



Wild Rockies- Conservation Across Boundaries

12 semester credits

Academic Credit

All courses offered by the Wild Rockies Field Institute are accredited through the University of Montana with administrative support from the School for Extended and Lifelong Learning. Academic oversight of each Wild Rockies Field Institute course comes from University of Montana departmental leadership and faculty. Accepted students can earn credit in four academic courses (3 semester credits each):

- Environmental Studies 395- Community and Conservation in the Northern Rockies
- Geography 348- Geography of the Northern Rockies
- Environmental Studies 395- Indigenous Perspectives on the Land and Environment
- Natural Resource & Science Management 311- Conservation Biology in the Northern Rockies

Estimated Course Contact Hours and Academic Work Time

The time ranges below describe daily student requirements for participation on a WRFI course. These ranges are approximate and vary with assignments, field learning opportunities, and environmental conditions:

- Instructional Contact Hours- 2-4 hours of formal classroom-style work per course day. This includes lectures, discussion-based classes, guest speaker presentations, individual meetings with course instructors or teaching assistants, and academic exercises not involving field exploration.
- Field / Laboratory Contact Hours- 2-4 hours per course day. This includes field explorations and exercises, site visits, local guest speakers, and opportunistic instruction as relevant examples of course concepts and issues arise.
- Individual Academic Work- 2-6 hours per day. This includes completing required readings, individual writing assignments, research investigation associated with course assignments, reviewing peer work.

* The average amount of Instructional and Field / Laboratory contact time is 5.5 hours per day.

* Each 3-credit WRFI course is developed with approximately 67 contact hours.

Dates

Pre-Field Expedition Remote Study	June 4 – 17, 2019
Field Expedition	June 18 – July 29, 2019
Post-Field Expedition Remote Study	July 30 – August 14, 2019

Instructors

Nick Littman- M.S. Environmental Studies, University of Montana; B.A. Biology/Environmental Studies, Whitman College

Peter Metcalf- Ph.D. Forestry and Conservation Sciences (in process), University of Montana; M.S. Environmental Studies, University of Montana; B.A. English Literature, Whitworth University

David Morris- M.S. Environmental Studies, University of Montana; B.A. Environmental Studies, Evergreen State College

Katie Nelson- M.S. Environmental Studies, University of Montana; B.A. Global Studies, Saint Lawrence University

Daisy Purdy- Ph.D. Political Science, Northern Arizona University (in process); M.Ed. Secondary Education Social Studies, Northern Arizona University; B.A. Cultural Anthropology, University of New Hampshire

Eric Siegel- M.A. English, University of Iowa; B.A. English and Geography, University of Vermont.

Location

This course takes place in the Crown of the Continent region of North America. We explore the Confederated Salish and Kootenai Tribes Indian Reservation, Mission Valley and Seeley Lake Valley, Badger-Two Medicine Area, Glacier National Park, and the Blackfeet Reservation. From here we'll continue into Canada and visit the Castle Wilderness and Banff National Parks in Alberta and the Purcell Mountain Range in British Columbia.

Semester Overview

Through their field experiences, students gain an academic and experience-based understanding of the issues faced by the cultures and landscapes of the Crown of the Continent. This bioregion includes some of the most intact wildlands in North America and holds the headwaters for three oceans. Here, natural resources are managed by 21 different agencies spanning an international boundary. The area is also home to rapidly changing rural communities.

Conserving critical wildlife habitat while making room for changing human development is a tremendous challenge. The challenge is particularly acute when those efforts occur across boundaries of geography, politics, and culture. Nevertheless, rising to this challenge is the long-term task that the area's communities and conservationists have set for themselves through a variety of collaborative partnerships. Throughout the semester we explore the theme, "conservation across boundaries" while examining these partnerships—their goals, how they engage with the area's diverse human perspectives, and how they get work done on the ground.

Students will explore natural environments on a series of backcountry trips in Montana's Rocky Mountain Front south of Glacier National Park; Alberta's Waterton and Banff National Parks, and British Columbia's Purcell mountains. Between backcountry trips, students will visit the rural and tribal communities that border these wild lands, including Seeley Lake, St. Ignatius, and Choteau, Montana; the Confederated Salish and Kootenai Tribes Reservation, the Blackfeet Reservation, Canmore, Alberta, and Invermere, British Columbia. Students will meet

private landowners, public land managers, conservation groups, hunting and recreation guides, conservation biologists, writers, elected officials, and representatives from First Nations.

Students do extensive reading in the biogeography of the region, explore conservation biology principles, and study the political, social and economic factors affecting conservation practices. Daily discussion classes are complimented with frequent written assignments, meetings with guest speakers, project work, and service projects. This is a truly interdisciplinary course that attempts to provide a rich contextual view of the concepts and issues we study, emphasizing the contributions students can make with their direct experiences in the region and connections with diverse conservation stakeholders. The course culminates with a final paper synthesizing student learning across the academic disciplines represented on the semester, and a public presentation on those themes.

Environmental Studies 395- *Community Based Conservation in the Northern Rockies*

This course explores the past and present of communities in the Crown of the Continent region, surveys regional conservation history, and investigates regional economic developments. Based on those understandings we consider the social and economic future of the region, asking questions about trends in political, cultural and economic development, the continual restructuring of rural communities, and the potential to managing the ecological impacts of development. Readings for this course focus on historic land uses, the interactions of First Nations with European cultures, and recent changes in local economies and cultures. We examine the role of rapid human population growth, a globalizing economy, and changing conservation values. We study past and present conservation efforts, trends in collaboration among diverse stakeholders, and the social and political possibilities for building a regional conservation network. Visits to communities dependent on ranching, oil/gas development, timber harvesting, and tourism inform our understanding of the conflicts and opportunities related to developing ecologically sustainable communities in the region.

Academic Objectives

1. Students will gain a general understanding of the conservation history of the Crown of the Continent region, including the conflicts and collaborations between First Nations (including Salish, Kootenai, Blackfeet, Shuswap, and Ktunaxa peoples) and European cultures.
2. Students will develop a general understanding of natural resource industries and their importance in rural economies; including fossil fuels, mining, logging, ranching, tourism, and fisheries.
3. Students will be conversant with the interests and concerns of various conservation stakeholders, including land management agencies, natural resource industries, local communities, environmental groups, and elected officials at relevant levels of government.
4. Students will be exposed to collaborative conservation methods to facilitate negotiations across cultural, social, land management, and national boundaries.
5. Students will explore emerging economies, conservation strategies, and sustainable development concepts as they apply to different areas of the Crown of the Continent.
6. Students will explore the impact global climate change is having on rural communities and ecosystems at regional and local scales.

7. Students will converse with a variety of community based conservation practitioners, and refine their communication and negotiation skills through presentations, sharing written work, and collaboration exercises.

Environmental Studies 395- *Indigenous Perspectives on the Land and Environment*

Course Description

This course will explore the traditional ecological knowledge and land management practices of the Salish, Kootenai, Blackfeet, Blood, Ktunaxa, and Shuswap people whose homelands span the U.S. - Canadian border. The course will consider how these perspectives relate to Western concepts of ecology, conservation, and sovereignty. Students will see how indigenous peoples relate to and apply traditional cultural knowledge, practices, and beliefs to contemporary North American society. Through field-based activities, meetings with indigenous knowledge holders, and diverse readings, students will gain an understanding of indigenous efforts to preserve life, language, culture, and land.

Academic Objectives

1. Students will understand the importance of cultural context in determining individual and societal relationships with the natural world—as well as the variety of cultural contexts among indigenous peoples in the Crown of the Continent region.
2. Students will compare and contrast “Indigenous” and “Western” perspectives of time, place, knowledge, legitimacy, and the natural world.
3. Students will explore epistemological as well as practical aspects of indigenous efforts to integrate their traditional knowledge into environmental policy and other arenas of Western conception.
4. Through meeting with indigenous knowledge holders, students will learn about the lasting legacies of forced relocation, reservations, and allotment, as well as current efforts to exert sovereignty, preserve cultural values and traditions, while protecting important resources.
5. Students will gain an understanding of tribal efforts to strengthen and preserve the language, practices, perspectives, and beliefs of their people in a rapidly changing world.

Geography 348- *Geography of the Northern Rockies*

Course Description

The course will give students a greater understanding of the geography of the Crown of the Continent region of Montana, Alberta, and British Columbia and provide perspectives on how human societies interact with the local and regional landscape. Readings and discussions will be supplemented with extensive time spent traveling through several mountain ranges and communities in the area. In addition to direct experiences of physical geography on backcountry expeditions, the course will meet with a broad diversity of community members to learn first-hand about the human geography of this rural mountainous region.

Academic Objectives

1. Students will gain first-hand knowledge of the geographic features in the Crown of the Continent at minute and regional scales.
2. Students will demonstrate an understanding of the climate, vegetation patterns, animal distributions, and human land use practices in the Crown of the Continent.

3. Students will develop an understanding of how human communities interact with the ecological, economic, and physical landscapes of the region.
4. Students will be conversant in the concepts of landscape scale ecology and bioregionalism.
5. Students will come to understand the historic and current effects of climate change on the development of landforms and ecological communities in the Crown of the Continent.
6. Students will become adept at reading U.S. and Canadian topographic maps, atlases, river maps, and other graphic representations of regional landscapes. They will use these media for navigation and analysis of regional natural resource issues.
7. Students will be able to demonstrate their comprehension of the relationships between geography of mountainous regions and the other concurrently taught courses in: conservation biology, traditional ecological knowledge and community-based conservation. Students will increase their aptitude to express these learned objectives in both written and verbal form, including a public presentation.

Natural Resource & Science Management 311 ***Conservation Biology in the Northern Rockies***

Course Description

This course explores the conservation of species and ecosystems in the Crown of the Continent region through readings in biogeography and conservation history, field studies on backcountry trips, and meetings with working biologists and conservationists. Students study the principles of conservation biology and the ecological importance of interconnected networks of wildlands. The habitat needs of wide-ranging species such as wolves, bears, migratory ungulates, conifers, high alpine species, and endemic fish species focus our inquiry. We outline and practice the tools of conservation biology—from basic fieldwork to reserve design exercises. Students leaving this course will understand the biogeography of the Crown of the Continent, the natural processes that shaped it, and how the principles of conservation biology apply to this region.

Academic Objectives

1. Students will be familiar with many aspects of the natural environments of the Crown of the Continent region; including geology, botanical diversity and distribution, mammalian ecology, habitat types, and distribution.
2. Students will be introduced to the theories of conservation biology, including evolution and extinction processes, population genetics and dynamics, meta-population theory, disturbance ecology (in particular, fire ecology), phenology, and the ecological effects of changes in habitat connectivity and fragmentation.
3. Students will gain an understanding of wildlife reserve design principles, corridors conservation, and management theories.
4. Students will explore the impact global climate change has on local ecologies, conservation strategies, and environmental policy.
5. Students will understand the diversity of conservation policies on public and private lands in the U.S. and Canada; including threatened species protections, public land designations, easements, and land exchanges.
6. Students will participate in citizen science activities and will learn to design and evaluate the effectiveness of citizen science research.

7. Students will become conversant in a wide variety of local conservation biology issues.

Requirements and Assessment

All students will receive distinct letter grades for each of the five courses comprising the field semester. Grades for this course are based upon participation and performance on the following assignments and activities. Students will be required to complete the following:

- Pre-course (5%)- Readings, research, and writing assignments completed online in advance of the field start date
- Plant Study (5%)- Present a detailed plant studies to the class based on extensive observations and research in field guides
- Citizen Letter (5%)-: Write a letter to a public official (or public forum such as newspaper editorial pages) regarding an issue relevant to course topics and experiences
- Blogs (10%)- Write one to two blog entries regarding course experiences and learning to be posted on the WRFI website
- Participation (10%)- Divided equally between academic and experiential participation
- Section Essays/Exams (20%)- Complete examinations at the conclusion of each course section, including conceptual definitions, plant identifications, and essays that summarize learning across course subjects
- Field Journal (20%)- Keep a detailed academic journal during the course and participate in group journal readings
- Final Paper (20%)- Write a final paper that defines what the Crown of the Continent Roundtable should do now. Each academic discipline must be explicitly addressed, and connected to the other course subjects. This paper requires extensive references to personal experiences, speakers, readings, and discussions.
- Final Presentation (5%)- Participate in a public presentation at course-end. This presentation shares the learning and experiences obtained on the course with interested citizens and professionals in Missoula, Montana. Students create and deliver the presentation in consultation with course instructors and guest speakers.

Disability Services for Students

The University of Montana is an equal opportunity education provider and will provide reasonable accommodations for any student taking this course for academic credit. Students with disabilities, who are taking courses through the Wild Rockies Field Institute, may request reasonable accommodations by contacting their field instructors. For questions, concerns, or additional information, students may also contact Roger Maclean, Dean, UM School of Extended and Lifelong Learning: 406-243-2983 or roger.maclean@umontana.edu.

Readings

Note that readings are adapted and updated each year to reflect current issues. A course reading list is available upon request.

Guest Speakers

Sara Bates, National Wildlife Federation

Les Bigcrane, Confederated Salish and Kootenai Tribe Wildland Program Manager

Germain White, Confederated Salish and Kootenai Tribe Natural Resources Information and Education

Nkwusm Language School

Jim Stone, Blackfoot Challenge

Pyramid Lumber Company

Swan Ecosystem Center

Nathan Birkeland, Pine Butte Reserve, The Nature Conservancy

Gene Sentz, Rocky Mountain Front Heritage Act proponent

Mary Sexton, Crown of the Continent Roundtable

Lou Bruno, Glacier Two-Medicine Alliance

Robin Steenwig, Parks Canada

Southern Alberta Land Trust

Shannon Frank, Old Man Watershed Council

Pat Morrow / Arno Larsen, Mountain guides

Grant Costello, Jumbo Resort

Kimberly, Wildsite

Dave Zender, Rancher

Cam Owens, Social scientist

Enrollment

Enrollment in this course will be limited to ten students. There are no academic prerequisites for this course. No backpacking or camping experience is required, but a reasonable level of fitness will be necessary to complete the course.

Sponsoring Organization

The Wild Rockies Field Institute (WRFI) is an independent, non-profit educational organization founded in 1993. Our mission is to broaden the nature of a liberal arts education; teach critical thinking about social and environmental issues; to foster understanding of and respect for natural and human communities; and to cultivate a sense of place that encourages personal, social and environmental responsibility. WRFI courses seek to understand the complex relationships between ecological processes and human actions. To varying degrees within each course, students study local ecology, policies directing public lands management, and ethics that underlie social relationships to the land. Our courses combine traditional classroom teaching methods – including lectures, readings, discussions, papers, and exams – with experiential explorations of the landscapes and communities we visit. We encourage careful observations, critical thinking, thoughtful dialogue, and exploration of diverse perspectives in order to develop the capacity for engaged citizenship in our students.

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