

# **Columbia Cascade Trail Skills College**

## **Course Descriptions**

Cascade Locks, OR

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[100 Level Courses](#)

[200 Level Courses](#)

[300 Level Courses](#)

[400 Level Courses](#)

For those interested in learning more about cross-cut or chainsaw work, the following introductory courses will be offered at TSC as they are pre-requisites for certification classes:

*198/199 First Aid and CPR*

*103 Basic Saw Crew Training*

*104 Intro to Chainsaw for Prospective Sawyers*

*297 Chainsaw Practicum*

### **100 Level**

100 level courses are designed for those with little or no previous trailwork experience. They can also be useful refresher classes for experienced volunteers and an opportunity for experienced volunteers to develop their leadership skills by participating in the class as an assistant instructor.

#### ***Introduction Track for Beginners – 2 Days***

This two day course offering combines content from *100*, *101* and *102* (below) and is taught through a combination of lecture, demonstration and hands on practice. It is oriented for people who have never done trail work before, but is also suitable for experienced volunteers who would like to refresh their skills or learn more about the theory behind trail maintenance standards. Students remain in the same cohort through the two day course providing an opportunity to form a team as they assess their trail and address the variety of trail issues presented.

#### ***100. Intro to Trail Maintenance***

This introductory sampler class is for people new to trail work who want an overview. One quarter of the class covers “how trails work,” i.e. basic trail design concepts; one quarter covers trail work safety protocols; one quarter covers hands-on brushing and hand-saw clearing; and one quarter covers hands-on drainage cleaning. This sampler class does not prepare students to work independently. Instead, students will understand a range of trail work tasks and have a good idea of what they want to do under a crew leader, or what class they want to take next.

### ***101. Opening the Trail -- How to Brush and Scout a Trail***

Intended for those new to trail work who want to learn how to cut brush and small logs to help clear a trail to proper specifications. After discussion of general safety protocols, students learn about safe and effective use of hand saws and loppers. This class also includes how to complete an early-season trail survey to identify and report major problems, especially blown down logs -- their numbers, locations, and sizes.

### ***102. Tread and Drainage: Protecting Trails from Erosion***

The effects of water and gravity constantly threaten our trails and thus we must learn how best to deflect them. This course begins with basics of hillside hydrology and how trails work when they shed water properly. It includes introduction of “trail eyes” for recognizing tread erosion patterns. Students are given hands-on practice removing slough and berm, and effective cleaning and maintenance of existing waterbars and drain dips.

### ***103. Basic Saw Crew Training***

Are you interested in helping certified sawyers to clear trails, but don't have much experience working with or around saws? Regardless if you aim to become a certified sawyer yourself, learning to be a saw crew member is an important place to start and takes know-how to do safely. This class provides field experience with crosscut saws & axes, but most of the principles are also applicable to chainsaws. Therefore, this class is the place to start, no matter what trail clearing tools you expect to use in the future. The session begins with an introduction to crosscut saws and axes of various types, and how they work. It then covers their safe and effective use, including a review of trail clearing specifications, safety equipment, the forces of tension and bind, and the practice of situational awareness. This class is an introduction; it does NOT provide saw certification, which is required for those who wish to be lead sawyers.

### ***104. Intro to Chainsaw for Prospective Sawyers***

Intended for students who have already taken Saw Crew Training (103) and are interested in an orientation specifically to chainsaws, in preparation for a chainsaw certification class. The class will not use chainsaws in the field, but it will cover things you need to know if you've never handled a chainsaw before, including how they work and why they are potentially dangerous. Also included is a review of specialized safety equipment & clothing needed, and how to start saws safely. If time allows, we will disassemble a saw to clean and sharpen it.

### ***198/199. First Aid and CPR***

This course is for anyone with limited or no medical training who needs a course completion card in first aid, CPR and AED use to meet job, regulatory or other requirements. Upon completion of this course, students receive an American Heart Association Heartsaver First Aid CPR AED Course Completion Card that is valid for two years. During the course, an AHA Instructor conducts video-based lessons and works with students to complete their first aid, CPR and AED skills practice and testing. This class also covers the basics of how to assess and respond to emergencies and injuries such as bleeding, strains, sprains, dislocations, fractures, heat and cold illness, bites, stings and other sudden illness. (Note: This is NOT a Wilderness First Aid (WFA) Certification course, those are typically 16 hours days and cost around \$200.)

## **200 Level**

These courses build upon the 100 level classes and assume that the participant has taken the beginner classes or has the equivalent previous experience.

### ***201. Drainage Design and Drain Dips***

Intended for someone who has taken 102 (Intro to Tread & Drainage) and/or has experience doing drainage work. Learn how to design and locate effective drainage structures. After a comprehensive explanation of hillside hydrology and how trails work when they shed water properly, this class shows students how to design and construct long, rolling drain dips as a way of reducing erosion on existing trails.

### ***203. Drainage Remediation with Waterbars and Checks***

Intended for someone who has taken 201 (Drainage Design & Drain Dips) and/or has considerable experience doing drainage work. Where earthen rolling drain dips are not feasible, drainage features are sometimes armored using rock or log. Learn contemporary techniques to build water bars and checks with both rock and log. The class will include a review of outdated techniques, and how to convert “old school” waterbars to a more effective design.

### ***204 Cooking and Camping with the Crew***

New for 2017 this curriculum is essential for anyone who wants to keep a trail crew happy, healthy and motivated! From meal planning, prep, storage and sanitation, this hands-on class even includes one of the most challenging aspects of food in the backcountry – the elusive perfect bear hang!

### ***205. Tread Re-Construction***

This course goes beyond a triage approach (203, Drainage Remediation), because reconstruction indicates a more thorough restoration of damaged tread to ideal specifications. Review hillside hydrology and how trails should work. Practice systematic slough & berm removal. Learn to reconstruct tread after gullying, tread creep, nasty roots, and uprooted trees. (Pre-requisite: 201 and 203, or equivalent experience.)

### ***207. Wildland Restoration***

Learn how to put a campsite and section of trail to bed so that it returns to nature without erosion. Some call this the “Zen and the Art of Wilderness Gardening”, or “trail magic” because, if properly done, the old scars disappear, replaced by a perfectly restored landscape. Includes transplanting, seed collection, and rock placements. There are no prerequisites for this class, though students should have interest in working with plants and be willing to get dirty. Patience and a good eye for design help.

### ***297. Chainsaw Practicum***

This class is designed to allow volunteers who would like to earn a certification to use chainsaws the opportunity to work with an instructor to ensure they have the basic foundation skills necessary to enroll in a sawyer certification class.

## **300 Level**

300 level classes are for those interested in gaining the technical skills and leadership abilities to safely lead crews in the backcountry. Participants must have completed pre-requisite classes or have sufficient experience to demonstrate proficiency in treadwork and brushing. Volunteer leaders and assistant leaders have priority in registering for these classes.

### ***300. Basic Rock Work***

Learn fundamentals of rock construction. This includes a strong emphasis on effective and safe use of rock bars, the critical tool for all rock work. We'll tackle basic rock placement techniques for retaining walls to last the ages, but also spend time on an often underappreciated skill: locating suitable rocks and safely transporting them to the work site.

### ***304. Leadership: Managing a Crew***

For students with prior trail work experience interested in learning about crew dynamics, leadership and risk management. This class is suitable for leaders, aspiring leaders as well as those simply curious about how successful crews function. Not a construction techniques class; this is about effective leadership. Students will have classroom and field work in the following topics: Work Day Responsibilities; Risk Assessment and Safety; Tool Safety & Tool Talks; Leadership & Team Building; Practical Experience Leading Trail Crews.

### ***306 Working with Packers and Packstock***

For many a backcountry project the packstring can make or break a trail work party. How do you plan and prepare your load to make sure your pack train is set up for success? How can you work with your pack string so everyone is safe and has a good time? This class is designed for anyone who hopes to work with or around pack animals. No prior experience with pack animals required.

### ***398. Special Topics: Gabions***

Gabions get their name from the Italian word *gabbione*, meaning "big cage". They are used as retaining structures where it isn't practical to use large rocks or wood. Rather, smaller aggregate materials are retained in some sort of cage; typically they are built of some type of wire filled with rocks. This class combines lecture with field work to instruct students on the types of situations where gabions are appropriate and the fundamentals of building one.

### ***398. Special Topics: Turnpikes, Rock Armoring and Raised Tread Construction***

Some places on the trail require armoring or raising the tread to harden or dry out tread surfaces that would otherwise be too fragile. Learn how to identify sites where such techniques are appropriate and to construct structures that will last.

### ***398: Special Topics: Intro to Wood Structure Techniques***

This class focuses on basic woodworking skills by engaging students in a hands-on exercise building a “primer” structure. A variety of techniques to join dimensional and round wood will be taught. In the afternoon we'll use those skills and add the basics of layout, squaring up, leveling, and leading crews to mock-up demonstrations of simple wood structures such as puncheon, bridges, turnpikes and steps.

### ***398 Special Topics: Stairs Construction***

Steep grades present special challenges particularly when a reroute is impossible. Stairs might be the best solution for minimizing erosion and making a safe, sustainable path from A to B. Learn the basics of rise/run, site scoping, project design, materials, construction and crew management.

## **400 Level**

Classes at this level are designed to build a leader's skill set by bringing together experienced crew leaders to learn from one another. The courses will focus on the most unique and challenging aspects of front country and backcountry trail work.

### ***400. Advanced Leadership: Trail Analysis and Project Management***

Determine the optimal fixes for various problems on a trail. Learn the steps for estimating time and materials, and setting up a work project. Learn about trail triage: how to prioritize and what techniques to use when total trail reconstruction to ideal specs is not an option. Understand environmental concerns and policies that may impact projects. Learn what to look for when scouting a trail and how/when to schedule work.