet Officer of the Watch
- Quartermaster of the Watch
- Navigation at the support level
- Navigation at the support level
- Navigation at the operational level

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: 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

LECTURE TITLE: RIGGING I**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: RIGGING III

TRAINING SUBJECT: RIGGING EXERCISE

SPECIAL REQUIREMENTS:

- Rigging box with full complement
- 55 Gallon drum filler with water
- Access to # 5 hold
- Students to wear hard hats and safety shoes
- Monitor the loading, stowage etc. of cargo; Table A-II / 1 (i.)

TRAINING LECTURE OBJECTIVE:

A. To utilize techniques and skills presented in RIGGING 2

DISCUSS:

- A. Safety considerations
- B. Identifying personnel hazards

SHOW/DEMONSTRATE:

A. Students are tasked with a rigging problem; solve the amount of pull needed using the configuration.

READING ASSIGNMENT:

MISCELLANEOUS:

TEST QUESTIONS:

WATCHSTATION/GENERAL TRAINING REF:

- Boatswain Mate of the Watch
- Seaman
- Monitor the loading, stowage etc. of cargo; table A-II / 1 (i.)

LECTURE TITLE: SAFETY I

TRAINING SUBJECT: HAND TOOLS

SPECIAL REQUIREMENTS:

- Various hand tools
- Painting equipment
- Cleaning equipment
- Students to wear hard hats, safety shoes, eye, ear, berthing and hand protection gear as appropriate
- Air or electric scaling, grinding and wire brushing equipment

TRAINING LECTURE OBJECTIVE:

- A. To instruct the student in the proper use and care of hand tools.
- B. To demonstrate personal safety protection appropriate to the job.
- C. To demonstrate proper set up and use of electric or air driven tools commonly used on deck.

DISCUSS:

- A. Proper use of screwdriver, wrenches, saws and pliers
- B. Selection of the right tool and clothing for the job.
- C. Care of tool.
- D. Nautical names use for tools commonly used on deck.
- E. Proper safety equipment and procedures when using power tools.
- F. Electric shock protection.

SHOW/DEMONSTRATE:

- A. What can happen if tool is used for wrong job.
- B. Safe use of tools
- C. Proper use of air or electric tools

READING ASSIGNMENT:

MISCELLANEOUS:

TEST QUESTIONS:

WATCHSTATION/GENERAL TRAINING REF:

- Boatswain Mate of the Watch
- Seaman

LECTURE TITLE: SAFETY II

TRAINING SUBJECT: SOLAS & USCG INSPECTION REQUIREMENTS

SPECIAL REQUIREMENTS:

- T/S Kennedy Bridge Procedures Manual
- *46 CFR 90-139, Sub Chapter I – Cargo and Misc. Vessels*
- *46 CFR 1-40, Sub-Chapter D – Tank Vessels*
- Deck and Official log books

TRAINING LECTURE OBJECTIVE:

- A. To review required tests and inspections of safety and firefighting equipment.

DISCUSS:

- A. Test procedures
- B. Logbook requirements
- C. Logbook Entries
- D.

SHOW/DEMONSTRATE:

- A. Certificate of Inspection
- B. Official Log Book
- C. Deck Log Book

READING ASSIGNMENT:

- 46 CFR 97.35-5 Official Logbook*
T/S Kennedy Bridge Procedures Manual

MISCELLANEOUS:

TEST QUESTIONS:

- Write a proper logbook entry detailing events from the time the fuel barge approaches the vessel until fuel transfer is completed and the barge departs

WATCHSTATION/GENERAL TRAINING REF:

- Officer of the Watch 3.1-3.4
- Controlling the operation of the ship; A-II/ 1 (K.)
- Monitor compliance with legislative requirements; Table A-II/ 1 (o.)

LECTURE TITLE: SAFETY III

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
- F. Lock out tag out

SHOW/DEMONSTRATE:

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

READING ASSIGNMENT:

A: T.S. KENNEDY SHIPBOARD SAFETY MANUAL

MISCELLANEOUS:

TEST QUESTIONS:

- How long do MSDS sheets need to be kept on board?
- Who can remove a lock out Tag Out

WATCH/STATION GENERAL TRAINING REF:

LECTURE TITLE: SAFETY IV

TRAINING SUBJECT: SAFETY PROCEDURES

SPECIAL REQUIREMENTS:

- T.S. Kennedy's MSDS Manual
- T.S. Kennedy'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 Kennedy
- C. Safety of Enclosed spaces
- D. Working aloft / Fall Protection
- E. Slips, Trips, Falls
- F. Use of MSDS
- G. Lock out tag out

SHOW/DEMONSTRATE:

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

READING ASSIGNMENT:

- A: T.S. KENNEDY SHIPBOARD SAFETY MANUAL

MISCELLANEOUS:

TEST QUESTIONS:

- How long do MSDS sheets need to be kept on board?
- Who can remove a lock out Tag Out

WATCH/STATION GENERAL TRAINING REF:

LECTURE TITLE: SHIPHANDLING 1

TRAINING SUBJECT: SHIPHANDLING & MAN OVERBOARD MANEUVERS

SPECIAL REQUIREMENTS:

- Sea room with low traffic density.
- “Oscar Dummy”
- Heaving lines, recovery basket, grapple and boat hook.
- Smoke or dye marker.
- Lifejackets and hard hats.
- Permission of Master, Chief Engineer and Officer of the Watch.

TRAINING LECTURE OBJECTIVE:

To provide bridge watch with shiphandling and practical recovery experience in carrying out man-overboard evolution.

DISCUSS:

- A. Williamson and Race Track recovery maneuvers.
- B. Advance, transfer and engine maneuvering considerations.
- C. Preferred recovery side.
- D. Pre-recovery preparations.
- E. Signals.

SHOW/DEMONSTRATE:

- A. Race track.
- B. Williamson turn
- C. Stopping vessel and rudder cycling.

READING ASSIGNMENT:

Knights Modern Seamanship P. 233-236
American Merchant Seaman’s Manual, P. 10.32-10.33
T.S. Kennedy’s Bridge Procedures Manual, P. 218 Man Overboard

MISCELLANEOUS:

Coordinate with engineering throttle drills. Each first class watchstander must complete at least one recovery attempt. All bridge watchstanders to participate in response roles in accordance with *T.S. Kennedy’s Bridge Procedures Manual*, P. 218

TEST QUESTIONS:

- Write up an appropriate deck log entry for your individual maneuver commencing at the time of your initial notification of man overboard and ending with a summation after the person has been recovered.

WATCHSTATION / GENERAL TRAINING REF:

- Cadet Officer of the Watch 4.3
- First Class Fundamentals 1.23, 1.27
- Professional Achievement Examination
- Navigation at the support level; Table A-II / 4 (b.)
- Navigation at the support level; Table A-II / 4 (c.)
- Navigation at the operational level; Table A-II / 1 (a., h.)

LECTURE TITLE: SHIPHANDLING 2**TRAINING SUBJECT: PRECISION ANCHORING****SPECIAL REQUIREMENTS:**

- Three VHF radios for communication between stations.
- One radar designated for Training Division.
- Alidade, charts, navigation plotting instruments, sextant, three arm protractor Chart # TBA.
- Anchoring Plan.
- Coordinate with Master, Chief Engineer, Chief Mate and Engineering Training Officer.
- Anchor detail to wear hard hats, safety shoes and eye protection as appropriate.

TRAINING LECTURE OBJECTIVE:

- A. Increase piloting and navigational skills of cadets while operating in restricted waters from sea to a selected anchorage.
- B. Increase skill of students in the anchor detail in letting go and heaving up procedures.

DISCUSS:

- A. Necessary pre-voyage planning procedures- Anchoring Plan
- B. Safety conditions and navigational hazards
- C. Special requirements and notifications
- D. Communication procedures
- E. Briefing anchor detail
- F. Use of horizontal and vertical sextant angles.

SHOW/DEMONSTRATE:

- A. Navigation of vessel in restricted waters.
- B. Special case running fixes.
- C. Use of horizontal and vertical sextant angles.

READING ASSIGNMENT:

Navigation Pub. No. 9 (1995) Articles: 800-823
T.S. Kennedy's Bridge Procedure Manual, P. 48-50 Anchoring Procedures & P. 97-99
Anchoring

MISCELLANEOUS:**TEST QUESTIONS:**

- What was the set and drift encountered during the approach?
- What kind of provisions were made for determining the vessels position during the approach should a loss of gyro occur?
- How many yards from the intended drop point was the final position of the anchor?

WATCHSTATION/GENERAL TRAINING REF:

- Cadet Officer of the Watch 3.1, 3.2
- Navigator 1.5, 1.7, 1.8, 1.9, 1.12, 1.14-1.25, 1.39, 1.42, 1.44
- Navigation Assistant 1.11-1.14, 1.25-1.29, 1.34-1.37
- Navigation at the operational level; Table A-II / 1 (a.)

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:

- Teach students proper line handling and mooring procedures.
- Instill in students a need for constant safety awareness when working with mooring lines.

DISCUSS:

- Mooring line commands
- Names and positions of mooring lines
- How lines are faked, coiled and fleshed
- Safety procedures- Hospital side and safe side of a synthetic mooring line under tension
- Winches and capstans
- Mooring lines singled up, bights singled up, doubled up
- Dipping the eye
- Elongation and slipping

SHOW/DEMONSTRATE:

- Passing types of rope stoppers
- Taking up mooring lines with winches
- Making lines fast to bits
- Proper way to throw heaving lines
- Taking up a mooring line with a tackle
- 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: SEAMANSHIP 4

TRAINING SUBJECT: BLOCKS AND TACKLES

SPECIAL REQUIREMENTS:

- Rope block
- Wire rope block
- Snatch block.
- Purchases: gun, luff, 2-fold, double luff, 3-fold
- Bosn Chair and Staging

TRAINING LECTURE OBJECTIVE:

- A. To review with students the use of blocks and tackles
- B. Instruct in how to rig a bosn chair
- C. Instruct in how to rig staging

DISCUSS:

- A. Review Blocks and tackle
- B. Proper method of rigging a bosn chair
- C. Where bosn chair can be used
- D. Safety of using bosn chair
- E. Proper method to rig staging
- F. Where staging can be used
- G. Safety precautions with staging

SHOW/DEMONSTRATE:

- A. Rigging of bosn Chair
- B. Rigging of Staging

READING ASSIGNMENT:

American Merchant Seaman's Manual -Chapter 3
Instructor handout

MISCELLANEOUS:

TEST QUESTIONS:

WATCH/STATION GENERAL TRAINING REF:

Boatswain Mate of the Watch
Seaman 1.6

LECTURE TITLE: SEAMANSHIP 5

TRAINING SUBJECT: GROUND TACLE

SPECIAL REQUIREMENTS:

- Power to anchor Windlass
- Safety goggles, hard-hats, gloves
- Anchor ball
- Water on deck
- Anchoring routine (optional)
- Permission of Master and Chief Mate

TRAINING LECTURE OBJECTIVE:

- A. Familiarize student with ship's ground tackle.
- B. Provide students with practical experience in engaging and disengaging the anchor windlass.
- C. Provide students with practical experience in letting go and heaving in ship's working anchor.
- D. Provide students with experience securing anchor for sea.

DISCUSS:

- A. The use of ground tackle in mooring and docking.
- B. Use of anchor in shallow or deep water.
- C. Devil claw or chain stopper
- D. Locking ring
- E. Wild Cat
- F. Riding pawl
- G. Stripping bar

SHOW/DEMONSTRATE:

- A. Preparation of anchor for letting go
- B. Clearing anchors
- C. Anchoring commands and reports
- D. Letting go
- E. Heaving of anchors
- F. Securing anchors for sea

READING ASSIGNMENT:

American Merchant Seaman's Manual, Chapter 8, Ground tackle P. 8-1 – 8-20
Knights Modern Seamanship, Chapter 8 pp. 134-154
Patriot State Bridge Procedures Manual, P. 48-50, P. 90-99

TEST QUESTIONS:

- When letting go the port anchor, what position should the riding pawl be in?
- List the sequential steps involved in walking an anchor out of the hawse pipe after the anchors have been cleared
- How is an anchor buoy attached?

WATCH/STATION GENERAL TRAINING REF:

- Cadet Officer of the Watch (Inport) 1.8, Fundamentals 1.19
- Boatswain Mate of the Watch 1.10
- Seaman 1.8

LECTURE TITLE: SEAMANSHIP 7

TRAINING SUBJECT: SPLICING BRAIDED LINE

SPECIAL REQUIREMENTS:

- Tools for splicing: masking tape, unifid, marking pen, sail twine, fid
- Six feet of braided line per student

TRAINING LECTURE OBJECTIVE:

- A. To teach cadets to splice double braid line.

DISCUSS:

- A. Construction of line, strands, picts, strand pair, cover, core.
- B. Handling and care of double braid.
- C. Elongation – recoverable & non-recoverable.
- D. Effects of sunlight, chemicals and abrasion on tensile strength.
- E. Use of braided rope in mooring.

SHOW/DEMONSTRATE:

- A. How to make a splice in braid line.

READING ASSIGNMENT:

Handout to be provided by instructor

American Merchant Seaman's Manual, P. 1-7 to 1-9

MISCELLANEOUS:

TEST QUESTIONS:

- What is step 1 in the construction of an eye splice in braided line?
- What is step 2 in the construction of an eye splice in braided line?

WATCHSTATION/GENERAL TRAINING REF:

- Boatswain Mate of the Watch
- Seaman 1.2

LECTURE TITLE: SEAMANSHIP 8

TRAINING SUBJECT: SPLICING BRAIDED LINE

SPECIAL REQUIREMENTS:

- Tools for splicing: masking tape, marking pen, sail twine, fid.
- Six feet of plaited line per student

TRAINING LECTURE OBJECTIVE:

- A. To teach cadets to splice plaited line.

DISCUSS:

- A. Construction of line, strands, and strand pairs.
- B. Handling and care of plaited rope.
- C. Elongation: recoverable, non-recoverable
- D. Effects of sunlight, chemicals and abrasion on tensile strength.
- E. Use of plaited rope in mooring.

SHOW/DEMONSTRATE:

- A. How to make an eye splice in plaited line.

READING ASSIGNMENT:

Handout to be provided by instructor
American Merchant Seaman's Manual, 1-7 to 1-9

MISCELLANEOUS:

TEST QUESTIONS:

- What is step 1, in the construction of an eye splice in plaited line?
- What is step 2, in the construction of an eye splice in plaited line?

WATCHSTATION / GENERAL TRAINING REF:

- Boatswain Mate of the Watch
- Seaman 1.2

LECTURE TITLE: WATCHSTANDING 1

TRAINING SUBJECT: INTRODUCTION TO DECKWATCHSTANDING

SPECIAL REQUIREMENTS:

- 7x50 Binoculars
- Azimuth / Bearing Circle
- Access to Bridge Wing repeaters, steering stand and course recorder
- Rules of the Road Pamphlet
- VHS "Lights and Shapes"

TRAINING LECTURE OBJECTIVE:

- A. To introduce Fourth Class Cadets to the watchstation: Look-Out.
- B. To introduce Fourth Class the watchstation: Helmsman

DISCUSS:

- A. Reporting of visual objects
- B. Lights/ shapes of vessels
- C. Helmsman commands/ response
- D. Bearing circle/ Risk of Collision
- E. Fog signals
- F. Course Recorder

SHOW/DEMONSTRATE:

- A. Report of visual object by points, bells and degrees.
- B. Use of binoculars to identify vessels.
- C. Use of bearing/ azimuth circle and alidade.
- D. Switch over of steering systems.
- E. Release of water lights/ smoke and Williamson turn.

READING ASSIGNMENT:

- A. *American Merchant Seaman's Manual* , P. 9-1 – 9-12, 10-31 – 10-34
P. 19-10 – 19-14
- B. Handout- *Duties of a Lookout*
- C. Handout- *Lights, Shapes and Sound Signals for Lookouts*
- D. Handout- *Duties of the Helmsman*

MISCELLANEOUS:

Lookout instruction should include objects to report, reporting procedures, lights and shapes significance to the Rules of the Road as well as an introduction to determining risk of collision. Helmsman instruction should include complete overview of steering stand, rudder angle indicator, the course recorder steering commands and emergency procedures.

TEST QUESTIONS:

- How many degrees relative is a vessel "Broad off the starboard bow?"
- What does it mean if the compass bearing of a ship does not change?
- What do you do if you see a person fall overboard?
- What is the lubber's line?
- What is the spider?
- What command is given to the helmsman to stop the vessels swing?

WATCHSTATION/ GENERAL TRAINING REFERENCE:

- Look-out, Helmsman, Detex, Security
- Boatswain's Mate
- Navigation at the support level; Table A-II/4 (d.)
- Navigation at the operational level; Table A-II/1 (b.)

LECTURE TITLE: WATCH STANDING 2

TRAINING SUBJECT: BRIDGE COMMAND AND CONTROL PROCEDURES

SPECIAL REQUIREMENTS:

- T.S. Kennedy's Bridge Procedure Manual

TRAINING LECTURE OBJECTIVE:

- A. Familiarize the cadet with the Kennedy's command and control procedures for routine and emergency watch conditions.

DISCUSS:

- A. T. S. Kennedy's Vessel Particulars.
- B. T. S. Kennedy's Standing Orders
- C. T. S. Kennedy's Bridge Procedures for Routine Operations.
- D. T. S. Kennedy's Bridge Procedures for Emergency Operations Check.
- E. T. S. Kennedy's Deck Logbook Procedures.
- F. Bridge Resource Management (Data) aboard T. S. Kennedy.
- G. Bridge Team Management (Personnel) aboard T. S. Kennedy.

SHOW/DEMONSTRATE:

- A. Use of the *T. S. Kennedy's Bridge Procedures Manual* as a policy for response to routine and emergency operations aboard the T. S. Kennedy.

READING ASSIGNMENT:

T. S. Kennedy's Bridge Procedure Manual:

- Vessel Particulars
- Standing Orders
- Bridge Procedures for Routine Operations
- Bridge Procedures for Emergency Operations Check
- Deck Logbook Procedures

MISCELLANEOUS:

TEST QUESTIONS:

WATCHSTATION/GENERAL TRAINING REF:

- All Third Class Deck
- Quartermaster of the Watch
- Professional Achievement Examination
- Navigation at the support level; Table A-II/4 (d.)
- Navigation at the operational level; Table A-II/1 (b.)

LECTURE TITLE: WATCH STANDING 5

TRAINING SUBJECT: COLLISION AVOIDANCE

SPECIAL REQUIREMENTS:

- Rules of the Road book
- White board

TRAINING LECTURE OBJECTIVE:

- A. Instruct the students on the basic principals of safe navigation, by using the Navigation Rules and good seamanship.

DISCUSS:

- A. Navigation rules
- B. Navigation lights
- C. Inland / International rules
- D. VTS
- E. Sound and light signals
- F. Types of vessel designations (NUC, RAM, Fish, etc.)

SHOW/DEMONSTRATE:

- A. Head on collision
- B. Overtaking situation
- C. Crossing situation
- D. Narrow channel
- E. Vessel traffic separation scheme

READING ASSIGNMENT:

MISCELLANEOUS:

TEST QUESTIONS:

-
-
-
-

|

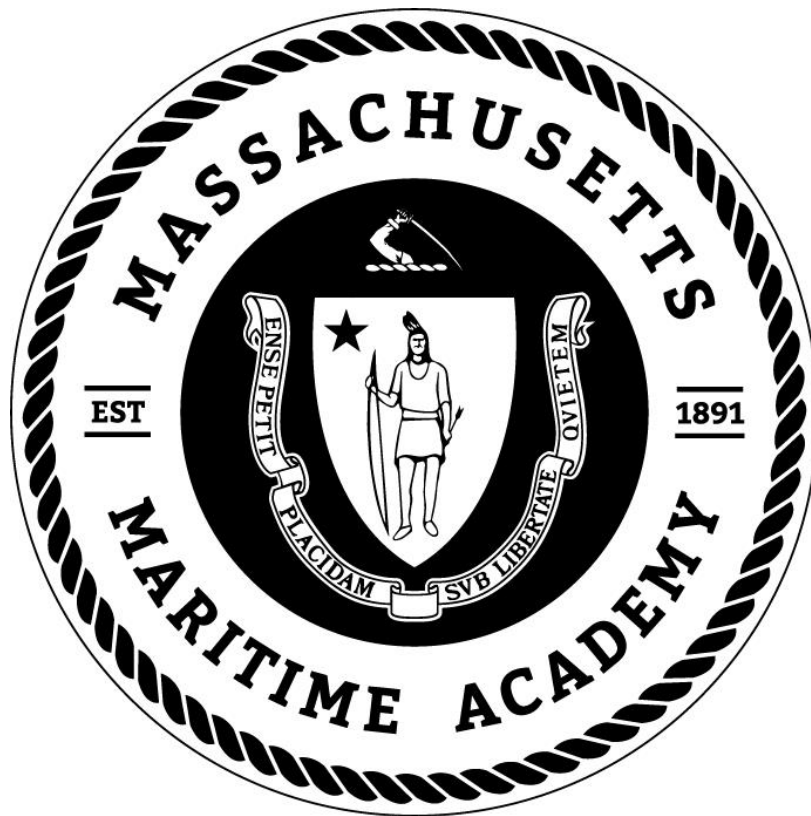
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2021 CRUISE TRAINING PROGRAM

Department of Marine Transportation

SEA TERM IV

FIRST CLASS



Section 5

Navigation Workbook Requirements

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YOU WILL RECEIVE YOUR CEL NAV PROJECT AND CEL NAV WORKBOOK JOURNAL SEPERATELY.

The Cel Nav Project will detail the requirements for completing the Cel nav portion of Sea Term IV.

All your Cel Nav work/calculations shall be recorded in the Cel Nav Wookbook.

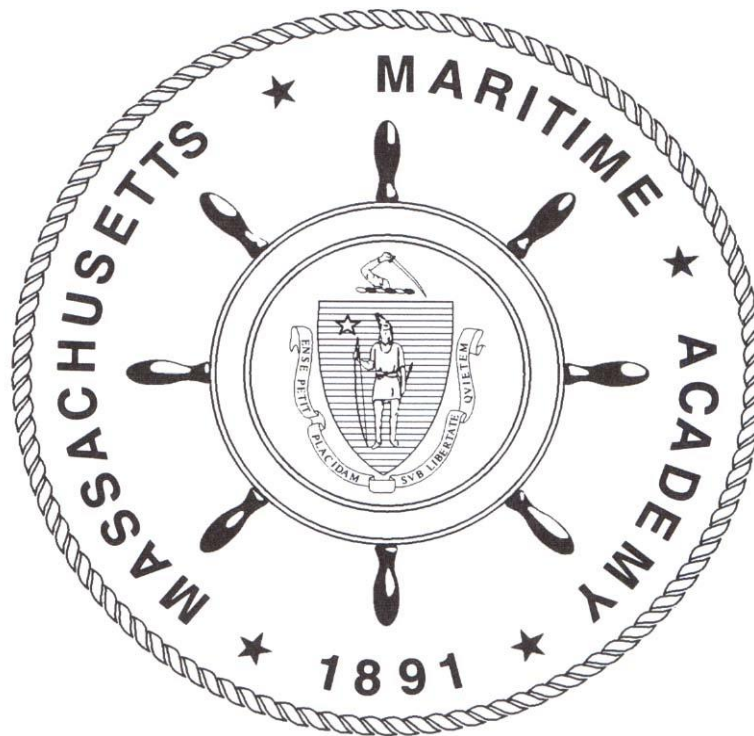
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2021 CRUISE TRAINING PROGRAM

Department of Marine Transportation

SEA TERM IV

FIRST CLASS



SECTION 6

Long Term Training Schedule

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<i>SEA TERM 2021 Watch, Maintenance, Training Schedule</i>											
Date	Day	TD	D1	D2	D3	Fourth Class		Fourth Class		Fourth Class	
						1A	1B	2C	2D	3E	3F
20-May-21	THU										
21-May-21	FRI					Cadet RATES ONLY Report					
22-May-21	SAT										
23-May-21	SUN										
1 24-May-21	MON					All non-rate cadets report					
2 25-May-21	TUE										
3 26-May-21	WED										
4 27-May-21	THU										
5 28-May-21	FRI					USCG Fire and Security Drills					
6 29-May-21	SAT		W	M	M	DEPART BUZZARDS BAY					
7 30-May-21	SUN	SS	W	M	M	Sunday and We are at Sea					
8 31-May-21	MON	1	W	M	T	DW	EW	DM	EM	DT	ET
9 1-Jun-21	TUE	2	W	M	T	DW	EW	DM	EM	DT	ET
10 2-Jun-21	WED	3	W	M	T	DW	EW	DM	EM	DT	ET
11 3-Jun-21	THU	4	M	T	W	DM	EM	DT	ET	DW	EW
12 4-Jun-21	FRI	5	M	T	W	DM	EM	DT	ET	DW	EW
13 5-Jun-21	SAT	6	M	T	W	DM	EM	DT	ET	DW	EW
14 6-Jun-21	SUN	SS	M	M	W	Sunday and We are at Sea					
15 7-Jun-21	MON	7	T	W	M	DT	ET	DW	EW	DM	EM
16 8-Jun-21	TUE	8	T	W	M	DT	ET	DW	EW	DM	EM
17 9-Jun-21	WED	9	T	W	M	DT	ET	DW	EW	DM	EM
18 10-Jun-21	THU	10	M	W	M	EXAM DAY #1					
19 11-Jun-21	FRI	11	W	M	T	EW	DW	EM	DM	ET	DT
20 12-Jun-21	SAT	12	W	M	T	EW	DW	EM	DM	ET	DT
21 13-Jun-21	SUN	SS	W	M	M	Sunday and We are at Sea					
22 14-Jun-21	MON	13	W	M	T	EW	DW	EM	DM	ET	DT
23 15-Jun-21	TUE	14	M	T	W	EM	DM	ET	DT	EW	DW
24 16-Jun-21	WED	15	M	T	W	EM	DM	ET	DT	EW	DW
25 17-Jun-21	THU	16	M	T	W	EM	DM	ET	DT	EW	DW
26 18-Jun-21	FRI	17	T	W	M	ET	DT	EW	DW	EM	DM
27 19-Jun-21	SAT	18	T	W	M	ET	DT	EW	DW	EM	DM
28 20-Jun-21	SUN	SS	M	W	M	Sunday and We are at Sea					
29 21-Jun-21	MON	19	T	W	M	ET	DT	EW	DW	EM	DM
30 22-Jun-21	TUE	20	M	M	W	EXAM DAY #2					
31 23-Jun-21	WED		M	M	W	ARRIVE BUZZARDS BAY					
32 24-Jun-21	THU					<i>Buzzards Bay, MA</i>					
33 25-Jun-21	FRI										
34 26-Jun-21	SAT										

Upperclass Legend: (M) Maintenance, (T) Training, (W) Watch

4/c Legend: (DW) Deck Watch, (DM) Deck Maint.&Utility, (DT) Deck Training, (EW) Engine Watch, (EM) Engine Maint.&Utility, (ET) Engine Training

	W	9	8	9
Number of days on each:	M	11	12	11
	T	6	6	6

Engineering Training: Each three day rotation provides both lab and class periods.
 Fourth Class Training: 2 Days LAB and 1 Day Class per three day training rotation.

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DIVISION 1 PHASE 1

TRAINING DAY & DATE	PERIOD	TRAINING PROGRAM TITLE - UNIT	MUSTER LOCATION
May 31 TD #1	1 & 2	Cel Nav Project 1	Fwd Nav Lab
	2 & 3	Precision Anchoring	Aft Nav Lab
June 1 TD #2	1	Cel Nav & License Problems	Fwd Nav Lab
	2	In Port Watch	Fwd Nav Lab
	3 & 4	Cel Nav Project 2	Fwd Nav Lab
June 2 TD #3	1	Seamanship – Pilot Ladder	Aft Nav Lab
	2	Seamanship – Mooring Lines	Rm 6-2
	3 & 4	Cel Nav Project 3	Fwd Nav Lab

DIVISION 1 PHASE 2

June 11 TD #4	1	Blue-Cargo Lashing/Gold-Cargo Gear	Fwd Nav Lab
	2	Gold-Cargo Lashing/Blue-Cargo Gear	Aft Nav Lab
	3 & 4	Cel Nav Project – Independent	Fwd Nav Lab
June 12 TD #5	1	Safety Equipment Inspection	Fwd Nav Lab
	2	Seamanship – 8-Stran Slicing	Seatorium
	3 & 4	Chart & Publication Corrections	Fwd Nav Lab
June 14 TD #6	1 & 2	Advanced Firefighting	Fwd Nav Lab
	3	Cel Nav & License Problems	Fwd Nav Lab
	4	Firefighting Drill	Fwd Nav Lab

CONSULT DAILY POSTED SCHEDULES AFTER 1900 FOR CHANGES

June 10 is Mid-term Exam Day, Cel Nav Mid-Term, & Route Planning Assessment
 June 22 is Final Exam Day & Cel Nav Final
 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.

DIVISION 2 PHASE 1

TRAINING DAY & DATE	PERIOD	TRAINING PROGRAM TITLE - UNIT	MUSTER LOCATION
June 3 TD #1	1 & 2	Cel Nav Project 1	Fwd Nav Lab
	2 & 3	Precision Anchoring	Aft Nav Lab
June 4 TD #2	1	Cel Nav & License Problems	Fwd Nav Lab
	2	In Port Watch	Fwd Nav Lab
	3 & 4	Cel Nav Project 2	Fwd Nav Lab
June 5 TD #3	1	Seamanship – Pilot Ladder	Aft Nav Lab
	2	Seamanship – Mooring Lines	Rm 6-2
	3 & 4	Cel Nav Project 3	Fwd Nav Lab

DIVISION 2 PHASE 2

June 15 TD #4	1	Blue-Cargo Lashing/Gold-Cargo Gear	Fwd Nav Lab
	2	Gold-Cargo Lashing/Blue-Cargo Gear	Aft Nav Lab
	3 & 4	Cel Nav Project – Independent	Fwd Nav Lab
June 16 TD #5	1	Safety Equipment Inspection	Fwd Nav Lab
	2	Seamanship – 8-Stran Slicing	Seatorium
	3 & 4	Chart & Publication Corrections	Fwd Nav Lab
June 17 TD #6	1 & 2	Advanced Firefighting	Fwd Nav Lab
	3	Cel Nav & License Problems	Fwd Nav Lab
	4	Firefighting Drill	Fwd Nav Lab

CONSULT DAILY POSTED SCHEDULES AFTER 1900 FOR CHANGES

June 10 is Mid-term Exam Day, Cel Nav Mid-Term, & Route Planning Assessment
 June 22 is Final Exam Day & Cel Nav Final
 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.

DIVISION 3 PHASE 1

TRAINING DAY & DATE	PERIOD	TRAINING PROGRAM TITLE - UNIT	MUSTER LOCATION
June 7 TD #1	1 & 2	Cel Nav Project 1	Fwd Nav Lab
	2 & 3	Precision Anchoring	Aft Nav Lab
June 8 TD #2	1	Cel Nav & License Problems	Fwd Nav Lab
	2	In Port Watch	Fwd Nav Lab
	3 & 4	Cel Nav Project 2	Fwd Nav Lab
June 9 TD #3	1	Seamanship – Pilot Ladder	Aft Nav Lab
	2	Seamanship – Mooring Lines	Rm 6-2
	3 & 4	Cel Nav Project 3	Fwd Nav Lab

DIVISION 3 PHASE 2

June 18 TD #4	1	Blue-Cargo Lashing/Gold-Cargo Gear	Fwd Nav Lab
	2	Gold-Cargo Lashing/Blue-Cargo Gear	Aft Nav Lab
	3 & 4	Cel Nav Project – Independent	Fwd Nav Lab
June 19 TD #5	1	Safety Equipment Inspection	Fwd Nav Lab
	2	Seamanship – 8-Stran Slicing	Seatorium
	3 & 4	Chart & Publication Corrections	Fwd Nav Lab
June 21 TD #6	1 & 2	Advanced Firefighting	Fwd Nav Lab
	3	Cel Nav & License Problems	Fwd Nav Lab
	4	Firefighting Drill	Fwd Nav Lab

CONSULT DAILY POSTED SCHEDULES AFTER 1900 FOR CHANGES

June 10 is Mid-term Exam Day, Cel Nav Mid-Term, & Route Planning Assessment
 June 22 is Final Exam Day & Cel Nav Final
 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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