



# Level 5: Advanced Whitewater Canoeing Skills Course

## Skills Course Overview

This course is designed as a short program emphasizing safety, enjoyment, and skill development. The skills and knowledge gained through this course can set the stage for a lifetime of exploration, adventures, a healthy lifestyle, appreciation of water and the natural world, lasting memories with family and friends, and a rewarding experience for all - we paddle because it is fun.

If you're a student who would like a resource to prepare for this course, ACA is pleased to provide a free online paddling safety course, [here](#). A certificate of completion is included!

## Skills Course Prerequisites

- Acknowledgment of personal compliance with the [ACA Essential Eligibility Criteria \(EEC\)](#).
- Completion of an ACA Level 4: Whitewater Canoeing course or equivalent skills

## Course Duration

2 days (16 hours) or more.

## Course Location / Accessible Venues

Moving water on rivers up to and including class III-IV sections. *A rapid class includes rapids at the lower and upper ends of the difficulty range, designated “-“ and “+” respectively.*

## **Course Size**

**Tandem:** 4 participants : 1 Instructor; with an additional instructor, the ratio can be 8 : 2.  
The maximum number of participants permitted is 8.

**Solo:** 3 participants : 1 Instructor; with an additional instructor, the ratio can be 6 : 2.  
The maximum number of participants permitted is 6.

## **Instructor**

This course may be offered by Level 5: Advanced Whitewater Canoeing ACA Instructors, Instructor Trainers, or Instructor Trainer Educators.

## **Succeeding Courses**

- Level 5: Advanced Whitewater Canoeing Assessment Course
- Canoe Rolling

## **Course Outline**

The sequence of this course should be adjusted to best fit the participant's needs, class location, time allowance, and craft being used.

## **Introduction, Logistics, and Expectations**

- Welcome! We're so glad that you've chosen to further your paddling experience and education by attending this course! Let's review a few highlights about the ACA
- Let's talk about the course itinerary, expectations, and limitations
- Lay of the land (and water): the logistics of this venue
- Review liability waiver, assumption of risk, challenge by choice, and medical disclosure
- Life jacket policy: always wear while on the water

*Note: The intent of this course is not introducing new material as much as it is refining, upgrading, and expanding upon strokes and maneuvers already mastered in previous courses/experiences.*

## **Personal Preparation & Getting Started**

- Describe and follow safe boating practices (behavior, substance abuse, on water and land etiquette, Leave No Trace ethics)
- Review elements of a float plan (who, what, when, where, filing practices)
- Discuss current weather conditions, forecasts, and other environmental hazards (wind, water, weather, waves)
- Discuss importance of developing good judgment, group responsibility, management, and dynamics
- Warm up to reduce injury
- Evaluate individual's swimming ability, water comfort, and confidence prior to beginning the trip
- Review of additional personal and group gear, including, but not limited to:
  - Environmental supplies (food, water, appropriate clothing, sunscreen, etc.)
  - Navigational and signaling tools (maps, charts, whistle, etc.)
  - Safety and rescue tools
  - Repair kit
  - First aid kit (appropriate to training)
- Review securing boat for transport on car or trailer using proper tie downs, straps, or knots
  - Knots: Figure-8, bowline, truckers hitch, and 2 half hitches
- Prepare boat for departure: stowing gear securely and ensuring it is balanced
- Appropriately use communication (paddle, hand, and whistle) signals

## **Paddling Techniques and Mechanics**

- Body Mechanics
  - Ranges of motion: tuck, twist, hinge
    - Posture enhances twist, balance, and comfort
    - Torso rotation while utilizing large muscle groups improves reach

- Correct body positioning, paddle placement, “the paddler’s box,” minimizes risk to shoulders
  - Power transfer varies with flexibility and strength
  - Advantages of turning torso into boat’s new direction versus steering with stern strokes
- Lower body balance
  - Value of warm up and stretching to increase flexibility and recovery
  - Heeling (J-lean), fake leans, head dinks
- Boat Factors
  - Carving versus skidding: affected by steadiness, range of boat heel, and power application
  - Glide: determined by boat pitch, yaw, and roll
  - Hull Design: resistance of the boat through water
  - Steering and corrections: done at both ends of boat depending on the situation
  - Pivot point of boat: changes with speed
  - Pressure control to transfer force: feet, knees, and pelvic thrust
  - Outfitting: to improve efficiency of force transfer
- Blade Factors
  - Propulsive: blade close to boat centerline to minimize turning [vertical paddle]
  - Turning: blade far from centerline and pivot point to maximize turn effectiveness
    - Vary power, blade angle, and distance from pivot point for fine control
    - Define quadrants [angle relative to boat]
    - Define blade angle; degrees, open, closed, etc.
  - Moving the boat is the object
    - Blade angle relative to direction of travel
    - Efficiency of force application: pull instead of punch

- Accelerate blade and recover quickly to increase stroke rate
- Stroke timing

## **River Hydrology Features and Associated Risks**

- Currents
- Rocks (upstream and downstream Vs)
- Ledges and low head dams (horizon lines)
- Broaches
- Pins and entrapment
- Strainers/sieves
- Bends
- Undercut rocks or ice
- Dams/flow diversion structures and pipelines
- Holes and hydraulics

## **Safety and Rescue**

- Principles of Rescue
  - Use of safe rescue strategies such as T-RETHROG (Talk, Reach, Throw, Row, Go) including throwable buoyancy aids and throw bag use
  - Rescue Priorities: people, boat, paddle, gear
  - Responsibilities of the group, rescuer, swimmers
  - Appropriate use of rescue and safety gear
  - Emergency procedures
- River running strategies
  - River classifications (understanding of Class I - VI)
  - Scouting on shore and by boat
  - Portaging and lining

- Complex attainments
- Group organization on the river
- Self care and care of other group members
  - Importance of fueling, hydration, clothing/insulation, and sun protection
  - Cold shock, hypothermia, and hyperthermia: prevention and treatment
- Self rescue: swim 20 feet (6 meters) to shore in moving water using defensive and offensive techniques
- Strategies and techniques for boat recovery including bumping, bulldozing, towing, or swimming a boat to shore
- Swimmer tow options
- Self and assisted swimmer re-entry techniques (i.e., heel hook, rescue sling, etc)
- Assisted rescues: boat over boat or side by side or others appropriate to conditions
- Unresponsive paddler rescue
- Throw rope use
- One, two, and three person wading with a paddle
- Entrapments with stabilization line
- Boat pins: strong arm, rope/vector, and simple mechanical advantage strategies
- Emptying water from the boat (on shore, bailers, pumps, sponges, etc.)

## **Conclusion and Wrap Up**

- This has been a great class! Let's talk through what we've learned with a group debrief and/or Individual feedback
- Course limitations: there is always more to learn, and the skills and concepts we discussed require more practice and experience
- First aid and CPR training is a very valuable tool and could make the difference between a "near miss" and an emergency requiring outside rescue / first responders
- Paddling is a lifetime sport - there are local organizations, clubs, events, competitions, and classes through which you can continue your learning and build

community. Get connected!

- Handouts and reference materials (if applicable)

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