



# SYLLABUS

## ENTMLGY 5350.01

## ENR 5350.01

Taxonomy and behavior of aquatic invertebrates

Autumn 2023 (full term)

3 credit hours; In-person

Lecture Tue 11:30-12:25; 108 Ag Admin

Lab Mon 4:10-7:10PM Howett Greenhouse 117

## COURSE OVERVIEW

### Instructor

Instructor: Dr. Ellen Klinger

Email address: [klinger.80@osu.edu](mailto:klinger.80@osu.edu) (preferred contact method)

Office: Kottman Hall 255

Office hours: Virtual, e-mail instructor to arrange appointment

### Graduate Teaching Assistant

Instructor: Liam Whiteman

Email address: [whiteman.70@buckeyemail.osu.edu](mailto:whiteman.70@buckeyemail.osu.edu)

Office hours: Virtual, e-mail instructor to arrange appointment

### Prerequisites

ENR 5280

## Course description

This course explores the taxonomy and behavior of freshwater aquatic invertebrates, with an emphasis on aquatic insects. The role of aquatic invertebrates in food webs, as well their utility in aquatic conservation and restoration issues, will also be an important component of the course. The course consists of several major segments related to aquatic invertebrates:

1. Morphology and anatomy
2. Structures, taxonomy, and phylogeny
3. Ecology and life history
4. Behavioral ecology and adaptations
5. Diversity and community composition
6. Sampling and biomonitoring

## Course learning outcomes

By the end of this course, the successful students should be able to:

- Identify North American freshwater invertebrates.
- Explain how behavioral ecology of aquatic invertebrates relates to water quality.
- Discuss the importance of an ecosystem containing a diversity of freshwater aquatic invertebrates.

## HOW THIS COURSE WORKS

### General class organization

Both lecture and lab of this course is in-person. Lecture material will be delivered in class, with exceptions of supplemental material or lectures that are delineated as online on the syllabus.

The documentation of the course (lecture notes, additional resources, assignments and quizzes) will be organized in Weekly modules. Each weekly module will also have an overview page so you can keep track of assignments and information. This overview page will alert the students to the week's activities and assignments and is a good place to check to make sure the student is clear on the week's expectations.

### Lecture

**Mode of delivery:** Lecture material will be given in person during the scheduled lecture time, unless otherwise specified by the instructor. Live lectures will not be recorded, but the instructor may have resources if you have an excused lecture absence to receive similar information from lecture.

## Laboratory

**Mode of delivery:** Laboratories are in-person for this class. Laboratory activities will focus on developing identification and collection skills. The primary purpose of some labs will be to collect and observe aquatic invertebrates in their natural habitats. Waders, boots, or other wading shoes may be available for the labs. However, if you prefer your own, please bring them with you. I encourage you to wear clothing for the collecting dates in which you are comfortable getting wet and/or dirty. Students should have a laboratory data notebook and a calculator. Participation in all lab activities is expected unless you have an excused absence.

**Credit hours and work expectations:** This is a **3-credit-hour course**. According to Ohio State policy ([go.osu.edu/credithours](http://go.osu.edu/credithours)), students should expect around 4 hours per week of time spent on direct instruction (instructor content and Carmen activities, for example) in addition to 5 hours of homework (reading and assignment preparation, for example) to receive a grade of (C) average.

**Attendance and participation requirements:** Because this class may have supplemental online components, there are expectations for students to engage with online material. The following is a summary of students' expected participation:

- **Participating in online activities for attendance: AT LEAST ONCE PER WEEK**  
You are expected to log in to the course in Carmen every week. (During most weeks you will probably log in many times.) If you have a situation that might cause you to miss an entire week of class, discuss it with me *as soon as possible*.
- **In person sessions: REQUIRED** Attendance is expected at in-person sessions unless you have an excused absence. Participation points will be given and students who miss with unexcused absences may be subject to point reductions.
- **Office hours: OPTIONAL**  
My office hours or content held outside of the course schedule are optional.

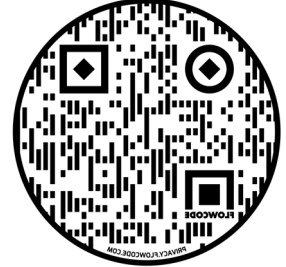
## COURSE MATERIALS AND TECHNOLOGIES

### Textbooks

#### Required

- Thorp, J.W and D.C. Rogers. 2011. Field Guide to Freshwater Invertebrates of North America. Academic Press, 304 pp. ISBN: 978-0-12-381426-5. [Available through OSU libraries](#). Referred to as "Field Guide"

- Thorp, J.H. and Covich, A.P. eds., 2009. Ecology and classification of North American freshwater invertebrates. Academic press. ISBN: 978-0-08-088981-8. [Available through OSU libraries](#). Referred to as “T&C”
- Bouchard, R.W., Jr. 2004. Guide to aquatic macroinvertebrates of the Upper Midwest. Ferrington, L.C., Jr. and M.L. Karius, Eds. Water Resources Center, University of Minnesota, St. Paul, MN, 208 pp. Available online: use QR code or <https://dep.wv.gov/WWE/getinvolved/sos/Pages/UMW.aspx> Referred to as “Midwest”, QR code is link to webpage



## Recommended but optional

- Merritt, R. W., K. W. Cummins, and M. B. Berg (eds). 2019. An Introduction to the Aquatic Insects of North America (5th ed). Kendall/Hunt Publ. Co., Dubuque, IA 1158 pp. ISBN: 9781524968540

## Other required materials

- Rite in the Rain All-Weather notebook (or other field notebook). Various sizes acceptable, suggested 4 5/8” x 7”. Any type of paper gridding accepted. Other similar, water resistant notebooks accepted. Approximate cost: \$7-\$12. Examples will be available on Carmen.

## Course technology

### Technology support

For help with your password, university email, Carmen, or any other technology issues, questions, or requests, contact the Ohio State IT Service Desk. Standard support hours are available at [ocio.osu.edu/help/hours](https://ocio.osu.edu/help/hours), and support for urgent issues is available 24/7.

- **Self-Service and Chat support:** [ocio.osu.edu/help](https://ocio.osu.edu/help)
- **Phone:** 614-688-4357(HELP)
- **Email:** [servicedesk@osu.edu](mailto:servicedesk@osu.edu)
- **TDD:** 614-688-8743

### Technology skills needed for this course

- Basic computer and web-browsing skills
- Navigating Carmen ([go.osu.edu/canvasstudent](https://go.osu.edu/canvasstudent))
- CarmenZoom virtual meetings ([go.osu.edu/zoom-meetings](https://go.osu.edu/zoom-meetings))
- Recording a slide presentation with audio narration ([go.osu.edu/video-assignment-guide](https://go.osu.edu/video-assignment-guide))
- Recording, editing, and uploading video ([go.osu.edu/video-assignment-guide](https://go.osu.edu/video-assignment-guide))

## Required equipment

- Computer: current Mac (MacOs) or PC (Windows 10) with high-speed internet connection
- Webcam: built-in or external webcam, fully installed and tested
- Microphone: built-in laptop or tablet mic or external microphone
- Other: a mobile device (smartphone or tablet) to use for BuckeyePass authentication

## Required software

- Microsoft Office 365: All Ohio State students are now eligible for free Microsoft Office 365. Full instructions for downloading and installation can be found at [go.osu.edu/office365help](https://go.osu.edu/office365help).

## Carmen access

You will need to use BuckeyePass ([buckeyepass.osu.edu](https://buckeyepass.osu.edu)) multi-factor authentication to access your courses in Carmen. To ensure that you are able to connect to Carmen at all times, it is recommended that you take the following steps:

- Register multiple devices in case something happens to your primary device. Visit the BuckeyePass - Adding a Device help article for step-by-step instructions ([go.osu.edu/add-device](https://go.osu.edu/add-device)).
- Request passcodes to keep as a backup authentication option. When you see the Duo login screen on your computer, click **Enter a Passcode** and then click the **Text me new codes** button that appears. This will text you ten passcodes good for 365 days that can each be used once.
- Download the Duo Mobile application ([go.osu.edu/install-duo](https://go.osu.edu/install-duo)) to all of your registered devices for the ability to generate one-time codes in the event that you lose cell, data, or Wi-Fi service

If none of these options will meet the needs of your situation, you can contact the IT Service Desk at 614-688-4357(HELP) and IT support staff will work out a solution with you.

# GRADING AND FACULTY RESPONSE

## How your grade is calculated

Assignment or Category	Point Value	% of Total
Participation	30	7%
Presentation	70	15%
Quizzes	80	18%
Worksheets	75	16%
Collection Catalog & Field Notebook	100	22%
Habitat assessment project	100	22%
<b>Total</b>	<b>455</b>	<b>100%</b>

Graduate students and undergraduate students will be graded with the same scale. Due dates for most assignments are **Mondays, 2PM ET** (before lab sessions). See course schedule below for due dates.

## Descriptions of major course assignments

### Participation online and in labs

**Description:** In person attendance in lectures and laboratories valued with points. Students who miss a laboratory without an excused absence may be subject to a 2 point reduction in this grade per missed lab. Students who miss more than two lectures without an excused absence may be subject to a 1 point reduction per missed lecture.

**Academic integrity and collaboration:** Attendance is valuable to understanding and to learning the skills of this class.

### Presentation

**Description:** In Week 7, students will be assigned to a group. Each student group will be responsible for gathering information on two insect families and presenting the data as if to a specific user group (naturalists, aquatic managers, etc.). Students will compile information into a summary worksheet to be distributed to the class, as well as create a presentation not to exceed 15 minutes. Presentations will be given in week 10. Rubrics for grading and additional requirements for this project will be available on Carmen.

**Academic integrity and collaboration:** Students are expected to work together on this project. Students are expected to abide by all class discussion and communication guidelines. The instructor will provide methods in which students may give anonymous feedback or alerts to whether a group member is not performing to class standards.

## Quizzes

**Description:** Quizzes (8; 4 lecture based and 4 lab based) are 10 points each and will cover readings from the text, material from lectures and class presentations, and laboratory identification and collecting activities. Quizzes will be given at the end of appropriate thematic breaks (see course schedule) . Quizzes will be hosted online through Carmen Canvas.

**Academic integrity and collaboration:** Quizzes are meant to assess individual student learning. Students must not work together. For some identification questions, use of Dichotomous keys may be required. Quizzes will be open book and note but will be timed. This means you should review the material well before the quiz in order to be able to complete the quiz within the time constraints.

## Worksheets

**Description:** Worksheets (5) are worth 15 points each. Keep in mind the worksheets are not assigned on a regular basis, please see schedule below. The worksheets expand upon material from our in-person lectures and help prepare students for larger assignments.

**Academic integrity and collaboration:** Students are permitted to work together on worksheets, but must not turn in duplicate copies of the same worksheet. All written answers must be in the student's own words.

### Worksheet schedule:

Worksheet Title	Week Assigned	Date Due
Data Recording	1	8/28/23 (2PM)
Insect Morphology	2	9/5/23 (2 PM)
Diversity Calculations	6	10/2/23 (2PM)
Bioassessment	9	10/23/23 (2PM)
Humans and Aquatic Invertebrates	12	11/13/23 (2PM)

## Collection Catalog and Field notebook

**Assignment Due Date:** This assignment is due in its entirety on 12/4/23, by 7:00PM (end of that lab session). We encourage rolling submission of your identifications during the semester. Please see descriptions of turn in options below.

**Description:** Your collection of aquatic insects and field notebook are required and constitute 22% of your final grade. The purpose is to give maximum experience with aquatic insect taxonomy. You will be provided with specimen vials, preservative, and labeling paper and tape. You may check out collection equipment (nets, screens, bottom samplers) from the laboratory. Specimens are to be preserved in 70% ethyl alcohol and stored in 2- or 4-dram vials (screw-top). You must thoroughly label each specimen vial with a **location label** (name of waterbody, state and county, UTM, sampling date, name of collector), **taxonomic label** (order, family, genus, species, life stage), and **ecological label** (habitat, functional feeding group, mode of existence). Labels should be placed inside the vial.

### Example of labels:

#### Locality label

Scioto River  
USA: OH, Franklin County  
UTM COORDINATES HERE\*  
08/25/2012  
Collector: B.B Buckeye

#### Taxonomic Label

Order: Trichoptera  
Family: Hydropsychidae  
*Hydropsyche simulans*  
larval

#### Ecological Label

ex. rock surface  
in riffle zone  
FFG: filtering-collectors  
MOE: clingers

\*UTM coordinates can be found here: <https://www.latlong.net/lat-long-utm.html> Using the zone only is acceptable for this project.

Evaluation of collections will be based on (1) accuracy of identifications, (2) curatorial techniques (i.e., alcohol levels, proper labeling), and (3) number of orders, families, and genera submitted, and (4). your accompanying lab notebook. **The target is 10 orders, 30 families, and a minimum of 10 genera.** A total of 40 points will be awarded to curation and an organized data notebook and data entry. Grading will be based on the number of different specimens and the level of taxonomic identification as follows:



Taxonomic Resolution	Points	Target #	Target Total
Order	1	10	10
Family	1.5	30	45
Genera/Species	1	10	10
Curation	0-10	10	10
Lab/Field Notebook	0-20	20	20
<b>Total</b>			<b>100</b>

- Target Total of 100 pts = 100%.
- Errors: Taxonomic errors = 0 points for that taxon (*if you are close to a correct identification, we may give you partial points for that ID*)
- More orders, families, and genera will add more points to the total, at a rate of 0.5 point per additional identification, allowing a possible 100% even if you make a few identification errors.

### Other collection categories

#### Curation (10 points):

To receive full points, all specimens must be in a vial with sufficient (and not excessive) alcohol to cover the specimen. All three labels should be in the vial and the labels will randomly be assessed for accuracy as well as neatness. If there is a need to not have labels in vial, contact instructor. Points will be deducted if the label ink has run and has not been replaced.

#### Field Notebook (30 points):

Your field notebook should be turned in with your collection, and should have a minimum of three entries (10 points each, or divided equally among the number of entries). You should have an entry for every collecting event, even if more than three. Notebook entries should include descriptions of collection sites and **should include the list of characters you came up with in the Data Collecting Worksheet from week 1-2**. Entries must be legible and written in pencil.\* We will compare the material you record in your notebook with the list of parameters you have generated in your data collection worksheet. Feel free to be creative and include sketches, photos, etc. *Make sure there is an entry that corresponds for a collecting event for each specimen!*

\* To turn in your field notebook, students do not have to turn the entire notebook (with blank pages) into the instructor. They may turn in (in person) the notebook pages, or they may virtually turn in the entries via photo or scan. It is also acceptable to translate the information

*into a Word Document for ease of turn in, however, keep in mind sketches and drawings are helpful parts of the lab notebook. Turn in virtual notebook entries via Carmen.*

**Rolling turn in:** Students are encouraged to turn samples in once they have identified them (versus turn entire collection in at the end of the semester). Identified samples can be turned in to instructors at the end of designated lab periods. We will utilize shared online documents to keep track of correct student identifications throughout the semester. Link to the shared document will be on Canvas. Once a student has completed enough specimens and has turned in their field notebook, the assignment is considered complete.

### **Academic integrity and collaboration:**

You must collect all specimens *yourself* and collect them during *this* semester. However, you may work with others in collecting and identifying the insects.

## **Habitat Assessment Project**

**Description:** Students will utilize existing data sets of benthic macroinvertebrates to compare one aquatic system between two years; and to compare two geographically separate aquatic systems. Students will calculate measures of diversity and pollution tolerance. They will compile their information in written format and will include recommendations for maintenance or restoration of the habitat.

**Academic integrity and collaboration:** Students may discuss this project together, but all work must be the student's own. Students in the class may not be assigned identical data sets.

## **Late assignments**

Late submissions will be subject to a 10% point reduction per 24 hour period they are late, without an excused absence (see Absence policy). If there is a circumstance that will prohibit you from completing an assignment on time, notify your instructor as soon as possible.

## **Absence policy**

Absences from this class are designated as an event that causes a student to be unable to complete weekly materials (lectures, labs) within the designated week time frame. They are also defined as events that do not allow the student to complete online assignments by the due date. It is the student's responsibility to inform the instructor for reasons for an excused absence as soon as possible. Legitimate excused absences include the following: participation in an activity of an official University organization, verifiable illness (see below), verifiable

family emergencies, subpoenas, jury duty, military service, and professional development (e.g., grad school visits). It is the student's responsibility to notify the instructor of any expected, excused absence as far in advance as possible.

A verifiable illness is an absence due to illness that is accompanied by a note or documentation by a qualified medical individual. The instructor will not require note from a medical individual until the **second** (does not have to be sequential) absence due to illness, or illness of a student's family member, with the exception of a student's inability to complete a class assignment.

## Grading scale

93–100: A  
90–92.9: A-  
87–89.9: B+  
83–86.9: B  
80–82.9: B-  
77–79.9: C+  
73–76.9: C  
70–72.9: C-  
67–69.9: D+  
60–66.9: D  
Below 60: E

## Instructor feedback and response time

I am providing the following list to give you an idea of my intended availability throughout the course. (Remember that you can call **614-688-4357(HELP)** at any time if you have a technical problem.)

- **Grading and feedback:** For large weekly assignments, you can generally expect feedback within **7 days**.
- **Email:** I will reply to emails within **24 hours on weekdays (M-F)**.

## OTHER COURSE POLICIES

### Discussion and communication guidelines

The following are my expectations for how we should communicate as a class. Above all, please remember to be respectful and thoughtful.

- **Tone and civility:** Let's maintain a supportive learning community where everyone feels safe and where people can disagree amicably. If you are unsure about expectations or are unsure about raising a question, please follow up with me afterward to make sure your questions are answered.
- **Technical Issues:** If you encounter a technical issue with Zoom during a session, first make sure you are using the latest version of Zoom. Next, contact the IT Service Desk at [go.osu.edu/it](https://go.osu.edu/it) or 614-688-4357(HELP). If issues continue, contact me after the session to learn how to make up for the missed content either via a recording or other means. I will not be able to address technical issues during a live session.
- **Recordings:** I will not record our in person lectures or labs but students who have an excused absence or SLDS accommodation should get in contact with the instructor or TA regarding supplemental information if it is available.
- **Preparation:** Come to the session having completed any readings or pre-work and be ready to have open, civil, and supportive discussions in class.

### Academic misconduct / integrity policy

See **Descriptions of major course assignments**, above, for my specific guidelines about collaboration and academic integrity in the context of this online class.

#### Ohio State's academic integrity policy

Academic integrity is essential to maintaining an environment that fosters excellence in teaching, research, and other educational and scholarly activities. Thus, The Ohio State University and the Committee on Academic Misconduct (COAM) expect that all students have read and understand the University's Code of Student Conduct, and that all students will complete all academic and scholarly assignments with fairness and honesty. Students must recognize that failure to follow the rules and guidelines established in the University's Code of Student Conduct and this syllabus may constitute Academic Misconduct.

The Ohio State University's Code of Student Conduct (Section 3335-23-04) defines academic misconduct as: Any activity that tends to compromise the academic integrity of the University, or subvert the educational process. Examples of academic misconduct include (but are not limited to) plagiarism, collusion (unauthorized collaboration), copying the work of another

student, and possession of unauthorized materials during an examination. Ignorance of the University's Code of Student Conduct is never considered an excuse for academic misconduct, so I recommend that you review the Code of Student Conduct and, specifically, the sections dealing with academic misconduct.

If I suspect that a student has committed academic misconduct in this course, I am obligated by University Rules to report my suspicions to the Committee on Academic Misconduct. If COAM determines that you have violated the University's Code of Student Conduct (i.e., committed academic misconduct), the sanctions for the misconduct could include a failing grade in this course and suspension or dismissal from the University.

If you have any questions about the above policy or what constitutes academic misconduct in this course, please contact me.

## **Copyright for instructional materials**

The materials used in connection with this course may be subject to copyright protection and are only for the use of students officially enrolled in the course for the educational purposes associated with the course. Copyright law must be considered before copying, retaining, or disseminating materials outside of the course.

## **Creating an environment free from harassment, discrimination and sexual misconduct.**

The Ohio State University is committed to building and maintaining a community to reflect diversity and to improve opportunities for all. All Buckeyes have the right to be free from harassment, discrimination, and sexual misconduct. Ohio State does not discriminate based on age, ancestry, color, disability, ethnicity, gender, gender identity or expression, genetic information, HIV/AIDS status, military status, national origin, pregnancy (childbirth, false pregnancy, termination of pregnancy, or recovery therefrom), race, religion, sex, sexual orientation, or protected veteran status, or any other bases under the law, in its activities, academic programs, admission, and employment. Members of the university community also have the right to be free from all forms of sexual misconduct: sexual harassment, sexual assault, relationship violence, stalking, and sexual exploitation.

To report harassment, discrimination, sexual misconduct, or retaliation and/or seek confidential and non-confidential resources and supportive measures, contact the Office of Institutional Equity:

1. Online reporting form at [equity.osu.edu](http://equity.osu.edu),

2. Call 614-247-5838 or TTY 614-688-8605,
3. Or Email [equity@osu.edu](mailto:equity@osu.edu)

The university is committed to stopping sexual misconduct, preventing its recurrence, eliminating any hostile environment, and remedying its discriminatory effects. All university employees have reporting responsibilities to the Office of Institutional Equity to ensure the university can take appropriate action:

- All university employees, except those exempted by legal privilege of confidentiality or expressly identified as a confidential reporter, have an obligation to report incidents of sexual assault immediately.
- The following employees have an obligation to report all other forms of sexual misconduct as soon as practicable but at most within five workdays of becoming aware of such information: 1. Any human resource professional (HRP); 2. Anyone who supervises faculty, staff, students, or volunteers; 3. Chair/director; and 4. Faculty member.

## Diversity Statement

The Ohio State University affirms the importance and value of diversity of people and ideas. We believe in creating equitable research opportunities for all students and to providing programs and curricula that allow our students to understand critical societal challenges from diverse perspectives and aspire to use research to promote sustainable solutions for all. We are committed to maintaining an inclusive community that recognizes and values the inherent worth and dignity of every person; fosters sensitivity, understanding, and mutual respect among all members; and encourages each individual to strive to reach their own potential. The Ohio State University does not discriminate on the basis of age, ancestry, color, disability, gender identity or expression, genetic information, HIV/AIDS status, military status, national origin, race, religion, sex, gender, sexual orientation, pregnancy, protected veteran status, or any other bases under the law, in its activities, academic programs, admission, and employment.

To learn more about diversity, equity, and inclusion and for opportunities to get involved, please visit:

- <https://odi.osu.edu/>
- <https://odi.osu.edu/racial-justice-resources>
- <https://odi.osu.edu/focus-on-racial-justice>
- <https://cbssc.osu.edu/>

In addition, this course adheres to **The Principles of Community** adopted by the College of Food, Agricultural, and Environmental Sciences. These principles are located on the Carmen site for this course; and can also be found at <https://go.osu.edu/principlesofcommunity>. For additional information on Diversity, Equity, and Inclusion in CFAES, contact the CFAES Office for Diversity, Equity, and Inclusion (<https://equityandinclusion.cfaes.ohio-state.edu/>). If you have been a victim of or a witness to harassment or discrimination or a bias incident, you can report it online and anonymously (if you choose) at <https://equity.osu.edu/>.

## **Counseling and consultation services / mental health**

As a student you may experience a range of issues that can cause barriers to learning, such as strained relationships, increased anxiety, alcohol/drug problems, feeling down, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may lead to diminished academic performance or reduce a student's ability to participate in daily activities. The Ohio State University offers services to assist you with addressing these and other concerns you may be experiencing.

If you or someone you know are suffering from any of the aforementioned conditions, you can learn more about the broad range of confidential mental health services available on campus via the Office of Student Life's Counseling and Consultation Service (CCS) by visiting [ccs.osu.edu](https://ccs.osu.edu) or calling 614-292-5766. CCS is located on the 4th Floor of the Younkin Success Center and 10th Floor of Lincoln Tower. You can reach an on-call counselor when CCS is closed at 614-292-5766 and 24 hour emergency help is also available 24/7 by dialing 988 to reach the Suicide and Crisis Lifeline.

For students in the College of Food, Agricultural, and Environmental Sciences, David Wirt, [wirt.9@osu.edu](mailto:wirt.9@osu.edu), is the CFAES embedded mental health counselor on the Columbus campus. To contact David, please call 614-292-5766. Students should mention their affiliation with CFAES if interested in speaking directly with David.

## **Religious Accommodations**

Our inclusive environment allows for religious expression. Students requesting accommodations based on faith, religious or a spiritual belief system in regard to examinations, other academic requirements or absences, are required to provide the instructor with written notice of specific dates for which the student requests alternative accommodations at the earliest possible date. For more information about religious accommodations at Ohio State, visit [odi.osu.edu/religious-accommodations](https://odi.osu.edu/religious-accommodations).

## **Safe and Healthy Buckeyes**

Health and safety requirements: All students, faculty and staff are required to comply with and stay up to date on all university safety and health guidance (<https://safeandhealthy.osu.edu>). Non-compliance will result in a warning first, and disciplinary actions will be taken for repeated offenses.

## **Weather or short-term closing**

Should in-person classes be canceled, I will notify you as to which alternative methods of teaching will be offered to ensure continuity of instruction for this class. Communication will be via an announcement on Carmen Canvas.

## **ACCESSIBILITY ACCOMMODATIONS FOR STUDENTS WITH DISABILITIES**

### **Requesting accommodations**

The university strives to make all learning experiences as accessible as possible. In light of the current pandemic, students seeking to request COVID-related accommodations may do so through the university's request process, managed by Student Life Disability Services. If you anticipate or experience academic barriers based on your disability (including mental health, chronic, or temporary medical conditions), please let me know immediately so that we can privately discuss options. To establish reasonable accommodations, I may request that you register with Student Life Disability Services. After registration, make arrangements with me as soon as possible to discuss your accommodations so that they may be implemented in a timely fashion. SLDS contact information: [slds@osu.edu](mailto:slds@osu.edu); 614-292-3307; [slds.osu.edu](http://slds.osu.edu); 098 Baker Hall, 113 W. 12th Avenue.

In addition, please feel free to discuss class performance or your ability to complete a class task with your instructor. My priority is to facilitate



a positive learning environment. Do not hesitate to e-mail me ([klinger.80@osu.edu](mailto:klinger.80@osu.edu)) if you have questions or concerns.

## Accessibility of course technology

This online course requires use of CarmenCanvas (Ohio State's learning management system) and other online communication and multimedia tools. If you need additional services to use these technologies, please request accommodations with your instructor.

- [Canvas accessibility \(go.osu.edu/canvas-accessibility\)](https://go.osu.edu/canvas-accessibility)
- Streaming audio and video
- CarmenZoom accessibility ([go.osu.edu/zoom-accessibility](https://go.osu.edu/zoom-accessibility))
- Collaborative course tools

## COURSE SCHEDULE

Refer to the Carmen course for up-to-date assignment due dates (next page)



Week/start date	Lab topics (Monday)	Lecture topic (Tuesday)	Assignments due	Due date
1 (8/22/23)	No Lab	Intro to aquatic invertebrate ecology; Aquatic sampling techniques	<a href="#">Data Collecting Worksheet</a>	8/28/23 (2PM)
2 (8/28/23)	Sampling (meet at wetlands); Aquatic habitats; lab safety	Basic invertebrate anatomy and morphology	<a href="#">Morphology Worksheet</a>	9/5/23 (2PM)
3 (9/5/23)	No Lab (Labor Day)	Life History and Ecology of Aquatic invertebrates	<a href="#">Lecture Quiz 1</a>	9/11/23 (2PM)
4 (9/11/23)	Sampling (Chadwick lake)	Using Dichotomous keys; Odonata		9/18/23 (2PM)
5 (9/18/23)	Sampling at TBA	Ephemeroptera; Diversity and statistics	<a href="#">Lab Quiz 1</a>	9/25/23 (2PM)
6 (9/25/23)	Sorting insects by order	Plecoptera/Hemiptera	<a href="#">Diversity and Statistics Worksheet</a> <a href="#">Lecture Quiz 2</a>	10/2/23 (2PM)
7 (10/2/23)	Odonata Ephemeroptera families	Trichoptera; bioassessment		10/9/23 (2PM)
8 (10/9/23)	Plecoptera/Trichoptera	Diptera; Aquatic food webs and Functional Feeding Groups	<a href="#">Lab Quiz 2</a>	10/16/23 (2PM)
9 (10/16/23)	Hemiptera	Coleoptera; Orthoptera and Hymenoptera	<a href="#">Bioassessment Worksheet</a> <a href="#">Lecture Quiz 3</a>	10/23/23 (2PM)
10 (10/23/23)	Diptera	Neuroptera/Megaloptera; Student Presentations	<a href="#">Group presentations due</a>	10/24/23 (11:30 AM)
11 (10/30/23)	Coleoptera	Decapoda; Humans and aquatic inverts	<a href="#">Lab Quiz 3</a>	11/6/23 (2PM)
12 (11/6/23)	No Lab	Molluscs (online)	<a href="#">Humans and aquatic inverts Worksheet</a>	11/13/23 (2PM)
13 (11/13/23)	Neuroptera/Megaloptera	Worms/Mites/Collembola	<a href="#">Lecture Quiz 4</a>	11/20/23 (2PM)
14 (11/20/23)	Decopoda/ Mollusc/Bivalve/Worms	Future of Aquatic entomology	<a href="#">Lab Quiz 4</a>	11/27/23 (2PM)
15 (11/27/23)	Remaining ID time	Habitat Assessment Help in class	<a href="#">Insect Collection Due</a>	12/4/23 ( 7 PM)
16 (11/4/23)	Remaining ID time	No Lecture; Help with Habitat Assessment available	<a href="#">Habitat Assessment Due</a>	12/7/23 (11:59PM)