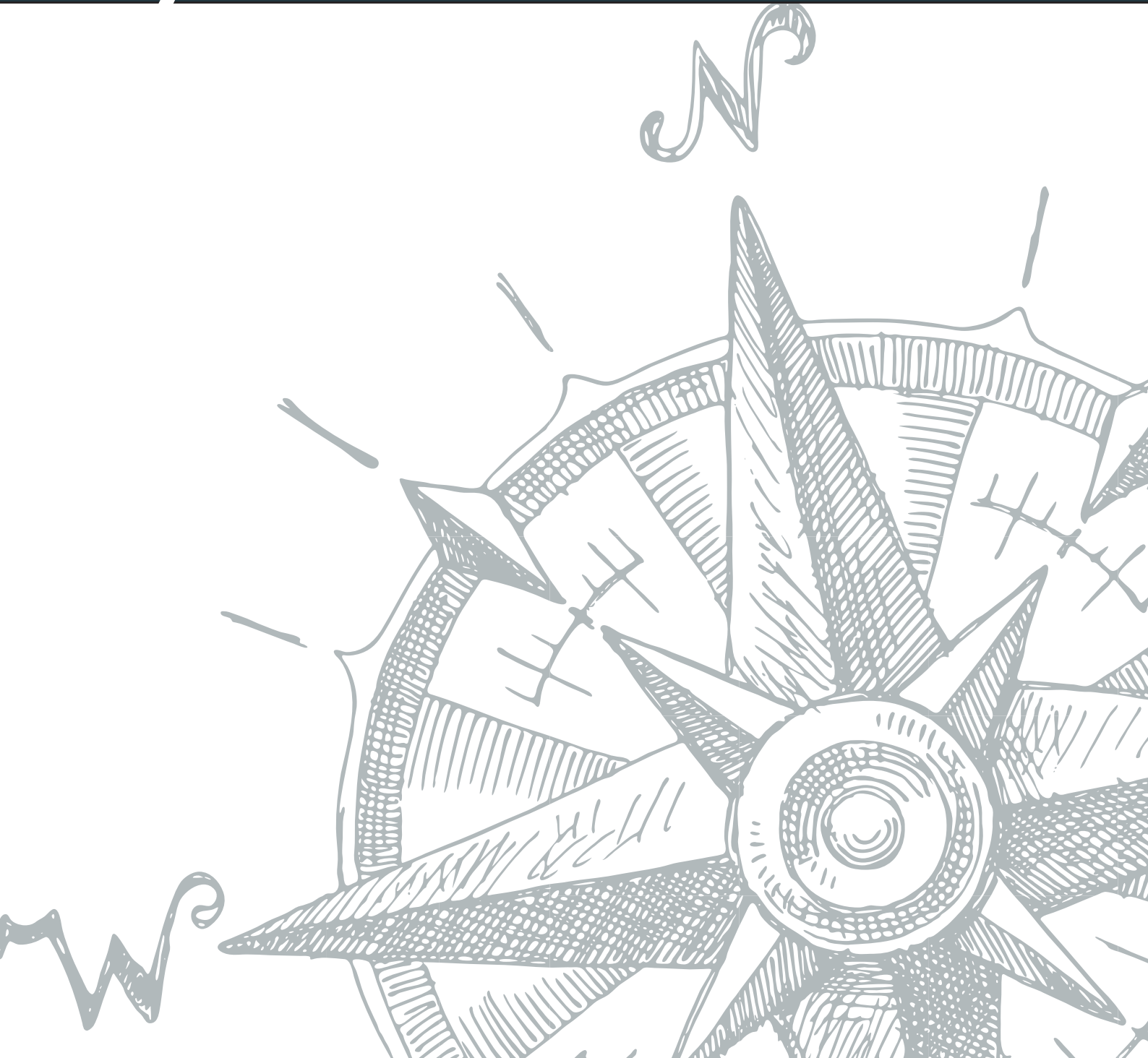


syllabus



YWAM SHIPS KONA
School of Navigation and Seamanship

purpose & values

course purpose

This course is designed to take someone with little or no knowledge in navigation and seamanship to a level of competence with the unique opportunity to obtain qualifications in the international maritime industry.

As they learn technical skills, students also learn to apply cultural values to all aspects of navigation and seamanship.

course context

This course can be taught in any coastal location with access to the open ocean.

course objectives

- Understand the principles of navigation and seamanship and apply them with confidence while conducting a vessel in a sealane.
- Effectively meet and respond to an emergency concerning the Safety of Life at Sea.
- Work as a team in preventing and responding to an emergency at sea and in port.
- Navigate a vessel in extreme conditions and situations and identify dangers concerning crew, passengers, cargo, and ship.
- Learn the principles of leadership and its disciplines and apply them with an understanding of cultural values.
- Understand the basic principles of Engineering and engine maintenance and operation.
- Have a worldview and international awareness that respects island cultures in the use of ships.

additional information

It's possible that school will take place on a vessel full-time, making for a full-time hands-on learning course.

weekly topics: Two afternoons each week will include practical application underway.

week 1: seamanship basics

Cover the contents of the text book *The Competent Crew*.

Knowledge of sea terms and parts of a boat, her rigging and sails: Sufficient knowledge to understand orders given concerning the sailing and day to day running of the boat.

Sail Handling: Bending on, setting, reefing and handling of sails. Use of sheets and halyards and their associated winches.

Line Handling: Handling of lines, including coiling, stowing, securing to cleats and single and double bollards. Handling warps.

Ability to tie the following knots and know their correct use: figure of eight, clove hitch, rolling hitch, bowline, round turn and two half hitches, single and double sheet bend, and a reef knot.

week 2: navigation

Definition of position course and speed

- Latitude and longitude
- Knowledge of standard navigational terms • True bearings and courses
- The knot (speed).

Navigational charts and publications: Information shown on charts, chart symbols and representation of direction and distance. Navigational publications in common use.

Chart correction.

Navigational drawing instruments: Use of parallel rules, dividers and proprietary drawing instruments.

Compass: Application of variation. Awareness of deviation and its causes. Use of hand bearing compass.



week 3: navigation / rules of the road

Chartwork: Dead reckoning and estimated position including an awareness of leeway. Techniques of visual fixing. Satellite-derived positions. Use of waypoints to fix position. Course to steer.

Tides and tidal streams: Tidal definitions, levels and datum. Tide tables. Use of Admiralty method of determining tidal height at standard port and awareness of corrections for secondary ports. Use of tidal diamonds and tidal stream atlases for chart work.

Visual aids to navigation: Lighthouses and beacons, light characteristics.

week 4: seamanship

Meteorology: Sources of broadcast meteorological information. Knowledge of terms used in shipping forecasts, including the Beaufort scale, and their significance to small craft.

Basic knowledge of highs, lows and fronts. Air masses, cloud types and weather patterns associated with pressure and frontal systems.

Passage planning: Preparation of navigational plan for short coastal passages. Meteorological considerations in planning a short coastal passage. Use of waypoints on passage. Importance of confirmation of position by independent source. Keeping a navigational record.

Navigation in restricted visibility: Precautions to be taken in, and limitations imposed by fog.

Pilotage: Use of transits, leading lines and clearing lines. IALA system of buoyage for regions A and B. Use of sailing directions. Pilotage plans and harbor entry.

Anchor work: Characteristics of different types of anchors. Considerations to be taken into account when anchoring.

Marine environment: Responsibility for avoiding pollution and protecting the marine environment.



week 5: scuba

Complete PADI SCUBA course. Start out in the pool and end with open water dives.

week 6: stcw / safety

Standards of Training, Certification and Watchkeeping: Basic Safety Training

Safety: Knowledge of the safety equipment to be carried, its stowage and use.

Emergency equipment. Can operate distress flares and knows when they should be used. Understands how to launch and board the life raft.

Fire precautions and fire fighting. Use of personal safety equipment, harness and lifejackets. Ability to send a distress signal by VHF radiotelephone. Basic knowledge of rescue procedures including helicopter rescue.

Man overboard: Understands the action to be taken to recover a man overboard.

week 7: stcw / safety

Safety training including the American Heart Association Certificate for First Aid and CPR.

week 8: boat systems

Engines: Knows how to change fuel and water filters, pump impeller and to bleed the fuel system.

Electrical, Fresh and Sea water systems.



week 9: sailing - underway including overnight trip

Preparation for sea: Prepare a boat for sea, including engine checks, selection of sails, securing and stowage of all gear on deck and below.

Deck Work: Can reef, shake out reefs and change sails to suit the prevailing conditions. Can prepare an anchor, mooring warps and take charge on deck when mooring alongside, coming to a buoy, anchoring, weighing anchor and slipping from a buoy or an alongside berth.

Navigation: Is proficient in chart work and routine navigational duties on passage including:

Taking and plotting visual fixes. Use of electronic navigation equipment for position fixing. Use of waypoints. Working up DR and EP. Estimating tidal heights and tidal streams. Working out course to steer to allow for tidal stream, leeway and drift. Knowledge of IALA buoyage. Maintenance of navigational records. Use of echo sounder and lead line.

Pilotage: Can prepare and execute a pilotage plan for entry into and departure from a harbor. Understands the use of leading and clearing lines. The use of transits and soundings as aids to pilotage.

Meteorology: Knows sources of forecast information. Can interpret shipping forecasts and use a barometer as a forecasting aid.

Rules of the road: Has a working knowledge of the international regulations for preventing collisions at sea.



Maintenance and repair work: Understands and is able to carry out maintenance tasks.

Victualling: Understands how to victual a yacht.

Emergency situations: Is able to take correct action as skipper for recovery of a man overboard. Understands distress flares and how to use a life raft. Can operate a VHF in an emergency and can send a distress message. Understands how to secure a tow. Understands rescue procedures including helicopter rescue.

Yacht handling under power: Can bring a boat safely to and from an alongside berth, mooring buoy and anchor under various conditions of wind and tide.

Yacht handling under sail: Can bring a boat safely to and from a mooring buoy and anchor under various conditions of wind and tide. Can effectively steer and trim the sails on all points of sailing.

Dinghies: Understands and complies with loading rules. Is able to handle a dinghy under oars and with outboard motor.

Passage making: Can plan and make a coastal passage, taking account of relevant navigational hazards and limitations imposed by the type of boat and the strength of the crew.

week 10: engineering

Overview of engineering requirements on ships.
Outboard motor maintenance and repair.

week 11: missions with ships

Designated Person Ashore (DPA) training: Understand the role and responsibility to promote a positive attitude to safety by those working on ships including: DPA Overview, International legislation, Risk Assessment, Legal, Commercial and Insurance Issues, Auditing Communications. The DPA is a key link in the safety chain.



week 12: 4K mapping

In this final week we will review everything learned in the Quarter and learn how Ship crews can interface with 4K Mapping, both collecting data and using existing data.



