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## CMTN Boat Manual

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## Introduction

This manual applies to the two ocean-going vessels used by Coast Mountain College (CMTN) to conduct coastal ecology field courses:

- Na Malsga Aks (*The Story the Water Tells*) – a 27' aluminum-hulled boat
- Sea Lemon - a 19' ft Department of Fisheries and Oceans (DFO) vessel on long-term lease.

These vessels are used for teaching, training, research, fishing (program- and research-related, following the CMTN animal care and use policy), scientific charter, and transport. They are only for use by researchers, instructors, graduate students, and research assistants unless prior permission is granted by the Facilities Director.

The boats may be used at any time for a medical emergency with authorization by a member of the Management Team.

Use of the vessels is covered by *Boat Policy* and *Boat Procedure*.

Guidelines and protocols for taking students on field trips, including boat trips, is covered in the *CMTN Field School Handbook*.



Na Malsga Aks returning to harbour



## Capacity

Maximum capacity is based on vessel certification and/or stability tests:

- Na Malsga Aks – maximum 12 passengers, including crew.
- Sea Lemon (DFO Boat) – maximum 6 passengers, including crew, in sheltered waters (Prince Rupert Harbour); 4 passengers, including crew, beyond Metlakatla and the entrances to the Prince Rupert Harbour.

## Licensing Requirements

The College aims to comply with all applicable Transport Canada and Canadian Coast Guard regulations. This includes:

- *Canadian Shipping Act* 2001 and its regulations
- Small vessel regulations
- Crew must comply with marine personnel regulations

The Boat Operator must operate the vessel in compliance with Transport Canada guidelines or risk being charged under *The Criminal Code*, *Canada Shipping Act*, and the *Contraventions Act*.

## Certifications

The Operator must provide the Physical Asset Management Coordinator with a copy of the following certificates, which are kept in the Operator's file. The Operator must also keep a copy aboard the vessel:

- Small Vessel Operator Proficiency (SVOP)
- Small Domestic Vessel Basic Safety (SDV-BS; formerly MED A3)
- Restricted Operator Certificate Marine (ROC-M) Radio Licence
- Marine Basic First Aid (MBFA) valid for 3 years
- Complete Operator Assessment Form (Appendix A of Boat Procedure)
- any additional certifications required by authorities having jurisdiction.

## Safety Equipment

Both vessels are equipped with radar, electronic charts, and marine lights, which must be used when operating at dawn and dusk, with prior approval of the Facilities Director and submission of a safety plan. Operation in fog or low visibility conditions requires radar navigation and the use of electronic charts. Marine lights must also be enabled.

*Small Commercial Vessel Safety Guide* – [TP14070 E](#) (see Chapter 5)

## Automatic Identification System (AIS) on Vessels

The automatic identification system (AIS) transmits a ship's position so that other ships are aware of its location. The purpose of AIS is to help identify vessels, assist in target tracking, simplify information, and exchange and provide additional information to boost situational awareness.

The Na Malsga Aks can be tracked by using the following web address

<https://www.marinetraffic.com/en/ais/home/centerx:-130.394/centery:54.321/zoom:12>

and using MMSI #316044913.



## First Aid Supplies

Each vessel must carry a marine first aid kit. See Appendix H for details of kit contents.

Supplies used from the First Aid Kit must be replaced immediately and monitored for expiration dates. The CMTN Field/Lab Technician is responsible for replacing expired supplies.

## Boat Passenger Daily Trip Orientation

1. Advise students of the slip and fall hazards on the dock and the ramp going to the dock:
  - boarding and disembarking hazards (e.g., falling between dock and boat, preparation for movement of boat while boarding)
  - how to use the life ring.
2. Advise students to wear a personal flotation device (PFD) at all times. Explain the difference between a PFD and a life jacket.
3. In the event of an emergency, Solas lifejackets are to be worn. Demonstrate how the Solas life jacket is worn and how the pea-less whistle is used.
4. Familiarize students with the location of safety gear located in marked cabinets:
  - first aid kit and automated external defibrillator (AED)
  - location of
    - emergency exits at port and starboard windows
    - tender as an emergency life raft
    - flares and how to use them
    - fire extinguisher and PASS (pull, aim, squeeze, sweep)
    - tools for repairs
  - switch to operate anchor should the boat require immediate immobilization
5. Explain how to:
  - use the VHF (very high frequency) radio and the DSC (digital selective calling) switch
  - determine the vessel's position (latitude and longitude).
6. Advise students to remain in their assigned seats or locations to maintain stability until advised by the crew to move. Reconfirm passenger and crew list and provide to field/lab technician or designate before leaving the dock.
7. Advise students to pay attention to ropes and cables which present tripping hazards or potential entanglement.
8. Identify location of knee switch for the side winch and danger of activating it if students don't realize where it is.
9. Advise of general trip itinerary, timing, and expected conditions.
10. Orient students on the use of marine head (toilet) operation.



## Communication Procedures

Have a communication plan. For example, if the excursion is going to return late or has to change trip plans, notify the Campus Administrative Officer or Physical Asset Management Coordinator so that authorities are not called unnecessarily.

When departing and immediately upon return, call the check-out/check-in service (1-866-291-4640). The current setup of the CMTN service is a check-in at 1 a.m. (Mon-Sun).

The check-in service will be contacted to update contact information for Boat check in services only.

In case of emergency, the phone tree is:

- CMTN Security Cell (250-615-9894)
- Jordan Linteris, Facilities Cell (250-615-7605)
- Michael Doyle, VP Corporate Services Cell (250-641-0574)
- Dean of UC, Sciences (250-641-2654)

In the event that search and rescue need to be contacted:

- call 1-800-567-5111, #727 on a cell phone
- OR use channel 16 on a VHF radio.

## Personal Conduct

While on the boat, students, faculty, and volunteers represent the College and therefore behaviour and conduct are governed by College policy:

- Personal Student Misconduct Policy: <https://www.coastmountaincollege.ca/docs/default-source/policies/education-policies-and-procedures/education-policies/personal-student-misconduct-policy.pdf>
- Drug, Alcohol, and Impairment Policy: [https://www.coastmountaincollege.ca/docs/default-source/policies/education-policies-and-procedures/education-policies/drug\\_alcohol\\_policy\\_under\\_review.pdf](https://www.coastmountaincollege.ca/docs/default-source/policies/education-policies-and-procedures/education-policies/drug_alcohol_policy_under_review.pdf)

## Safety Orientation

Before embarking on a field trip with either boat, the operator of the vessel will conduct a safety orientation with all participants, outlining protocols to be followed in the event of an emergency. See Appendix M.

## Hypothermia

Hypothermia occurs when a person's body loses heat faster than it can produce heat and the body temperature falls below 35°C (95°F). Left untreated, it can be life-threatening.

Hypothermia is often caused by exposure to cold weather or immersion in a cold body of water. It can also be caused by ongoing exposure to indoor temperatures below 10°C (50°F). Exhaustion and dehydration also increase the risk of hypothermia.

For details on dealing with hypothermia see Appendix J.



## Trip Contingencies

Boat trips don't always go according to plan for a number of reasons, including weather and water changes, equipment breakdowns, and student variables.

It is essential that all required paperwork be submitted before embarking on the trip, and that any changes in plan be communicated to the Campus Administrative Officer or the Physical Asset Management Coordinator.

Other steps that can be taken to minimize or prepare for changes to the trip plan:

- Before leaving, ensure that students understand what is required of them (start and finish times, gear required, preparedness for activity).
- Check the weather forecast regularly and have a backup plan.
- Decide in advance how best to support a student who becomes ill during the trip.

## Mooring

The Physical Asset Management Coordinator is responsible for arranging moorage at the marina in Prince Rupert.

## Maintenance

Maintenance requests will be initiated by the User Department and sent to the Physical Asset Management Coordinator.

The Physical Asset Management Coordinator is responsible for scheduling all maintenance and repair requirements.

## Reporting an Incident

All incidents must be reported to the Physical Asset Management Coordinator or the Director of Facilities. Incidents will comply with the [Small Commercial Vessel Safety Guide](#).



# APPENDICES

The appendices included here belong to FAC-007P CMTN Boat Procedure. They are included here as important information for boat operators and users.

When changes are made to the appendices in FAC-007P CMTN Boat Procedure, they should also be made to the appendices in this manual. Each appendix should also display the date of its most recent change.



## Appendix A: Operator Assessment Form

If the answer to any of the questions is **No**, the operator must be accompanied by a certified and knowledgeable operator when using the boat.

	Question	Yes	No
1	Does the Operator have experience operating a marine motor vessel?		
	If yes, what size? _____ Operator must have experience with 19-27 ft motor vessels.		
2	Is the Operator familiar with the area in which the boat will be operated or has operated similar boats in other North Coast areas?		
3	Is the Operator familiar with ocean weather conditions, and how they vary throughout the year?		
4	Is the Operator experienced in interpreting marine weather forecasts?		
5	Has the Operator had a safety and equipment orientation session on the vessel?		
6	Is the Operator familiar with:		
	refuelling?		
	engine room exhaust procedures?		
	chart reading?		
	use of the radar?		
7	Is the Operator competent with docking and departure of large boats in confined moorage locations?		
8	Does the Operator have authorization that verifies certification from the Physical Asset Management Coordinator?		



## Appendix B: Na Malsga Aks Operation Protocols (7 March 2023)

### Prior to Departure

	Action	Done
1.	Check the weather.	
2.	Turn on radio 10 minutes before departure to monitor channel 16.	
3.	Turn on and check GPS/depth sounder.	
4.	Rig lifeline.	
5.	Turn on Garmin inReach and check for battery life.	
6.	Check that throw line is at least 15 m.	
7.	Inspect fire safety items: designated fire bucket (ensure not used for other things) fire blanket fire extinguisher.	
8.	Check fluid levels: gas oil in main engine and kicker engine coolant leg oil diesel heater fuel.	
9.	Check for leaks.	
10.	Check functionality of bilge (especially for long trips).	
11.	Check props for fouling (e.g., seaweed and other debris).	
12.	Verify that life jackets, AED, first aid bag, throw ropes, ladder, flares, fire extinguisher, and other safety equipment are in place and accessible.	
13.	Check expiry dates on safety equipment (e.g., flares, first aid items).	
14.	Check navigation lights.	
15.	Ensure that only 12 passengers will board.	

### Startup

	Action	Done
1.	Check that leg is in the down position.	
2.	Turn main electrical switch from OFF to BOTH (up).	
3.	Turn on fuel line to kicker.	
4.	Turn on engine compartment blowers. Wait a minimum of 4 minutes before starting main engine.	
5.	Run kicker first to ensure back-up motor is operational (easier to hear).	



### After Start-up

	Action	Done
1.	Set fuel consumption meter back to zero; power up navigation and radio systems.	
2.	Scroll through engine diagnostics meter to check temperature, oil pressure, etc.	
3.	Call 1-866-291-4640 to alert of departure.	
4.	When in motion, ensure that entrance/exit is not blocked.	

### During Operation

	Action	Done
1.	Keep watch on fuel consumption gauge. Operate vessel at about 18 knots and 10-11 gallons per hour.	
2.	Adjust leg trim and trim tabs for smooth running and best fuel consumption.	
3.	Keep on lookout for marine traffic. Not all vessels show up on the AIS system.	

### Anchoring

	Action	Done
1.	Allow a short amount of chain loose. Have second person loosen anchor from REST position. Ensure good communication and that the drum is not operated while that person is near the winch.	
2.	Note current tidal position and depth, allowing sufficient scope on the chain/rope to handle tidal fluctuations and potential area of swing.	
3.	Call 1-866-291-4640 to alert of safe return.	

### Shutdown

	Action	Done
1.	Ensure that bow, stern, and midship lines are secure, with fenders properly placed between the vessel and the dock or tie-up boat.	
2.	Turn off fuel line to kicker.	
3.	Power down navigation system before turning off main electrical system.	
4.	Note fuel consumption from the gauge and record amount and purpose of use.	
5.	Ensure all deck equipment is stowed away.	
6.	Ensure windows are fully closed and catches are engaged.	
7.	If diesel heater has been running, turn off first and allow to go through its cool-down cycle before turning off the electrical system.	
8.	Turn off main electrical system.	
9.	Lock back door and ensure tender cable lock is in position.	



## Appendix C: Sea Lemon Operation Protocols (7 March 2023)

### Prior to Departure

	Action	Done
1.	Check the weather.	
2.	Turn on radio 10 minutes before departure to monitor channel 16.	
3.	Turn on and check GPS/depth sounder.	
4.	Rig lifeline.	
5.	Turn on Garmin inReach and check for battery life.	
6.	Check that throw line is at least 15 m.	
7.	Inspect fire safety items: <ul style="list-style-type: none"> <li>- designated fire bucket (ensure not used for other things)</li> <li>- fire blanket</li> <li>- fire extinguisher.</li> </ul>	
8.	Check fluid levels: <ul style="list-style-type: none"> <li>- gas</li> <li>- oil levels in main engine and kicker</li> <li>- fuel for diesel heater</li> <li>- fluid for trim tabs.</li> </ul>	
9.	Check for leaks.	
10.	Check functionality of bilge (especially for long trips).	
11.	Check props for fouling (e.g., seaweed and other debris).	
12.	Verify all safety equipment is present, easily accessible, and in good working condition.	
13.	Check expiry dates on safety equipment (flares, first aid supplies, fire extinguisher, etc.).	
14.	Check navigation lights.	
15.	Ensure that only 6 passengers will board.	

### Startup

	Action	Done
1.	Turn on battery switch.	
2.	Start kicker and verify cooling system operation (water stream exiting from motor). <ul style="list-style-type: none"> <li>- Once verified, shut off and trim motor up.</li> </ul>	
3.	Start main engine and verify cooling system operation. (Same as above.) <ul style="list-style-type: none"> <li>- Allow motor to warm up while checking remaining items.</li> </ul>	
4.	Turn on navigation equipment.	
5.	Ensure all operator certification and required boat documents are on board.	
6.	Call 1-866-291-4640 to alert of departure.	
7.	When in motion, ensure that entrance/exit is not blocked.	



### During Operation

	Action	Done
1.	Monitor gauge for system alarms (e.g., overheating).	
2.	Adjust leg trim and trim tabs for smooth running and best fuel economy.	
3.	Keep on lookout for marine traffic and other water hazards (e.g., floats, logs, kelp).	

### Anchoring

This will require a practical demonstration from an experienced operator.

	Action	Done
1.	When securely anchored, call 1-866-291-4640 to alert of safe return.	

### Shutdown

	Action	Done
1.	Ensure that bow, stern, and midship lines are secure, with fenders properly placed between the vessel and the dock or tie-up boat.	
2.	Power down navigation and electronics.	
3.	Ensure all deck equipment is stowed away.	
4.	If diesel heater has been running, turn off first and allow to go through cool-down cycle.	
5.	Turn off main battery switch.	
6.	Lock door.	







## Appendix F: Na Malsga Aks/Sea Lemon (DFO) Sign-out/Sign-in Procedure (7 March 2023)

No.	Action	Done
1.	Submit to Field/Lab Technician the following appendices prior to key issue: Boat Trip Attendance (E) Boat Trip Participant Contact Information Sheet (I). These forms must be added to the boat SharePoint site prior to departure.	
2.	Sign out keys from Campus Administrative Officer (Prince Rupert Campus).	
3.	Pick up the following appendices from Field/Lab Technician: Operator Assessment Form (A) Boat Operation Protocols – first-time user must read and initial (B or C) Boat Mileage/Fuel/Boat Log (D).	
4.	Fill out the following appendices: Operator Assessment Form (A) Boat Mileage/Fuel/Boat Log (D).	
5.	Immediately prior to leaving, call the check-in service at 1-866-291-4640. Provide the contact person with the following information: Full Name Contact Numbers (cell, office, home) Time of Departure Estimated Length of Departure.	
6.	Immediately upon arrival, call the check-in service at 1-866-291-4640 to verify confirmation of safe return.	
7.	When done, return keys to Campus Administrative Officer.	
8.	Return boat mileage/fuel/boat log form and receipts, and operator assessment form to Field/Lab Technician.	
9.	Field/Lab Technician inputs information from the form into the database.	
10.	Field/Lab Technician sends receipts and boat mileage/fuel/boat log to the Administrative Assistant to the Program Dean twice a month.	



## Appendix G: Na Malsga Aks (formerly Honey Bee) Stability Test (7 March 2023)

### Record of Stability Assessment

**Vessel Particulars**

Vessel Name <b>HONEY BEE</b>	Official Number <b>6K 13274</b>
Date <b>OCT 15 2021</b>	Location <b>RUSH ROCK, PRINCE RUPERT</b>
L - Length Overall .....metres <b>8.23</b>	Weight Required for Assessment
B - Breadth.....metres <b>2.90</b>	
F - distance from waterline at mid-length to top of gunwale (open vessel) or deck (fully decked vessel) <b>0.78</b> metres	Max crew <b>2</b> x 75 kg = <b>150</b> kg
Lowest Downflooding Opening (describe) <b>TOP OF GUNWALE</b> <b>OPEN DECK VESSEL</b>	Max passengers <b>10</b> x 75 kg = <b>750</b> kg
	Divers equipment <b>—</b> x 36 kg = <b>—</b> kg
	Maximum cargo <b>—</b> kg
	Total weight <b>900</b> kg

**Assessment Details: Vessel Assessed as: Fully Decked/ Open (select one)**

Note: Assessments are considered valid only when operating in waves not exceeding 2 metres if fully decked, 1.2 metres if open.

	As Measured (metres)	Evaluation Criteria (from Appendix 2)
Downflooding Height	<b>0.78</b>	More than <b>0.75</b> metres
Residual Downflooding Height	<b>0.71</b>	More than <b>0.31</b> metres
<b>Offset Heel Angle</b>		
<b>Measuring tape method:</b> Centreline to gunwale: Gunwale to waterline (vertical) Gunwale to waterline (offset to port) Gunwale to waterline (offset to stbd)	<b>Pendulum method:</b> Pendulum length :  Plumb bob travel (offset to port) Plumb bob travel (offset to stbd)	Measurements converted to degrees! Port <b>2</b> ° Stbd <b>3</b> ° Less than <b>125</b> °

<sup>a</sup>See next section "Converting to degrees"

Assessment carried out by: Geoffrey P. Gould Signature: 

Multi-deck vessels: Vertical distribution of equivalent passengers:  
 Main Deck \_\_\_\_ Upper Deck \_\_\_\_ Flybridge \_\_\_\_

**Quality Marine Surveyors Ltd.**  
 316 Prince Rupert Blvd.  
 Prince Rupert, B.C. V8J 4E1  
 Tel (250) 624-3755  
 Cell (250) 600-7630



## Appendix H: Marine First Aid Kit Contents (7 March 2023)

Each marine first aid kit must contain:

- an up-to-date first aid manual or up-to-date first aid instructions, in English and French
- 48 doses of analgesic medication of a non-narcotic type
- six safety pins or one roll of adhesive first-aid tape
- one pair of bandage scissors or safety scissors
- one resuscitation face shield
- two pairs of examination gloves
- 10 applications of antiseptic preparations
- 12 applications of burn preparations
- 20 adhesive plasters in assorted sizes
- 10 sterile compression bandages in assorted sizes
- 4 metres of elastic bandage
- two sterile gauze compresses
- two triangular bandages
- blankets for hypothermia
- a waterproof list of the contents, in English and French.

<https://tc.canada.ca/en/marine-transportation/marine-safety/appendix-3>

Supplies used from the First Aid Kit must be replaced immediately and monitored for expiration dates for replacement by the Field/Lab Technician.



### Appendix I: Boat Trip Safety Information Form (7 March 2023)

**Note:** This information is to be collected from students at the beginning of the course.

Name: \_\_\_\_\_ Student No. (if applicable): \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ Postal Code: \_\_\_\_\_

Home Phone No.: \_\_\_\_\_ Cell Phone No: \_\_\_\_\_

Email Address: \_\_\_\_\_

Emergency Contact #1: \_\_\_\_\_

Email Address: \_\_\_\_\_ Cell Phone No.: \_\_\_\_\_

Address: \_\_\_\_\_ City: \_\_\_\_\_

Home Phone No.: \_\_\_\_\_ Work Phone No: \_\_\_\_\_

Emergency Contact #2: \_\_\_\_\_

Email Address: \_\_\_\_\_ Cell Phone No.: \_\_\_\_\_

Address: \_\_\_\_\_ City: \_\_\_\_\_

Home Phone No.: \_\_\_\_\_ Work Phone No: \_\_\_\_\_

Family Physician: \_\_\_\_\_ Phone No.: \_\_\_\_\_

BC Health Care No.: \_\_\_\_\_

Are there any medical conditions or concerns that we should be aware of? If so, please note them:

Please list any allergies: \_\_\_\_\_

I hereby give consent for Emergency Medical Treatment and permission is given to contact emergency contacts if necessary. All information will remain confidential.

\_\_\_\_\_  
Signature Date



## Appendix J: Treating Hypothermia (7 March 2023)

Signs and symptoms of hypothermia usually develop slowly and may include:

- shivering, though this may stop as body temperature drops
- slurred speech or mumbling
- slow, shallow breathing
- weak pulse
- clumsiness or lack of coordination
- drowsiness or very low energy
- confusion or memory loss
- loss of consciousness.

If you suspect someone has hypothermia, call 911 or your local emergency number. Then immediately take these steps:

1.	Gently move the person out of the cold. If going indoors isn't possible, protect the person from the wind, especially around the neck and head. Insulate the person from the cold ground.
2.	Gently remove wet clothing. Replace wet things with warm, dry coats or blankets. Turn on heater.
3.	If further warming is needed, do so gradually. For example, apply warm, dry compresses to the centre of the body — neck, chest, and groin. If available, use an electric blanket. If using a hot water bottle or a chemical hot pack, wrap it in a towel before applying.
4.	Offer the person warm, sweet, nonalcoholic drinks.
5.	Begin CPR if the person shows no signs of life, such as breathing, coughing, or movement.

### Caution

- Do not rewarm the person too quickly, such as with a heating lamp or hot bath.
- Don't attempt to warm the arms and legs. Heating or massaging the limbs of someone in this condition can stress the heart and lungs.
- Don't give the person alcohol or cigarettes. Alcohol hinders the rewarming process and tobacco products interfere with circulation that is needed for rewarming.



## Appendix K: Firefighting Procedure (7 March 2023)

In the event of a fire:

No.	Action	Done
1.	Advise crew and passengers to remain calm. Be prepared to deboard vessel if necessary.	
2.	Use extinguisher to control fire.	
3.	Send out distress signal.	
4.	If possible, position vessel so fire is downwind.	
5.	If fire is in engine space: Shut off motor, fuel supply, and power supply. Close ventilation to engine space. Use extinguishers in fire extinguishing ports.	
6.	Report incident.	



## Appendix L: Refuelling Procedure (7 March 2023)

### DO NOT SMOKE

No.	Action	Done
1.	Check that the dispensing point is equipped with appropriate firefighting appliances.	
2.	Put all passengers ashore and clear any refueling equipment.	
3.	Turn off all pilot lights.	
4.	Cut off electric power at main switch.	
5.	Close all hatches and openings to prevent fumes getting into the hull and bilge.	
6.	Turn off all mobile phones.	
7.	Place a discharge bucket under air/overflow pipe and close scuppers in case of overflow.	
8.	Have a cloth at hand to catch any spills – one for the filler hose and one to monitor airflow from the fuel tank vent. Have sawdust/oil spill equipment ready.	
9.	When refuelling, do not start the dispenser until the outlet nozzle is inserted in the tank. Hold the nozzle open by hand only – do not lock or jam the trigger of the dispenser in the open position.	
10.	Keep the hose touching the filler neck at all times during refueling to prevent static sparks.	
11.	Carefully monitor the filling rate to avoid overfilling. Use your hand where possible to check for air escaping from the vent. When the tank is nearly full, you will feel a distinct increase in airflow, which is the signal to stop filling.	
12.	Do not remove the filter hose until the fuel flow has stopped.	
13.	Lift the hose to drain all remaining fuel into the tank	
14.	Thoroughly clean up all surface spills with an absorbent cloth.	
15.	If fuel has spilled into the bilges, pump the bilges manually into sealed containers or pump ashore. Leave boat wide open for at least 30 minutes to vent.	
16.	When completely satisfied that the boat is free of fumes, start the blower and let it run for four minutes – more if that's the manufacturer's recommendation.	
17.	Start the engine before allowing passengers to board.	
18.	Properly dispose of absorbent cloths, sawdust, or other fuel-soaked items.	



## Appendix M: Boat Passenger Daily Trip Orientation

No.	Action	Done
1.	Advise students of slip and fall hazards on the dock and the ramp going to the dock: <ul style="list-style-type: none"> <li>- boarding and debarking hazards (e.g., falling between dock and boat, preparation for movement of boat while boarding)</li> <li>- how to use the life ring.</li> </ul>	
2.	Advise students to wear a personal flotation device (PFD) at all times. <ul style="list-style-type: none"> <li>- Explain the difference between a PFD and a life jacket.</li> </ul>	
3.	In the event of an emergency, Solas lifejackets are to be worn. <ul style="list-style-type: none"> <li>- Demonstrate how the Solas life jacket is worn and how the pea-less whistle is used.</li> </ul>	
4.	Familiarize students with the location of safety gear located in marked cabinets: <ul style="list-style-type: none"> <li>- first aid kit and automated external defibrillator (AED)</li> <li>- location of:               <ul style="list-style-type: none"> <li>o emergency exits at port and starboard windows</li> <li>o tender as an emergency life raft</li> <li>o flares and how to use them</li> <li>o fire extinguisher and PASS (pull, aim, squeeze, sweep)</li> <li>o tools for repairs</li> </ul> </li> <li>- switch to operate anchor should the boat require immediate immobilization.</li> </ul>	
5.	Explain how to <ul style="list-style-type: none"> <li>- use the VHF (very high frequency) radio</li> <li>- use the DSC (digital selective calling) switch</li> <li>- determine the vessel's position (latitude and longitude).</li> </ul>	
6.	Advise students to remain in their assigned seats or locations to maintain stability until advised by the crew to move.	
7.	Reconfirm passenger and crew list and provide to field/lab technician or designate before leaving the dock.	
8.	Advise students to pay attention to ropes and cables which present tripping hazards or potential entanglement.	
9.	Identify location of knee switch for the side winch and danger of activating it if students don't realize where it is.	
10.	Advise of general trip itinerary, timing, and expected conditions.	
11.	Instruct students in the use of marine head (toilet) operation.	

