

the **epic** ADVANTAGE

Student/Faculty Collaborative Research Experience

EPIC ADVANTAGE: Field Ecology of Alaskan Mammals

Dates: July 20 - August 9, 2019

Leader: Karen Mager

Credits: 3 credits (credit/no credit)

Application Deadline: October 15, 2018



Description of Experience and Research:

This EPIC Advantage research project provides students with on hands-on, field experience in wildlife ecology research with a focus on mammals. Our primary field site is situated in a stunning glacial valley in Wrangell-St. Elias National Park. Here, we will continue small mammal research started in 2015 by Earlham students. Using live-traps and mark-recapture methods, we will estimate red-backed vole abundance in long-term research plots and take genetic samples to study connectivity of populations across glaciers, as well as pursue other questions of interest to our group. Additional opportunities to participate in pika monitoring at Hatcher Pass, caribou fecal sampling in Interior Alaska, and/or tracking and direct observation of large mammals such as moose will broaden our knowledge of research techniques and mammal ecology.

These investigations and engagement with Alaskan communities will give us a lens to view broader issues, such as the importance of mammals as a source of food for subsistence hunters, the role of wildlife tourism in the Alaskan economy, and the influence of rapid climate change on mammal populations. This project is an exciting opportunity for students interested in wildlife management and conservation, and with a passion for working in the outdoors.

Location:

Our primary location will be the Kennicott Valley of Wrangell-St. Elias National Park, but we will also visit research sites in other locations throughout Interior Alaska.

Faculty:

Karen Mager, Assistant Professor of Environmental Sustainability and Biology, is an ecologist interested in how wildlife populations respond to environmental change. Her research is interdisciplinary — drawing on ecological field studies, population genetics, and historical and ethnographic research. She uses population genetics to understand how geographic isolation and population declines or increases influence connectivity of caribou and reindeer populations of Alaska and Canada. She also uses live-trapping to study small mammal communities in Wrangell-St. Elias National Park that are impacted by climate change, and uses “camera traps” to study mammal communities on Indiana conservation lands undergoing reforestation.

**Expectations for Students:**

- Students will learn to use field techniques such as small mammal live-trapping, genetic sampling, tracking, direct observation, and fecal sampling
- Students will pursue their own research questions about the influence of landscapes and environmental change on mammal populations, within the framework of larger existing research projects

Preferred Skills:

Coursework in ecological and evolutionary Biology (such as BIOL 111 and BIOL 226) and/or Environmental Sustainability (such as ENSU 151) is highly recommended, as is participation in Outdoor Trip Leadership (EDUC 210) or other wilderness travel. This project is ideal for students excited to work outside in sun, rain, cold, potential snow, and mosquitos, to haul heavy research gear, and to have infrequent showers and access to electronics. Students will need to be physically capable of walking over difficult terrain carrying heavy backpacks.

Dates of Experience:

July 20 - August 9, 2019

Start and End Point of Program:

Fairbanks, Alaska (but this may change to Anchorage, Alaska)

Application Dates:

Applications can be received from students starting on Sept. 15, 2018. Application window closes on Oct. 15, 2018.

Link to Application:

Apply in Handshake

Preparation:

Students will be required to take a 1 credit EPIC Advantage Orientation seminar during the Spring 2019 academic semester. This seminar will provide the necessary background and travel logistics for students to maximize the experience. Class meeting dates/times will be determined in the future.

Student Eligibility:

Rising Sophomores, rising juniors, rising seniors and May graduates are eligible to apply.

Cost to Student:

This experience is funded as an EPIC ADVANTAGE opportunity. Funding includes travel, room and board, and other expenses required by the program. Passports and immunizations as well as other personal expenses will be covered by students. Students who are accepted and withdraw after January 15, 2019 must reimburse the college for all expenses committed on their behalf.

Program plans subject to change.

Program Policies: <https://earlham.edu/academics/off-campus-study/program-policies/>