

# COURSE SYLLABUS — AQUATIC INSECTS

Fall 2017

Department of Entomology  
College of Agricultural Sciences and Natural Resources/IANR  
University of Nebraska-Lincoln

## I. Catalog Description

Entomology 402/802 Aquatic Insects (Biological Sciences 485/885; Natural Resources 402/802) (2CR)

## II. Instructors

Dr. Tom Weissling, Associate Professor

**Email:** [tweissling2@unl.edu](mailto:tweissling2@unl.edu)

**Work Phone:** 402-472-8680

**Mobile Phone:** 402-202-1727 (text messages)

Erin Bauer, Entomology Lecturer

**Email:** [ebauer2@unl.edu](mailto:ebauer2@unl.edu)

**Work phone:** 402-472-9548

**Mailing Address:** Department of Entomology Room 103, Entomology Hall University of Nebraska-Lincoln  
Lincoln, NE 68583-0816

**Office Hours for Tom:** The best way to reach Tom is by email or text to his mobile...he prefers text, just let him know who you are. If you call and he does not answer, leave a message and he will get back to you as soon as possible.

If you are on campus, come by his office in 214 Entomology Hall.

**Office Hours for Erin:** The best way to reach Erin is by email. Expect a response within a few hours, although it may take a bit longer. If you call, leave a message and she will get back with you as soon as possible.

If you are on campus, come by her office in 305C Entomology Hall.

## III. Course Objectives

1. Describe the physical and chemical characteristics of aquatic habitats that limit the number and kinds of insects present.
2. Describe food habits, diagram seasonal and life cycles, name habitat types occupied, and state role in the food chains for the aquatic insect orders.
3. Describe the adaptations of the aquatic insect orders that enable them to occupy different aquatic habitats.
4. Based on the insect taxa present, describe the types of aquatic habitats that are indicated, including unique chemical or physical environmental characteristics.
5. Understand the techniques involved in aquatic insect sampling and preservation.
6. Explain how insects can be used to monitor or assess the quality of an aquatic habitat and describe an example of a biomonitoring technique from each of the six hierarchical levels of biomonitoring programs.

## IV. Need or Justification

This course is designed to provide specific information which is relevant to a wide range of students including those majoring in insect science, natural resources, environmental studies, biological sciences,

and education. It will be particularly useful for those students who are planning careers that will involve the study of environmental quality assessment and improvement.

## **V. Methods**

The course is designed with narrated Powerpoint lectures on Blackboard that will be supported by readings from the text and selected articles from journals or references.

## **VI. Course Outline**

Assigned readings are chapters in text indicated in parentheses.

### **Lecture/Discussion Topic**

**Introduction, Morphology, and Metamorphosis (1 & 2)**

**Insect Classification and Identification (2 & 6)**

**Sampling and Preservation (4)**

**General Ecological Relationships (3)**

**Respiration, Habitats, and Life Histories (3)**

**Bioassessment (handout on Blackboard)**

**Midterm Exam (open from October 2nd until October 6th)**

**Ecology of Ephemeroptera (7)**

**Ecology of Odonata (8)**

**Dragonfly Profile Submissions (Due Oct 20)**

**Ecology of Plecoptera (9)**

**Ecology of Hemiptera (10)**

**Ecology of Diptera (16)**

**Ecology of Megaloptera and Coleoptera (11 & 13)**

**Ecology of Trichoptera (14)**

**Bioindicator Assignment Submissions (Due Dec 1)**

**Term Paper Submissions (Due Dec 4)**

**Final Exam (open December 11th until December 15th)**

## **VII. Textbook**

McCafferty, W. P. (1981; 1998). *Aquatic entomology: The fishermen's and ecologists' illustrated guide to insects and their relatives*. Jones and Bartlett Publishers, Boston.

## **VIII. Disabilities**

Students with disabilities are encouraged to contact the instructor for a confidential discussion of their individual needs for academic accommodation. It is the policy of the University of Nebraska-Lincoln to provide flexible and individualized accommodation to students with documented disabilities that may affect their ability to fully participate in course activities or to meet course requirements. To receive accommodation services, students must be registered with the Services for Students with Disabilities (SSD) office, 132 Canfield Administration, 472-3787 voice or TTY.

## IX. Exams

There will be a midterm and final exam, each worth 60 points. These will be a combination of T/F and multiple choice, and will be taken online on Blackboard.

## X. Dragonfly Assignment

For this assignment (20 points), you will be watching a short film about dragonflies/damselflies and then doing a profile about a species of your choice. Instructions for this assignment will be on Blackboard.

**Note:** Undergraduate students will be required to write **one** profile, graduates **two**.

## XI. Bioindicator Assignment

For this assignment (20 points), you will be watching a short film about bioindicator species of water quality and writing a short paper on one of these insects. Instructions for this assignment will be on Blackboard. **Note:** Undergraduate students will be required to write **one** paper, graduates **two**.

## XII. Term Paper Requirement

Students in this class are required to do a term paper (100 points) on a topic of the student's choice related to Aquatic Entomology. Students should discuss their ideas for the term paper with the instructors early in the semester (i.e. well before the mid-term exam) and **a typed, one page proposal for your idea for this term paper must be emailed to Erin ([ebauer2@unl.edu](mailto:ebauer2@unl.edu)) for approval by October 2**. The proposal will be worth 5 of the total 100 points. Term papers should be typed, double-spaced, and 6-10 pages long with at least ten references.

**Papers must follow APA (American Psychological Association) style.**

*Examples:*

Within a paper: **(Weissling & Bauer, 2013)**

The purple insects have developed a niche within Martian ponds (Weissling & Bauer, 2013).

End of paper references for journal with two or more authors:

**Weissling, T. & Bauer, E. (2013). Aquatic Insect Teaching is Fun. *Journal of Insect Aquatics*, 5(4), 34-56.**

For assistance in obtaining reference materials from the library here at the University of Nebraska, contact the Entomology Librarian who is Leslie Delserone, C.Y. Thompson Library, East Campus, UNL, Lincoln, NE 68583- 0717 (402) 472-6297 Email: [ldelserone2@unl.edu](mailto:ldelserone2@unl.edu)

A written final version of the term paper should be submitted on Blackboard by **December 4<sup>th</sup>**.

## XIII. Grading Policy

<b>Undergraduates</b>	Midterm Exam	60 points
	Final Exam	60 points
	Dragonfly Assignment	20 points
	Bioindicator Assignment	20 points
	<u>Term Paper</u>	<u>100 points</u>

	Total	260 points
<b>Graduates</b>	Midterm Exam	60 points
	Final Exam	60 points
	Dragonfly Assignment (20 X 2)	40 points
	Bioindicator Assignment (20 X 2)	40 points
	Term Paper	100 points
	Total	300 points

### **Grading Scale**

97% .....	A+
93% .....	A
90% .....	A-
87% .....	B+
83% .....	B
80% .....	B-
77% .....	C+
73% .....	C
70% .....	C-
67% .....	D+
63% .....	D
60% .....	D-
below 60% .....	F

## **XIV. Additional Information**

### **PLEDGE OF INSTRUCTIONAL STANDARDS**

*Entomology instructors will provide our students a complete syllabus meeting all UNL standards, our classes will be based on current science and will follow published schedules and descriptions, and our instructors will be timely in returning grades and in responding to our students.*

### **ADA STATEMENT**

*Students with disabilities are encouraged to contact Christy Horn for a confidential discussion of their individual needs for academic accommodation. It is the policy of the University of Nebraska-Lincoln to provide flexible and individualized accommodation to students with documented disabilities that may affect their ability to fully participate in course activities or to meet course requirements. To receive accommodation services, students must be registered with the Services for Students with Disabilities (SSD) office, 132 Canfield Administration, 472-3787 voice or TTY (updated 8/20/07)*

### **ACADEMIC HONESTY**

*Students are expected to adhere to guidelines concerning academic dishonesty as specified in Entomology's Academic Integrity Policy (<http://entomology.unl.edu/dishonesty.shtml>). As a student at UNL, you enjoy rights and protections under the student code of conduct (<http://stuafs.unl.edu/dos/code>) and are obligated to conduct yourself in compliance with the code. Academic dishonesty can involve cheating; fabrication or falsification of information; plagiarism; or misrepresenting illness, injury, accident, etc., to avoid and/or delay an examination/quiz or the timely submission of academic work and*

assignments. Disciplinary action imposed may range from a warning (written or oral) to assigning the student a final course grade of F for the semester. The instructor may choose to assign zero or partial credit for a specific assignment, quiz, examination or written report in which academic dishonesty was involved.

If a student wishes to appeal a claim of academic dishonesty, the following process must be followed. First, the student must submit a written appeal to the instructor of the course and state their reason(s) for appealing. If this student appeal cannot be resolved with the course instructor, then the student must immediately submit their appeal statement within seven days to the Department's Curriculum Committee for their recommendation. If a satisfactory solution to this appeal is still not reached with the Department Curriculum Committee, the student's written appeal will then be forwarded to the Department Head. If a satisfactory solution is still not achieved at the Department Head level, the student may then submit their written appeal statement to the College of Agricultural Sciences and Natural Resources (CASNR) Dean's Office. The appeal process for the College of Agricultural Sciences and Natural Resources will then be followed as outlined by the College.

Students are encouraged to contact the instructor for clarification of these guidelines if they have questions or concerns

**INFORMATION FOR EMERGENCY RESPONSES: Fire Alarm (or other evacuation)**

In the event of a fire alarm: Gather belongings (Purse, keys, cellphone, N-Card, etc.) and use the nearest exit to leave the building. Do not use the elevators. After exiting notify emergency personnel of the location of persons unable to exit the building. Do not return to building unless told to do so by emergency personnel.

**Tornado Warning:** When sirens sound, move to the lowest interior area of building or designated shelter. Stay away from windows and stay near an inside wall when possible.

**Active Shooter Evacuate:** if there is a safe escape path, leave belongings behind, keep hands visible and follow police officer instructions. **Hide out:** If evacuation is impossible secure yourself in your space by turning out lights, closing blinds and barricading doors if possible. **Take action:** As a last resort, and only when your life is in imminent danger, attempt to disrupt and/or incapacitate the active shooter.

**UNL Alert:** Notifications about serious incidents on campus are sent via text message, email, unl.edu website, and social media. For more information go to: <http://unlalert.unl.edu>.

Additional Emergency Procedures can be found here:

[http://emergency.unl.edu/doc/Emergency\\_Procedures\\_Quicklist.pdf](http://emergency.unl.edu/doc/Emergency_Procedures_Quicklist.pdf)