BCU Coastal Navigation and Tidal Planning Syllabus

Course philosophy

This course is designed for those paddlers carrying out coastal journeys including islands up to 2 nautical miles offshore in areas of tidal movement up to 2 knots and is a prerequisite for those seeking their BCU 4 Star Sea Leader Award. However, anyone wishing to undertake journeys on the sea using a kayak would find the technical and theoretical aspects not only useful, but essential for safe travel in the marine environment! This course is designed to complement the areas covered in the BCU 4 Star Leader Training.

Course aims

The aim of this course is to give the student the tools to enable them to plan and navigate effectively on coastal journeys in moderate sea conditions. This will include the following aspects;

- to interpret sources of information including maps, charts, coastal pilots and tide tables
- to navigate on the water using visual references and simple pilotage techniques e.g. transits and dead reckoning
- effective use of a compass
- to be able to source, interpret and apply weather information to the coastal environment
- by the end of the course each student should have planned at least 2 coastal journeys that they can take home as references for further trip planning
- to be aware of the range of resources required to plan trips in the coastal environment
- students should be made aware of the role of the Coastguard and the value of liaising with them

Equipment required for course

- Silva type 4 or similar compass suitable for map work
- 2B pencils and rubber
- notebook

Recommended course book

Sea Kayak Navigation, Franco Ferrero (2nd Edition, 2007).

Venue and duration

The course is a minimum of 8 hours duration, (1-day or several modules).

Whilst this is a classroom-based course the intention is that it is highly practical and not a lectured syllabus. The students must participate in a variety of practical planning exercises using the resources provided. This will constitute a minimum of 50% of the course time.

Provider requirements

BCU Coastal Navigation and Tidal Planning Provider.

Course content

The course information will fall into three main areas and the key aspects covered under each of these are highlighted below;

1. Environmental considerations

Weather - students should be able to source, comprehend and apply weather information to coastal trip planning;

- the cause and effect of atmospheric circulation, weather systems and fronts
- the interpretation of a synoptic chart
- sea conditions associated with weather, and the Beaufort Scale
- obtaining and interpreting a sea area forecast
- other sources of weather forecasts
- combination of effects to create extreme tidal ranges (known as proxigean tides)

Tides - students should be able to source and apply tidal information to coastal trip planning;

- the basic cause and effect of tidal movement on a daily, monthly, and annual basis
- the cause and effect of changes in air pressure on tidal range
- sources of tidal information
- the effect of wind and land features on tidal movement
- how to estimate tidal behaviour
- the importance of being aware of tidal anomalies

2. Sources of information

Students should be able to extract information embedded in maps, charts, pilots, and other sources of information.

OS Maps & Charts;

- the understanding of systems to fix position
- the understanding and application of scale and distance
- how to take a true and magnetic bearing from OS maps and charts
- how to interpret the variety of information on OS maps and charts
- the advantages and disadvantages of OS maps and charts

Pilots and tidal streams atlas (Admiralty and Sailing Directions);

- sourcing, understanding and applying information from the pilot and tidal stream atlas
- transferring relevant pilot information onto a chart or OS map

Other sources of information;

- the value and limitations of information from local sources including sea kayak guides, local clubs and other water users

3. Coastal planning

Students should be able to extract information from a range of nautical publications in order to plan a coastal trip on both a chart and OS map recognising the limitations of the OS map.

Trip planning - The importance of taking an overview from a number of perspectives prior to detailed planning, including;

- calculation of timings, group skill level, logistics, and environmental factors
- how to calculate Estimated Time of Departure (ETD) and Estimated Time of Arrival (ETA)
- the importance of shore contact and the role of the MCA
- how to use a tidal planning table
- how to create a pictorial image of the relevant tidal movements

The application of navigation theory;

- how to calculate bearings for short crossings of tidal waters
- how to apply timing calculations on the water
- how to be aware of time made good when utilising tidal flow
- how to relate OS map or chart information to the coastal environment
- how to use natural transits, dead reckoning and estimated positioning
- application of the Rules of the Road