Aquatic Entomology
BIOL/FISH 400/600; offered every fall

Credits: 2, Letter grade
Prerequisites: BIOL 115, BIOL 116, BIOL 271; or permission of instructor
Location: 207 Irving I
Meeting time: Wednesdays, Lecture 1-1:50p, Lab 2-5pm

Instructor information: Mark Wipfli, IAB
Office location: 138 Arctic Health
Office hours: T, R, 10-11am or by appt.
Telephone: 474-6654
Email: mwipfli@alaska.edu

Supplementary readings: Aquatic Entomology, by W. Patrick McCafferty.
Other readings occasionally as assigned.

Course description: 400/600 Aquatic Entomology 2 credit. Course content will focus on aquatic invertebrate
taxonomy and ecology, particularly from Alaska streams and wetlands. There will be two organized field trips
during the first four weeks of the semester where students will learn field techniques for locating and collecting
aquatic invertebrates – one trip to wetland/pond habitats and one to stream/river habitats – within a 1-hr drive of
the Fairbanks campus. The remaining meetings will involve instruction on the identification of the important
groups of aquatic invertebrates, and their ecology and biology. Students will be required to develop their own
aquatic invertebrate collections. Letter grades will be based on completeness and accuracy of their collections,
plus lab and lecture mid-term and final exams.

Course goals: Provide students with a working knowledge of the taxonomy (field and lab IDs to the Family
level) and ecology of aquatic (wetland and stream) invertebrates, with special emphasis on invertebrates of
Alaska systems. Specific learning outcomes – students will learn 1) where and how to collect aquatic insects, 2)
how to identify larval aquatic insects to the family level, 3) learn how to identify adult Orders of aquatic insects,
4) how to prepare an aquatic insect collection, 5) habitat-taxa associations, and 6) family level functional feeding
groups.

Instructional methods: One hour of lecture, three hours laboratory each week. Laboratory meetings will involve
field trips, biological collections and taxonomy. Lectures before each lab period will teach key taxonomic
characteristics, and invertebrate ecology and biology. There will be a $75/student lab fee charge to cover rental
vehicle costs and insurance for field trips.

Course calendar: There will be one 1-hr lecture and one 3-hr lab per week. The first four sessions of the term
(weeks 1-4) will consist of an introductory session, plus two field trips where students will be taught invertebrate
collecting techniques, including actual collections at nearby field sites. The rest of the term students will learn to
identify aquatic invertebrates to the Family level.

Course policies: Attendance is required. Pre-excused absences are permitted.

Evaluation: Mid-term and final exams will be given in both lecture and lab. Letter grade will be determined
from field collections (20%), and scores on four exams (20% each). Grading will be A+ ≥95%, A 92-94%, A-
90-91%, B+ 87-89%, B 84-86%, B- 80-83%, C+ 77-79%, C 74-76%, C- 70-73%, D+ 67-69%, D 64-66%, D- 60-
63%, F <60%. Exams at the 400-level will include some basic, minimal ecology and physiology content, exams
at the 600 level will require a much deeper understanding of the ecology and biology/physiology of aquatic
insects, including both aquatic and terrestrial stages.
Support Services: Negotiated upon request.

Disabilities Services: The Office of Disability Services implements the Americans with Disabilities Act (ADA), and insures that UAF students have equal access to the campus and course materials. The instructor will work with the Office of Disabilities Services (203 WHIT, 474-7043) to provide reasonable accommodation to students with disabilities.