CALIFORNIA MARITIME ACADEMY

2014 3/C CRUISE TRAINING MANUAL

CRU 100 SEA TRAINING I (DECK)
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Course Name: Sea Training I (Deck)  
Course Number: CRU 100  
Units: 8  
Lead Deck Training Officer/Instructor of Record: Cruise 1 – Peter Hayes  
Cruise 2 – Daniel Weinstock  
Grading: Credit/No Credit  
Email: phayes@csum.edu; dweinstock@csum.edu  
Prerequisites: DL 100, DL 105, DL 105L, DL 109, DL 110, DL 115, DL 120, NAU 105, NAU 110  
Additional Requirements: A valid passport and successful completion of the USCG Lifeboatman’s exam are required for all students embarking on all training cruises.

Marine Transportation Department Mission Statement:  
The mission of the Marine Transportation Department is to develop in our graduates the practical skills, judgment, character, and leadership traits necessary to become leaders in the maritime industry both at sea, as ship’s masters, and ashore. To this end, by way of practical and theoretical training at sea, in simulators, and in the classroom, the Marine Transportation Program seeks to:  
• prepare our students to meet, at a minimum, all U.S. Coast Guard and international requirements for Second Mate/Officer in Charge of a Navigational Watch at the Operational Level;  
• provide them with a well-rounded liberal education culminating in a Bachelor of Science Degree in accordance with California State University requirements;  
• imbue them a strong sense of ethics, personal integrity and accountability;  
• provide opportunities to develop leadership skills and the communication skills (both written and verbal) to be an effective leader; provide opportunities for obtaining various additional maritime professional certifications.

Catalog Description: Comprises the first sea training experience for the student. During this period of training aboard the Training Ship GOLDEN BEAR, the emphasis is on ship familiarization, safety drills and training, basic deck watchstanding skills as helmsman and lookout, vessel maintenance and sanitation, and practical seamanship. Students will be required to demonstrate competencies in selected STCW ’95 topics.
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Course Outcomes: At the successful conclusion of the course, the student should be competent to stand watch as a Helmsman and Lookout, proficient in the training objectives of the Professional, Practical, and Navigation Training Programs, and adequately participate in work projects and programs.

Assessment Methodologies and Criteria: There will be approximately 40 sea days for CRU 100. Each student will spend approximately 8 days on Watch, 8 days on Daywork, 8 days on Practical Training, 8 days on Professional Training, and 8 days on Navigation Training. The student’s performance will be evaluated through direct written and oral evaluations, periodic quizzes, multiple choice and short answer exams, written homework, computer-based-training, and practical demonstration exams. By successfully completing each component of the course, a student will demonstrate an acceptable level of competency expected of a sophomore deck student matriculated at this point in the deck license training program.

Grading: CRU 100 is an academic evolution and will be graded on a credit/no-credit. To receive credit for this course, a student must successfully pass EVERY component of the course. That includes all watches, quizzes and exams, written requirements, practical demonstrations, practical training modules, professional training modules, navigation training modules, daywork, drills, and routine assignments such as Compartment Cleaning (CC).

Students will be given two opportunities to pass each and every written exam (70%) or quiz. The first opportunity will be during the assigned time. Specifics for each exam can be found in this Cruise Handbook. The second opportunity will be in the next port, on the student’s liberty day, at a time determined by the DTOs (and/or at the DTO’s discretion where such conflicts with the training program or is otherwise impracticable/impossible). Failure to appear at the 2nd assessment, as directed, will result in failing the 2nd assessment and possible disciplinary action for failure to return from liberty on time and/or disobeying an order. Failing the retest will result in a failure for that training module.

By use of written exams/quizzes and/or require additional demonstrated competencies, the faculty or staff in charge (discussed later in this Cruise Handbook) will determine if you have the minimum knowledge and skill base required for that component. The expectations for each training module are described in this Cruise Handbook. If a DTO observes, or is notified of, a deficiency, either in knowledge or in participation, he/she will issue a Corrective Action Required (CAR) note that will describe what you need to do to improve. It is expected that the student will correct their action(s) at the earliest opportunity. Receiving an excessive number of CARs in a module, or even a single CAR for an egregious act, may result in a failure of that module. Again, it must be emphasized that perfection is not expected in every task, but, instead, adequate preparation and full participation to the best of the student’s ability in order to meet the minimum requirements for each training module.

Should a student not meet the requirements for any component of the course, that information will be sent to a Cruise Review Committee consisting of three faculty who will consider the circumstances and totality and quality of the work completed, mitigating circumstances surrounding the student's work, as well as any other relevant information. In its evaluation of student work, the Committee may review the student's records and interview students, faculty and staff. The Cruise Review Committee will not consider student disciplinary issues. The Cruise Review Committee will prepare a written record of its proceedings and findings, which will be maintained by the CRU 100 Instructor of Record. The Cruise Review Committee will consist of two (2) deck faculty members and the Celestial Program DTO (or their designate(s) as needed due to conflicts of interest, availability, etc.). After reviewing the
above, the Committee may recommend, to the CRU 100 Instructor of Record, awarding a "Credit", or "No Credit" or an "I" (Incomplete) grade. The normal Grade Appeal Process applies to all Cruise grades.

Computer Based Training:
The introduction of basic skills and re-enforcement of previously learned skills is a foundational element in education. Concentrated efforts in successful completion of the courses offered through the computer-based training regimen chosen by the faculty will enhance the student’s learning experience during the scheduled practical training modules. The skills re-enforcement increases efficiency by maximizing the time allocated for each training module. The reverse is true as well: students who have not completed the CBTs as scheduled will reduce their learning outcomes and, likely, those of their fellow students in the same training group.

Selected components of this course include computer-based-training (CBT). CBTs are to be completed per the schedules provided to Training Group Section Leaders by the Lead DTO at the commencement of Cruise. Dates of completion are subject to change to reflect alterations in the training program and/or technical difficulties.

All CBTs are to be completed on your personal computer or the Computer Lab. Due to the limited number of CBT accesses (system allows up to 30 individual accesses simultaneously), cadets are encouraged to complete their modules early. Computer or connectivity problems should be directed to the IT Help Desk (ext. 1826).

Students are encouraged to maintain printed copies of their successfully completed CBT modules as proof of completion. While the administrative tracking software works well, some students fail to register their work correctly. It is the student’s responsibility to provide these printed forms in the event of a disputed completion.

Failure to complete an assigned CBT by the posted date will result in the reduction of liberty by two (2) hours from the end of the expiration period on the student’s next liberty day. Additionally, you will be required to complete the assigned module within forty-eight (48) hours of 0800 of the day of sailing from the same port or the same reduction of liberty will apply on your next liberty day. Failure to complete multiple CBTs will apply aggregately. All reductions to liberty for summer cruise run consecutively, not concurrently. Failure to complete any CBTs after the last liberty port will result in a grade of Incomplete ("I") for CRU 100.

Attendance/Discipline Policy: All university policies, as set forth by the California Maritime Academy, shall apply and are hereby incorporated by reference into this. Students must also abide by State and Federal laws, specifically those regarding plagiarism, cheating and other intellectual property rights.

Cruise Training Manual: The 2014 3/C Cruise Training Manual, of which this Marine Transportation Syllabus is a portion, is incorporated in its entirety into this syllabus.
GROOMING

A few comments on grooming: All cadet grooming regulations will apply on cruise. At sea, everyone is "on call" 24 hours a day to respond to emergencies. This means that officers, cadets, and anyone else with station assignment on the station bill is expected to be 100% available at a moment's notice to deal with shipboard emergencies.

- Aboard ship, grooming can become a safety issue.
- Be aware that earrings and jewelry get caught on hats, clothing and machinery.
- Jewelry conducts electricity exceedingly well.
- Loose clothing gets caught in machinery and on fittings.
- Jewelry scratches the radar scopes.
- Long fingernails can get torn off. Keep nails trimmed closely.
- Long hair interferes with vision and gets caught in machinery.
- Proper bathing makes the ship a nice place for everyone.
- Clean clothes reduce chance of tropical skin irritations (and smell better).
- Clean cotton socks and underclothes reduce the chance of fungal infections.
- Wash hands often. Try not to touch binoculars to your eyes.

SHIP ISSUED EQUIPMENT/GEAR

All persons on cruise are personally responsible for the timely return and maintenance of any issued gear (life jackets, sextants, cleaning gear, bedspreads, etc.). Marks, damage, stray stencils or artwork, tears, burns, etc. will not be tolerated and any charges incurred by the MT Dept. will be passed on to the involved party.

ITEMS TO BRING ON CRUISE

This list is in addition to required uniforms, etc. and is by no means exhaustive, but rather a list of suggestions from faculty of things you may otherwise overlook.

- Do Not Bring Any Laundry Detergent or Cleaning Gear! Shipboard systems require use of certain chemicals for proper function. Bleach or substances of an incorrect ph. render treatment systems ineffective and may damage the system.

Personal Effects
- Medical prescriptions (must be cleared with medical prior to cruise)
- Small pocket flashlight, spare batteries, and red and white lenses
- AT&T phone card or the like (some places you can't make collect calls)
- Camera & film
- Battery powered alarm clock
- Watch (so you are not late for duties or from liberty)
- Personal sewing kit
- Sunscreen
- Lip protectant
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- Writing utensils, envelopes, etc.
- Address book
- Calendar/diary
- Earphones for any audio equipment
- Toiletries, vitamins for 60 days
- Shoe polish

**Clothing**
- Rain gear
- Long sleeved shirts for E/R tours, drills, etc.
- Swimsuit, fins, mask, etc.
- Comfortable walking shoes for port adventures. Open-toed shoes are often not allowed (no sandals without heel strap).
- Big beach towel
- Spare eyeglasses or contact lenses
- Woolen cap
- Baseball cap
- Good UV blocking sunglasses with keeper
- Folding knife with a safety tip (rounded)
- Good flashlight that fits in your pocket
- Properly fitting work gloves
- Safety-toe work shoes

**REQUIRED TEXTS/GEAR**

**For Navigation**
- Good digital watch with stopwatch feature, illuminated dials are nice, as are dual-time capabilities
- Calculator
- Plotting gear
- Small flashlight with red lens

**For Training Modules**
- All classes should bring paper for notes, drawings, etc.
- Pens, pencils, erasers

**Books & Publications**
- Marlinspike Sailor or other marlinespike/knot-tying text
- Bowditch
- Dutton’s
- Rules of the Road
- 1 pad Radar Transfer Plotting Sheets (Rapid Radar Plotting Sheets)
- American Merchant Seaman’s Manual
- Pocket Dictionary
- Pocket notebook
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- Length of line to practice knot tying and splicing
- Knights Modern Seamanship
- The Cornell Manual for L/B, AB, and QMED
- Water Survival Manual
- Notes from Marlinspike and Seamanship classes
PROGRAM DESCRIPTION & REQUIREMENTS

Introduction

The deck-training program has undergone many upgrades over the past years. Many of the changes were the result of federal and international STCW requirements. The current program, which was developed and approved by the Department of Marine Transportation, is designed to require students to participate actively in all aspects of their training. We recognize that many of you will be doing these activities for the first time, or perhaps some of you have sailed before but your skills are rusty. That’s OK. It is expected, however, that you will diligently, and actively, participate in each activity to the best of your ability. We will be looking to find an adequate level of competency and to see personal growth as you develop new professional skills that you will be adding to your professional “tool bag.”

Rotational Format

Students will be assigned into one of five Training Groups (A, B, C, D or E). Each Training Group will then rotate through the five activity cycles (two rotations of four-days each). Extra Sea Days and duties are marked as such on the Deck Training Schedule. Students must pass all five major rotations as well as other ongoing requirements (i.e. CBTs) as determined by the supervisor for each rotation/requirement (e.g. the Watch Coordinator will monitor a student’s progress on the watch rotations). The Deck Training Officers (DTOs) will monitor each student’s progress overall. Cruise Deck Faculty meetings will be held periodically to review student’s progress.

Watch

Bridge Watches (at sea and in port)
Navigation Watches
Safety Watches
Security Watches

Daywork

Daywork
Compartment Cleaning
3/C FMB Simulation Assignment

Deck Training

Practical Training
Professional Training
Navigation Training

Ongoing During the Rotation Cycles

Underway Training

There will be approximately 43 training at-sea days (including the 3 Underway Training Days) each Cruise. Each student will spend approximately 8 days on Watch, 8 days on
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Daywork, 8 days on Practical Training, 8 days on Professional Training, and 8 days on Navigation Training. The rotation and watch bills will be posted. Any scheduling concerns should be brought to the attention of the Instructor of Record/Lead DTO.
WATCHES

AT SEA BRIDGE WATCH

Rotations begin and end at 0000. This activity is designed to develop bridge familiarization, steering, and watch proficiency skills. The Cadet Watch Officer (CWO) under the direction of the Licensed Watch Officer (LWO) evaluates each 3/C bridge watch. The primary purpose of these evaluations is to assist the students in attaining proficiency. Conduct of the watch is evaluated based on compliance with the Standing Orders and industry standards. Should a student’s bridge evaluations be determined to be substandard, additional watches may be assigned for assessment purposes. 3/C will be evaluated on criteria found in 3/C Bridge Watch Evaluation Form (Appendix 1).

STCW Steering Assessment

During the course of cruise, each 3/C cadet will be assessed in their ability to perform the duties of helmsman. To meet the requirements of the STCW, each student will have to demonstrate their ability to understand and execute helm orders, change the ship’s heading to a new course, and maintaining the ships heading on a given course. These assessments (Appendix 2) are normally completed during the senior rubber-docking exercises but are also completed during normal arrival and departure evolutions, and during at sea watches as time/opportunity dictates. In addition to standard helm orders, each student must also demonstrate their ability to shift from hand steering to auto pilot and back.

STCW Lookout Assessment

During the course of cruise, each 3/C cadet will be assessed in their ability to perform the duties of lookout. To meet the requirements of the STCW, each student will have to demonstrate their ability to accurately report large and small objects and light/sound characteristics, and identify basic vessel running light configurations and sound signals.

Helm/Steering and Lookout Exams

Prior to leaving the dock in Vallejo (Cruise 1) or Honolulu (Cruise 2), exams on basic Lookout and Helmsman/Steering commands and procedures will be given to all 3/C deck cadets. Basic information for each position is described in many of your texts (American Merchant Seaman’s Manual, Knights Modern Seamanship, etc.)

Great emphasis is placed on these exams as they are the most important duties for the safe navigation and conduct of the ship while underway.

A 70% grade is required to pass.
IN PORT BRIDGE WATCH

Instructions

1. This portion of the deck watch is to be stood. No sitting.
2. Chairs or stools are not permitted in the wheelhouse or chartroom.
3. USE OF BRIDGE & CHARTROOM COMPUTERS IS NOT PERMITTED WITHOUT SPECIFIC PERMISSION.
4. 3/C Responsibilities:
   - Follow instructions of LWO, CWO and Bridge Senior Cadet.
   - Maintain security lookout and monitoring from alternating bridge wings.
   - Participate in augmenting roving security patrol if directed to do so.
   - Answer phone.
   - Make coffee for watch.
   - Turn on lights from bridge circuits.
   - Tend flags as directed.
SAFETY WATCH

Each 3/C Cadet will be assigned to at least one safety watch under the direction of the 1/C Cadet Safety Officer. The Chief Mate will describe and assign the duties for this position.

SECURITY WATCH

Each 3/C Cadet will be assigned at least one security watch under the direction of the 1/C Cadet Security Officer. The Ship Security Officer (SSO) will describe and assign the duties for this position.
DAYWORK

Rotations are run by the Chief Mate. You must report to daywork on a regular basis. Illness, with a doctor's note, is the only reason for missing daywork. Even with that, more than one absence will result in an incomplete for cruise. This incomplete must be corrected during the first six weeks of the fall semester. Failure to make up the work will result in a no-credit grade for cruise.

COMPARTMENT CLEANING (CC)

The Cleaning Crew (CC) consists of Third Class cadets from all majors and from all schools on cruise. Under the direction of the Master-at-Arms (MAA), the CC ensures the common areas of the ship are kept neat, clean, and sanitary. The CC is also responsible for carrying out any other duties as assigned by the MAA. The work day for the CC begins at 0600 with a muster with the MAA in the 3/C Mess and generally ends at 0015 when the night meal is secured. A complete list of the responsibilities of the CC can be found in Appendix 3.

3/C FMB SIMULATION ASSIGNMENT

The 3/C Full-Mission Bridge Simulation Assignment gives cadets one to two additional opportunities to learn/re-enforce their abilities to perform the duties of the Helmsman. 3/C will join the 1/C simulation teams and function as Helmsman. During this task, 3/C will report in khaki uniform and appropriate footwear to the Training Bridge. A schedule of this assignment and reporting times will be posted and available aboard the TSGB. 3/C should review basic information for each position is described in many of your texts (American Merchant Seaman's Manual, Knights Modern Seamanship, etc.) prior to reporting to this duty.

Due to operational considerations, this training may be modified, delayed, re-ordered or eliminated. The DTOs will notify students of substantial changes as soon as practicable.
PRACTICAL TRAINING ROTATION

The Practical Training Rotation is designed to introduce and reinforce various professional “On Deck” knowledge and skill sets and as an introduction to industry related topics. Rotation will be administered by the Deck Training Officers (DTOs) and will convene at the location designated by the Deck Training Schedule unless otherwise directed. Prior to attending each training module, you should read about it in this Training Manual. It also describes any exam or quiz that will be given, when it will be given, and how you will be assessed. It is VERY IMPORTANT that you prepare yourself adequately for the module. This means that you should review the reference material for that module prior to its beginning. This is your responsibility! Due to operational considerations, modules may be modified, delayed, re-ordered or eliminated. The DTOs will notify students of substantial changes as soon as practicable.

The training module Overviews detail the description of each module which will include training objectives, student outcomes, CBTs to complete (unless otherwise scheduled), uniform to wear, equipment to bring, and reference materials to be studied PRIOR to the beginning of the module.

Following this page are the first class practical training modules overviews, as follows:

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<th>Number of Modules (Each module = ½ day of training)</th>
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<td>Firefighting</td>
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<td>Knots, Bends, and Hitches</td>
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<td>Modern Splicing</td>
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<td>Mooring</td>
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<tr>
<td>Splicing</td>
<td>3</td>
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</tbody>
</table>
Canvas Bag Project

Subject: Canvas Bag Project

Concept: The student will be required to design and make from scratch, within the guidelines described by the instructor, a hand stitched canvas bag. **All materials used for this project will be furnished by the DTOs.**

Time Allotted: One Module (Note: Students will be informed, by the DTO during the three-hour module, of the project’s completion date.)

Training Objective: The students will:

1. Demonstrate their ability to work with canvas by designing and creating a canvas bag.

2. Demonstrate their ability to plan, layout, and cut canvas for their project.

3. Demonstrate their ability to using a sewing palm, needle, and sail twine while constructing the canvas project.

4. Demonstrate their ability to use a variety of stitches, as described by the Deck Training Officer, while making their canvas bag.

5. Demonstrate their ability to use grommets by incorporating both brass and/or hand sewn grommets into their project.

6. Demonstrate their ability to use punches and dies when incorporating brass grommets into the canvas bag project.

7. Demonstrate their ability to follow instructions while creating a unique canvas bag.

Material Needed: Seamanship Manual(s), punches and dies, and brass grommets.

Student Provided Equipment: The students will report in the proper work uniform and be prepared to take notes as required. Sewing-palm, needle, knife, sail twine, and canvas (size #4 measuring 36 inches by 48 inches) will be available.

Motivation: The hands on nature of the lessons and the sea bag.

Procedure: Students will meet in the Focsl. During this time, students working individually and under the direct supervision of the Deck Training Officer will be given instructions in the use of canvas. These instructions will include:

- types and number of stitches required;
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- use of punches and dies;
- insertion of brass grommets;
- use of hand sewn grommets;
- use of sewing palm and needle; AND
- ideas in designing canvas sea bags.

Assessment: The canvas bag project grade will be based on the student’s ability to follow directions and in his/her ability to create a unique canvas bag. Additionally, a grade of 70% or better will be based on:
- the student’s ability to follow instructions;
- on-time completion of the project;
- uniqueness;
- neatness;
- number and types of stitches; AND
- use of grommets.

Student Assignment: The students will read appropriate chapters in their Seamanship Manual prior to the start of this module.
Fire Fighting

Subject: Third Class Fire Fighting

CBT Required

Concept: To provide the student with a basic understanding of the concepts and practice marine fire fighting, fire fighting equipment, fire team operations, teamwork, and fire safety.

Time Allotted: Three Modules

Training Objective: The student will:

1. Demonstrate the ability to properly use fire fighting equipment, including hoses, nozzles, fog applicators, SCBAs and fire fighting hand tools.

2. Become familiar with fire fighting techniques on various classes of fires in both internal and external locations.

3. Become part of a fire team under the direction of a First Class Cadet.

4. Communicate with the fire team leader and fire team members as required.

5. Participate in a team pre-brief and debrief for each fire scenario.

6. Assist First Class Cadets in correctly using the cascade system to refill used SCBA bottles.

Material Needed: Provided: a fire fighting outfit for each fire team member, including turnout gear (fire coat, fire pants, helmet, gloves) and, possibly, a SCBA. Fire fighting equipment for drills, including fire hoses, nozzles, low velocity fog applicators, spare SCBA bottles, and radios. Related equipment, including stokes litter, trauma kit, and oxygen administration kit.

Student Provided Equipment: The students will report in the proper work uniform. They will bring gloves, paper, and pencil.

Motivation: The student should be motivated by the serious nature of fire aboard ship and the understanding that, upon graduation, they will be in charge of certain aspects of the fire fighting process.

Procedure: 1. A classroom session will be conducted to include classes of fire, fire fighting techniques, fire safety and communications.
2. The students will be initially divided into teams. The teams will be instructed in and practice hose, nozzle and fog applicator handling techniques.

3. Each 3/C will be assigned to a fire team under the direction of 1/C. The composite teams will conduct drills, including donning equipment and equipment usage, hose drills and command and control drills. The 1/C will act as team leaders and instructors.

4. Fire scenarios, developed by the 1/C, will be selected for actual drills. Students will participate in the pre-brief, the drill and debrief following the drill.

5. Upon completion of drills and exercises, each team will be responsible for filling used SCBA bottles as necessary. Equipment will be cleaned, dried, and stowed as necessary.

Assessment: The student shall demonstrate through participation a proficiency in the aspects of fire fighting as listed in the Training Objective.

Student Assignment: The student will read the appropriate chapters in Marine Fire Fighting prior to this training topic.
Knots, Bends, and Hitches

Subject: Knots, Bends, and Hitches

Concept: To reinforce the student’s basic understanding and increase their knowledge of knot tying and the uses of these knots, bends, and hitches.

Time Allotted: One Module

Training Objective: The students will demonstrate their ability to tie the following knots, bends, and hitches, most of which were previously covered in DL-115: Marlinspike

- Trucker’s hitch
- Bowline
- Bowline on a Bight (single & double)
- French Bowlines
- Becket (Sheet) Bend (single & double)
- Carrick Bend (single & double)
- Half Hitch
- Marlin Hitch
- Timber Hitch
- Rolling Hitch
- Clove Hitch
- Reef Knot
- Securing lines to bitts and cleats


Student Provided Equipment: The students will report in the proper work uniform and be prepared to take notes as required. Knot book, marlinespike notes, Seamanship Manuals, and a one fathom length of practice line.

Motivation: The hands on nature and importance of this career skill.

Procedure:

1. Students will meet in the Focsl. During this time students, working individually and under the direct supervision of the Deck Training Officer, will review the knots previously learned in DL-115.

2. Students will be instructed in the methods of tying additional knots not covered in Marlinspike. Students will practice tying these knots and demonstrate their proficiency in all knot tying as indicated under the objectives previously listed.

Assessment: The students shall demonstrate, through active participation, the aspects of this module as listed in the training objectives.
Student Assignment: The students will read appropriate chapters in their Seamanship Manuals and knot and splices manuals prior to the start of this module. It is also expected that students will review their notes on these topics from applicable course prior to the start of this subject.
Modern Splicing

Subject: Modern Splicing

Concept: To introduce students to the advancements in modern line construction; with emphasis on mooring lines, their usage and their splices.

Time Allotted: 2 modules.

Training Objective: Students will be conversant with modern mooring techniques and materials, particularly in the strengths of line available, their ease of use and the properties of different constructions. Students will understand:

1. New splicing requirements and care required to maintain each line in working condition.
2. Problems these lines can be confronted with and how best to avoid them.
3. The requirements for using winches and deck equipment associated with using Fiber lines as opposed to Steel Wire Rope (SWR).
4. The care required when using equipment that has been scarred by SWR.
5. The terminology used in the technical bulletins provided by the manufacturers of these types of lines, i.e. minimum bending ratios, minimal tensile strengths etc.

Materials needed: Work uniform, notepad and pen, pocket knife.

Motivation: Understanding the significance of utilizing and following the vessel’s Safety management System as a predominant regulatory scheme for the safe operation of the vessel.

Assessment Method: The student shall demonstrate, through preparation and participation a basic proficiency in the subject matter described above. Students failing to participate as described above will receive a failing grade for this component of CRU 100.
Mooring

Subject: Mooring

CBT Required

Concept: To reinforce the students understanding and increase their practical knowledge of mooring lines, safe mooring practices, and the preparation of the deck for line handling.

Time Allotted: Four Modules

Training Objective: The students will:

1. Demonstrate their understanding of line handling commands and the mooring line names commonly used aboard merchant ships by passing a line-handling test with at least 70% correct. The exam will be given at the beginning of Module 1 and will cover mooring lines and line handling commands as described in the American Merchant Seaman’s Manual and as listed in the reference section.

2. Participate in laying out mooring lines and preparing the deck for all aspects of the line handling exercises.

3. Demonstrate their knowledge of mooring line types and their breaking strains.

4. Demonstrate their understanding of faking lines, use of fairleads, and issues concerning mooring line preservation.

5. Demonstrate their ability to make up and throw heaving lines.

6. Describe and demonstrate their knowledge of mooring equipment aboard the training vessel. This will include the nomenclature, starting and stopping and engaging and disengaging of the winches, proper use of capstans and warping heads, and the use of the line handling commands.

7. Practice following line-handling commands and hand signals while working with mooring lines.

8. Demonstrate the correct usage of stoppers and the correct procedure for letting go mooring lines and tug wires/lines.

9. Actively participate, as line handlers, during line handling scenarios, with an emphasis on safety and proper technique.

Material Needed: TSGB, line handling winches, stoppers, heaving lines, knowledge of line handling commands, mooring lines, Seagull Mooring Interactive CD, Seamanship Manual and other applicable resources.

Student Provided Equipment: The students will report in the proper work uniform. They will bring foul weather gear, hard hats, gloves, and be prepared to take notes as required.

Motivation: The training ship and the hands on nature and importance of this career skill.
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Procedure:

1. Students will demonstrate their understanding of line handling commands by taking an exam covering the commonly used commands and hand signals used in the merchant marine.

2. Under the supervision of the Deck Training Officer, students will breakout all necessary lines to be used during all the mooring modules and fake them out on the deck at their appropriate locations.

3. Working in small groups the students, under the supervision of the Deck Training Officer, will re-energize the winches. Students will demonstrate their knowledge of winch nomenclature and their knowledge of the basic line handling commands and hand signals.

4. The students will demonstrate and practice rolling over the winches and engaging and disengaging them.

5. The students will practice throwing heaving lines from the main deck aft.

6. The students will demonstrate their understanding of securing mooring lines to bitts and the use of fairleads.

7. The students will demonstrate their ability to tie, and practice using, stopper knots on mooring lines.

8. Working as members of a line handling team, and under the direction of the upper class PIC, the underclass will participate in line handling scenarios. The emphases will be on proper technique while maintaining a safe working environment.

Assessment:

Students are expected to have an understanding of fundamental line handling commands and mooring line names at the start of this lesson and will demonstrate this by passing the exam with at least 70%. One re-test will be given on the line handling commands and hand signals. The time will be during your liberty day in port. **Students who fail on their second attempt will fail this module.**

The students shall demonstrate, through active participation, a proficiency in the aspects of line handling and mooring equipment as listed in the training objectives.

Student Assignment: The students will re-read appropriate chapters in their Seamanship manuals and review their notes on these subjects, as necessary. The Seagull Mooring CD-Rom will be available for viewing in Miller classroom.
Splicing

Subject: Splicing

Concept: To reinforce the students basic understanding and increase their knowledge of splicing and whippings in soft line using primarily eight and three strand soft lines (*).

Time Allotted: Three Modules

Training Objective:

1. Demonstrate their ability to make short, long and eye splices (with and without thimbles) using three-strand soft line.

2. Demonstrate their ability to make eye splices in eight-strand soft line.

3. Demonstrate their ability to make temporary and permanent whippings.

4. *If time allows and after proficiency has been demonstrated in the above, practice making temporary eye splices in wire rope using wire rope clips and investigate the use of other techniques commonly used in wire rope splicing.

5. *If time allows and after proficiency has been demonstrated in training objectives 1-3, practice making eye splices in yacht braid.

Material Needed: Seamanship Manual(s), knot book, length of three and eight strand soft line, masking tape, fids as required, and wax.

Student Provided Equipment: The students will report in the proper work uniform and be prepared to take notes as required. Sewing palm, needle (size #12 or smaller), whipping material, and sail twine.

Motivation: The hands on nature and the importance of this professional skill.

Procedure:

1. Students will meet in the Marlinespike Laboratory. During this time students, working individually and under the direct supervision of the instructor, will be given a length of three strand soft line and practice making eye, long and short splices.

2. Students will make eye splices using eight-strand soft line.

3. Students mastering the above-mentioned skills will then practice making whippings and splices using thimbles.

4. Students demonstrating mastery of soft line splicing using three and eight strand will then explore the techniques for placing temporary eye
splices in wire rope.

Assessment: The students shall demonstrate their ability to splice both eight and three strand soft line. They will be required to demonstrate their ability to make eye splices and long and short splices in soft line. They will also demonstrate their ability to place an eye in a soft line using a thimble and to properly whip the end of a line.

Student Assignment: The students will re-read appropriate chapters in their Seamanship Manuals and knot and splices manuals prior to the start of this module. It is also expected that students will review their notes on these topics from applicable courses prior to the start of this subject. Knot books and Seamanship Manuals will be available in the ships' library.
PROFESSIONAL TRAINING ROTATION

The Professional Training Rotation for 3/C focuses on introductory topics in professional topical areas. The rotation will be administered by the Deck Training Officers (DTOs) at the location indicated by the Deck Training Schedule unless otherwise directed. Prior to attending each training module, you should read about it in this Training Manual. Each module’s description includes the objectives of the module, what to wear, what to bring, and references to review, and CBTs to complete (unless scheduled differently). It also describes any homework, exam or quiz that will be given, when it will be given, and how you will be assessed. It is VERY IMPORTANT that you prepare yourself adequately for each module. This means that you should review the reference material for that module prior to its beginning. This is your responsibility! Due to operational considerations, modules may be modified, delayed, re-ordered or eliminated. The DTOs will notify students of substantial changes as soon as practicable.

Following this page are the 3/C class professional training modules overviews, as follows:

<table>
<thead>
<tr>
<th>Training Activity</th>
<th>Number of Modules (Each module = ½ day of training)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic Communications</td>
<td>2</td>
</tr>
<tr>
<td>Block and Tackle</td>
<td>1</td>
</tr>
<tr>
<td>Ground Tackle</td>
<td>1</td>
</tr>
<tr>
<td>Introduction to Elementary First Aid</td>
<td>4</td>
</tr>
<tr>
<td>Introduction to International Safety Management</td>
<td>1</td>
</tr>
<tr>
<td>Rules of the Road</td>
<td>Dailey + 2</td>
</tr>
<tr>
<td>SCBA</td>
<td>1</td>
</tr>
<tr>
<td>Trick Wheel</td>
<td>1</td>
</tr>
</tbody>
</table>
Basic Communications

Subject: Basic Communications

Concept: To reinforce the student’s understanding and increase knowledge of vessel internal and external communications.

Time Allotted: 2 modules.

Training Objective: The student will:
1. Demonstrate proficiency in general communications.
2. Learn about vessel communication equipment.
3. Learn about proper formatting and internal communication procedures.
4. Learn about IAMSAR.

Material Needed: Materials for note-taking.

Student Provided Equipment:
The student will report in khakis.

Assessment: The student shall demonstrate, through preparation, participation, and a completion of the exercises, a proficiency in the subject matter described above. Students failing to participate as described above will receive a failing grade for this component of CRU 100.
Blocks and Tackle

Subject: Blocks and Tackle

CBT Required

Concept: To reinforce the students' basic understanding and increase their knowledge of the different types of blocks and tackle and their uses. This study will also include mechanical advantages and the ways to increase it.

Time Allotted: One Module

Training Objective: The student will:
1. Identify and name the different types of block and tackle arrangements as listed in the USCG Deck Illustration Book and Seamanship manuals.
2. Reeve the block and tackle arrangements as in the above references.
3. Splice into the becket using three-strand lines as required to reeve the various block and tackle arrangements.
4. Prove the mechanical advantage formulas for the various block and tackle arrangements.
5. Prove the mechanical advantage formulas while combining different block and tackle arrangements.

Material Needed: Provided various blocks, three-strand manila line, scale, weights, various shackles and straps, beam clamps, and tape.

Student Provided Equipment: The students will report in the proper work uniform and be prepared to take notes as required. Seamanship books, USCG Deck Illustration Book, notes from Seamanship and Marlinspike class and a knife.

Motivation: The importance of this professional skill and the hands on nature of the lesson.

Procedure:
1. The students will meet, weather permitting, on the main deck aft by the paint locker.

2. Students will break out all the necessary equipment and bring it to the main deck aft of the paint locker. At the end of the module, students will stow the equipment.

2. The students will be divided into small groups. Groups will be
called upon to correctly receive the tackles as determined by the Deck Training Officer. This will include splicing into becket when required.

3. Individual groups will prove the mechanical advantage formulas of their tackle by lifting weights from the deck. Using the small spring scale, the groups will determine the power needed to lift the weight off the deck.

4. Individual groups will prove the mechanical advantage formulas for combined tackle by marrying two tackles together.

Assessment: The students shall demonstrate, through active participation, the aspects of blocks and tackle as listed in the Training Objectives.

Student Assignment: The students will read appropriate chapters in their Seamanship Manuals and review their notes on these subjects. Students will familiarize themselves with the blocks and tackle as listed in the USCG Deck Illustration Book and their Seamanship Manuals and notes. All review must be completed prior to the start of the first module.
Ground Tackle

Subject: Ground Tackle

CBT Required

Concept: To reinforce the student’s basic understanding and increase their knowledge of ground tackle.

Time Allotted: One Module

Training Objective: The students will:
1. Identify parts of ground tackle using proper nomenclature.
2. Demonstrate their ability to energize and de-energize the anchor windlass.
3. Demonstrate their ability to engage and disengage the wildcat.
4. Demonstrate their ability to identify all anchor chain shot markings.
5. Demonstrate their ability to understand anchoring commands and hand signals, while communicating effectively with the CPIC (cadet person in charge) and PIC.
6. Demonstrate their ability to maintain a safe working environment as a member of the anchoring detail.

Material Needed: TSGB, anchor windlass and other ground tackle equipment, and Seamanship Manuals.

Student Provided Equipment: The students will report in the proper work uniform. They will bring foul weather gear, hard hats, gloves, goggles, and be prepared to take notes as required. Students are expected to bring their Seamanship Manuals and their notes from Seamanship.

Motivation: The hands on nature and importance of this career skill.

Procedure:
1. The students will meet, weather permitting, at the anchor windlass.
2. 3/C cadets will demonstrate their ability to identify the parts of the ground tackle using proper nomenclature by passing the written exam with a minimum grade of 70% correct. The exam will be taken at the start of the first lesson. Specifically the test will cover components and nomenclature of a typical anchor windlass, anchor chain markings, and parts of an anchor as indicated by the drawings in the reference section.
3. Students working in small groups will energize and de-energize the anchor windlass.

4. Students working in small groups will engage and disengage the anchor windlass wildcat.

5. Students working in small groups will describe and demonstrate the proper use of the anchor windlass band brake.

6. Students will describe and demonstrate their knowledge of anchoring commands and hand signals and anchor chain shot markings. They will also demonstrate their ability to communicate and understand this information while carrying out their duties.

7. Students will demonstrate their ability to work in anchoring details while working for the CPIC and PIC of anchoring while maintaining a safe working environment.

Assessment: The students shall demonstrate, through active participation, the aspects of ground tackle and anchoring listed in the training objectives. In addition, each student must pass the written exam. **Only one re-test for the written exam will be offered.** The exact date and time of the re-test will be determined by the Deck Training Officer (in port on your liberty day). **Students who fail the test on their second attempt will fail this module.**

Student Assignment: The students will read appropriate chapters in their Seamanship Manuals prior to the start of this module, and will review their notes on these subjects.
Introduction to Elementary First Aid

Subject: Introduction to Elementary First Aid

CBT Required

Concept: To introduce the basic knowledge and skills necessary to administer first aid to an ill or injured crewmember. First Aid is defined as a one-time treatment that typically does not require more advanced training.

Time Allotted: 4 modules.

Training Objective: Upon completion of the course the student will be able to understand the concepts of first aid and demonstrate competency in:

1. General principles
2. Body structure
3. Positioning of the casualty
4. The unconscious casualty
5. Application of resuscitation to a casualty
6. Control bleeding and use of improvised bandages and emergency first aid kits
7. Apply appropriate measures in the event of basic shock management
8. Apply appropriate measures in the event of burns and scalds including accidents caused by electrical current
9. Rescue and transport of a casualty
10. Other topics (hypothermia, hypothermia, etc.)

Materials needed: Uniform of the day, notepad and pen

Student Provided Equipment: All medical equipment will be provided to ensure technique and proficiency in the administration of first aid.

Motivation: The student is motivated by knowing that crewmembers work in a dangerous environment, typically away from standardized professional health care and rely on each other for the application of first aid in the event of an accident and/or illness while onboard.

Assessment Area: Lecture and Skills Lab
TSGB Medical Treatment Facility
TSGB Environment and Classroom

Assessment Method: The student shall demonstrate, through preparation, participation, and a completion of the exercises, a proficiency in the subject matter described above. Students failing to participate as described above will receive a failing grade for this component of CRU 100.
Introduction to International Safety Management

Subject: Introduction to International Safety Management

CBT Required

Concept: To introduce the regulatory apparatus and essential knowledge of the ISM Code in vessel operations regarding certification and the vessel's Safety Management System.

Time Allotted: 1 module.

Training Objective: Upon completion of the course the student will be able to understand the concepts of International Safety Management as it applies to vessel operations:

1. General principles
2. Code structure
3. Safety Management Systems
4. Audits – Internal and External

Materials needed: Khaki uniform, notepad and pen

Motivation: Understanding the significance of utilizing and following the vessel’s Safety management System as a predominant regulatory scheme for the safe operation of the vessel.

Assessment Method: The student shall demonstrate, through preparation and participation a basic proficiency in the subject matter described above. Students failing to participate as described above will receive a failing grade for this component of CRU 100.
Rules of the Road

Subject: An introduction to the Nautical Rules of the Road

CBT Required

Concept: To introduce the student to the rules governing vessel traffic and conduct at all times.

Time Allotted: 4 one-hour sessions and 2 modules.

Training Objective: The student will:
1. Learn the basic rules for the conduct of vessels.
2. Learn the special rules for the conduct of vessels in certain circumstances.

Material Needed: Materials for note-taking.

Student Provided Equipment: The student will report in khakis.

Assessment: The student shall demonstrate, through preparation, participation, and a comprehensive concluding quiz, a proficiency in the subject matter described above. Students must pass the exam with at least 70%. One re-test will be given. The time will be during your liberty day in port where practicable. Students who fail on their second attempt will fail this module.
SCBA

Subject: Self-Contained Breathing Apparatus

Concept: This module will introduce the student to the Self Contained Breathing Apparatus found on board ships. The student will gain knowledge and understanding in the donning, operation and maintenance of SCBAs.

Time Allotted: One Module

Training Objective: The student will:
1. Become familiar with SCBA. The various parts will be described and discussed.
2. Become familiar with the donning of SCBA.
3. Learn to function while wearing an SCBA.
4. Learn to fill SCBA bottles.
5. Correctly clean and stow SCBA units after use.

Material Needed: Training SCBAs, compressor, cleaning pads, and wipes.

Student Provided Equipment:
The students will report in the proper work uniform.

Motivation: The student should be motivated by the serious nature of shipboard fire fighting and self-protection. Ship’s officers are expected to personally function and be able to direct the efforts of their fire team in adverse atmospheric conditions.

Procedure: 1. The students will report to the Deck Training Locker and be issued an SCBA.
2. A demonstration will be conducted of SCBA components and component function.
3. Students will learn to conduct inspections and function tests on the unit.
4. Students will learn to correctly don the unit and function while breathing from the unit. This will include various tasks such as climbing stairs, carrying equipment and crawling while on air. The student will learn about breathing control. Exiting the space when the low-pressure alarm sounds will be discussed.
5. Upon completion of exercises, each student will learn how to clean
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and stow the SCBA unit. Students will learn how to refill bottles using the cascade system and/or the Bauer Compressor.

Assessment: The student shall demonstrate, through participation, a proficiency in the examination, testing, use, cleaning, refilling and stowage of SCBA as listed in the Training Objectives.
Trick Wheel

Subject: Emergency Steering

Concept: To reinforce the students’ basic understanding and increase their practical knowledge of steering gear and emergency methods of steering while demonstrating an understanding of steering commands.

Time Allotted: One Module

Training Objective: The students will:

1. Demonstrate their understanding of proper helm commands (as listed in the American Merchant Seaman’s Manual) and responses by passing a written test with at least 70 percent correct.

2. List, describe and compare the four methods of steering from after steering.

3. Demonstrate their ability to switch into the trick wheel and NFU from after steering.

4. Demonstrate their ability to receive and follow steering orders while maintaining the vessel’s ordered course using the trick wheel and NFU from the after steering room.

5. Demonstrate their ability to receive and communicate steering orders while using the sound powered phones located in aft steering.

6. Describe the use of the hand pump and ratchet methods of steering located in after steering. Students will describe the advantage of the ratchet system over the hand pump system.


Student Provided Equipment: The students will report in the proper work uniform and be prepared to take notes as required. Ear protection, Seamanship Manuals, and notes from Seamanship are required.

Motivation: The training ship and the hands on nature and importance of this career skill.
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Procedure:

1. The students will meet, weather permitting, on the main deck aft by the paint locker.

2. 3/C Cadets are expected to understand helm commands and the role of the helmsperson at the start of this module. They will be required to take and pass with at least 70% correct, a written test on helm commands. This test will be given at the start of this module.

3. Students will be asked to explain the four methods of steering from the aft steering room and to explain the reasons and methods for using one over the other.

4. Students working in small groups will take control of the steering of the TSGB from aft steering using both NFU and Trick Wheel modes. This will only be attempted after permission from the TSGB Master and Bridge Watch Officer.

5. Students will steer the training ship using either the NFU or the Trick Wheel mode.

Assessment:

The students shall demonstrate, through active participation, a basic competency and demonstrate an understanding of emergency methods of steering as listed in the training objectives. Students must also demonstrate their ability to steer from the aft steering flat while maintaining the ordered course. Students who are not successful at scoring at least 70% on the written test will be scheduled to re-test in port, during their liberty day. Students who fail on their second attempt will fail this module.

Student Assignment: The students will re-read appropriate chapters in their Seamanship Manuals prior to the start of this module and the Emergency Steering Procedures in Appendix 5.
NAVIGATION TRAINING ROTATION

The Navigation Training Rotation is designed to introduce and reinforce various topics in professional merchant officer areas. The rotation will be administered by the Deck Training Officers (DTOs) at the location indicated by the Deck Training Schedule unless otherwise directed. Prior to attending each training module, you should read about it in this Training Manual. Each module's description includes the objectives of the module, what to wear, what to bring, and references to review, and CBTs to complete (unless scheduled differently). It also describes any homework, exam or quiz that will be given, when it will be given, and how you will be assessed. It is VERY IMPORTANT that you prepare yourself adequately for each module. This means that you should review the reference material for that module prior to its beginning. This is your responsibility! Due to operational considerations, modules may be modified, delayed, re-ordered or eliminated. The DTOs will notify students of substantial changes as soon as practicable.

Following this page are the first class navigational training modules overviews, as follows:

<table>
<thead>
<tr>
<th>Training Activity</th>
<th>Number of Modules (Each module = ½ day of training)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic Navigation</td>
<td>5</td>
</tr>
<tr>
<td>Code of Federal Regulations</td>
<td>1</td>
</tr>
<tr>
<td>Introduction to ECDIS</td>
<td>1</td>
</tr>
<tr>
<td>The Merchant Mariner</td>
<td>1</td>
</tr>
<tr>
<td>NAVLAB Familiarization</td>
<td>1</td>
</tr>
<tr>
<td>RADAR Plotting</td>
<td>4</td>
</tr>
</tbody>
</table>
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Basic Navigation

Subject: Basic Navigation

Concept: To introduce a broad scope of terrestrial navigation skills and knowledge-base.

Time Allotted: 5 modules.

Training Objective: The student will:
1. Learn basic Mercator charting knowledge.
2. Learn introductory plotting skills.

Material Needed: Materials for note-taking and plotting.

Student Provided Equipment: The student will report in khakis.

Assessment: The student shall demonstrate, through preparation, participation, and a completion of the exercises, a proficiency in the subject matter described above. Students failing to participate as described above will receive a failing grade for this component of CRU 100.
Introduction to the Code of Federal Regulations

Subject: Code of Federal Regulations (CFRs)

Concept: To introduce the federal system of regulatory codifications as pertains to the maritime industry.

Time Allotted: 1 module.

Training Objective: The student will:
1. Learn basic federal regulatory system codifications and terminology.
2. Learn CFR sections that must be incorporated into shipboard safety, maintenance, and logbook systems.
3. Learn how to search the CFRs for specific information.

Material Needed: Materials for note-taking.

Student Provided Equipment:
The student will report in khakis.

Assessment: The student shall demonstrate, through preparation, participation, and a completion of the exercises, a proficiency in the subject matter described above. Students failing to participate as described above will receive a failing grade for this component of CRU 100.
Introduction to ECDIS

Subject: Introduction to Electronic Chart Display Information Systems (ECDIS)

Concept: To introduce electronic charting systems including ARPA, GPS, Gyro, and AIS overlays.

Time Allotted: 1 module.

Training Objective: The student will:
   1. Learn basic electronic charting systems required under IMO.
   2. Learn usage and skill sets of electronic systems under STCW provisions utilizing the TSGB NavLab equipment.
   3. Learn the overlays systems including ARPA, GPS, Gyro, and AIS.

Material Needed: Materials for note-taking and plotting gear.

Student Provided Equipment: The student will report in khakis.

Assessment: The student shall demonstrate, through preparation, participation, and a completion of the exercises, a proficiency in the subject matter described above. Students failing to participate as described above will receive a failing grade for this component of CRU 100.
The Merchant Mariner

Subject: The Merchant Mariner

Concept: To introduce shipboard duties and topics for the junior mate not covered elsewhere on the training cruise.

Time Allotted: 1 module.

Training Objective: The student will:
1. Review shipboard organization and crew duties.
2. Review basic steering equipment and Helm duties.
3. Learn basic pilot boarding concerns and activities.
4. Learn basic MARPOL regulations and implementation.
5. Discuss typical 3/Mate assigned duties: safety officer, slop chest, medical officer, etc.

Material Needed: Materials for note-taking.

Student Provided Equipment: The student will report in khakis. Visits will be made to inspect the pilot ladder(s).

Assessment: The student shall demonstrate, through preparation and participation a proficiency in the subject matter described above. Students failing to participate as described above will receive a failing grade for this component of CRU 100.
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NAVLAB Familiarization

Subject: NavLab Familiarization

Concept: To introduce the TSGB NavLab systems for use in other training modules such as RADAR and ECDIS.

Time Allotted: 1 module.

Training Objective: The student will:
2. Learn basic simulation usage, benefits and constraints including the visual channel and dedicated features.
4. Understand the appropriate approach to the use and care of the simulation equipment.

Material Needed: Materials for note-taking.

Student Provided Equipment:
The student will report in khakis.

Assessment: The student shall demonstrate, through preparation, participation, and a completion of the exercises, a proficiency in the subject matter described above. Students failing to participate as described above will receive a failing grade for this component of CRU 100.
RADAR Plotting

Subject: An introduction to RADAR Plotting

Concept: To introduce the student to RADAR plotting techniques.

Time Allotted: 4 modules.

Training Objective: The student will:
1. Learn basic RADAR plotting techniques.
2. Learn RADAR plotting triangles and solution methods.
3. Practice actual RADAR plotting techniques utilizing the NavLab simulation equipment (as available).

Material Needed: Materials for note-taking, RADAR plotting sheets, and plotting gear.

Student Provided Equipment: The student will report in khakis.

Assessment: The student shall demonstrate, through preparation, participation, and a completion of the exercises, a proficiency in the subject matter described above. Students failing to participate as described above will receive a failing grade for this component of CRU 100.
## APPENDIX 1 – 3/C BRIDGE WATCH EVALUATION FORM

### Watch (circle one)
- Arrival/Departure: None
- Traffic: Light
- Visibility: Poor

<table>
<thead>
<tr>
<th>Name</th>
<th>Helm</th>
<th>Lookout</th>
<th>Messenger</th>
<th>Security</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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<td></td>
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</tbody>
</table>

*Evaluation Factors (use +, √, −) “− “ must be include comments*

### COMMENTS

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DATE and WATCH

CWO SIGNATURE

LWO SIGNATURE
CRU 100 2014

APPENDIX 2 – 3/C STCW STEERING ASSESSMENT FORM

Cadet Name: ___________________________ Date: ____________
LAT: _______ LONG: _______ SOG: ___ Weather/Seas: Calm Mod Rough

<table>
<thead>
<tr>
<th>Action</th>
<th>COMMAND:</th>
<th>C</th>
<th>NC</th>
</tr>
</thead>
<tbody>
<tr>
<td>From the ship’s original course of xxx° make at least a 20° course</td>
<td>“HARD RIGHT or LEFT” (USE NO MORE THAN 20° OF RUDDER)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>change and select a new course to steady on. Start with the command:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>As positive rate of turn is established Follow with command:</td>
<td>“EASE TO 5° ”</td>
<td></td>
<td></td>
</tr>
<tr>
<td>As vessel’s swing decreases Follow with next command</td>
<td>“MEET HER”</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Steady up on this new course for a minute or two. So as to return to</td>
<td>“STEADY ON NEW COURSE ______”</td>
<td></td>
<td></td>
</tr>
<tr>
<td>original base course. Follow with command:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>As heading approaches original base course Continue with next command:</td>
<td>“RIGHT or LEFT 20°”</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Select a heading near your base course, but NOT your base course. As</td>
<td>“SHIFT YOUR RUDDER”</td>
<td></td>
<td></td>
</tr>
<tr>
<td>you approach this heading Continue with the following command:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Steady the vessel with the Following command:</td>
<td>“MIDSHIPS”</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Steady up on this new course.</td>
<td>“STEADY AS SHE GOES”</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>RETURN TO ORIGINAL BASE COURSE</strong></td>
<td><strong>RIGHT or LEFT 10°</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Continue with the Following command:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Use appropriate Commands necessary to return to and steady up on your</td>
<td>“NOTHING TO THE RIGHT of ______°”</td>
<td></td>
<td></td>
</tr>
<tr>
<td>original base course when steadied up on original base course issue the</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Following command:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>heading does not increase for 5 min.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

OTHER HELM RELATED ASSESSMENTS

<table>
<thead>
<tr>
<th></th>
<th>C</th>
<th>NC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Steer By Gyro Compass (+/- 3°) (15 min)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Steer By Magnetic Compass (+/- 5°) (15 min)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Change From Hand To Auto Steering</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Change From Auto to Hand Steering</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relieve The Helm Watch</td>
<td></td>
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</tr>
</tbody>
</table>
APPENDIX 3 – DUTIES OF CC

1. **Background:** The Master-at-Arms (MAA) and Cleaning Crew (CC) provide an invaluable service by ensuring that common areas are clean, neat, and sanitary. Besides the obvious health aspects of your duties, there are legal aspects such as pollution laws and waste disposal management issues that must be obeyed at ALL TIMES. The MAA is on deck to enforce the rules, regulations and policies established by the Commanding Officer of the Training Ship.

   It is recognized that assignment to MAA/CC involves long hours and hard work. To this end, and in support of the leadership and management development of our cadets, the MAA is required to manage his/her team properly and effectively to accomplish all assigned tasks. The MAAs must be pro-active, thorough, consistent, firm and fair.

2. **Meal Schedule:** It is the responsibility of the MAA to enforce this schedule. Due to the number of personnel onboard, the MAA must manage the time in which people use the mess deck during meal hours. The MAA will ensure that all cadets finish meals in a timely manner and allow all shipmates to eat during the scheduled hours.

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>0600</td>
<td>CCs Muster with MAA</td>
</tr>
<tr>
<td>0630 - 0800</td>
<td>All Hands</td>
</tr>
<tr>
<td>0800 - 0815</td>
<td>Off-going watch personnel</td>
</tr>
<tr>
<td><strong>Lunch:</strong></td>
<td></td>
</tr>
<tr>
<td>1030</td>
<td>CCs Muster with MAA</td>
</tr>
<tr>
<td>1100 - 1115</td>
<td>On-going watch personnel</td>
</tr>
<tr>
<td>1100 - 1145</td>
<td>D1 and D2 Deck/Engine</td>
</tr>
<tr>
<td>1145 - 1230</td>
<td>D3 and D4 Deck/Engine</td>
</tr>
<tr>
<td>1215</td>
<td>Food Service ends</td>
</tr>
<tr>
<td><strong>Dinner:</strong></td>
<td></td>
</tr>
<tr>
<td>1630</td>
<td>CCs Muster with MAA</td>
</tr>
<tr>
<td>1700 - 1715</td>
<td>On-going watch personnel</td>
</tr>
<tr>
<td>1700 - 1745</td>
<td>D1 and D2 Deck/Engine</td>
</tr>
<tr>
<td>1745 - 1830</td>
<td>D3 and D4 Deck/Engine</td>
</tr>
<tr>
<td>1815</td>
<td>Food Service ends</td>
</tr>
</tbody>
</table>

   **Dinner in Port:**
   In Port, dinner will be served ½ earlier and will end ½ hour earlier.

   **Night Meals:**
   2315 - 0015 For Watch Personnel ONLY
   (At Sea AND in Port)
   MAA and I CC

3. **Watch Bills:** Watch bills will be checked periodically by the Company Commander and Assistant Commandant to ensure assignments to MAA and CC duties are completed in an equitable fashion. The watch bill shall be a unified watch bill for deck, engineering, and all
other students combined to ease personnel management. The unified watch bill will be coordinated by the Company Executive Officer. It is preferred to have the watch bill reflect at least 15 days in advance so shipboard personnel can plan their activities around their duties. A minimum of six days of watch bills should be posted at all times.

MAA (At Sea) - 1/C Deck cadet(s) and 1/C Engineer cadet(s) assigned each day. Ensure equitable rotation of all 1/C.

MAA (In Port) - One 1/C Deck and one 1/C Engineer assigned each day.

CC (At Sea) - 3/C cadets. Ensure equitable rotation of all underclass cadets.

CC (In Port) - Two 3/C Deck, two 3/C Engineers with one additional cadet assigned for breakfast.

4. General Duties of MAA:

a. Maintain order and neatness: In common areas, having areas swept, vacuumed, trash removed, etc. as necessary.

For convenience of everyone, trash from individual rooms will be collected generally in the laundry rooms. Trash MUST be sorted for proper disposal.

**Container Use:**

- **BLUE:** Dry Trash
- **WHITE:** Plastics
- **GREY:** Wet Garbage

Plastic trash must be sorted and stowed separately for disposal in port or burned. Although it is the Clean Sweep down responsibility to empty the laundry rooms, the CCs will be tasked from time to time to collect trash from the laundry rooms and take it to the garbage for appropriate handling.

b. Be present at all meals (including night meals): Supervise the CC in its duties. 1/C, Crew Mess, 3/C Mess Decks will be cleaned after each day-time meal. Sweep and swab, clean tables, and fill napkin holders. Wipe clean bulkheads and beverage servers. During breakfast, lunch, and dinner, there will be one MAA in each dining area. A CC will monitor the trash cans, located in the hatch alcove, to see that trash is properly segregated. One MAA will supervise the 2315 meal.

The MAA will unlock 1/C Mess Deck for access to reefer boxes containing night lunches. CCs will not generally work during the night meals unless there is trash to be dumped or any other tasking requiring immediate attention.

c. Enforce Regulations: Cadets on mess decks must be in the correct uniform of the day, in port and underway. **NO FOOD IS PERMITTED TO BE REMOVED FROM THE MESS DECK!!!**

d. Meal Muster: Use meal muster sheets from the Assistant Commandant’s office distribution box and return after the evening meal. Muster takers will notify the MAA of
any uniform and grooming violations. The MAA is responsible for enforcing the uniform and grooming standards on the mess decks.

e. **Accountability:** Any late or absent cadets must be reported to the Assistant Commandant via a Report Sheet. If a cadet is sick, the appropriate Division Commander shall be contacted immediately to find a replacement. The 1/C may split the meal duties (i.e. each 1/C does two meals daily). However, both 1/C may be required to accomplish special tasks, such as plastic incineration, waxing, special cleaning projects, etc. at the discretion of the Assistant Commandant. Remember, the MAA and CC is a 24-hour watch.

f. **Uniforms:** The MAA and CCs shall be properly groomed and uniformed. The MAA shall be in khakis and the CC shall be in a work uniform or the uniform of the day.

5. **MAA and CC Areas of Responsibility:**

a. **1/C, Crew and 3/C Mess Decks:** Sweep and swab after all meals. Clean all dispensers and restock as necessary. Keep all stainless steel surfaces, tables, chairs and decks clean at all times. Clean spills immediately. Keep the 1/C mess locked between meals.

b. **Passageways:** Port passageways forward of the Ship’s Office including the athwart ship’s passageway just aft of the Ship’s Office. Periodically, spray buff all three mess decks and forward main passageway to the Asst Commandant’s office. Use silver or blue floor machines with a tan pad and Versa-Buff as per container directions. Read and follow directions. Remove pad, rinse in hot water until clean, shake out excess water, and hang to dry after each use.

c. **Purser’s Office:** Sweep, swab and empty trash daily.

d. **Assistant Commandant’s Office:** Vacuum and empty trash daily.

e. **Heads:** The four main deck heads, clean, empty trash, scrub heads, clean sinks, wipe clean the mirrors, deck and bulkheads. Keep supplied with paper towels, toilet paper and hand soap.

f. **Cleaning Gear Lockers:** Main deck cleaning gear locker is to be kept in order, grate on floor should be lifted and cleaned underneath daily. Keep the gear locker clean and dry at all times. Ensure cleaning gear is CLEAN before stowing in the locker. Monitor Sweep Down personnel and instruct them on proper use of your locker. Mops should be wrung out; brooms free of dirt; buckets rinsed; decks and sinks clean and dry; and shelves neatly arranged.

g. **Garbage Room:** Keep room as neat and clean as possible. Scrub trash cans and invert them, stacking them by color, so that the containers are dry. There is an anti-bacterial set up for the hose with quick disconnect attachment holding the solution. The brass flute like part has a tip – when the tip is in the vertical position, water and disinfectant are sprayed; when the tip is pointing forward only water is sprayed from the nozzle. DO NOT USE ONLY HOT WATER! The hose is not designed for high temperatures. However, you may use warm water for cleaning and rinsing.
CRU 100 2014

h. **Incineration:** At the direction of the Chief Mate.

i. **Cargo Square and Surrounding Passageways:** Sweep and swab daily. Strip and wax as required by Chief Mate or Asst Commandant.

j. **Officers’ Wardroom and Lounge:** Vacuum after breakfast meal, remove trash and replace with clean trashcan after each meal.

k. **Bears Tale:** The TSGB office will provide the MAA with copies for distribution to the berthing areas.

l. **Stripping and Waxing:** These tasks will only be initiated by the Chief Mate or Asst Commandant. Periodic spray waxing and buffing will be necessary in heavy traffic areas.

6. **Routine:**
   a. Additional instructions, if any, will be located on the MAA clipboard in the box outside the Assistant Commandant’s office. If further information needs to be passed, the Assistant Commandant will meet with the MAA in the morning.

   b. The off-going MAA will pass the “MAA Key Ring” to the oncoming MAA.

   c. A daily inventory check of cleaning supplies is strongly recommended – the Asst Commandant will open Hotel Stores if necessary.

7. **Garbage:** Annex V of MARPOL shall be observed.

   a. **Segregation:** Trash and garbage will be separated into wet and dry containers. Plastic will be placed in a white plastic container only.

   b. **At Sea, Wet and Dry Trash:** No trash other than comminuted food waste will be disposed of over the side.

   c. **At Sea and In Port Plastic:** At sea, plastic will be compacted and stowed in large garbage bags until it can be incinerated. In port, plastic trash will be disposed of ashore. **Note:** Check with the Assistant Commandant to ensure the policy in each port for disposal ashore.

   d. **In Port, Wet Garbage:** Will be stowed securely for disposal at sea or on shore, if possible.

   e. **In Port, Dry Trash:** Will be held on board. In the event dry trash must be stored, it will be compacted as much as possible and stowed neatly in the garbage room.
### APPENDIX 4 – PRACTICAL TRAINING REFERENCES

<table>
<thead>
<tr>
<th>Shot Number</th>
<th>Number of Adjacent Links Painted White</th>
<th>Turns of Wire on Last White Link</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 (15 fathoms)</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2 (30 fathoms)</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>3 (45 fathoms)</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>4 (60 fathoms)</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>5 (75 fathoms)</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>6 (90 fathoms)</td>
<td>6</td>
<td>6</td>
</tr>
</tbody>
</table>
Training Ship *Golden Bear*

Anchor Windlass

A. Control Stand  
B. Port Warping Head  
C. Port Brake Wheel  
D. Break Band  
E. Wildcat  
F. Anchor Chain

G. Compression Bars  
H. Bull Gear  
I. Starboard Brake Wheel  
J. Starboard Warping Head  
K. Engaging Levers
take strain!

heave around moving ship alongside pier by running designated lines to winch and taking heavy strain
“slack!”
cast off all but one turn from bitts and slack line so that small dip is formed

“check!”
hold the line but not to the breaking point, letting the line slip as necessary

“hold!”
take extra turn on bitts and hold line
Fig. 41. Relative bearings from a ship.
Switlik Inflated Liferaft
Overhead View of Passenger Ship with 10 Lifeboats
APPENDIX 5 – EMERGENCY STEERING PROCEDURES

- There are four ways to steer the ship from after steering, two require a hydraulic steering pump be running, two do not and only the ratchet method is effective if the hydraulic line integrity has been breached. Your choice of steering methods may be dictated by the nature of the problem.
- The phone and headset are on the IJV system.

<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>#1</td>
<td>Trick Wheel</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>#2</td>
<td>NFU</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>#3</td>
<td>Hand Crank</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>#4</td>
<td>Ratchets</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

Starting/Stopping Pumps

- The #2 pump on the port side is the only pump on the emergency circuit.
- Only one pump can supply hydraulic pressure to the system at a time. If two pumps are running, the pump started first will be the one supplying the pressure. To get pressure from the other pump, the first pump must be shut down.
- Each pump has its own control box. The breaker should be up and the red "STOP" plunger should be pulled out or the pump won't start.

To start a pump:

1 - Switch black switch from "wheelhouse" to "local". This gives control to you back aft.
2 - Ensure red plunger is pulled out. This is an emergency kill button. If it's in, no one can start the pump.
3 - Push black button "START".
THE FOUR EMERGENCY STEERING METHODS

TRICK WHEEL INSTRUCTIONS
1 - Ensure a steering pump is running.
2 - Next to the trick wheel on the port side is a box labeled "STR GR DUAL SEL SW".
3 - On this box, switch the black "Steering Gear Dual Select Switch" to either "PORT AFT" or "STBD AFT" depending on which trick wheel you want to use. Either pump can run either trick wheel.
4 - On the aft bulkhead behind whichever trick wheel you are using, pull the "GYRO PILOT STEERING" breaker down into the "OFF" position.
5 - Pull out the pin on the trick wheel stem and push the wheel to engage it.
6 - Replace the pin to lock the trick wheel to the steering gears. You now have control.

NFU INSTRUCTIONS
1 - Ensure a steering pump is running.
2 - Next to the trick wheel on the port side is a box labeled "STR GR DUAL SEL SW".
3 - On this box, switch the black "Steering Gear Dual Select Switch" to either "PORT AFT" or "STBD AFT" depending on which NFU system you want to use. Either pump can run either system.
4 - You now have NFU control.

HAND CRANK INSTRUCTIONS
1 - Ensure steering pumps are off.
2 - Next to the trick wheel on the port side is a box labeled "STR GR DUAL SEL SW".
3 - On this box, switch the black "Steering Gear Dual Select Switch" to either "PORT AFT" or "STBD AFT" to isolate bridge steering input.
4 - On the aft bulkhead, pull both "GYRO PILOT STEERING" breakers down into the "OFF" position.
5 - Open and close valves as indicated on diagram on aft bulkhead with wrenches in the labeled box mounted on the aft bulkhead.
6 - Mount yellow hand crank handles on hand pump. They are hung on aft bulkhead.
7 - You now have hand pump steering control.
8 - Use attached safety pins to hold cranks in place when not cranking.

RATCHETS
1 - Ensure steering pumps are off.
2 - Next to the trick wheel on the port side is a box labeled "STR GR DUAL SEL SW".
3 - On this box, switch the black "Steering Gear Dual Select Switch" to either "PORT AFT" or "STBD AFT" to isolate bridge steering input.
4 - Pull both "GYRO PILOT STEERING" breakers down into the "OFF" position.
5 - Open and close valves as indicated on diagram on aft bulkhead with wrenches in the labeled box mounted on the aft bulkhead.
6 - Using ratchets and yellow pipe cheater bars, ratchet the rudderstock appropriately.