

SOUTHEAST MISSOURI STATE UNIVERSITY

Department of Biology

ZO 445/645

Aquatic Entomology

New Sp13

I. Course Description:

This course will introduce students to the biology, ecology, and taxonomy of aquatic insects that live in streams, lakes, and wetlands. Emphasis will be placed on taxonomic identification of the regionally common aquatic insects. This is a studio-style course in which two two-hour class periods will involve both lecture and lab activities.

(3 credit hours)

II. Prerequisite(s): BI154

III. Purposes or Objectives of the Course:

- A. To teach the basics of aquatic insect identification through the use of dichotomous keys
- B. To teach proper curation of aquatic insect specimens
- C. To acquaint students with the kinds of insects occurring in various aquatic habitats
- D. To develop an understanding of the ecological relationships between aquatic insects and their environment.
- E. To familiarize students with the use of aquatic insects as bioindicators of water quality

IV. Student Learning Outcomes:

- A. Students will be able to successfully identify common aquatic families using dichotomous key.
- B. Students will be able to identify the three major insect orders that are used to indicate high quality streams.
- C. Students will be able to distinguish morphological features of differing aquatic insect taxa.

V. Expectations of Students:

- A. To attend and participate in all class activities, including lecture/discussion, and laboratory activities.
- B. To satisfactorily complete an aquatic insect collection (proper identification and curation).
- C. Graduate students will assist in confirming and grading all student aquatic insect collections.

VI. Course Content or Outline [number of class periods based on 15 week semester (2 periods/week for a total of 30 class periods):

Topic	Class Periods
A. Introduction to the course and proper curation of aquatic specimens	1
B. Application of knowledge regarding aquatic insects (e.g. bioindicators,	1
C. Aquatic insect morphology and using dichotomous keys	1
D. Identification of the aquatic insect orders	1
E. Common families of Ephemeroptera – the mayflies	2
F. Common families of Odonata – the dragonflies and damselflies	2
G. Lecture exam	1
H. Lab Exam	1
I. Common families of Plecoptera – the stoneflies	2
J. Common families of Hemiptera – the true bugs	2
K. Common families of Megaloptera and Neuroptera	1
L. Common families of Trichoptera – the caddisflies	2
M. Lecture exam	1
N. Lab Exam	1
O. Common families of Coleoptera – the beetles	2
P. Common families of Diptera – the true flies	2
Q. Common families of Collembola and Orthoptera – the springtails and grasshoppers	1
R. Lecture exam	1
S. Lab Exam	1
T. Collection project	2
U. Collection project	2

VII. Textbook and/or Supplemental Materials:

- A. An introduction to the aquatic insects of North America, 4th edition. 2008. RW Merritt and KW Cummins (eds). Kendall/Hunt Publishing Company, Dubuque, Iowa.

VIII. Basis of Student Evaluation:

- A. Three lecture exams at ≈ 75 pts each
 B. Three lab exams at ≈ 100 pts each
 C. Aquatic insect collection ≈ 300 pts

IX. Grading Scale:

Undergraduate	Graduate
100 - 90% = A	100 - 90% = A
89% - 80% = B	89% - 80% = B
79% - 70% = C	79% - 70% = C
69% - 60% = D	< 69% = F
< 60% = F	

X. Academic Policy Statement:

Students will be expected to abide by the University Policy for Academic Honesty regarding plagiarism and academic honesty. Refer to <http://www6.semo.edu/judaffairs/code.html>

XI. Student with Disabilities Statement:

If a student has a special need addressed by the Americans with Disabilities Act (ADA) and requires materials in an alternative format, please notify the instructor at the beginning of the course. Reasonable efforts will be made to accommodate special needs.