



## Level 4: Whitewater Rafting - Oar (Sample Skills Course)

**Course Overview:** The **Whitewater Rafting - Oar** course is for individuals interested in learning the skills required to efficiently row a raft on rivers with class I-III rapids. This course includes advanced river reading, safety considerations, and rowing techniques. In addition, the skills required to captain, or guide, an oar raft in class I-III rapids will be introduced. This course is appropriate for properly outfitted rafts.

### **Essential Eligibility Criteria (EEC):**

ACA courses are open to all individuals who acknowledge the ability to perform the following essential eligibility criteria.

1. Breathe independently (i.e., not require medical devices to sustain breathing)
2. Independently maintain sealed airway passages while underwater
3. Independently hold head upright without neck/head support
4. Manage personal care independently or with the assistance of a companion
5. Manage personal mobility independently or with a reasonable amount of assistance
6. Follow instructions and effectively communicate independently or with the assistance of a companion
7. Independently turn from face-down to face-up and remain floating face up while wearing a properly fitted life jacket\*
8. Get on / off or in/out of a paddle craft independently or with a reasonable amount of assistance\*
9. Independently get out and from under a capsized paddlecraft\*
10. Remount or reenter the paddlecraft following deep water capsize independently or with a reasonable amount of assistance\*
11. Maintain a safe body position while attempting skills, activities, and rescues listed in the appropriate Course Outline, and have the ability to recognize and identify to others when such efforts would be unsafe given your personal situation\*

*\* To participate in adaptive programs, participants must acknowledge only the first six EEC listed above. Entry-level adaptive programs will involve teaching and practicing EEC #7-11.*

**Course Duration:** Two days (16 hours) or more based on instructor's discretion.

**Course Location / Venue:** Rivers rated Class I to III

**Course Prerequisites:** None

**Instructors:** ACA Level 4 Whitewater Rafting - Oar Instructor (Or higher)

**Class Ratio:** 6 students : 1 instructor; with an additional instructor or qualified assistant the ratio can be 12 : 2



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## **Succeeding courses:**

Level 4: Whitewater Rafting - Oar Skills Assessment

Level 4: Whitewater Rafting – Oar Instructor Certification Workshop

Level 5: Advanced Whitewater Rafting - Oar Skills Course

The following is a general summary of course content for the **L4 Whitewater Rafting - Oar** course. The amount of content covered and the sequence of instruction should be adjusted to best fit the participant's needs, class location, and time available.

## **Course Introduction**

*Course Learning Objectives - While navigating class I-III rapids in an oar raft the participant will learn to:*

- Identify whitewater features and hazards
- Become familiar with oar rafting equipment and the river environment
- Maneuver an oar raft
- Row using safe and effective techniques
- Use basic safety and rescues skills

## **Introduction, Expectations, & Logistics**

*Learning Objective - Students should have a basic understanding of the ACA and its policies, how & where the course is being conducted, and student behavior.*

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

## **The Paddling Environment**

*Learning Objective - Students should understand the current Paddling Environment for the duration of the course.*

- 4 W's: Wind, Waves, Weather, Water
- River classifications of the venue of the course

## **Personal Preparation**

*Learning Objective - Students should understand what is expected of them for the duration of the course.*

Check-in with students on the following:

- Personal self-evaluation - *Mental and Physical*
- Whitewater comfort & confidence
- Whitewater swimming ability
- Fitness, conditioning, and warm-up
- Boat handling experience
- Safety and rescue considerations
- Personal equipment (reviewed by the instructor)



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### Getting to the River

*Learning Objective - Students should understand the logistics of a rafting trip prior to arriving at the put-in.*

- Trip Planning – 6P’s: Prior Proper Planning Prevents Poor Performance
  - Sourcing local beta (river sections, flows, weather, etc...)
  - Local regulations
  - Shuttle logistics
- Transporting a raft
  - Loading & unloading: racks, trailers: straps, rope, webbing
  - Carries: overhead, underhand
  - Lifting
  - Stacking
- Knots: figure 8 or bowline, trucker’s hitch, daisy chain.

### Equipment

*Learning Objective - Students should understand the equipment (both personal and group equipment) needed for paddle rafting, its use, and care.*

- Personal:
  - PFD - types, materials, fit
  - Helmets - Proper fit, always buckled when on your head
  - Clothing & shoes
  - knife, whistle, flip line, etc...
- Safety equipment:
  - Spare oar
  - Throw Bag - Proper use and risks
- Group equipment
  - Sweep kit - First aid kit, repair kit, pump, spare PFD, pin kit, etc...

### Raft

*Learning Objective - Students should understand basic raft care and proper rigging to reduce entrapment hazards.*

- Raft
  - Proper inflation
  - Care of equipment
- Frame & Oars
  - Oars - types, length, setup
  - Oarlocks - types, setup
  - Frame - types, setup, proper fit
- Outfitting -
  - Bow & Stern Lines
  - Perimeter Lines
  - How to rig: frame, spare oar, other equipment (safety kit, cooler, etc...)
  - Flip recovery systems - Flip lines, belly band, bottom floor handles, etc... (May or may not require extra rigging)
  - System to get back in boat efficiently - Frame, handle, perimeter line, etc... (May or may not require extra rigging)



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### Crew Preparation

*Learning Objective - Students should understand the importance of safety talks, as well as, the oarsman responsibility for the safety of any riders on their raft.*

- Safety Talks
- Responsibility of the oarsman for the safety of any riders on their raft
  - What to cover
  - When to give one
  - How to give one

### River Running Strategy

*Learning Objective - Students should understand the concepts of good river etiquette and strategies for having a fun and safe day on the water.*

- River etiquette
  - Efficiency & courtesy during launching & landing
  - Courtesy on the water
  - Communicating with other groups
  - Use of good judgment
  - River stewardship
- Scouting
  - Know what rapids you want to scout
  - WORMS (Water, Obstacles, Route, Markers, Safety)
- River Leadership
  - Communication with the whole group
  - River Signals (hand, paddle, whistle)
  - Lead / Sweep
  - Group Dynamics

### River Features & Hydrology

*Learning Objective - Students should understand the basic hydrology of rivers and be able to identify the different types of features within a river.*

- Currents
- Eddies
- Eddie Lines
- Waves
- Holes
- Pillows
- River bends

### River Hazards

*Learning Objective - Students should understand and be able to identify river hazards.*

- Rocks
- Strainers
- Bridges
- Undercut rocks/ sieves/ ice
- Dams/ flow diversion structures
- Ledges/ waterfalls
- Features that can flip rafts
- Debris - Rebar, concrete, metal scraps, etc...



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### Rowing Factors

*Learning Objective - Students should understand the fundamentals needed for strokes and maneuvers including stroke timing and blade placement in the water.*

- Efficient rowing stroke (CPR): Moving the boat is the objective, as opposed to moving the oar through the water.
  - Catch - Clean entry with minimal splash
  - Power - Maintain consistent pressure on the blade face throughout the power phase of the stroke.
  - Recovery (Feathering to minimize wave and/or wind action against the blade if rowing with free oars)
- Stroke timing and blade placement based on hydrology (ie: placing oar blade in the backside of a wave or in an eddy behind a rock.)
- Awareness and management of downstream oar when floating sideways, as downstream oar can hit the river bottom (especially on low volume rivers)
- Shipping oars properly (not pulling in)

### Body Mechanics

*Learning Objective - Students should understand and be able to demonstrate posture that promotes efficient rowing and places the least amount of stress on the body to avoid injury.*

- Position of Power
  - Sitting in a central upright position
  - Maintaining good posture
  - Utilizing hinge, twist & reach
  - Locking in the lower body to transfer power from water to oar, through the body, and into the raft
- Three Ranges of Motion; hinge, twist, and reach
  - Hinge - Forward & back lean, hinging at the waist
  - Twist
- Torso Rotation to use large muscle groups improves reach and keeps shoulders safe
- Posture enhances twist, balance, and comfort
  - Reach - Proper torso rotation increases forward reach
- Minimize shoulder problems by:
  - Maintaining the “paddler's box” with correct body positioning and oar placement
  - Using torso rotation and reach to efficiently turn the boat and transfer power while keeping shoulders safe
  - Value of warmup and stretching

### Boat Handling

*Learning Objective - Students should understand and be able to demonstrate how to maneuver their raft using proper rowing techniques.*

**Oar Strokes** *Learning Objective - Students should understand and be able to demonstrate the different oar strokes used to maneuver a raft.*

- Forward/ Pushing
- Back/ Pulling
- Single oar/ both oars
- Opposing (push & pull)



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**Maneuvers (calm water)** *Learning Objective - Students should understand and be able to demonstrate on flat water the types of basic maneuvers that an oar raft can make.*

- Left Turn
- Right Turn
- Forward: row in a straight line
- Reverse: reasonably straight line backward
- Stopping raft from a good speed
- Spin: Pivot the raft - left & right, stop the spin

**Maneuvers (moving water – up to class III)** *Learning Objective - Students should understand and be able to demonstrate on moving water the types of dynamic maneuvers that an oar raft can make.*

- Setting and holding angles
- Ferries: front, back
- Eddy Turns
- Peel Outs
- Spin: Pivot the raft - left & right, stop the spin

### Boat Factors

*Learning Objectives - Students should be able to understand how raft design and load affects the boat's maneuverability.*

Speed, glide, and tracking is affected by boat type and construction, load, and oarsman position

- The pivot point of the boat changes with load, balance, and oarsman position
- Oarsman Position
  - Center mount
  - Stern mount
  - Front mount
- Weight distribution - Gear and passengers
  - Frontloading
  - Aft loading
  - Center loading
- Raft design and construction affect the performance of the boat.

Differences to consider:

- Tube diameter - i.e. Larger tubes have more flotation.
- Diminished tubes vs regular tubes - i.e. Diminished tubes punches waves
- Kick/ rocker - i.e. Affects surf ability
- Type of material - i.e. PVC is more rigid than Hypalon
- Width - i.e. Affects stability
- Floor-type, construction, and height from water - i.e. Affects tracking

### Playboating an Oar Raft

*Learning Objectives - Students should understand the benefits and consequences of making non-essential maneuvers for the sake of fun and practice.*

**Playboating** - Playboating can be a great way to learn but increases the chances of swimming. Make sure your passengers are comfortable with playing and swimming and make sure your venue is safe. (i.e. no downstream hazards)

- Downstream safety
- Communication - With passengers and other boaters

**Making non-essential maneuvers** - Make class III & IV moves in class I & II whitewater

*Practicing high consequence moves in low consequence water leads to increased confidence and ability.*



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- Catch challenging eddies
- Practice challenging ferries
- Make extra moves
- Make challenging maneuvers instead of just going straight down an easy rapid
- Use features like waves, holes & rocks for maneuvers and momentum control
- Attainment (moving upstream)

### **Surfing**

*Learning Objectives - Students should understand factors affecting river features that can be surfed, demonstrate how to choose an appropriate feature, and surf a raft.*

#### **Surfing Hydrology - Holes and Waves**

- Assessing if a hole can be surfed or will trap a boat (get surfed)
  - Size and shape of the hole, the variability of shape within the hole
  - The angle of “glassy” water going into the hole
  - Height of pour over vs tube height
- Assessing if a wave can be surfed
  - Types of a wave for surfing - Unstable vs Stable waves (i.e. an unstable wave might crest & fall often.)
  - Size of wave
  - The angle of “glassy” water going into wave

#### **Hole and Wave Surfing Maneuvers**

- How to approach the river feature
  - From above
  - From eddy
- Maintaining proper boat angle during the surf - use light oar “dips” to correct or maintain an angle
- Front surf - Bow upstream
- Back surf - Bow downstream (good for catarafts)
- Side surf
  - Shifting body weight to maintain surf
  - High-siding to prevent flipping
- Techniques for escaping feature
  - Work your way to the side
  - Grabbing downstream water with one or both oars
  - Consider throw bag from shore (if you are “getting surfed”)
- Swim and Safety Considerations when surfing - Set downstream safety

### **Safety & Rescue**

*Learning Objectives - Students should understand how to handle common emergency situations on the river.*

#### **Rescue Philosophy**

- Rescue Priorities: People first, boats & gear second
- Responsibility - Group over an individual, rescuer over the victim
- Fast & simple to slow & complex

#### **Environmental Concerns**

- Cold Shock and Hypothermia
- Hyperthermia

#### **Dealing with a swiftwater situation (swimmers, flipped or broached boat, etc...)**

- Swimming in current - defensive & aggressive



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- Preventing foot entrapment
- Re-entry into the boat
  - Self
  - Assisted
- Bulldoze a boat to shore
- Swimming a boat to shore
- Throw rope use and practice
- Boat pin (Strongarm, rope/vector)
- Boat flip and recovery
  - Loaded boat vs empty boat
  - Mid river channel vs eddy

### **Raft Repair**

*Learning Objectives - Students should understand how to perform basic raft repair*

- Raft repair kit
  - Appropriate glue & patch material for different rafts
  - temporary “river fix” patch material (ie: tear aid)
  - Frame tool
  - Spare oarlocks/ pins & clips
- Cuts and perforations
- D-rings
- Valves

### **Conclusion & Wrap Up**

*Learning Objectives - Students should understand the importance of continuing education and practice.*

*The instructor should debrief the course and hand out any pertinent material.*

- Group debrief / Individual feedback
- Course limitations
- Importance of First Aid & CPR
- Importance of additional instruction, practice, experience
- Importance of an appropriate level of safety & rescue training
- Life sport / Paddling options
- Local paddling groups / Clubs
- Handouts / Reference materials
- ACA Membership forms
- Course evaluation
- Participation cards