

ENTOMOLOGY IN FIELD AND LAB aka “Adult Bug Camp”

BIOL F040, Noncredit
UAF Campus, Summer 2020

COURSE INFORMATION

Title: Adult Bug Camp
Number: BIOL F040
Credits: None
Prerequisites: None
Location: University of Alaska Fairbanks Campus and Vicinity, & online via ZOOM
Meeting Times: 6-8 p.m. Fri, & 1-6:15 p.m. Sat. & Sun.
Meeting Dates: July 10-11, 2020
Lecture / Lab: 2h lecture, 9h field/lab – NOTE: you will need your own transportation

INSTRUCTOR: Dr. Derek S. Sikes, Curator of Insects, Professor of Entomology
University of Alaska Museum, 1962 Yukon Dr., UAF
Tel. (907) 474-6278 email: dssikes@alaska.edu
Office hours available by appointment

COURSE READINGS / MATERIALS: Recommended (most should be available in the UAF bookstore, the UA Museum bookstore, or online):

Collet, D. 2006. **Insects of South-Central Alaska**. Kenai Watershed Forum. ISBN-10: 1594330743
ISBN-13: 978-1594330742

Hudson, J., Kathy Hocker & Robert Armstrong. 2012. **Aquatic Insects in Alaska**. 144 pages, 8.5" x 11", 294 color photographs, glossary, bibliography, index. Published by Nature Alaska.
ISBN 978-0-939431-38-0

Kenelm W. Philip (Posthumous) and Clifford D. Ferris. 2015. **Butterflies of Alaska, A Field Guide**. 104 pages, spiral bound with durable covers; 8.5" x 11". The known 79 resident and 5 casual species are illustrated in full color. Each species entry includes information on geographic distribution, habitat, basic biology, flight period, diagnostic characters, and field behavior. A species index and plant index are included. \$30 plus postage. ISBN 978-1-944242-71-8. More information from Alaska Entomological Society at <http://www.akentsoc.org/documents/field-guide-to-alaska-butterflies>.

Hudson, J., Armstrong, R.H. 2010. **Dragonflies of Alaska**, Second Edition. 56 pages, 6" x 9", spiral binding, full-color cover, 89 color photographs, 1 map, 54 other illustrations, index. Published by Nature Alaska. ISBN 978-1-57833-481-0 trade paper [*Also available online as a free PDF!*]

COURSE DESCRIPTION: An introduction to building an insect collection. Emphasized will be collection and processing methods needed to build an insect collection. The skills necessary to identify most groups to Order will be taught. Students will create a collection which will be broken into three groups: specimens the student can take home, specimens for the University of Alaska Museum Insect Collection, and specimens for the Teaching Collection.

COURSE GOALS & STUDENT LEARNING OUTCOMES:

1. To learn basic collection and specimen preparation techniques
 - net types and uses
 - aspirators and vials / killing jars
 - trapping methods, e.g. pitfall traps, Malaise traps, Berlese / Winkler funnels
 - pin, point, paper, pen, glass vial types, sources, preservation dry vs wet
2. To understand the roles insects play in Alaskan ecosystems
 - trophic levels
 - ecological relationships (predators, herbivores, parasites, pollinators, decomposers, anthrophilic, etc.)
 - habitat preferences (terrestrial, aquatic, soil, etc.)
3. To contribute to Alaskan Entomological research endeavors
 - provide professionally mounted & georeferenced specimens to the UA Museum Insect Collection

INSTRUCTIONAL METHODS: An introductory lecture covering insect diversity will be combined with hands-on, instructor-lead, field work to learn methods of sampling insects in the wild. Field captured insects will be brought back to the lab and processed (mounted and identified). The instructor will be constantly available to answer questions during the course.

COURSE CALENDAR:

Friday	Introductions and enrollment (6 – 8 PM) Lecture (2hours) Insect Evolutionary Diversity introduction to major insect groups Non insect arthropods – Arachnida, Myriapoda Apterygota Pterygota Paleoptera Neoptera Polyneoptera Paraneoptera Endopterygota Insect Ecological Diversity, Aquatic Insects, Herbivores, Predators, Fungivores, Parasites, Parasitoids, Detritivores
Saturday	FIELD TRIP: 1 – 3PM, <u>UAF campus overlook</u> field gear – tools of the trade lecture leaf litter sifting & Winkler / Berlese extraction Malaise trap, Lindgren funnel, FIT, pitfall trap, pollinator cups UAF LAB: 3:15-6:15, mounting and identification of specimens caught field labeling vs. final labeling collection care and maintenance
Sunday	FIELD TRIP 1 – 3PM, <u>“Peat Ponds” Goldstream x Murphy Dome Rd</u>

SAFETY NOTICE for summer 2020

We will use Zoom to run the course for all indoor components, which include the Friday night lecture and the Saturday and Sunday afternoon lab sessions.

For the field portion of the course, Saturday and Sunday 1-3pm, we will meet at our designated field sites (on UAF campus at the west ridge overlook Saturday and at the Peat Ponds Sunday). We will follow CDC guidelines to ensure the safety of all participants.

All students will be informed in advance *to wear masks* for the field portion of the course and we will maintain 6' or greater distance from each other whenever possible while in the field. Each student will have previously picked up their field equipment and supplies from Summer Sessions which will minimize the need for physical exchange of supplies and equipment. We will have hand sanitizer in the field and encourage everyone to use it and remind students to avoid touching their eyes, nose, and mouth.

Additionally, prior to meeting for the field portion of the course each student will have to attest that 1) they do not feel sick, 2) do not have a fever, cough, or shortness of breath, 3) have not traveled outside of Fairbanks in the last 2 weeks, and 4) have not been in close proximity of anyone who has COVID 19. If a student cannot affirm this is true then they will be asked to not attend the field portion (instructions will be provided on how they might conduct the field portion alone). Also, students will be given the option to not meet together in the field if they do not feel safe doing so regardless of their health status, and instructions will be provided on how they might conduct the field portion alone.