

## Appendix 11 **SEA PRACTICAL SAFETY**

Performing scientific work at sea has a variety of extra dangers which you will not have come across before.

In the days immediately before the Sea Practical there will be a special workshop on safety and safe working practices at sea which you **must** attend. You will be asked to complete a hazard analysis exercise (attached) and then to complete and sign a risk assessment form.

### *Specific Issues*

#### **1) Discipline**

We ask you not to embarrass yourselves or us by any conspicuous misconduct. Any conduct prejudicial to the good name of the University will result in the offender asked to leave immediately.

The ultimate authority on board ship is the captain, whose word is final. You should also obey instructions given by the crew, by members of academic staff and by postgraduate demonstrators. For reasons of safety, working at sea requires greater discipline than is normally usual in an academic environment ashore.

The accommodation is in a hostel that also houses other guests. You should therefore keep noise to a minimum at all times and particularly during the night. You should not appear in the dining room in dirty working clothes; dress for meals can be casual but should appear clean and tidy. For the sake of security it is perhaps wiser not to leave valuable items lying about on display in the bedrooms during the day. If food is provided by a self-service buffet, please do not be over-greedy in your portions.

#### **2) Health and Safety**

Anyone who has any health problem or who is under medication, which might affect their participation, should, in confidence, let us know. Dr Martin Preston ([preston@liv.ac.uk](mailto:preston@liv.ac.uk)) has special responsibility within Earth and Ocean Sciences to help students with known conditions to participate as safely and as fully as possible in fieldwork

#### ***Sunburn***

Your exposure to radiation from the sun is greater at sea than on land because of reflections from the water surface. If, by any chance, the weather does turn out sunny be careful to guard against sunburn; there is little shade on a small vessel. Sunscreen and a suitable hat will protect you from the worst of it.

***Seasickness***

It is possible that some participants (or even organisers!) may suffer from seasickness. This is nothing to be ashamed of – it is not your fault. If you need to take medication please do so at least an hour before we sail and let us know that you have done so because some preparations can cause drowsiness. If you are going to be sick go to the lavatory (head – in nautical terms). Under no circumstance should you rush to the rail. Seasickness is caused by an upset to your sense of balance so the side of the ship is a particularly dangerous place to be if you are ill.

***Loading and unloading***

Some of our equipment is heavy and needs to be manoeuvred by crane. Unless you are specifically asked to perform a task please stay well out of the way and make absolutely sure that you are never directly underneath a load whilst it is in the air.

Never lean over the dockside (normally port) of the vessel. The ship will be moving whilst still tied up at the quay and mooring ropes can tighten unexpectedly trapping anything in the way.

Only board or disembark the vessel by the official route (ladder or gangplank). Stepping directly from the dock onto the ship is illegal and very dangerous.

***On board***

A ship is a dangerous place at the best of times and adequate safety clothing must be worn. When working on deck shoes with steel toecaps **must** be worn, also lifejackets, hard hats and, if heavy equipment is being manhandled, working gloves. We have to ask you to provide yourselves with shoes or boots with protective toecaps. Lifejackets, hard hats and working gloves will be provided.

Be particularly aware of ropes and cables on board. Moving wires are very dangerous. Never put your feet in a ‘bight’ (loop) of rope on deck. If that cable pays out suddenly you will either have your feet amputated (best case) or be pulled over the side.

It must also be realised that the usual relaxed academic atmosphere permissible on land has to be replaced by a stricter regime on board where time is often of the essence. You should never do anything which will endanger yourself or others. Never sit on the ship's rail; even in the best of weather there is danger of falling overboard.

The ship has a range of equipment which we may not be using. The guiding principle is:- **If you have not been instructed how to use a particular piece of equipment don't touch it.** Even when you know what you are doing it can still be dangerous.

***Clothing***

In addition to safety gear you should have sufficient clothing to keep you warm and dry; for example, a woollen pullover is warmer than a cotton sweatshirt. Dress in layers so that you can adjust your clothing as the temperature changes. You must have a

waterproof jacket and preferable over-trousers as well.. A working ship is not always the cleanest of places. Please wear clothes for which contact with oil or grease is not critical. A boiler suit is ideal, but otherwise old jeans etc.

In the interests of safety the taking of alcoholic beverages on board is forbidden; under no circumstances should you be on board under the influence of alcohol or drugs which might impair your judgement. Likewise it is important to ensure that you are adequately rested and get *sufficient sleep*. We reserve the right to exclude anyone from the ship who we believe represents a danger to themselves or others.

It is also important to be *properly fed*, as this will also help against the cold and ward of exposure. Whether you are in a hotel (Port Erin) or hostel (Oban) make sure that you have plenty to eat before going to sea. Packed lunches are provided by the hotel in Port Erin (these are modest in quality and size). In Oban lunch is provided on the ship so if you have particular dietary requirements is very important to let us know in advance so that the cook on the ship can provide you with something appropriate.

### ***Other safety issues***

In the first part of your first day at sea you will be instructed in the safety procedures and safety equipment on board the ship by one of the ship's officers or crew. Pay very careful attention to this briefing. It may save your life!

### ***Man Overboard procedure***

In the unlikely event of someone falling over the side of the ship you have two vital responsibilities.

- 1) Never take your eyes off them for a second. If you lose sight of them they will probably die because it is very difficult to see floating objects at sea.
- 2) Scream and yell as loudly as you can to attract attention. Someone will come and you can then point out the victim. The ship may then perform an emergency turn so hold on and keep your eyes on the victim.

### ***Reassurance***

The problems outlined above may make the work seem intimidating. This is not the case and if you stick by the guidelines you are given you will have valuable educational experience, fun AND a trouble free exercise.

### ***Insurance***

You are insured while working on the ship and in the Laboratory at Port Erin or Liverpool. However it is wise to have a travel insurance policy to cover other eventualities such as transport home in case of illness or injury.

Name .....

Activity	Hazard										
	Winch + wires	Hanging weights	Crushing injury	Exposure	Drowning	Burns	Damage to equipment	Back injury	Bumps and bangs	Falls	Other
<b>Ship based</b>											
Loading/unloading vehicles											
Loading gear on ship											
Unpacking/deploying gear on ship											
Embarking/disembarking											
Moving around ship											
Outdoor/deck work											
Indoor wet/dry lab work											
Bottle casts											
CTD casts											
Grab deployment											
Current meter deployment/recovery											
Drifter deployment recovery											
Plankton net											
Other activities											
<b>Lab based</b>											
Met observations											
Water sampling from jetty											
Chemical measurements											
Salinity measurements											
Sediment measurements											
Microscope work											
Data processing											
Other activities											