

Discussion Points

Instructor Notes

Day 1 (1Hour)

Introduction, Expectations, & Logistics

A. Welcome

1. Instructor and Student Introductions

1. Name:
2. Degree:
3. Experience:
4. Fun Fact:

B. Paperwork

- Course Itinerary & site logistics
- Complete Waiver
- Assumption of risk
- Challenge by choice
- Medical disclosure for student

1. Course Expectations and Limitations

1. Course aligns with the ACA standards
2. Whitewater Rafting is a constantly changing industry, you must be open to new and improved methods and equipment.
3. Continue to Practice - **“Use it or lose it”!**
4. Course Materials:
 - a. Student Guide
 - b. References:
 - i. The Complete Whitewater Rafter (ISBN: 978-0-07-0005505-6)
 - ii. NOLS River Rescue (ISBN: 978-0811713733)

Introduce self with pronouns (He, Him, His, etc.)

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- C. Logistics
 - 1. Meals
 - 2. Lodging

- B. Class Norms:
 - 1. PFD policy (always wear near water)
 - 2. Appropriate personal behavior
 - 3. No alcohol / substance abuse
 - 4. Proper etiquette on & off the water; respect private property
 - 5. Leave No Trace ethics

The Paddling Environment

- 1. Wind
- 2. Waves (Rapids)
- 3. Weather
- 4. Water (Temperature)

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Mental and Physical Preparation - In-water risk exposure (avoid by practicing and recognizing limits)

1. Personal ability
2. Swimming ability
3. Water comfort & confidence, fitness, conditioning, and warm up
4. Safe paddle and boat handling
5. Safety and rescue considerations
6. Personal equipment (Reviewed by Instructor)
7. Beginner, Intermediate, Advanced and then the Extreme

Medical Issues

- A. NOT a first aid class; perform medical care to your level of training
 - B. CPR and wilderness first aid skills are essential for rescuers
 - C. Guides should be familiar with common medical problems including:
 1. Cold Water Shock
 2. Hypothermia
 3. Drowning
 4. Cuts and scrapes
 5. Dislocations/broken bones
 - D. Don't make the situation worse
 - E. Obtain more training; calling 911 is rarely an effective option

Discussion Points

Instructor Notes

History

- A. History of the Sport
- B. Raft Terminology
 - 1. Raft Construction
 - 1. PVC, Hypalon and Urethane
 - 2. Glued vs. Welded
 - 2. Types
 - 1. Self Bailing vs. "Bucket boat"
 - 3. Configurations
 - 1. Paddle
 - 2. Frame (Gear Boat)
 - 3. Stem Frame
 - 4. Cat Boat
 - 4. Other Rafter Lingo - High Side, Dump Track, Taco, etc...

Equipment

Specific needs depend on the river being run and expected weather

- A. Protection from rocks and water
 - 1. Helmet
 - 2. Shoes
 - 3. PFD
 - 1. Types
 - 2. Materials
 - 3. Fit
- B. Thermal protection
 - 1. Wetsuit vs. dry suit
 - 2. Wool vs. synthetics
 - 3. Avoid cotton in cold/wet conditions (Death Cloth)
- C. Personal Gear
 - 1. On your Person:
 - 1. PFD

Western Washington University

Paddle Raft L4

Instructor Guide

Discussion Points

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2. Knife
3. Whistle
4. Flip Line
2. Paddle
 1. Types
 2. Parts
 3. Materials
 4. Sizing
 5. Hand position
 6. Blade size & shape

D. Safety Equipment

1. First Aid Kit
2. Throw Bag
3. Paddle

E. Group Equipment

1. Pin Kit
 1. Z Drag for rafts
 - a. Rope - At least 150ft
 - b. Pulleys - At least 2
 - c. Webbing - Enough to set-up at least two anchors. Two 25ft lengths is a good start.
 - d. Carabineers -
 - e. Pmsiks - Two, pre-tied

For more information about mechanical advantage (Z-drags) and using rescue equipment take a Swiftwater Rescue Course.

2. Spare PFD - One per float
3. Delorme InReach Explorer - One per float
4. Spare Paddles - One per boat
5. Throw bag - One per boat

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Throw Ropes (Classroom)

Selection based on rope material, diameter, and length

1. Care of the rescue rope

1. Avoid sun exposure, keep clean, avoid stepping on the line, avoid sharp or rough edges
2. When in doubt, replace the line

2. Rope safety

1. Avoid standing over lines
2. Keep your body out of loops in the line
3. Consider clean line techniques
4. Keep entire rope in bag to avoid accidental deployments

3. Pros and Cons of:

1. Traditional bags
2. Waist bags
3. Coiled lines

Refer students to NOLS Pg. 81 *Care and Storage of Rope*.

Discussion Points

Instructor Notes

Throw Ropes (Outside)

1. Throwing and Recovery Zones

1. Consider where the swimmer will land, don't make their situation worse

2. Types of throws

1. Over-arm (football and arc)
2. Underarm
3. Side-arm
4. Deploying less than full length for close targets

3. Factors impacting an accurate throw

1. Practice (or lack thereof)
2. Brush and trees
3. Footing
4. Rope length and diameter
5. Distance to target
6. Cold hands

4. Receiving the rope

1. Hold over your shoulder, with hands on your chest and elbows tucked into stomach
2. Rope ideally should sit on the shoulder opposite the target shore (to set ferry angle)

5. Belay techniques

1. Line on downstream side
2. Hip belay
3. Sitting
4. Buddy
5. Dynamic
6. Tree

6. Coiling and re-throwing

7. Vector pull to assist landing

8. Stuffing techniques

9. Multiple swimmers

Discussion Points

Instructor Notes

Raft Terminology

A. Raft Terminology & Nomenclature

1. Tubes
2. Valves
3. Thwarts
4. D Rings
5. Chicken / Lifelines
6. Bow & Stern Lines
7. Flip Lines
8. Foot cups

B. Shape of the boat and handling characteristics

1. Length
2. Width
3. Tube Size
4. Rise / Kick
5. Symmetry - Bow / Stern
6. Waterline
7. Type of Floor (Ballast)

C. Proper inflation

1. Use manufacturer's recommendation
 - a. Explain effects of:
 - b. Sun and Cold Water Vs. Air Pressure
 2. Boat handling and air pressure
 3. Pressure Relief Valve in floor

D. Care of equipment

Discussion Points

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Raft Rigging

- A. Securing equipment
 - 1. Spare Paddle
 - 2. Throw bag
 - 3. Dry Duffle
 - a. First aid kit
 - b. Spare PFD
 - c. Pin-Kit
 - 4. Thwart Handles
 - 5. K-Pump

Discussion Points

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River Rolls

- A. Head Trip Leader (HTL)** - HTL maintains the big picture and overall flow and execution of the trip. To include:
- a. Shuttle plan
 - b. Risk assessment
 - c. Maintaining teamwork
 - d. Keep to the timeline as close as possible

- B. Assistant Trip Leader (ATL)** - Responsible for safety during the trip. The ATL should maintain a hands-off approach and stand back to keep a birds-eye-view of evolutions during the trip:
- a. Loading / Unloading boats
 - b. Backing of trailers
 - c. Scouting

- C. Lead Boat** - Should have the most experience on the section of river being run
- a. Run clean lines

- D. Sweep Boat** - Should have the most experience with rescue and/or medical

Discussion Points

Instructor Notes

Getting To the River

- A. Shuttle Plan
- B. Meal Plan
- C. Local Regulations
- D. River Etiquette
- E. Boat Carries
 - 1. Underhand
 - 2. Shoulder
 - 3. Overhead
- F. Loading & Unloading Trailers :
 - 1. Stacking
 - 2. Straps, Rope and Webbing
 - 1. Knots Used in transportation:
 - a. Figure 8
 - b. Bowline
 - c. Trucker's hitch

Discussion Points

Instructor Notes

Getting On the River

- A. Responsibilities of Captain (Guide)
 - 1. Distribution of paddlers
 - 2. Group Communication
 - 3. Commands
 - 4. Boat loading & trim
 - 5. Ability to read the river
 - 6. Ability to effectively maneuver raft
 - 7. Rescue Ability: pins, flips and recovering swimmers

- B. Guide Positions in the raft:
 - 1. Stem
 - 2. Right
 - 3. Left

- C. Launching & Landing
 - 1. Bow in vs. Stern in
 - 2. Guides responsibilities

- D. Warm up and stretching

Discussion Points

Instructor Notes

Safety Talks

One of the things a guide has to learn how to deal with is controlling fear and excitement in their crew. One useful tool to do this is a Safety Talk. Safety Talks don't just happen once at the beginning of the trip. It is constant conversation throughout the trip. Think of it as training your crew to do something great, not a lesson in fear. Give out enough information to be safe, but not so much that the important things are forgotten.

Safety Talking points on a trip

1. Pre Float - Complete Safety Talking focusing on Hazards and swimmer recovery
2. Before any major rapid - Get the crews attention and focus. Check foot placement
3. Any time you scout - Discuss hazards and recovery points. Give option to walk
4. Flat water - Good time to practice self rescue

A. Prior to beginning a talk:

1. Have the entire crew's attention
2. Make sure they can hear you
3. Remove your sunglasses and stand where you can have good eye contact
4. **Establish the top three -**
 1. Listen to The Guide
 2. Stay in the Boat
 3. Active Rescue

Discussion Points

Instructor Notes

B. Components of a Safety Talk - Information should be delivered in a sequential order like a story. Start with all paddlers in the boat through the progression of recovering swimmers.

1. Introduction - For yourself and the reason for the Safety Talk. Introductions are important because you are the leader of the group and you need to establish trust with your crew. For example: Name, River experience, reason for safety talk,

a. Establish Top Three

1. Listen to the Guide
2. Stay in the Boat
3. Active Rescue

b. Encourage questions - This will help relieve any anxiety of the unknown.

2. Trip specifics

Discuss what is expected in the trip.

1. Water conditions
2. Major river features
3. Timeline

Discussion Points

Instructor Notes

3. The SAFETY STUFF:

1. Listening to the Guide
2. Stay in The Boat
 - a. How to sit
 - b. Foot placement
3. Swimmers
 - . Feet up
 - a. Grab line
 - b. Recovery
 - c. Using a paddle
 - d. Throw Bags
 - e. Defencive vs. Aggressive Swimming
 - f. Safety Boaters (if used)
4. Hazards
 - . Foot entrapment
 - a. Strainers
 - b. River specific
5. Boat Flips
 - Stay with the boat
 - Walkthrough flip recovery process
6. Signals
 - . Whistle - Look at me!
 - a. Hand - Point Positive

B

Discussion Points

Instructor Notes

4. Closing

1. Reiterate the top three -
 1. Listen to The Guide
 2. Stay in the Boat
 3. Active Rescue
2. Medical conditions relative to the activity
3. Ask if there are any additional questions and if everyone is still in.

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Paddle Talk

- A. Check your crews
 - 1. Helmet
 - 2. PFD
 - 3. Awareness
- B. Crew positions in the raft:
 - 1. Foot Position
 - 2. Strong paddler vs. Weak paddler
 - 3. Odd and Even number
 - 4. Weight distribution and handling
- a. Forward
- b. Even
- c. Stem
- C. Boat Communications
 - 1. Paddle Commands
 - a. All Forward
 - b. All Back
 - c. Left Back / Right Back
 - d. All Stop
 - 2. High Side
 - 3. Down or In
 - 4. Check your feet
 - 5. Bump
- D. Movement in the raft:
 - 1. High Side
 - 2. Down or In
- E. Concepts of Paddling
 - 1. Form & Posture
 - 2. Pushing the Pry
 - 3. "Dig it In!"

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Instructor Notes

River Running

- A. River features
 - 1. River Classification
 - 2. Rapids
 - 1. Gradient
 - 2. Constriction
 - 3. Flow (CFS)
 - 4. Obstacles
 - 3. River Left / Right
 - 4. Bends
 - 5. Eddies
- B. Strategies in river running
- C. Raft types in relation to river features
- D. Scouting (Boat / Shore)
- E. Portaging / lining
- F. Use of good judgment
- G. Total awareness of environment
- H. Group organization on the river
- I. River Signals / Communication
- J. Emergency Procedures

Discussion Points

Instructor Notes

Strokes

1. Forward
2. Back
3. Draw
4. Pry
5. Rudder

Maneuvers (calm water)

1. Left Turn
2. Right Turn
3. Forward: Paddle in a straight line
4. Reverse: Stop & reverse reasonably straight backwards
5. Spin: Pivot the raft - left & right, stop spin
6. Turn: Broad arcing turn while underway

Maneuvers (Moving Water - class III)

1. Ferries : front, back
2. Eddy Turns: shallow, wide
3. Peel Outs: shallow, wide
4. Spin: Pivot the raft - left & right, stop spin

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Instructor Notes

Safety & Rescue

- A. Risk Management
 - 1. 360 Awareness
 - 1. Identify`
 - 2. Mitigate
 - 3. Decision

 - 1. Identify`
 - 2. Mitigation
 - 1. Policy & Procedures
 - 2. Training
 - 3. Experience
 - 4. Remove risk factors
 - 3. Decision
 - 1. Go or No Go
 - 2. Review / Debrief

- B. 4 Categories
 - 1. Individual
 - 2. Employee
 - 3. Group
 - 4. Company
 - 1. Develop lessons learned

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Rescue Philosophy

- D. Accident avoidance and proactive rescue
 - 1. Accident timeline
 - 2. Prevention and “what if... strategy
 - 3. Prior planning for accident management

4. Rescuers Responsibility:

- 1. Group
- 2. Individual
- 3. Rescuer
- 4. Victim

5. Rescue Priorities:

- 1. People
- 2. Boats
- 3. Gear

6. Group Management / Communication

7. Rescue Sequence:

- 1. Land Based - RETHROG

. Reach

. Through

. Row

. Go

- 2. Boat Based - REROTHG

. Reach

. Row

. Through

. Go

8. Evaluate water confidence and comfort

9. Setting Safety

10. Throw rope / bag employment

CP, CL, O, S, H
c.

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E. Rescue Techniques

1. Boat

1. Bumping
2. Boat as a rescue platform
3. Boat flip and recovery
4. Boat pin (Strong Arm, Rope/Vector)
5. Re-entry

Self
Assisted

2. Person

1. Swimming in current: Defensive & Aggressive
2. Towing a swimmer
3. Basic wading
4. Entrapments (Stabilization Line)

F. First-Aid

1. Cold Shock
2. Hypothermia:
 1. HELP/HUDDLE
 2. Clothing
 3. Hydration

G. Communication

1. Signals:
 1. Whistle
 2. Paddle
 3. Hand

Discussion Points

Instructor Notes

Hazards & Hydrology

- A. River features
- B. Currents
- C. Broaching
- D. Pins and entrapments
- E. Rocks
- F. Strainers
- G. Pillows
- H. Standing waves
- I. Eddy lines
- J. Bridges
- K. Undercut rocks/Sieves/Ice
- L. Dams/Flow diversion structures
- M. Hydraulics
- N. Ledges/waterfalls
- O. Features that can flip rafts

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Raft Repairs

- A. Raft repair kit
- B. Cuts and perforations
- C. D-rings
- D. Valves

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Instructor Notes

WWU Program Policies

A. Pre-Trip Meeting

1. Day prior to trip, there must be a Travel Plan Devised and turned into the Excursions Coordinator:
 - o River levels (volume, and flow)
 - o Forecast
 - o Travel Plan (put in/ take out, shuttle logistics)
 - o Verifying required permits
2. Trip leaders must conduct a safety talk prior to departure including discussion of general hazards:
 - o Swimmers position
 - o Foot entrapment
 - o Strainers
 - o Holes
 - o Person overboard
 - o High side
 - o Proper catching of throw bag
3. Trip leaders must conduct a paddle talk prior to departure including:
4. On or near the water, instructors and participants wear:
 - o PFD properly fitted at all times
 - o Helmet (conditions dependent)
5. A qualified guide is present in each raft.
6. Maintain proper boat spacing.

6P's: Prior Proper Planning Prevents Poor Performance

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Conclusion & Wrap Up

- A. Group debrief / Individual feedback
- B. Course limitations
- C. Importance of First Aid & CPR
- D. Importance of additional instruction, practice, experience
- E. Importance of appropriate level of safety & rescue training
- F. Demo advanced maneuver
- G. Life sport / Paddling options
- H. Local paddling groups / Clubs
- I. Handouts / Reference materials
- J. ACA Membership forms
- K. Course evaluation
- L. Participation cards

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Homework Assignments

- i.* River terminology
2. Safety Talks
- 3.

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Activates

Initiatives

Games