



Level 3: River Safety & Rescue

(Sample Skills Course)

Course Overview: The **River Safety and Rescue** workshop teaches recognition and avoidance of common river hazards, execution of self-rescue techniques, and simple rescues of paddlers in distress. Emphasis is placed both on personal safety and on simple, commonly used skills. Fundamental techniques for dealing with hazards that carry greater risks for both victim and rescuer, such as entrapments, and pins, also are taught. This course is aimed at whitewater boaters interested in learning fundamental river rescue skills.

Course Objectives:

- Promote proactive prevention of river accidents and injuries.
- Develop and practice key self-rescue skills.
- Identify and avoid river hazards by understanding hydrology, hazards, and river features.
- Focus on fast, low-risk strategies for early management of river accidents
- Practice methods for recovering swimmers, and loose boats and equipment

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 under water
3. Independently hold head upright without neck / head support
4. Manage personal care independently or with 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 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 paddlecraft 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 Prerequisites: All paddle craft are welcome. Boaters should be able to competently maneuver their craft in Class I-II rapids. However, all boaters, and non-boaters with an interest in swiftwater rescue (e.g., professional rescuers), will benefit from the class. Participants should be in good health and overall fitness, possess solid swimming ability, and be comfortable swimming in moving current during river drills. Participants should dress appropriately for weather and temperature and expect to be in the water for extended periods of time.

Minimum personal equipment for class: PFD designed for whitewater use, whitewater helmet, protective clothing suitable for extended swimming in cold water, protective footwear, boat, paddle, whistle, throw rope, *15+ feet of one inch tubular nylon webbing, and 2 locking carabiners.*

Course Duration: One or more days (8+ hours)

Course Location / Venue: A deep chute of water with well-defined eddy lines and no immediate hazards or risks below. The site may include moving water and class I-II rapids. Protected space is needed for on-land work, with adequate shelter for inclement weather.



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Succeeding courses:

Level 4: Swiftwater Rescue

Level 5: Advanced Swiftwater Rescue

Class Ratio: 12 Students: 1 Instructor; with an additional instructor the ratio can be 24: 2

The following is a general summary of course content for the Level 3: **River Safety and Rescue** course. Safety and Rescue Instructors should use this document as a general guide for conducting programs. Depending on the program, specific content points might be studied and practiced in depth, briefly reviewed, or skipped entirely. Specific program content should be adjusted as necessary to accommodate student skills, goals and experience, as well as weather and water conditions during the program.

Definitions of key terms and skills can be found in the [ACA River Safety & Rescue Terminology Handbook](#).

Introduction, Expectations, & Logistics:

- 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 water)
- Appropriate personal behavior
- No alcohol / substance use
- Proper etiquette on & off the water

Personal Preparation:

- Personal ability
- Swimming ability
- Water comfort & confidence
- Fitness, conditioning, and warm up
- Safe paddle and boat handling
- Safety and rescue considerations
- Personal equipment (reviewed by Instructor)

The Paddling Environment

- Weather conditions and forecasts
- International scale of river difficulty
- Characteristics of current
- River levels and streamflow (CFS)
- Subjective vs. objective hazards
- Effective river/rapid scouting strategies
- River features & hazards:
 - Downstream and Upstream V's/chutes
 - Eddies and Eddy Lines
 - Waves/Wave Holes
 - Holes/Hydraulics

The Paddling Environment (continued)

- Ledges / Horizon lines
- Strainers: types, typical locations

SRC – 02/2020



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- Rocks/Pillows
- Cold water immersion/response
- Dams / Flow Diversion Structures / Pipelines
- Undercut Rocks / Ice
- Flush drowning

Personal Paddling Equipment (PPE)

- Helmet
- PFD
- Footwear
- Craft & Paddle
- Thermal Protection
- Accessories: Knife, whistle, food, etc.
- Craft specific PPE (i.e. SUP leashes)

Personal Rescue Equipment (PRE)

- Tubular webbing
- Locking carabiners
- Throw Rope

Rescue Strategy

- Personal Preparation: Swimming ability, Confidence, Fitness & Conditioning
- Strategies to prevent or minimize incidents
- Trip organization and planning principles: Float plans, emergency action plans
- Communication: Hand/paddle and whistle signals
- C.L.A.P. - Communication, Line of Sight, Avoidance, Position of Maximum Usefulness
- Incident Timeline
- Rescue Priorities
- Responsibilities of swimmer/subject
- Phases of rescue:
 - S.T.O.P - Stop, Think, Observe, Plan
 - L.A.S.T - Location, Assess/Access, Stabilize, Transport
- Rescue Management: Leadership, Safety, Rescuers, Subject (stable & unstable)
- Establishing Acceptable Level of Risk: Can I [do this]? Should I [do this]?
- Liability Issues: duty to act, breach of duty, harm, standard of care, abandonment
- Ethical Issues: moral vs. legal obligations
- Medical Issues & Considerations
- Importance of Fitness & Conditioning
- Rescue strategies for common river scenarios:
 - Swimmer with/without equipment in current
 - Paddlers & Equipment on rocks in current
 - Boat pins with/without paddler
 - Entrapment

Wading Skills

- Causes and prevention of foot entrapment
- Formal vs. informal wading techniques



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- Factors that affect success in wading: depth, force, composition of river bottom, number of waders, etc.
- Strengths, limitations, advantages, disadvantages, and risks of wading techniques
- Four-point Crawl
- Single Person Assisted Wade
- Two-Person Wade
- *Line Astern Wade*
- *Wedge Wade*
- Wading Applications for foot/boat entrapments

Swimming Skills

- Strategies to minimize risk of foot entrapment
- Techniques for successful exits from current to eddys
- Defensive swimming position
- Aggressive swimming position
- Defensive to aggressive transitions
- Ferry techniques: defensive and aggressive swimming
- Self-Rescue: swimming with equipment
- Swimming techniques for: waves, hydraulics, and drops
- Strategies to conserve energy: short aggressive sprints, “porpoising” for in-water scouting, appropriate timing, etc.
- Managing holes and drops
- Swiftwater entries: in & out of water starting positions
- *Strategies for handling strainers: aggressive swim in and over (Strainer bar must be hand-held)*
- Techniques for successful downstream swim of a rapid

Throw Rope Skills

- Characteristics of throw ropes: rope diameter, length, construction material, and bag design
- Rope management & safety strategies
- Rope care
- Rope hazards
- Throwing and recovery zones
- Factors impacting throw accuracy and success: stationary and moving targets
- Single person throw rope techniques: underhand, overhand, and sidearm
- Bag re-stuffing techniques
- Advantages and disadvantages: bag and coil throwing techniques
- Rope coiling methods and throw techniques: butterfly and coil
- Rope receiving techniques
- Communication with swimmers
- Techniques for handling multiple swimmers
- Vectors pull to assist with landing swimmers

Throw Rope Skills (continued)

- Belay techniques:
 - Hip belay, seated belay, and back-up belay
 - Dynamic and friction belay
- Pendulum use for crossing current



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Rigging Skills

- Knots: components of good knots, dressing, terminology, strengths, and limitations
- Tie and properly dress:
 - Figure 8 Family: standard, on bight, follow-through
 - Overhand Family for webbing: Overhand on a bight, overhand bend
- *Anchors:*
 - *Components of solid anchor points*
 - *Terminology*
 - *Advantages, and disadvantages of anchor types*
 - *Planning for anchor failure*
 - *One-point Anchors: Friction Wrap, 3 Bight, & Single Loop*
- *Mechanical Advantage:*
 - *Applications of MA in the rescue environment*
 - *Risk management strategies: Scene Management & Dampeners*

Craft Pins

- Pin mechanics
- Types of craft pins
- Boat-based techniques for pins
- Stabilization, Haul, and Control Lines
- Strong Arm Method
- *Vector Pull & Progressive Vector Pull*
- *1:1 with change in direction*

Craft-based Rescues

- Advantages and disadvantages during rescues of various crafts: canoe, kayak, SUP, raft, prone kayak, river boards
- Paddle recovery options
- Strategies for boat recovery
- Self-Rescue: swimming with equipment
- Swimmer tow options
- Swimmer re-entry/re-mount techniques
- Craft bumping/bulldozing
- Craft towing (without use of Quick Release Harness System and tether)
- Craft specific rescues
- Unresponsive Paddler Rescue

Scenarios

- Simulated rescue skill sessions and scenarios will be used throughout the course to:
 - Model and utilize effective risk management and rescue strategies
 - Highlight essential skills for the course level and venue
 - Increase skill and experience level of students
 - Maximize learning outcomes for all students

Conclusion & Wrap-Up:

- Group debrief / Individual feedback
- Course limitations



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- Importance of First Aid/CPR and Wilderness First Aid
- Importance of additional instruction, practice, experience
- Local paddling groups / Clubs
- Handouts / Reference materials
- ACA Membership forms
- Course evaluation
- Participation cards