



Moving Water Canoe – Solo Level 3 (Moving Water and Class I) INSTRUCTORS' GUIDE

COURSE OVERVIEW/PURPOSE: To give the participant the skills and knowledge needed to paddle a solo canoe on moving water up to and through Class I. **The goal is have the student obtain the skills and knowledge to paddle on moving water with a group or club and not be a burden, but a positive member of the group. The student should have taken Introduction to Solo and Flat Water Canoeing and should know all the all the strokes, how to heel the boat, nomenclature etc. This one day class should be spent on orientating the student to the river and applying those skills to moving water.**

COURSE OBJECTIVES: Participant will learn

- River classifications, features and hazards
- Basic white water outfitting of a canoe
- How to do eddy turns into large eddies
- How to front ferry
- How to back ferry
- How to swim in current and rapid
- How to do boat rescues in current
- How to use a throw rope (throw and receive)
- How to deal with a pinned canoe
- How to edge a boat
- How to brace

PARTICIPANT'S QUALIFICATIONS: Be able to physically perform the above task and be in good health. Be able to keep head above water when wearing a proper fitting PFD. Must have taken Introduction to Solo Canoe and Flat Water to Solo Canoe or have the equivalent skills and knowledge.

MINIMUM PERSONAL EQUIPMENT FOR THE CLASS: Properly fitted PFD, canoe paddle, solo canoe, appropriate clothing for weather and immersion.

COURSE DURATION: 1 Day (6-8 hours)

LOCATION/VENUE: This class is taught on flat water, progressing to moving water with rapids up to and including Class I.

INSTRUCTORS: ACA Moving Water Solo Canoeing Instructor or higher

PARTICIPANT/INSTRUCTOR RATIO: 5:1 with a qualified assistant the ratio can be 10:2

SUCCESSIVE COURSES: White Water

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The following is a general summary of course content for Moving Water Solo Canoeing. The content and sequence of instruction should be arranged to best fit the student's needs, safety, the class location, and time allowance.

COURSE OUTLINE

Instructor hints are in Mustard color

The Instructor should cover the topics below. Remember the goal of this course is to have the participant refine their paddle and boat control as well as go backwards and do side slips. Again this is skill acquisition and not just exposure.

1) Introduction and Expectations

(30 minutes)

- Enrollment/registration/liability
- Welcome and Introductions
- Student and Instructor expectations
- Course Itinerary and sight logistics
- No alcohol/dangerous drugs
- Proper etiquette on and off the water
- Respect private property, litter, noise and Leave No Trace

2) On Shore Presentations

(60 minutes)

- Personal clothing, wetsuits and gear **Cover proper river attire, including footwear, eye glass straps, etc**
- PFD's, **-Explore the different features in PFD's when the venue changes from flat water to white water i.e. floatation on the back area to protect the back in case of a swim.**
- Safety equipment **–Go over the group safety equipment; throw ropes, pulleys, First Aid Kit**
- River Classifications **–Go over the river classifications and make clear that even moving water that is moving at 6 miles an hour can be very dangerous. Use the AWA river classification hand out. This class is to prepare some one to paddle on moving water up to and including Class I.**
- Fundamentals of River Currents
- Characteristics of Current
 - Downstream and Upstream V's
 - Eddies/ Eddy Lines
 - Bends
- Effects of Obstacles
 - Horizon Lines
 - Strainers & Sieves
 - Bridge Abutments/Rocks
 - Hydraulics
 - Other Hazards
 - Power of the Current / River Level
 - Cold Water
 - Dams/ Flow Diversion Structures/ Pipelines/Undercut Rocks / Ice
- Difference between 2 point and 3 point contact (sitting VS kneeling) **–This class can be taught with the students sitting or kneeling, their choice. Kneeling has it advantages over sitting in rough water, but a large portion of the paddling public will sit while going down moving river. The instructor should be flexible and accommodate both sitting and kneeling.**

3) RESCUES

(90 minutes)

Emphasis what is covered in this one-day course is bar bones and encourage students to take a one-day Safety and Rescue course

- Review individual and group responsibilities during a rescue
- Principles of Rescue
 - Be Prepared
 - Priorities - People, Boats, Gear
 - Responsibilities of Victim
 - Responsibilities of Rescuers
 - Responsibilities of the Group
- Practice Rescues
 - rope receiving
 - rope throwing / throw bags
 - towing boats
 - towing swimmers
 - wading in moving water
 - swimming in moving water
 - swimming without a boat
 - swimming with a boat
 - strainers –**Discuss this, not actual practice**
 - avoiding pins –**Discuss this, not actual practice**
 - self rescue from pins –**Discuss this, not actual practice**
 - simple unpinning principles –**Discuss this, not actual practice**
 - foot entrapment –**Discuss this, not actual practice**

4) RIVER RUNNING

(60 minutes)

- Strategies in Running Rivers
 - How to paddle in current
 - Spacing/ Avoid "tunnel vision"
- Conservative VS Aggressive approach
 - **Conservative approach – the safest, easiest line through a particular rapid. Wilderness trippers with loaded boats, recreational boaters unfamiliar with a particular rapid or those boaters who lack the skill level to run the major features of a rapid may elect to use this approach. Techniques include running “sneak routes” or “dry lines” by running the edge of holes, waves and avoiding dangerous features. This may be accomplished by back ferrying to gain extra decision time. Back ferrying around the inside of river bends (river bend set), side slipping around rocks, back ferrying into eddies, back paddling through waves instead of plowing through them (dry boat technique) and pre set safety.**
 - **Aggressive approach – the more challenging and perhaps more dangerous route through a particular rapid. More experienced, skilled and confident boaters may use this approach. The maneuvers may take more power and efficient technique to execute. This may be described as “playing the river” - getting the maximum excitement from the river features. Techniques may include aggressive eddy hopping using C + S turns, jet ferries, surfing waves and holes. Aggressively running ledges, holes, and wave trains while retaining strategic safety measures.**
- Paddling speed
 - Faster than the current – **more momentum has the advantage of more power to break through holes, waves and run ledges. Speed also facilitates more aggressive, tighter eddy turns, peel outs and ferries. Disadvantages may include less time for route correction, more water in the canoe and less margin for error.**
 - Slower than the current – **may include back ferrying to hold position and adjust position to gain time for decision-making or avoidance of dangerous features.**

Same speed as the current – “go with the flow” takes the boater where the current is headed. This approach may have positive or negative outcomes. “Drifting at angle” allows the boater to strategically angle the boat for eddy turns, ferries, surfing, etc.

-Drifting at angle

-Rivers Bends - This strategy is used to prevent the boater from being pushed to the outside of a river bend where danger may lurk. By angling to the inside and running the middle of a river bend, the boater is in the best position to maintain control and avoid hazards.

-Tongues - Tongues (may also be termed “chutes”) indicate the exit point or water “runout” in holes and ledges. Boaters can use this feature to advantage when running retentive holes.

-Diagonals - run perpendicular to feature. Diagonal holes and waves are strategically run perpendicular to avoid being pushed off a route and or capsized by the current hitting the side of the boat.

-Attainments - reach fun features, reruns, rescues. Attainments are defined as paddling back up stream. Attainments also have the added advantage of allowing the boater to reach fun features, rerun a section and more importantly, access a rescue site that could not have been accessed in any other way. Attainments are a great magnifier. It magnifies the technique if done correctly and if executed inefficiently. For example, if a forward stroke or a correction stroke is not done cleanly, the boat does not reach the attainment target. Paddling down stream, a student can have inefficient technique and be unaware. When attaining, the student gets instant feedback.

-Scouting

How to establish the "best" route “Plan "B"”

-Scouting

- Look for major features, hazards. Identify the major water features – those that pose a hazard and are to be avoided and those features that can be used to advantage such as safe haven eddies, downstream “Vs”, tongues, wave paths, etc.
- Look for where the most water exits the rapid, maybe largest wave train. Finding the exit point for the greatest volume of water may give the boater a target for completion of a safe run.
- Follow wave trains to pick where to enter rapid. Wave trains may indicate the most unobstructed route for the boater to follow. A successful run begins with a strategic entrance, which may be indicated by the line wave trains follow.
- Skill evaluation – do you have the skills to make the moves? Identify the most challenging maneuvers required to safely run a particular rapid. Evaluate the boater’s skill level and decide if the skill level is proportionate to the challenge.
- Swimming features – what are the consequences of a swim and can you make the swim to safety? Is the rapid swimmable? The general principle most boaters use is –“ don’t run what you would not swim” Evaluate - where is the boater most likely to capsize? Where are the exit points and safe haven eddies? Will a capsize result in an unduly dangerous and long swim? Are there certain deadly features, which must be avoided at all costs? Is the rescue setup reasonable or unreasonable? Too many negative consequences indicate portage.
- Scout from boat/eddy or on land from top to bottom? Read and run? Evaluate the rapid and the need to scout from land or boat. Longer, more complex and dangerous rapids may need to be scouted from land for a complete assessment. Viewpoints from the top of the rapid may be adequate. In many cases reading the rapid from the bottom up may yield a better analysis. The “read and run” strategy may be used when scouting from land is impractical or impossible. This is done to see a clear line from feature to feature, eddy to eddy, etc. Blind river bends, horizon lines and know hazardous rapids are imperative to scout. “When in doubt scout”, safety is the paramount goal of a responsible boater.

-Portaging Hazards

-Use of good judgment

- Group Organization on the River

-Group cohesiveness (lead, sweep boats, etc.)

-Universal River Signals System

- Emergency Procedures

5) BASIC STROKES and MANUEVERS

(120 minutes)

New Strokes:

- Stronger Forward Stroke –**More rotation to the bow and more push with the top hand**
- Righting Pry –**This stroke take the place of the high brace that is done on flat water. The righting pry is much more effective.**

Maneuvers: These maneuvers are done in large shore line eddies, or eddies behind large rocks. The ferries are done in gentle, straight forward currents. Remember, this is the first time for a lot of the student on moving water.

- Eddie turns into large eddies
- Front ferries
- Back ferries
- Peel outs
 - Wide exit from eddy line
 - Shallow exit, close to eddy line
- Combinations
 - C-turns, peeling out and into the same eddy
 - S-turn, peeling out of one side and eddy into opposite side
- Practice bracing
- Practice heeling the boat during turns
- Attainments

6) EQUIPMENT CHANGES

(20 minutes)

- Canoe design, materials and outfitting
 - Design features that are favorable to moving water
 - Materials that are favorable to moving water
 - How to outfit a canoe for moving water
- Canoe Paddles
 - Paddles for moving water, material and cost

7) CONCLUSION and WRAPUP

(30 minutes)

- Reinforce paddling in a group
- Explain what is next in the learning progression
- Give out hand outs –**River Hazards Handout and AWA River Rating Handout**
- Individual feedback
- Group debriefing
- Course evaluations

American Canoe Association

Instructor Certification Requirements for Open Canoe

General Requirements for all levels

General Requirements for all level of Certifications:

- Be at least 18 years old.
- Successfully complete an Instructor Certification Exam.
- ACA membership including membership on the Safety Education & Instruction Committee (SEIC).
- Demonstrate a general knowledge of Paddlesports and the ACA.

Maintenance Requirements for all levels of Certifications:

- Teach at least two courses that meet ACA standards within the four-year certification period and report these to the National Office.
- Attend within the four-year certification period at least one of the following: Instructor Methods Workshop, Instructor Development Workshop, Instructor Certification Workshop
- Maintain ACA membership and SEIC registration annually.

General Proficiency Requirements for all levels of Certifications:

Physical abilities

- Instructor Candidates and Instructors must be able to demonstrate and model **ALL** skills (rescues, strokes and maneuvers, etc.) including the Proficiency Requirements for Instructors (in all discipline areas and course levels) independently and to a mastery level.

Pre Course Skill and Paper Work

- Know a brief history of the ACA and it's current mission
- How to register and report a course
- Explain the ACA Waivers and know how the insurance plan works

Demonstrate a working knowledge on how to teach and discuss the following:

- How dress for canoeing
- Rules of the Navigable Road
- Leave no Trace
- Paddling Ethics
- Hypothermia/Hyperthermia
- Wind and Waves
- Understand the need for CPR and First Aid training

How to provide a safe teaching environment:

- How to choose an appropriate class site
- What to do in case of an emergency
- Demonstrate leadership, group management skill, experience and judgment necessary to be a safe, effective instructor

The candidate should be able to discuss, teach and demonstrate **anything** on the student course outlines at the level in which they are seeking certification, on the venue at which they will be teaching.. The individual strokes etc. are not listed on each of the levels, but it is a given that the candidate will know them. The testing environment for the Flat Water Course will be on flat water. For certifications above flat water will be tested at one level higher then they will be teaching at. (Moving Water candidates will be tested in Class II and Whitewater candidates will be tested in Class III etc.)

Instructor candidates will be expected to paddle at demonstration quality at the venue on which they will be teaching their courses. They will be expected to paddle with control, fluidity, grace and mental tranquility on a venue one level above which they will be teaching. i.e. a Level 3 Moving Water Instructor will be expected to paddle at demonstration quality on moving water up to and including Class I. They should be comfortable in Class II and paddle with grace and mental tranquility, not just surviving.



Moving Water Canoe – Solo Level 3 (Moving Water and Class I) Proficiency Requirements

Fundamentally, paddlers should be experienced, possess a broad basic knowledge of solo canoeing, and have the skills and knowledge to pass the ICE, before presenting themselves for Moving Water Certification. The following is to be on **Class II** white water.

After demonstrating and completing the requirements for Flat Water to Solo Canoeing Certification, demonstrate the ability to teach and model at demonstration quality the following:

- Describe the difference in equipment for Moving Water VS Flat Water
 - Canoes – design and materials
 - Paddles
 - PFD's
 - Rescue equipment – throw ropes, painters, pulley's
- Describe proper river attire, layering, dry bags
- Describe the different river classifications
 - Describe what classification this course was meant to prepare the student for. Know their limits
- Describe basic river characteristics
 - Eddies, bends, downstream and up stream V's, horizon lines, strainers, bridge abutments/rocks, hydraulics, dams,
- Describe the dangers of cold water
- Describe and review rescue principles
- Describe strainers, foot entrapment, simple unpinning principles
- Describe the advantages and disadvantages of sitting VS kneeling
- Swim a rapid with and with out a boat
- Throw and receive a throw rope
- Tow and be towed
- Tow a boat
- Wade in shallow current
- Describe river running strategies, scouting and good judgment
- Know the Universal River Signals and emergency procedures
- Do eddy turns and peel out into large shore line eddies
- Do front and back ferries in gentle current
- Heel the boat while doing turns
- Attainments

Stroke and Maneuver Break Down

Strokes:

- Stronger Forward Stroke
- Righting Pry

Maneuvers:

- Eddie turns into large eddies
- Front ferries
- Back ferries
- Peel outs
 - Wide exit from eddy line
 - Shallow exit, close to eddy line
- Combinations
 - C-turns, peeling out and into the same eddy
 - S-turn, peeling out of one side and eddy into opposite side
- Practice bracing
- Practice heeling the boat during turns
- Attainments

Demonstrate a well rounded knowledge of paddling a solo canoe on moving water and Class II. Paddling demonstrations should be done with fluidity, grace and mental tranquility. The candidate should demonstrate an understanding of blade control and boat control.

The candidate will be asked to lead and to participate in scenarios, such as:

- **In a make believe camp setting, or club setting where they are the lead Instructor, and they are teaching. While leading the group down river, they see TWO canoes with 12 year old children in them, go over. The canoes are about 200' apart and 200' from shore. What would they do?**
- **Or they see a canoe tip over. As the canoe tipped, it hit one of the participants in the head and they are not moving. As the Instructor on the moving river, what would they do?**
- **A canoe tips over and is wrapped around a rock, what would they do?**
- **A canoe tips over and a student is stuck on a rock in the river, what would they do?**
- **Some of the group is paddling outside of the designated paddling area and becoming unsafe because they are ramming their boats into each other as hard as they can.**
- **They are to do a beach talk and lead the class down river from point A to point B. Do they cover the necessary safety material, set up parameters, lead and sweep?**
- **During rescue scenarios, they should demonstrate the ability to paddle backwards, do tight turns and have speed and control when warranted.**



Moving Water Canoe – Tandem Level 3 (Moving Water and Class I) INSTRUCTOR TRAINER’S TOOL BOX

This is to clarify the goal of this course for the Instructor Trainer so that they can focus on these goals during the certification process.

- Moving Water certification is to be done by a Moving Water Canoe Instructor Trainers or higher.
- This is a FOUR day certification. (Four day IDW/ICE)
- The Moving Water Solo Canoe certification focus is to qualify candidates to work with camps and clubs to prepare the group so that they can safely go down a moving river from point A to point B safely.
- As the IT, your main goal is to check these candidates off concerning the whole package of strokes and maneuvers on moving water. But more importantly, to be sure the candidate has good group management and rescues skills. These instructor candidates will be working mainly with camps, Girls Scouts and groups of kids with little skills. **The moving water instructor probably takes on the greatest risk management of any classes taught.** One of the classes that they can teach is the one day moving water sampler course, where they will be shepherding participants with little or no skill down a moving river, so that they can experience the joy of paddling on moving water.
- The candidate should be able to get the boat where they need to in a rescue situation, quickly and in control, moving the boat backwards, doing side slips, tight turns when necessary. They should also have a good understanding of group management on the water.
- Of all the testing criteria, the scenarios probably carry the most importance.

The IT needs to constantly remind themselves of the goal of this certification. The Moving Water Instructors will be leading their students down rivers up to and including Class I. That is why as the IT you will be asking them to perform with fluidity, grace and mental tranquility on Class II, to build in a margin of safety. Group management and rescues skills are of the highest priority.

Side Note on Instructor Liability and Risk Management

Instructor Liability and Risk may sound like a simple matter. One would assume that as the courses progress on harder water, that the risk management goes up. This is not necessarily true. The courses that are between the Introduction Courses and Advanced Courses probably carry the most risk and liability of any of the courses we do. The reason is, most students that come to these courses have very little if any training and may have no experience and the equipment is usually very basic at best.

If you look at river kayaking as an example, the safest course would probably be an Intro course taught with sit-on tops on a lake. They are easy to rescue, get students back on, and have tons of built in floatation. This would be a great craft of choice for most camps. Any one with very little, or no skill, can start to enjoy paddling safely on one of these crafts with no danger of entrapment.

Now, let us look at the other end of the spectrum in the instruction, White Water River Kayak. At this level, white water kayaks are used. They are smaller in size with added floatation. The students are fully aware of the risk and have had some training. The students are usually dressed for immersion and are aware of a variety of rescues. The environmental risks have increased, but by having the proper equipment and prior training, lessen the over all risk.

Now, let us look at the area between these two Courses. The crafts we are dealing with are “recreational” kayaks. Most have big cockpits, no knee support and very little, if any, floatation. When one of these boats goes over, they are hard to rescue, hard to get students back in, and have a tendency not to float well. But the main risk comes from where these crafts are being used, on Moving water, up to and including Class I. Now, as an instructor we have a potentially improperly outfitted boat, in a potentially dangerous environment. The students may not be well dressed for immersion and have very little, if any, rescue skills. The Instructor is faced with rescuing these boats full of water in moving current. Not easy. Teaching classes with these parameters increase the risk management and thus the skill of the instructor needs to be up to the task.

The same is true for other disciplines such as canoeing. When students take an Intro course, it is on flat water and the rescues are easily done. At the WW River Canoe level, the boats are usually outfitted with air bags and often, knee pads and thigh straps. The students have a mind set, that they may go over and are usually dressed for immersion. Have worked with throw ropes and have learned rescues. When we do a Sampler to River Canoe course, it is done in the same environment, but the boats usually do not have floatation, the students are not dressed for immersion. Rescues skill are low. Rescuing a canoe full of water, on moving water, that does not have air bags, takes more skill then rescuing one that is properly outfitted.

So, the general thought process, that as the course levels increase, the rescues skill and risk management skills increase accordingly, is not exactly right. Instructors that are teaching students in “recreational” crafts in moving water or any distance from the shoreline, are more likely to need better paddling skills, rescue skills and group management skills then any other group of instructors.

From an Instructors risk management stand point, I would vote for having all classes taught with sit-on tops or require other properly outfitted crafts with good floatation. When I do courses on moving water with any thing short of that, I hold my breath, knowing that risk management is going to be much harder.

View Point of Bob Foote