



Coastal Kayak Navigation Skills Course

Course Overview

The purpose of this sample skills course is to provide guidance regarding appropriate navigational knowledge to impart, and navigational skills to develop, for various venues. This document is not intended to be prescriptive, but rather to serve as a reference/framework for consideration. Each instructor will determine which knowledge and skills are appropriate to teach, for the specific students, and the target venue in which they will be operating.

Note that each of these suggested groupings is cumulative and builds upon the previous venue (e.g., Level 2 Knowledge and Skills is a foundation for Level 3 Knowledge and Skills).

Skills Course Prerequisites

- Acknowledgment of personal compliance with the [ACA Essential Eligibility Criteria \(EEC\)](#).
- No prior paddling experience or training is required to participate in this course

Course Duration

The course duration should be adjusted to best fit the needs and goals of the participants. For example, this course could be taught as an all-day course, a multi-day course, or “in chunks,” with the content incorporated into other course modules or topics.

Course Location / Accessible Venues

The course must be limited to venues within the certification scope of the instructor (e.g., a Level 3: Coastal Kayaking Instructor could teach any navigation topics – but must not exceed Level 3 conditions when on the water).

Course Size

5 Participants : 1 Instructor; with an additional qualified assistant, the ratio can be 10 : 2.

Instructor

This course may be offered by ACA Level 1-5: Coastal Kayaking ACA Instructors, Instructor Trainers, or Instructor Trainer Educators.

The following is a general summary of course content for the Coastal Kayak Navigation course. The content and sequence of instruction should be adjusted to best fit the participant's needs, class location and time allowance.

- Welcome, introductions, paperwork
- Student and instructor course expectations and limitations
- Course itinerary and site logistics
- Review waiver, assumption of risk, challenge by choice, medical disclosure
- About the ACA
- PFD policy (always wear on water)
- Appropriate personal behavior
 - No alcohol / substance abuse
 - Proper etiquette on & off the water
 - Respect private property
 - Practice Leave No Trace ethics

Level 1 Navigation

Knowledge

- Stay out of the way of all other vessels

Underway skills

- Stay out of the way of all other vessels

Level 2 Navigation

Knowledge

- Direction: True vs. Magnetic North. Should use Magnetic (not True) on a kayak.
- Charts: Identify magnetic north on the chart (or map) of the area. Identify lateral buoys and day marks (red and green) and understand significance (e.g., boating and shipping channels). Identify lights/lighthouses from chart. Measure distance (distance scale and/or minutes of latitude). Read depth from the chart.
- Tides: What it is (vertical movement of water), Why it is important (not get stranded, boat does not float away at lunch, etc.), Sources to predict tides.
- Current: What it is (horizontal movement of water), Why it is important (will make trip shorter or longer, impacts how rough the water is etc.), Sources to predict.
- Float plans (sources for outlines, develop a simple one).
- VHF: Emergency calling (16) (the four key elements – Name, Location, Nature of Distress, Number of Victims); check weather.
- Recognizing risk of collision using bow angle, and movement with respect to land features.

Underway Skills

- Identify key buoys/day marks/lighthouses and channels.
- Maintain approximate estimate of position by correlating what is seen and what is on the chart (e.g., “piloting” and “handrailing”).
- Recognizing risk of collision by using bow angle, and movement with respect to land features.

Level 3 Navigation

Knowledge

- Direction: Understand what reciprocal bearings are - to and from an object/180.

- Charts: Ranges, Depth Contours, Latitude and Longitude. Plot a course (distance, course, and estimated time).
- Tides: Tidal reference stations and offsets.
- Currents: Definitions of “Set” and “Drift”.
- Dead Reckoning: Distance = Speed x Time; Time = Distance/Speed.
- Boat Traffic: Recognizing risk of collision using compass bearing (in addition to bow angle and movement with respect to land features).
- VHF: Additional VHF channels (e.g., 13, 22A/1022, 68, 69, 71, 72, 78A/1078), Securite, Pan Pan, and Mayday calls.
- Develop, and submit, a Float Plan for the day’s anticipated journey.

Underway Skills

- *Effectively* use a deck mounted compass to follow, and verify, a pre-computed course.
- Dead Reckon position (at 20-minute intervals, assuming 3 kt boat speed).
- Recognize risk of collision using constant compass bearing (in addition to bow angle and movement with respect to land features).
- VHF: Communicate within group using proper routine protocols; broadcast Securite call if/as appropriate (e.g., crossing a shipping channel, rescue practice).

Level 4 Navigation

Knowledge

- Direction: True, Variation, Magnetic, Deviation, Compass, Add West when uncorrecting and add East when correcting (“TVMDCAW”).
- Compensating for annual change in Variation.
- Position Fixing: Plot and cross two bearings to get a position.
- Charts: Identify shoals, seamounts, and tide races/overfalls on a chart. Use of Topographic Maps (vs. Marine Charts).
- Tides: Rule of 12ths (estimate height of tide), impact of wind on tides.

- Current: Impact of wind on current; 5/9 rule to estimate current speed; Plot a tidal vector (specifically, given a desired course, and a known current offset, which direction should you paddle).
- Dead Reckoning: Speed = Distance/Time.
- Beaufort Sea State – general awareness.
- Light and sound characteristics of navigational objects.
- Discussion of Night/Low Visibility Navigation.
- Key Concerns: Maintaining awareness of position, collision avoidance, group control.
- Strategies and Tactics – e.g., extensive pre-planning, going from mark to mark, handrailing, aiming off, importance of sound signals, sounding off, etc.

Underway Skills

- Shoot a bearing and plot it on the chart (*while rafted to another kayak*).
- Identify and use ranges/transits for determining/managing impact of current.
- Recognize light and sound signals.
- Manage group with VHF (appropriate use and protocols).

Level 5 Navigation

Knowledge

- Discuss/Review key navigation/group management strategies in limited visibility.
- International Buoyage (IALA area A vs. area B).
- Rules of thumb for determining impact of wind speed on kayak speed.
- Introduction to GPS use (especially Latitude/Longitude (Lat/Long), determination and use of waypoints).
- Trip planning exercise giving due consideration to key drivers including environmental conditions, time available, personnel, equipment, etc.; break into logical segments and analyze each segment.

Underway Skills

- Assessing Risk of Collision using movement with respect to a variety of “fixed” features (e.g., land, low clouds, stars, etc.).
- Plot and cross bearings on chart, while underway, in order to determine position (*while NOT rafted to another kayak*).
- Night navigation.
- Fog navigation.
- GPS to determine Latitude/Longitude (Lat/Long), use of waypoints.

Conclusion and Wrap Up

- Group debrief and individual feedback.
- Course limitations
- Importance of first aid and CPR
- Importance of additional instruction, practice, experience
- Importance of appropriate level of safety and rescue training
- Demonstrate advanced maneuvers
- Life sport and paddling options
- Local paddling groups and clubs
- Handouts and reference materials
- ACA membership
- Course evaluation
- Participation cards (optional)

*Skills not required for those participants paddling a kayak without a spray skirt.

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This curriculum is managed by the ACA Coastal Kayaking Committee. To connect with the leadership of this committee, please view the SEIC Committee rosters on [the ACA website](#).