



SYLLABUS

ENTMLGY 5350.01

ENR 5350.01

Taxonomy and behavior of aquatic invertebrates
Autumn 2020 (full term)
3 credit hours
Hybrid

COURSE OVERVIEW

Instructor

Instructor: Dr. Ellen Klinger

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

Office: Kottman Hall 255

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

Graduate Teaching Assistant

Instructor: Chase Novello

Email address: Novello.10@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

All class material (in-person and online) will be organized through weekly modules available on Carmen. These modules will clearly outline the expectations for students, both for online and in-person participation. This page will also include links to all quizzes and assignment submission pages. Students should start each week with the **weekly overview page** for modules. This page will direct the students for both online and in-person expectations and assignments.

Lecture

Mode of delivery: Lecture material will be separated into two deliveries: online and in-person. Some lecture components will be delivered asynchronously online via Carmen. In addition, students may attend in-person lectures on a rotating bi-weekly basis. This in-person material will also be available asynchronously online. Lecture components will be clearly categorized as online or in person on the course schedule.

Pace of online activities: Online material will be divided into weekly modules that are released one week ahead of due dates. Students are expected to keep pace with weekly deadlines but may schedule their efforts freely within that time frame.

Laboratory

Mode of delivery: Laboratory material will remain in-person for this class, working under a cohort model (see below). Due to some reduction in in-person time, Virtual Laboratory Prep material will be assigned most weeks. 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. Please read the appropriate information (available on Carmen) before attending each class meeting. Waders, boots, or other wading shoes will be available for the labs. However, if you prefer your own, please bring them with you. Students should have a laboratory data notebook and a calculator. Participation in all class activities is expected. Due to COVID restrictions, there will be no in-class field trip travel beyond foot or campus bus travel.

Pace of online activities: Online laboratory material will be found in weekly modules that are released one week ahead of due dates. Students are expected to keep pace with weekly deadlines but may schedule their efforts freely within that time frame.

Credit hours and work expectations: This is a **3-credit-hour course**. According to Ohio State policy (go.osu.edu/credithours), students should expect around 3 hours per week of time spent on direct instruction (instructor content and Carmen activities, for example) in addition to 6 hours of homework (reading and assignment preparation, for example) to receive a grade of (C) average.

Attendance and participation requirements: Because this class has some 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*.
- **Office hours and live sessions: OPTIONAL**
All live, scheduled events for the course, including my office hours, are optional.

COVID-19 COHORT MODEL

Due to restrictions in classroom space for the Autumn 2020 semester, we will be operating under a cohort model for this class. In this model, every student will be assigned to one of four cohorts, each cohort representing no more than 10 students. To ensure safe social distancing,

we will split the assigned laboratory times (Wednesday, 3:15-6:16PM or Thursday, 4:00-7:00PM) into two 80 min time periods. This allows 20 minutes between in person sessions for instructors to sterilize materials.

Time slot 1: Wednesday 3:15-4:35 PM

Time slot 2: Wednesday 4:55PM-6:15PM

Time slot 3: Thursday 4:00-5:20PM

Time slot 4: Thursday 5:40-7:00 PM

Students will be notified as to what cohort they are assigned to and what time slot (s) they need to report to each week. Each student should attend only their 80 min in portion lab component.

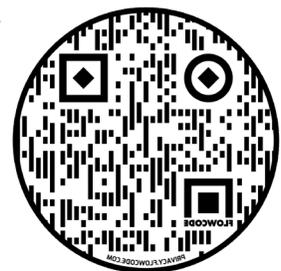
Additional descriptions of the cohort model will be available on Carmen.

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 online through OSU library. 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 online through OSU library. 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/optional

- Merritt, R. W., K. W. Cummins, and M. B. Berg (eds). 2008. An Introduction to the Aquatic Insects of North America (4th ed). Kendall/Hunt Publ. Co., Dubuque, IA 1158 pp. ISBN: 978-0757563218

Other required materials

- Rite in the Rain All-Weather 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, and support for urgent issues is available 24/7.

- **Self-Service and Chat support:** ocio.osu.edu/help
- **Phone:** 614-688-4357(HELP)
- **Email:** 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)
- CarmenZoom virtual meetings (go.osu.edu/zoom-meetings)
- Recording a slide presentation with audio narration (go.osu.edu/video-assignment-guide)
- Recording, editing, and uploading video (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.

Carmen access

You will need to use BuckeyePass (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).
- 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) 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 online and in labs	30	7%
Presentation	70	15%
Quizzes	80	18%
Worksheets	75	16%
Collection Catalog & Field Notebook	100	22%
Habitat assessment project	100	22%
Total	455	100%

See course schedule below for due dates.

Descriptions of major course assignments

Participation online and in labs

Description: In-person attendance will not be recorded for either lecture or laboratory periods. Your participation in the material will be assessed with a short, 2 point, open book, post lecture/lab quiz. These quizzes will take place in conjunction with each online lecture (OL), as well as after reviewing the syllabus and review of lab safety documents.

Academic integrity and collaboration: These assessments are meant to enhance your understanding of the material. Students may work together on this material if they wish.

Presentation

Description: Students will be assigned to one of 6 groups. Each student group will be responsible for gathering information on one of 6 insect orders. Students will compile information into a summary worksheet, as well as create a presentation not to exceed 15 minutes. Students will work together to create and record the presentation. Presentations will be given in weeks 9 and 10. Rubrics for grading and additional requirements for this project will be made available by week 4.

Academic integrity and collaboration: Students are expected to work together on this project, although there will be components meant for students to individually complete. Students are expected to abide by all class discussion and communication guidelines.

Quizzes

Description: Quizzes 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. For some identification questions, use of Dichotomous keys may be required.

Academic integrity and collaboration: Quizzes are meant to assess individual student learning. These quizzes are closed book and timed. Students should not work together.

Worksheets

Description: Worksheets are worth 15 points each. Keep in mind the worksheets are not assigned on a regular basis, please see schedule below. The worksheets will capture material learned during our small group in-person lectures. Students will complete the worksheet and turn in virtually for credit.

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

Worksheet schedule:

Worksheet Title	Week Assigned	Date Due	
Data Recording	1	9/8/20; 11:59PM	
Insect Morphology	1	9/16/20; 11:59PM	
Diversity Calculations	5	10/6/20; 11:59PM	
Bioassessment	7	11/3/20; 11:59PM	
Humans and Aquatic Invertebrates	11	11/15/20; 11:59PM	

Collection Catalog and Field notebook

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:

<u>Locality label</u>	<u>Taxonomic Label</u>	<u>Ecological Label</u>
Scioto River	Order: Trichoptera	ex. rock surface
USA: OH, Franklin County	Family: Hydropsychidae	in riffle zone
UTM COORDINATES HERE	<i>Hydropsyche simulans</i>	FFG: filtering-collectors
08/25/2012	larval	MOE: clingers
Collector: B.B Buckeye		

The collection will be evaluated for accuracy of identifications and curatorial techniques. Prepare a typed checklist of taxa arranged phylogenetically using the sequence provided on Carmen. Use a hierarchical scheme, listing order, family, genus, and species when known.

Example of typed checklist:

- I. EPHEMEROPTERA
 1. Baetidae – *Baetis* sp.
 1. Baetidae – *Callibaetis* sp.
 2. Ephemerellidae – *Ephemerella* sp.

- II. PLECOPTERA
 3. Chloroperlidae – *Sweltsa* sp.
 4. Pteronarcyidae – *Pteronarcella* sp.
 5. Etc.
 6. Etc.

III. ETC.

IV. ETC.

Note: Number the families consecutively 1-X for your entire checklist. If you turn in more than one genus, use the same number for the family as in the example above (I. EPHEMEROPTERA).

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. **The target is 10 orders, 45 families, and a minimum of 10 genera among four orders.** A total of 40 points will be awarded to curation and an organized data notebook. 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	45	45
Genera/Species	0.5	10	5
Curation	0-10	10	10
Lab/Field Notebook	0-30	30	30
Total			100

- Target Total of 100 pts = 100%.
- Errors: Taxonomic errors = 0 points for that taxon
- More orders, families, and genera will add more points to the total, at a rate of 0.5 points per additional identification, allowing a possible 100% even if you make a few identification errors.

Your field notebook should be turned in with your collection. Notebook entries should generally include descriptions of collection sites; where, when, and how sampling was conducted; weather and water conditions (e.g., turbidity, flow, etc.), riparian vegetation, and your overall impressions. Entries must be legible and written in pencil. Feel free to be creative and include sketches, photos, etc.

Students are encouraged to turn samples in once they have identified them (versus turn entire collection in at the end of the semester). We will utilize shared online documents to keep track of correct student identifications throughout the semester.

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 should be the student's own. Students may be assigned different 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 online class are designated as an event that causes a student to be unable to complete weekly module materials (lecture quizzes, lab quizzes, worksheets) within the designated week time frame. They are also defined as events that do not allow the student to take part in scheduled live activities (laboratories) or in exams with less than a week for completion (midterms and final exams). 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. Due to COVID circumstances, 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 midterm or final exam on time. If a student is unable to take a

midterm or final exam within the exam window, the instructor may require the student to provide documentation of the illness regardless of the student's prior attendance in the class.

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)**.
- **Discussion board:** I will check and reply to messages on Carmen every **24 hours on weekdays (M-F)**.

OTHER COURSE POLICIES

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>), which includes wearing a face mask in any indoor space and maintaining a safe physical distance at all times. Non-compliance will result in a warning first, and disciplinary actions will be taken for repeated offenses.

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. Remember that sarcasm doesn't always come across online. At the start of any Zoom session, I will share specific expectations for how to use the chat, how to interact, and how to raise questions or concerns as we go. 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 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 be recording our meetings for the benefit of students who may need to be absent. These links will only be shared with students in our class, and only when a student contacts me to make this arrangement.
- **Preparation:** Come to the session having completed any readings or pre-work and be ready to have open, civil, and supportive discussions in video and chat spaces. I ask that you update your Zoom profile with your preferred name and add a picture with your face.

Academic 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* (studentconduct.osu.edu), 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.

Other sources of information on academic misconduct (integrity) to which you can refer include:

- Committee on Academic Misconduct web page (go.osu.edu/coam)
- *Ten Suggestions for Preserving Academic Integrity* (go.osu.edu/ten-suggestions)
- *Eight Cardinal Rules of Academic Integrity* (go.osu.edu/cardinal-rules)

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>), which includes wearing a face mask in any indoor or outdoor campus space and maintaining a safe physical distance at all times. Non-compliance will result in a warning first, and disciplinary actions will be taken for repeated offenses.

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.

Commitment to a diverse and inclusive learning environment and 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 on the basis of 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,
2. Call 614-247-5838 or TTY 614-688-8605,
3. Or Email 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.

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 a bias incident, you can report it online and anonymously (if you choose) at <https://studentlife.osu.edu/bias/report-a-bias-incident.aspx>.

Your 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. No matter where you are engaged in distance learning, The Ohio State University's Student Life Counseling and Consultation Service (CCS) is here to support you. If you find yourself feeling isolated, anxious or overwhelmed, on-demand resources are available at go.osu.edu/ccsondemand. You can reach an on-call counselor when CCS is closed at 614- 292-5766, and 24-hour emergency help is also available through the 24/7 National Prevention Hotline at 1-800-273-TALK or at suicidepreventionlifeline.org. The Ohio State Wellness app is also a great resource available at go.osu.edu/wellnessapp.

David Wirt, wirt.9@osu.edu, is the CFAES embedded mental health counselor. He is available for new consultations and to establish routine care. To schedule with David, please call 614-292-5766. Students should mention their affiliation with CFAES when setting up a phone screening.

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; 614-292-3307; 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 during this period of uncertainty. Do not hesitate to e-mail me (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)
- Streaming audio and video
- CarmenZoom accessibility (go.osu.edu/zoom-accessibility)
- Collaborative course tools

COURSE SCHEDULE

Refer to the Carmen course for up-to-date assignment due dates.



Week/ Module	Week starting with	Online Lecture (OL) Activities	In-person lecture topic/activity Wed. 1:50-2:45PM	Online Laboratory prep (OLP) activities	In person lab activities	Assignments and quizzes due	Due date for online materials and online quizzes
1	8/25/20	OL1: Intro to Aquatic Invertebrate Ecology	Insect morphology and taxonomy- Cohorts A&C	OLP1: Review video of Aquatic sampling techniques OLP2: Read handout of safety OLP3: Review handout on data recording	Aquatic Insect Sampling Lab Safety Recording Data	Syllabus confirmation quiz Lab Safety confirmation quiz	Sun. 8/30; 11:59PM
2	8/31/20	OL2: Basic invertebrate anatomy	Insect morphology and taxonomy- Cohorts B&D	OLP4: Aquatic habitats	Field collecting-lentic environments		Sun 9/6; 11:59PM
3	9/7/20	OL3: Life History and Ecology of Aquatic invertebrates	Insect life history - Cohorts A&C	OLP5: Dichotomous key use	Field collecting-lentic environments- <i>meet at Chadwick lake</i>	Lecture quiz 1 Data worksheet due	Sun 9/13; 11:59PM
4	9/14/20	OL4: Odonata	Insect life history- Cohorts B&D	OLP6: Sorting insects by order	Field collecting Sorting by order	Morphology Worksheet due	Sun 9/20; 11:59PM
5	9/21/20	OL5: Ephemeroptera	Diversity and stats- Cohorts A&C	OLP7: Ephemeroptera family ID	Collect/ID	Lab Quiz 1	Sun. 9/27; 11:59PM

Week/ Module	Week starting with	Online Lecture (OL) Activities	In-person lecture topic/activity Wed. 1:50-2:45PM	Online Laboratory prep (OLP) activities	In person lab activities	Assignments and quizzes due	Due date for online materials and online quizzes
6	9/28/20	OL6: Plecoptera OL7: Hemiptera	Diversity and Stats Cohorts B&D	OLP8: Plecoptera OLP9: Hemiptera family ID	Collect/ID	Lecture Quiz 2	Sun. 10/4; 11:59PM
7	10/5/20	OL8: Trichoptera	Bioassessment Cohorts A&C	OLP10: Trichoptera family ID	Collect/ID Quiz 2	Lab Quiz 2 Diversity and Stats worksheet due	Sun. 10/11; 11:59PM
8	10/12/20	OL9: Diptera	Bioassessment Cohorts B&D	OLP11: Diptera family ID	Collect/ID	Lecture quiz 3	Sun. 10/18; 11:59PM
9	10/19/20	Student presentations: Coleoptera Lepidoptera Orthoptera	Aquatic food webs Cohorts A&C	OLP12: Coleoptera family ID	ID/Family tax Quiz 3	Lab Quiz 3 Group presentations due	Sun. 10/25; 11:59PM
10	10/26/20	Student presentations: Neuroptera Megaloptera Hymenoptera	Aquatic food webs Cohorts B&D	OLP13: Neuroptera; Megaloptera family ID	ID/Family tax		Sun. 11/1; 11:59PM
11	11/2/20	OL10: Decapoda	Humans and aquatic inverts Cohorts A&C	OLP14: Decapoda ID	ID/Family tax Quiz 4	Lab Quiz 4 Bioassessment worksheet due	Sun. 11/8; 11:59PM

Week/ Module	Week starting with	Online Lecture (OL) Activities	In-person lecture topic/activity Wed. 1:50-2:45PM	Online Laboratory prep (OLP) activities	In person lab activities	Assignments and quizzes due	Due date for online materials and online quizzes
12	11/9/20	OL11: Molluscs/Bivalves	<i>No lecture- Veterans day</i>	OLP15: Mollusc/Bivalve ID <i>(Thurs. lab groups only)</i>	ID/Family tax <i>No Wednesday labs</i>	Lecture quiz 4	Sun. 11/15; 11:59PM
13	11/16/20	OL12: Worms/mites Collembola	Humans and aquatic inverts Cohorts B&D	OLP16: Worm ID	Family tax	Humans and aquatic inverts worksheet due	Sun. 11/22; 11:59PM
13	11/23/20	None	None	OLP15: Mollusc/Bivalve ID <i>(Wed lab groups only)</i>	ID/Family tax <i>No Thursday labs</i>	Collection due (11/25/20); 11:59PM)	Wed.11/25/20; 11:59PM
14	11/30/20	OL13: Future of Aquatic invert bio					Sun. 12/6; 11:59PM
Finals week	12/7/20				Habitat Assessment Due		Thurs. 12/10; 11:59PM